Debris Abatement Work Plan

Town of Great Falls, South Carolina

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Cardno®

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Document Information

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1 Introduction

Cardno has prepared this Debris Abatement Work Plan on behalf of the Town of Great Falls (Town), South Carolina, to address the former Republic Mill #1 property (subject property/site) located along South Dearborn Street, Great Falls, Chester County, South Carolina. This work plan is prepared in accordance with Section 3 of Voluntary Cleanup Contract (VCC) 21-5488-NRP between the South Carolina Department of Health and Environmental Control (DHEC) and the Town. The VCC is included as **Appendix A**.

1.1 Purpose

The purpose of this work plan is to describe the work performed and/or to be performed to characterize, remove, and dispose of demolition debris and/or other potential sources of contamination on the subject property.

1.2 Background

The following sections provide the site location and description, a summary of the history of the site, and the results of previous environmental investigations conducted on the subject property.

1.2.1 Site Location and Description

The subject property is located within Chester County along South Dearborn Street (no assigned street number) in the Town of Great Falls, South Carolina. While Republic Mill #1 originally comprised three parcels, this work plan and the clearing work that will be performed under the Community Development Block Grant (CDBG) awarded to the Town will address the one parcel of approximately eleven (11) acres identified by TMS # 202-13-02-003-000, currently owned by the Town, and addressed in the VCC. A Site Location Map, consisting of the relevant portion of the United States Geological Survey (USGS) topographic map, Great Falls, South Carolina Quadrangle is included as **Figure 1**. A plan view of the Subject Property is portrayed on **Figure 2**, which includes the approximate Subject Property boundaries, as provided by the Chester County Geographic Information System (GIS) Department, and an aerial photograph depicting the site as it appeared on March 23, 2019.

The site is located in a primarily commercial, residential, and former industrial area of Great Falls. It is accessible via two entry points on South Dearborn Street. The site is surrounded by residences (south and west), municipal / vacant commercial buildings (north), and a former rail line (east).

With the exception of the former freight elevator shaft, and water plant building, all structures at the site have been demolished. Vegetation across the site is overgrown and obscures remaining structures and building remnants. The former fire suppression pond is present in the central portion of the site, and large debris piles are present throughout

the site. It should be noted that all removal work will be performed on the subject property, TMS # 202-13-02-003-000, only. An historic, two-cell brick jail exists on an adjacent property, TMS # 202-13-02-020-000, near the site boundary. This building/parcel is to remain and not be damaged by the removal work on TMS # 202-13-02-003-000.

The site generally slopes to the east southeast, toward Great Falls Lake, with relatively flat topography in the western portion of the site (former main area of operations) and a steep drop-off to the eastern portion of the site. During the 2019 Phase II Environmental Site Assessment, groundwater was found to be flowing to the east southeast.

The Town of Great Falls occupies the crest of a generally northeast-southwest trending ridgeline parallel to the Catawba River. According to the USGS and the South Carolina Geologic Survey (SCGS), the area is located in the Piedmont Physiographic Province of South Carolina and within the Charlotte Belt geologic terrane, in close proximity to the Carolina terrane (slate belt). The Charlotte Belt is a northeast trending belt of medium- to high-rank metamorphic rocks along with a complicated sequence of igneous rock intrusions.

1.2.2 Site Use History

Historical information pertaining to the subject property indicates that the site was developed as a cotton textile mill in 1909 by the Republic Textile Mill Company. The subject property was purchased by the J.P. Stevens Company in 1946 and continued to operate as a textile mill until 1979. The historical records identify mill buildings on the subject property including a main mill, water tower, water plant building, pump house, transformer building, and two cotton warehouses. Also, records indicate that coal was used as an energy source to run the mill, hazardous waste was generated in its operation by J. P. Stevens, and that polycyclic aromatic hydrocarbons (PAHs) were found in sediments near the site. A fire suppression reservoir was located to the east of the former main mill building. A rail spur entered the property from the north. C&S Demolition, LLC (C&S) purchased the site in 2005 with the intent of demolishing the mill structures and reclaiming salvageable materials. The majority of the structures on the subject property were demolished between 2005 and 2006; however, extensive piles of debris were left strewn across the western half of the site in and around the footprints of the former mill buildings. The subject property was then abandoned and ultimately became property of the Chester County Forfeited Land Commission.

After entering into the VCC with DHEC, the Town acquired the property. It received a Community Development Block Grant through the South Carolina Department of Commerce to remove and properly dispose of surface-level hazards on the subject property, including asbestos containing materials (ACM), construction and demolition debris, and other hazards, such as drums and containers that have been noted on the property in years past and may remain hidden within the debris. Further, the Town desires to demolish and remove the retaining wall on the subject property.

1.2.3 Previous Environmental Investigations

1.2.3.a URS Corporation Phase I ESA

A Phase I ESA was completed by URS Corporation for the Republic Mill #1 Site (two parcels TMS #202-13-01-000 and TMS #202-13-02-020-000) at the direction of DHEC. This 2007 ESA identified the following Recognized Environmental Conditions (RECs) at the Subject Property:

- Based on the subject site's historical utilization as a textile facility from approximately 1910 until 1979, there is the potential for environmental impacts from the utilization of unknown raw materials and/or hazardous wastes previously utilized at the facility.
- The subject site is listed on the SCDHEC State Hazardous Waste Site (SHWS) database (EPA ID: SCS123456908). No additional information regarding the listing was provided within the EDR database report. This information represents a Recognized Environmental Condition for the subject property.
- At the time of the site inspection, several 55-gallon drums of unknown material/origin were observed on the eastern portion of the subject site. The observed drums could have potentially stored raw materials/hazardous substances stored/generated on-site or illegally disposed on the property; therefore, these drums represent an REC for the subject site.
- At the time of the site inspection, numerous empty 5-gallon containers of hydraulic oil were noted throughout the site. This material is presumed to be utilized for demolition associated equipment; however, this information could not be verified.
- The site contacts indicated that the southeast portion of the subject property had historically been utilized for the dumping of mill generated solid waste. In addition, the site contacts indicated that additional Republic Mills (#2 and #3) located in close vicinity to the subject site could have potentially utilized the area for the disposal of materials. During the site reconnaissance, large pieces of concrete debris, drums of unknown material, and scrap cotton material were noted in this area. The area is over-grown with vegetation rendering it difficult to determine the nature of the observed materials or the presence of additional materials.

Off-Site:

Based on URS' review of historical information, the EDR regulatory database report, and site reconnaissance observations, one (1) off-site facility was identified that appears to represent a Recognized Environmental Condition for the subject property.

- **Republic Mill #2** (EPA ID: SCD000822239), located at 401 Dearborn Street, is listed as a SHWS site. The site is located approximately 2,068 feet to the north-northwest of the subject property (upgradient). The site is also listed on the South Carolina Groundwater Contamination Inventory (GWCI), SC Brownfields, and ALLSITES (Site Assessment & Remediation Public Record

Database) databases. According to the EDR report, the 5.2 acre site is regulated by CERCLA and has soil and groundwater contamination. Contaminants of concern for soil and groundwater include: arsenic, barium, beryllium, benzo(a)pyrene, chromium, lead, and thallium. According to the database, the site is currently in the assessment phase. Based on its listing on the SHWS, GWCI, and ALLSITES databases, known soil and groundwater contamination, and upgradient location relative to the subject site, there is the potential for this facility to represent a Recognized Environmental Condition to the subject property.

- URS reviewed the Orphan Summary list within the EDR database report, which consists of sites that have not been geocoded based on the lack of sufficient data regarding their exact location within the general area. One (1) LUST/UST site, T&G Superette, was listed on Dearborn Street; however no street number was identified in the database. The site was also listed on the FINDS database. During the site reconnaissance this site was not noted to be in close proximity to the subject property; however, the lack of information regarding the location represents a significant data gap and this site has the potential to represent a Recognized Environmental Condition to the subject property.

1.2.3.b CTC Public Benefit Corporation Phase I ESA

A Phase I ESA was completed by CTC Public Benefit Corporation in October 2011 at the Site. The ESA also covered the parcel on the opposite side of Dearborn Street (TMS # 202-13-01-001-000), which was owned by C&S Demolition, LLS, at the time. The 2011 ESA identified the following Recognized Environmental Conditions (REC)s on the property:

- A potential for environmental impacts to have occurred due to the use of unknown raw materials, the use of hazardous chemicals or petroleum products during the day-to-day operations at the site, and/or the presence or generation of hazardous wastes at the facility, based on the historical utilization of the subject property as a textile facility from approximately 1910 until 1979.
- The subject property was included in the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) database due to the observation of semi-volatile organic compounds (SVOCs) in sediment samples obtained from a reservoir in close proximity to the subject property.
- The subject property was included in the RCRA - No Longer Regulated (RCRA NLR) database because the subject property was formerly occupied by a waste generator. As a result, CTC considered the potential for wastes once generated on the subject property to have impacted site groundwater or soils to be a REC.
- The subject property was included in the Federal Brownfields database. The information contained within the database report indicates that Brownfield funding was utilized to conduct a Phase I ESA of the subject property on April 27, 2007 at the direction of the SCDHEC. The investigation revealed the potential presence of “unknown” contamination at the site.

- According to Sanborn Fire Insurance Maps dated 1926 and 1938, a Transformer House was formerly located on the subject property. This structure was razed during demolition/salvage operations conducted on-site; therefore, no evidence of the condition, number, or type of transformers that may have been present in the Transformer House could be observed during the site 2011 Phase I ESA reconnaissance, but it is possible that the transformers utilized PCBs.
- According to Sanborn Fire Insurance Maps dated 1926 and 1938, the mill facility utilized coal as a fuel source and a coal trestle was present on-site. Mill facilities that utilized coal typically stored coal on-site and often disposed of waste products on-site. Cardno considered the potential for soil and/or groundwater contamination associated with coal and coal waste products on the subject property to be a REC.
- During the 2011 Phase I ESA site reconnaissance, several 55-gallon drums of unknown origin and content were observed on the northeastern portion of the subject property. The drums were unmarked or illegible and in poor condition. The drums could have contained raw materials and/or hazardous substances that had been used, stored, and/or generated on-site, or may have been illegally disposed of on the subject property.
- A review of the previous Phase I ESA conducted by URS in April 2007 revealed that former mill employees had indicated to URS that the southeast portion of the subject property had historically been utilized for the dumping of mill generated waste and that the other former Republic Mills in the area (Mills #2 and #3) may have also dumped waste material on this portion of the subject property. Although debris was observed on the southeastern portion of the subject property during the 2011 Phase I ESA site reconnaissance, the area was heavily overgrown severely limiting access and inhibiting visual observations. The potential for the southeast portion of the subject property to have been utilized for mill generated waste dumping was considered a REC.

1.2.3.c. Cardno ACM Survey

In April 2019, Cardno conducted an ACM survey (**Appendix B**) for debris piles and accessible building remnants at the site. The ACM survey revealed the following materials to be asbestos-containing:

- The fibrous layer within built-up roofing material along the northern end of the main mill foundation and in the area of the remaining tower (8% Chrysotile, friable)
- White putty/caulking material along the western end of the main mill foundation (60% Chrysotile, non-friable/non-organically bound [NF/NOB])
- Black caulking/sealant around piping & building foundation joints (6% Chrysotile, NF/NOB)
- Vinyl floor tile and mastic in the former office area (4% - 10% Chrysotile, NF/NOB)

1.2.3.d. Cardno Phase II ESA

During a December 2019 Phase II ESA at the site, Cardno installed and sampled 17 soil borings and six (6) groundwater monitoring wells. All sampling was performed in accordance with the Site-specific Quality Assurance Project Plan (**Appendix C**), approved June 28, 2019, which specifies the sampling and analytical procedures. Additionally, a total of six (6) test borings were installed within the southeastern overgrown depression to investigate potential buried debris in the area. Cardno provided the following conclusions for the 2019 Phase II ESA:

- Some contamination from PAHs, arsenic, and lead was detected in Site soils, principally in the area proximate to/downgradient of the former boilers, smokestack, transformer house, and coal trestle. Due to the limited extent and generally low levels of observed contamination, the identified soil contamination was not expected to significantly impede the future development of the site.
- Several analytes were identified in site groundwater at concentrations above EPA Tapwater screening values; however, the presence of these contaminants was not expected to impact future development goals, as the site will likely be serviced via the municipal water supply after site redevelopment.
- No landfill materials were observed at any of the test boring locations. Additionally, probe refusal was encountered at shallow depths in each test boring location, indicating the presence of shallow partially weathered rock and/or bedrock in the area, which would likely preclude waste material burial. This finding resolves the concern raised by the URS Phase I ESA, Section 1.2.3.a, fifth REC and by the CTC Phase I ESA, Section 1.2.3.b, eighth REC.
- Additionally, Cardno recommended that an Analysis of Brownfields Cleanup Alternatives (ABCA) or Corrective Measures Plan (CMP) be prepared to evaluate remedial actions and/or institutional controls, if needed.

1.2.3.e. S&ME Asbestos Project Design

DHEC's Regulation 61-86.1, Standards of Performance for Asbestos Projects, requires that abatement of asbestos over specified quantities must be performed in accordance with a project design. Thus, S&ME prepared the procedures for a removal of ACM from the Republic Mill 1 Site (**Appendix D**). The procedures are outlined in a report dated July 24, 2020, and are based on Cardno's May 28, 2019, Asbestos Survey Report.

1.2.3.f. Cardno Cost Estimate for Clearing the Site

Cardno captured high-resolution aerial imagery for the Site via drone in July 2020. Based on the high-resolution imagery and the results of the 2019 ACM survey, Cardno calculated that approximately 2,078 cubic yards of ACM were present in debris piles at the site. Additionally, Cardno calculated that approximately 2,806 cubic yards of construction/demolition (C&D) debris and a 25 cubic yard retaining wall were also present.

1.2.3.g. Cardno Phase I ESA

On October 16, 2020, Cardno performed a site reconnaissance for TMS# 202-13-02-003-000 of the Republic Mill #1 site that encompasses approximately 11 acres and contains the former mill's manufacturing and auxiliary operations.

This assessment has revealed no evidence of RECs in connection with the subject property, except the following:

Onsite:

- Cardno presumes the historical presence of the #1 Republic Textile Mill to have contributed to soil and groundwater contamination at the site. As identified in Cardno's 2019 Phase II ESA, these contaminants include poly-aromatic hydrocarbons (PAHs), arsenic, and lead within onsite media. The documented existence of onsite soil and groundwater contamination is considered a REC.

1.2.3.h. Abandonment of Groundwater Monitoring Wells

On April 16, 2021, the groundwater monitoring wells on the site were properly abandoned.

1.2.3.i. Voluntary Cleanup Contract

The Town of Great Falls submitted a Voluntary Cleanup Contract (VCC) Application to the DHEC to acquire the Republic Mill #1 utilizing DHEC's Brownfields (Voluntary Cleanup Non-responsible Party) Program. VCC 21-5488 became effective on June 29, 2021. The VCC requires the following:

- Removal, characterization, and proper disposal of all remaining structures, debris, and waste material at the site.
- Further delineation of soil contamination in the area of the former boilers, smokestack, coal trestle, and transformer house prior to implementing a corrective measures plan.
- Assessment of surface water and sediment, if applicable, in the former fire suppression pond.
- Corrective measures shall be taken for contamination present in any media on the site with concentrations in excess of appropriate human-health risk-based exposure standards with plausibly complete routes of exposure. Ultimately, if soils will be left in place (i.e. "capped"), DHEC will require approval for a soil management plan prior to future redevelopment and site reuse.
- Prohibition of groundwater use at the site via land use/deed restriction. No further groundwater characterization is required by DHEC.

1.2.4 Planned Redevelopment Activities

The Town will redevelop the subject property for a community green space in accordance with the CDBG requirements for obtaining the funding for the asbestos abatement and debris removal.

2 Remedial Approach

Pursuant to VCC 21-5488-NRP, Item 3.C., the Town has assessed ACM at the site. An Asbestos Survey was completed in April of 2019, and Asbestos Project Design was prepared in July of 2020. The amount of ACM and other construction and demolition debris were calculated from drone imaging to provide quantities for a cost estimate for the CDBG application and to allow for preparation of a Request for Proposals (RFP) to hire an abatement/cleanup contractor for this removal work. The Town believes that all waste materials and segregated sources have been assessed for removal purposes; however, a Contingency Plan, Section 3.7, is included in this Work Plan to address sampling of any previously undiscovered or unanticipated waste materials or segregated sources. The selected contractor will be required to obtain/maintain appropriate and applicable licenses to perform the work.

The scope of this Work Plan does not include environmental assessment activities. A Phase II ESA was completed in December of 2019. While DHEC's review of the Phase II Report indicated the need for additional assessment after the site is cleared, that assessment work, if not addressed by redevelopment, will be performed at a later time.

2.1.1 Cleanup Objectives and Goals

The primary objective of the cleanup project at the former Republic Mill #1 is to reduce or prevent potential risk to human health and the environment from site contaminants by properly addressing the remediation of the subject property to meet the requirements of its intended future use. The removal of ACM on site will greatly reduce the risk to human health. The removal activities will be conducted in two phases. The first phase includes the removal and proper disposal of the ACM. The second phase includes the removal and proper disposal of the retaining wall and remaining debris.

2.2 Proposed Project Schedule and Deliverables

The proposed project schedule for the debris abatement portion of the work will be provided by the selected abatement/removal contractor. In addition to this Work Plan, the project deliverables for this phase of the project include the following:

- Asbestos Containing Materials Survey, Former Great Falls Republic Mill #1, May 28, 2019, Cardno, Inc. - **Appendix B**
- Former Republic Mill #1 Site-Specific Quality Assurance Project Plan, June 28, 2019, Cardno, Inc. – **Appendix C**

- Asbestos Project Design Republic Mill #1, July 24, 2020, S&ME, Inc.– **Appendix D**
- Demolition Application (will be submitted to Bureau of Air, DHEC)
- Health and Safety Plan (will be submitted to Angela Gorman, DHEC Brownfields Program)
- Close-out Report of removal activities to include the disposition of ACM and demolition debris (records), air monitoring records, as well as the characterization of any other segregated sources and waste materials (will be submitted to Angela Gorman, DHEC Brownfields Program)

2.3 Project Team Structure

Personnel involved in this project consist of Lee Montgomery, Mayor of the Town; Glenn Smith, Mayor Pro Tempore; other Town Council members, if needed; The Great Falls Hometown Association, if needed; Christine Schwartz and staff of the Catawba Regional Council of Governments overseeing and managing the Community Development and Block Grant funding; Angela Gorman, the DHEC Project Manager, who will oversee compliance with the Town's VCC; David Sykes and Gail Rawls Jeter of Cardno, the Town's environmental consultant for the CDBG Grant. Cardno personnel have prepared this work plan, will provide oversight of the removal work, and will prepare the Debris Abatement Report. The contractor selected by RFP to perform the abatement and removal work will be a Project Team member.

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3 Project Scope

The Town intends to make the subject property safe for the residents surrounding the site and provide community greenspace.

Section 3.C.1.of the VCC requires the Town to characterize construction and demolition debris and asbestos containing materials and to estimate the quantity of each. Further, the Town is required to characterize any other waste material or segregated source discovered on the site during removal or other additional work on the site.

A Request for Proposals (RFP) will be issued to hire a qualified contractor to abate asbestos and properly dispose of construction and demolition debris in accordance with applicable regulations.

3.1 Storm Water

It is not anticipated that a storm water permit will be necessary in that the ACM and other construction and demolition debris is being removed from concrete pads, not causing a disturbance of the land. If the prospective removal contractors express concern otherwise at the site visit during the RFP process, a storm water permit pursuant to SC Regulation 72.300, SC Code 48-14-10 et seq. will be acquired prior to beginning work.

3.2 Health & Safety Plan

The abatement/removal contractor hired by the Town will prepare and submit a Health and Safety Plan consistent with the Occupational Safety and Health Administration (OSHA) regulations. The Health and Safety Plan shall be submitted to DHEC in the form of one electronic copy on a compact disc. A copy of the Plan will be maintained on the site during such time that work is being performed.

3.3 Asbestos Abatement

The abatement/removal contractor hired by the Town will obtain and comply with the requirements of an abatement project license pursuant to SC Regulation 61-86.1, SC Code Sections 44-1-140, 48-1-30, and 44-87-10 et seq. and with the Asbestos Project Design Republic Mill #1, July 24, 2020, S&ME, Inc., included as **Appendix C**. Further,

the contractor will obtain and comply with Chester County requirements for a demolition permit.

3.4 Air Monitoring

A DHEC licensed air sampler, independent of the contractor hired to abate asbestos, shall be hired by the Town to perform air monitoring during asbestos abatement. This individual will be a building inspector also; thus, to serve a dual role as air sampler and building inspector.

3.5 Unidentified Asbestos

A DHEC licensed building inspector, independent of the contractor hired to abate asbestos, shall be hired by the Town to be available to manage (segregate, sample, etc.) any suspect ACM found during debris removal that has not been previously identified.

3.6 Painted Construction & Demolition Debris

During previous Phase I and II ESAs and other site visits, it was noted that the construction and demolition debris (C&D) is primarily brick and concrete and is not painted; however, all C&D that is not ACM will be taken to a Class 2 Landfill in accordance with SC 61-107.19, SC Code Sections 44-96-10 et seq.

3.7 Contingency Plan

This plan provides guidelines for the proper handling of waste materials and segregated sources if found during the debris abatement. The plan is not meant to be exhaustive, but to provide a framework that all parties can agree is a reasonable course of action. This plan is for the use of selected contractor and any subcontractors as well as Cardno personnel.

An area will be designated as a staging area at the beginning of the site work. If it is necessary to utilize the staging area, it will be covered with 6 mil polyethylene plastic and surrounded by bales of hay underneath 6 mil plastic, to provide secondary containment. Any waste material or segregated source placed in the staging area will be covered with 6 mil polyethylene plastic.

If during the course of asbestos abatement and debris removal as outlined above, a segregated source(s) is discovered, and the segregated source is not leaking, rusted, or distended, the selected abatement/removal contractor will notify the Town, DHEC, and Cardno. The contractor may choose to move this source to the designated staging area. If the segregated source is empty, it will be disposed as demolition debris. If it is not empty, it will be characterized for disposal by analyzing by the toxicity characteristic leaching procedure (TCLP), SW-846 Test Method 1311, for semi-volatile organic compounds, volatile organic compounds, and Resource Conservation & Recovery Act (RCRA) metals to determine the appropriate disposal method, unless the segregated

source can be identified, and this source information is acceptable to the disposal facility. The selected abatement/removal contractor will be required to have the capability to sample drums of unknown contents, or have a sub-contractor capable of performing the sampling on call prior to the abatement/removal contractor's beginning removal work. Proper transportation and disposal will be determined based on the characterization.

If the segregated source is leaking, but appears to be stable and its contents are unknown, DHEC, the Town, and Cardno will be notified. The contractor or its sub-contractor will upgrade to personal protective equipment (PPE) Level B and under the competent person's direction, will over-pack the segregated source and move it to the staging area. Then, the contents will be characterized for disposal, as stated above, by analyzing by TCLP for semi-volatile organic compounds, volatile organic compounds, and Resource Conservation & Recovery Act metals to determine the appropriate disposal method, unless the segregated source material can be identified, and this source information is acceptable to the disposal facility. Proper transportation and disposal will be determined based on the characterization.

If leaking segregated sources are discovered that do not appear to be stable and the contents are unknown, DHEC, the Town, and Cardno will be notified and work will be stopped in that area until the contents can be characterized. The contractor will cordon off the area, and no one without Level B PPE protection will be allowed in the area until the source is characterized and stabilized. If field tests to determine explosivity and flammability indicate that the contents are not explosive, or flammable; the source will be over packed, if feasible, or encapsulated in plastic in an attempt to contain the release.

Characterization for disposal will be performed as stated above, by analyzing by TCLP for semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), and RCRA metals to determine the appropriate disposal method, unless the segregated source can be identified, and this source information is acceptable to the disposal facility. Proper transportation and disposal will be determined based on the characterization.

All unidentified segregated sources will be labeled as unidentified until laboratory analysis is obtained on their contents.

If the segregated source is a tank(s) and is discovered in the debris piles, the tank(s) will be handled in a similar fashion as the segregated sources referenced above except they will not be moved until it is determined that they are empty. If empty, the tank will be recycled or disposed as debris. If the tank is not empty, the area will be cordoned off, and DHEC, the Town, and Cardno will be notified. The contents of the tank will be characterized by TCLP for SVOCs, VOCs, and RCRA metals to determine the appropriate disposal method prior to removing the contents of the tank. Removing the

contents of the tank and subsequent transportation and disposal will be determined based on the characterization.

After the tank is empty, the atmosphere in the tank will be rendered inert with 10 pounds of dry ice for every 100 gallon tank capacity (if the contents were flammable), and transported for recycling or proper disposal off-site.

If soils are uncovered that are stained, saturated, or have a strong petroleum or solvent odor, the site Health and Safety Officer will be notified immediately. DHEC, the Town, and Cardno will also be notified. The area will be cordoned off, and work in that area will cease until a determination can be made about the material causing the staining or odor. In this context “saturated” means soil that has a non-water fluid contained within it, or leaking out of it, that is indicative of a contaminant. A Site-specific Quality Assurance Project Plan (SSQAPP) for sampling soils at this site was approved on June 28, 2019. A letter addendum will be prepared to include the sampling point locations, modify the plan for sampling with a hand auger rather than a direct push rig, and list the analytical parameters. After obtaining the analyses, appropriate remedial action will be proposed and implemented. The documentation of this work will be included in an Asbestos and Debris Abatement Report.

This plan shall be maintained on the subject property during all field work.

Figure 1 Topographical Map

Figure 1: Site Location Map

Republic Mill #1, Great Falls, SC

Cardno
Shaping the Future

SOURCE; USGS Quadrangles Great Falls 1969

Figure 2 Aerial Map

Figure 2: Property Aerial Republic Mill #1, Great Falls, SC	Cardno Shaping the Future

Commonly Used Acronyms

AAI	All Appropriate Inquiry
ABCA	Analysis of Brownfield Cleanup Alternatives
ACM	Asbestos Containing Material
AST	Aboveground Storage Tank
ASTM	American Society for Testing & Materials
BFA	Brownfield Agreement
BGS	Below Ground Surface
Cardno	Cardno Inc.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CREC	Controlled Recognized Environmental Condition
EP	Environmental Professional
ERNS	Emergency Response Notification System
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FOIA	Freedom of Information Act
FIRM	Flood Insurance Rate Map
GLCCDO	Greater Lake City Community Development Office
IC	Institutional Controls
LBP	Lead-Based Paint
LUST	Leaking Underground Storage Tank
MSL	Mean Sea Level
NFRAP	No Further Remedial Action Plan
NPL	National Priority List
NRP	Non-Responsible Party
PA/SI	Preliminary Assessment/Site Inspection
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PPB	Parts per Billion
PPM	Parts Per Million
PRG	Preliminary Remediation Goal
RACM	Regulated Asbestos Containing Material
RBC	Risk Based Concentrations
RBSL	Risk Based Screening Level
RCRA	Resource Conservation and Recovery Act
RCRA CORRACT	RCRA Information Systems
RCRA GEN	RCRA System Generators
RCRA TSD	RCRA Treatment, Storage, and Disposal Facilities
REC	Recognized Environmental Condition
ROD	Record of Decision
SCDHEC	South Carolina Department of Health and Environmental Control
SHWS	State Hazardous Waste Site
SVOCs	Semi-Volatile Organic Compounds
SWL	Solid Waste Facilities List
TAL	Target Analyte List
TMS	Tax Map Serial
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
VCC	Voluntary Cleanup Contract

Town of Great Falls, South Carolina

APPENDIX A

VOLUNTARY CLEANUP CONTRACT 21-5488-NRP

July 1, 2021

VIA REGULAR MAIL

The Honorable Lee Montgomery
Mayor of Great Falls
810 Dearborn Street
Great Falls, South Carolina 29055

Re: Executed Voluntary Cleanup Contract 21-5488-NRP
Republic Mill #1
Chester County

Dear Mayor Montgomery:

Enclosed please find a certified true and correct copy of executed Voluntary Cleanup Contract 21-5488-NRP (VCC) for the Town of Great Falls (Great Falls) regarding the Republic Mill #1 property (Property) located in the Town of Great Falls and Chester County, South Carolina, and as identified more specifically in the enclosed VCC. The VCC was executed by the Department on June 29, 2021.

I look forward to continuing to work with Great Falls in completing the requirements of the VCC under the South Carolina Voluntary Cleanup Program. Should you have any questions or concerns, please do not hesitate to contact me at gormanak@dhec.sc.gov or (803) 898-0929.

Sincerely,

Angela Gorman, Project Manager
Brownfields/Voluntary Cleanup Program
Site Assessment, Remediation, and Revitalization
Bureau of Land and Waste Management

Enclosure: Certified True and correct Copy of VCC 21-5488-NRP

cc: Glenn Smith, Town of Great Falls (via electronic mail)
Tyler Lewis, Catawba Regional Council of Governments (via electronic mail)
Gail Jeter, Cardno (via electronic mail)
Veronica Baringer, Area Director, BEHS Lancaster (via electronic mail)
BLWM File # 56938

VOLUNTARY CLEANUP CONTRACT
21-5488-NRP

IN THE MATTER OF
REPUBLIC MILL #1, CHESTER COUNTY
and
TOWN OF GREAT FALLS

This Contract is entered into by the South Carolina Department of Health and Environmental Control and the Town of Great Falls, with respect to the Property located on the east side of Dearborn Street, Great Falls, South Carolina. The Property includes approximately eleven acres identified by Tax Map Serial Number 202-13-02-003-000. In entering this Contract, the Department relies on the representations contained in the "Non Responsible Party Application for Voluntary Cleanup Contract" of March 15, 2021, and any amendments thereto, by the Town of Great Falls, which is incorporated into this Contract and attached as Appendix A.

AUTHORITY

This Contract is entered into pursuant to the Brownfields/Voluntary Cleanup Program, S.C. Code Ann. §§ 44-56-710, et seq. (2018); the South Carolina Hazardous Waste Management Act (SCHWMA), S.C. Code Ann. §§ 44-56-10, et seq. (2018); the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. §§ 9601, et seq.; the State Underground Petroleum Environmental Response Bank Act, (SUPERB Act), S.C. Code Ann. §§ 44-2-10, et seq. (2018); and the Pollution Control Act (PCA), S.C. Code Ann. §§ 48-1-10 et seq. (2008 & Supp. 2018).

DEFINITIONS

1. Unless otherwise expressly provided in this Contract, terms used herein shall have the meaning assigned to them pursuant to the Brownfields/Voluntary Cleanup Program, and if not set forth therein, shall have the meaning assigned to them pursuant to the SCHWMA, the PCA, the SUPERB Act, or CERCLA.

A. "Great Falls" means the Town of Great Falls.

B. "Beneficiaries" means Great Falls' Non-Responsible Party lenders, signatories, parents, subsidiaries, and successors, including new purchasers, lessees, and other parties acquiring an interest in any portion of the Property, but only to the extent that such parties have never been a Responsible Party at the Site.

C. "Contamination" means the presence of a contaminant, pollutant, hazardous substance, petroleum, or petroleum product.

D. "Contract" means this Voluntary Cleanup Contract.

E. "Department" means the South Carolina Department of Health and Environmental Control, or a successor agency of the State of South Carolina that has responsibility for and jurisdiction over the subject matter of this Contract.

F. "Existing Contamination" shall mean any Contamination present on, or under, the Site as of the execution date of this Contract.

G. "Property" means the real property as described in the Non Responsible Party Application for Voluntary Cleanup Contract attached as Appendix A, and that is subject to the ownership, prospective ownership, or possessory or contractual interest of Great Falls or its Beneficiaries.

H. "Segregated Sources" means drums, tanks, or similar discrete containers that potentially hold substances that may cause Contamination upon release to the environment.

I. "Site" means all areas where a contaminant, petroleum, or petroleum product has been released, deposited, stored, disposed of, or placed or otherwise comes to be located; "Site" does not include any consumer product in consumer use or any vessel.

J. "Waste Materials" means any Contamination-causing solid, semi-solid, or liquid material discarded, buried, or otherwise present on the Property, and may include sludge, slag, or solid waste materials such as empty containers and demolition debris or materials containing asbestos, lead-based paint, or petroleum or other contaminants.

FINDINGS

2. Based on the information known by or provided to the Department, the following findings are asserted for purposes of this Contract:

A. Owners and Operators: The owners and operators of the Property include the following:

Southern Power Company	Unknown to 1946
West Point Pepperell, Inc.	1946 to 1983
Kratex Textile Machinery Sales & Service, Inc.	1983 to 1986
First State Savings and Loan, Division of Poughkeepsie Savings Bank, FSB	1986 to 1987
Donald R. Hoover and Jo S. Hoover	1987 to 1990
James Paul Gile, IRA	1990 to 1997
Chester County Forfeited Land Commission	1997 to 2003
GFSC Inc.,	2003 to 2004
Great Falls Mills, Inc.	2004 to 2005
C & S Demolition, LLC	2005 to 2019
Chester County Forfeited Land Commission	2019 to Present

B. Property and Surrounding Areas: The Property is bounded generally by South Dearborn Street to the west, Church Street followed by commercial and undeveloped property to the north, a former railway line followed by the Catawba River to the west, and Farrow Road followed by residential property to the south. The western half of the Property is generally level with the adjacent South Dearborn Street, while the eastern portion of the Property drops in elevation toward the Catawba River and is densely overgrown with vegetation.

The Property was developed as a cotton textile mill in the early 1900s. Historical records identify mill buildings on the Property including a main mill, water tower, water plant building, pump house, transformer building, and two cotton warehouses. A fire suppression reservoir was located to the east of the former main mill building. A rail spur entered the Property from the north.

The former main area of textile mill operations was in the western portion of the Property, which is currently mostly covered with former building foundations, wall remnants, asphalt paving, and large piles of building debris. A former fire suppression pond is present in the central portion of the Property. With the exception of the former freight elevator and water plant building, the portions of buildings that remain are demolished and overgrown with vegetation.

Investigations / Reports: A Phase II Environmental Site Assessment (Phase II ESA) was completed in 2019 (Cardno, December 2019) through an EPA Brownfields Assessment Grant by the Catawba Regional Council of Governments. The Phase II ESA included the sampling and analysis of eighteen (18) soil borings and six (6) groundwater monitoring wells across the Property. The Phase II ESA identified elevated concentrations of metals and polycyclic aromatic hydrocarbons (PAHs) in soils near the former boilers, smokestack, coal trestle, and transformer house. Additionally, low levels of groundwater contamination were detected across the site.

A. Applicant Identification: The Town of Great Falls is a South Carolina local government with its principal place of business located at 810 Dearborn Street, Great Falls, South Carolina, 29055.

B. Proposed Redevelopment: Great Falls plans to convert the Property to a park and recreational area in support of the whitewater recreational site that Duke Power is developing on the Catawba River adjacent to the Property.

CERTIFICATIONS

2. Great Falls has certified upon application that: 1) Great Falls is not a Responsible Party at the Site, or a parent, successor, or subsidiary of a Responsible Party at the Site and has not had any involvement with the Property in the past other than activities performed in anticipation of participation in the Voluntary Cleanup Program; 2) its activities will not aggravate or contribute to Existing Contamination on the Site or pose significant human health or environmental risks; and 3) it is financially viable to meet the obligations under this Contract.

RESPONSE ACTION

3. Great Falls agrees to conduct the response actions specified in the sub-paragraphs below. An initial Work Plan shall be submitted by Great Falls, or its designee, within thirty (30) days after the date of execution of this Contract by the Department, or such earlier or later date if approved by the Department's project manager. A report of the assessment results shall be submitted by Great Falls, or its designee, in accordance with the schedule provided in the initial Work Plan. Great Falls acknowledges that the assessment may find distributions of Existing Contamination requiring additional assessment and/or corrective action on the Property that cannot be anticipated with this Contract. Great Falls agrees to perform the additional assessment and/or corrective action consistent with the intended uses of the Property under the purview of this Contract; however, Great Falls may seek an

amendment of this Contract to clarify its further responsibilities. Great Falls shall perform all actions required by this Contract, and any related actions of Great Falls' choosing not expressly required by this Contract, pursuant to Work Plans and/or Addenda approved by the Department.

A. Work Plan Logistics:

1). The Work Plan(s) shall set forth a schedule and methods for assessment and corrective action activities detailed herein.

2). The Work Plan(s) shall be submitted to the Department in the form of one hard copy and one electronic copy of the entire Work Plan on a compact disk (in .pdf format).

3). All activities undertaken pursuant to this Contract shall be consistent with S.C. statutes, regulations, and permitting requirements (e.g., stormwater management and waste disposal regulations). Great Falls shall identify and obtain the applicable permits before beginning any action.

4). The Work Plan(s) shall be in accordance with accepted industry standards and shall be signed and sealed by a Professional Engineer or Professional Geologist duly-licensed in South Carolina.

5). The Work Plan(s) shall provide detailed information about the proposed sampling points, collection methods, analytical methods, quality assurance procedures, and other pertinent details of the assessment and/or corrective measures activities consistent with the following:

a). Sample collection methodologies shall be consistent with the US EPA Region IV Field Branches Quality System and Technical Procedures.

b). All monitoring wells and groundwater sampling points shall be constructed in accordance with Well Standards, 6 S.C. Code Ann. Regs. 61-71 (2012 & Supp. 2018). The Work Plan shall provide sufficient detail to support issuance of the well approvals by the Department.

c). The laboratory analyses for samples taken pursuant to the Work Plan are specified in the media-specific sub-paragraphs below, but may include any of the following:

i. the full EPA Target Analyte List with chromium speciation to analyze for hexavalent chromium (TAL);

i). EPA Target Analyte List excluding cyanide but with chromium speciation to analyze for hexavalent chromium (TAL-Metals);

ii. the full EPA Target Compound List (TCL);

i). EPA Target Compound List Volatile Organic Compounds (TCL-VOCs);

ii). EPA Target Compound List Semi-Volatile Organic Compounds (TCL-SVOCs);

iii). EPA Target Compound List Pesticides (TCL-Pesticides);

iv). EPA Target Compound List Polychlorinated Biphenyls (TCL-PCBs).

d). All analytical methods shall be capable of achieving appropriate reporting levels to allow comparison to the media-specific screening criteria listed in the "United States Environmental Protection Agency Regional Screening Levels for Chemical Contaminants at Superfund Sites" (EPA RSLs) in effect at the time of sampling. The applicable Protection of Groundwater Soil Screening Level (SSL) shall be the "MCL-Based SSL," if listed. If the applicable screening criteria are lower than achievable detection levels, the analytical method shall use the lowest achievable detection levels.

6). The Work Plan shall include the names, addresses, and telephone numbers of Great Falls' consulting firm(s), analytical laboratories, and Great Falls' contact person for matters relating to this Contract and the Work Plan.

a). The analytical laboratory shall possess applicable Certification defined in the State Environmental Laboratory Certification Program, 7 S.C. Code Ann. Regs. 61-81 (2012), for the test method(s) and parameters specified in the Work Plan.

b). Great Falls shall notify the Department in writing of any changes concerning the consulting firm(s), contact person(s), or laboratory identified in the Work Plan.

7). The Department will notify Great Falls in writing of approvals or deficiencies in the Work Plan.

8). Great Falls, or its designee, shall respond in writing within thirty (30) days of receipt of any comments on the Work Plan by the Department.

9). Great Falls shall begin implementation of the Work Plan as soon as reasonably possible after receipt of written approval of the Work Plan by the Department.

10). Great Falls shall inform the Department at least five (5) working days in advance of all field activities conducted pursuant to the Work Plan, and shall allow the Department, or its authorized representatives, to take duplicates of any samples if desired.

11). Great Falls shall preserve items on the Property that may: 1) provide evidence of a Potentially Responsible Party's involvement at the Site; 2) lead to the discovery of other areas of Contamination at the Site; or 3) contain environmental information related to the Site. Such items may include drums, bottles, labels, business and operating records, contracts, Site studies, investigations, and other physical or written materials relating to the Site. Great Falls shall notify the Department of the location of any such items, and provide the Department with an opportunity to inspect any materials or copy any documents at the Department's expense prior to destruction of said items.

B. Report Logistics

1). Report(s) shall be prepared in accordance with accepted industry standards and shall be certified by signature and seal of a Professional Engineer or Professional Geologist duly licensed in South Carolina.

2). The report(s) of assessment and/or corrective measures activities shall include a discussion of investigation methods and any deviations from the Department approved Work Plan. Report(s) shall also include tables and figures to summarize all data, a surveyed map documenting sampling locations, documentation of field observations including well core logs, sample descriptions, field screening results, and all laboratory analytical data.

3). All report(s) shall be submitted to the Department in the form of one hardcopy and one electronic copy of the entire report on a compact disk (in .pdf format).

C. Assess Waste Materials and Segregated Sources:

1). Great Falls shall characterize all Waste Materials and Segregated Sources identified below. Assessment shall include an evaluation of contaminant concentrations and an estimation of the quantity or extent of each type of Waste Material or Segregated Source, as applicable, or as specified below.

a). Construction and demolition debris;

b). Asbestos containing materials.

2). Great Falls shall also characterize for disposal any other Waste Material and Segregated Sources that may be discovered on the Property at any time during assessment, corrective action, or development activities in accordance with applicable regulations.

3). Upon discovery of any Segregated Source that has not yet released all of its contents to the environment, Great Falls shall expeditiously stabilize or remove the Segregated Source from the Property.

4). Great Falls shall immediately notify the Department if a release of Contamination occurs as a result of its assessment, stabilization, or removal actions. Great Falls shall assess the impact of the release and take necessary action in accordance with a Department approved plan.

D. Assess soil quality across the Property:

1). Great Falls shall collect and analyze soil samples across the Property to characterize the extent of contaminants in soil identified in the Phase II ESA (dated December 5, 2019). Soil samples shall be collected on a grid of no greater than 100 feet in all areas where recreational use is planned without installation of engineering controls to prevent exposure to soil, excepting any areas where currently existing building foundations or other impermeable barriers are present in good condition and will be maintained. Great Falls shall collect one surface soil sample (0-1 foot below ground surface) and one subsurface soil sample (2 foot minimum depth) from each soil sample location.

2). Each surface soil sample shall be analyzed for arsenic, lead, chromium (with chromium speciation to analyze for hexavalent chromium), and TCL-PAHs. Each subsurface sample shall be analyzed for arsenic, lead, chromium (with chromium speciation to analyze for hexavalent chromium), TCL-VOCs and TCL-PAHs.

3). Soil quality results shall be compared to the EPA RSL Resident and Industrial Screening Levels and to the applicable Protection of Groundwater SSL.

4). All analytical methods shall be capable of achieving appropriate reporting levels as specified in Paragraph 4.A.5.d. of this Contract.

E. Assess surface water and sediment quality:

1). Great Falls shall collect and analyze two (2) sediment samples, if applicable, and two (2) water samples from the former fire suppression pond and from any other water bodies that may be present on the Property.

2). All surface water samples shall be analyzed for the TAL-Metals (with chromium speciation to analyze for hexavalent chromium), TCL-VOCs, and TCL-SVOCs. Sediment samples shall be analyzed for the full EPA TAL with

chromium speciation to analyze for hexavalent chromium (includes cyanide), and EPA-TCL.

3). Surface water quality results shall be compared to the values in the Water Classifications and Standards, 6 S.C. Code Ann. Regs. 61-68 (2012 & Supp. 2020), based on consumption of either "water and organisms" or "organisms only" as applicable for the water body. Sediment samples shall be compared to the Ecological Screening Values in EPA Region 4 Ecological Risk Assessment – Supplement to Risk Assessment Guidance for Superfund (RAGS).

4). All analytical methods shall be capable of achieving appropriate reporting levels as specified in Paragraph 4.A.5.d. of this Contract.

F. Institute reasonable Contamination control measures:

1). Great Falls shall remove from the Property and properly dispose of all Waste Materials and Segregated Sources of Contamination in accordance with applicable regulations based on characterization results.

a). Waste Materials and Segregated Sources known to be present on the Property and that require removal include, but may not be limited to, the following:

i. Asbestos containing material

ii. Construction and demolition debris

b). Great Falls shall conduct removal of Waste Material and Segregated Sources in a manner to minimize disturbance of soil. Any removal of soil from the Property, and any substantial disturbance of soil shall only be conducted in accordance with a Department approved plan.

c). Great Falls shall document the characterization results and the ultimate disposition of the materials to the Department within sixty (60) days of removal of any material from the Property.

d). Subject to Department approval, buried Waste Materials, if present, may be stabilized in place on the Property in a manner that will effectively limit

or prevent human exposure and release of contaminants to the environment. If any Waste Materials are to be stabilized in place, Great Falls shall propose plans for stabilization of the Waste Materials in a Corrective Measures Plan in accordance with Paragraph 4.F.2 below. Great Falls shall also enter into a Declaration of Covenants and Restrictions to document the area of stabilization, and to maintain the stabilization measures in accordance with Paragraph 9 of this Contract.

2). Great Falls shall take reasonable measures to effectively limit or prevent human exposure to Existing Contamination in any media on the Property. Great Falls shall evaluate options for corrective measures in an Analysis of Brownfields Cleanup Alternatives (ABCA). Upon Department approval of the corrective measures selected in the ABCA, Great Falls shall prepare a Corrective Measures Plan. The Corrective Measures Plan shall be approved by the Department prior to implementation, and shall be consistent with the intended future use of the Property.

a). Corrective measures shall be required for Contamination present in any media on the Property with concentrations in excess of appropriate human-health risk-based exposure standards with plausibly complete routes of exposure. Known media that require Corrective Measures include, but may not be limited to, the following:

i. Contaminants in soil

ii. Contaminants in groundwater

b). Great Falls may request Department approval to conduct a site-specific risk assessment to determine levels of Contamination that are acceptable for the intended use of the Property. The risk assessment shall be conducted in accordance with EPA Risk Assessment Guidance for Superfund. Prior to conducting the risk assessment, Great Falls shall submit for Department approval, an overview of risk assessment assumptions including identification of Contamination exposure routes, the type and duration of possible exposures, the magnitude of exposure, and

any data gaps that need to be addressed to complete the risk assessment.

c). Corrective measures may include removal, encapsulation, barriers, or other methods reasonably expected to limit human exposures to the Contamination. Subject to Department approval, corrective measures may include a land use restriction in accordance with Paragraph 9 (Declaration of Covenants and Restrictions) of this Contract

d). Upon completion of any corrective measures, Great Falls shall provide a Corrective Measures Report to document satisfactory completion of the corrective measures for Department review and approval prior to obtaining a Certificate of Completion.

3). In the event that development of the Property will require disturbance of contaminants in soil or groundwater, Great Falls shall propose a Media Management Plan. The Media Management Plan shall address procedures for management of contaminated media when disturbed, characterization of any soil or groundwater that is to be removed from the Property, and offsite disposal of any contaminated soil and groundwater that is to be removed from the Property at a permitted waste disposal facility. Upon completion of Property development and soil disturbance, a report of the soil management activities shall be submitted to the Department documenting the areas and depths of soil removal, all soil and groundwater sampling results, quantities of contaminated soil and groundwater removed from the Property, their disposal locations, and disposal manifests.

4). In the event that corrective measures include engineering controls that must be maintained and monitored for future use of the Property, a Stewardship Plan may be required by the Department. If required, the Stewardship Plan shall identify procedures for management of contaminated media that may be encountered as a result of any disturbance of the engineering controls, and for repair or replacement of the engineering controls.

G. Abandon monitoring wells:.

1). Great Falls shall abandon monitoring well(s) that were installed on the Property in 2019 prior to initiation of any activities that may damage the monitoring wells. The wells shall be abandoned in accordance with Well Standards, 6 S.C. Code Ann. Regs. 61-71 (2012 & Supp. 2018).

HEALTH AND SAFETY PLAN

4. Great Falls shall prepare and submit under separate cover from the Work Plan, a Health and Safety Plan consistent with Occupational Safety and Health Administration regulations. The Health and Safety Plan shall be submitted to the Department in the form of one electronic copy on compact disk (in .pdf format). Great Falls agrees that the Health and Safety Plan is submitted to the Department only for informational purposes. The Department expressly disclaims any liability that may result from implementation of the Health and Safety Plan by Great Falls.

PUBLIC PARTICIPATION

5. Great Falls and the Department will encourage public participation to implement this Contract as follows:

A. The Department will provide notice, seek public comment, and initiate a thirty (30) day claim contribution notification period in accordance with established procedures consistent with S.C. Code Ann. § 44-56-750 (2018) upon signature of this Contract by Great Falls.

B. Great Falls shall erect a sign at major entrances onto the Property or other locations routinely accessible by the public. The sign(s) shall be erected no later than one (1) day after the Department's public announcement about the Contract in a newspaper of general circulation in the community.

1). The sign(s) will state "Voluntary Cleanup Project by the Town of Great Falls under Voluntary Cleanup Contract 21-5488-NRP with the South Carolina

Department of Health and Environmental Control." The sign(s) shall provide a brief description of the scope of activities under the Contract, and contact information, including telephone number and address, for a representative of Great Falls. Contact information for the Department shall state "TOLL-FREE TELEPHONE: 1-866-576-3432."

2). All sign lettering must be of sufficient size to be legible with un-aided normal eyesight from the point where the public will normally pass by the Property without intruding onto the Property.

3). Great Falls shall submit photographs of the sign(s) and a Property drawing showing the location(s) of the sign(s). The photographs shall be submitted to the Department within ten (10) days of erecting the sign(s).

4). Great Falls agrees to revise the sign if the Department determines the sign is inaccurate, not legible, or otherwise ineffectively placed.

5). Great Falls shall maintain the sign(s) in legible condition and at visible locations throughout the duration of the Contract period until a Certificate of Completion is issued on the Property.

6). The sign(s) may be removed to accommodate building or grading activities; however, Great Falls shall restore the sign(s) within two (2) days to its original location, or other publicly accessible location upon notice to the Department.

PROGRESS UPDATES

6. Great Falls shall submit periodic written updates to the Department's project manager until such time as all activities related to the Property are complete pursuant to this Contract. The first update shall be due within thirty (30) days of the execution date of this Contract and semi-annually thereafter.

A. The updates may be in summary letter format, but should include information about:

1). The actions taken under this Contract during the previous reporting period;

2). Actions scheduled to be taken in the next reporting period;

3). Sampling, test results, and any other data in summary form, generated during the previous reporting period regardless of whether the data was collected pursuant to this Contract; and

4). A description of any environmental problems experienced during the previous reporting period and the actions taken to resolve them.

B. The Department's project manager may allow an extended schedule between updates based on case specific conditions.

SCHEDULE

7. Great Falls shall perform all activities and response actions pursuant to this Contract in an expeditious manner. In the event that circumstances cause a delay in implementation of the response actions, the Department may require implementation of interim measures to stabilize Contamination or prevent unacceptable exposures. Great Falls shall implement the interim measures in accordance with a Department-approved plan.

DECLARATION OF COVENANTS AND RESTRICTIONS

8. Great Falls or its Beneficiaries shall enter, and record, a Declaration of Covenants and Restrictions (Declaration) for the Property to prohibit groundwater use, and to prohibit residential use. Additional restrictions may be required based on the response actions completed under this Contract. Additional restrictions shall be required if Contamination exceeds levels acceptable for unrestricted use after completing the response actions pursuant to this Contract, and as may be required per Paragraphs 4.F.1.c. or 4.F.2.c of this Contract. Contaminant levels acceptable for unrestricted use shall be the Screening Levels for Resident Soil as specified in the EPA RSLs for soil, and the primary MCL standards for groundwater in the State Primary Drinking Water Regulations, 4 S.C. Code Ann. Regs. 61-58 (2011 & Supp.

2017). The recorded Declaration shall be incorporated into this Contract as an Appendix and shall be implemented as follows:

A. The Department shall prepare and sign the Declaration prior to providing it to Great Falls. An authorized representative of Great Falls or its Beneficiaries shall sign the Declaration within ten (10) days of receipt. All signatures shall be witnessed, and signed and sealed by a notary public.

B. Great Falls or its Beneficiaries shall record the executed Declaration with the Register of Deeds for the county where the Property is located.

C. Great Falls or its Beneficiaries shall provide a copy of the recorded Declaration to the Department within sixty (60) days of the Department's execution. The copy shall show the date and Book and Page number where the Declaration has been recorded.

D. In the event that Contamination exceeds levels acceptable for unrestricted use (EPA RSLs for residential use and/or MCLs) on a portion of the Property, Great Falls or its Beneficiaries may create a new parcel of that portion of the property that will be subject to the Declaration.

E. The Declaration shall be noted on the master deed of any planned development for the Property and noted, or referenced thereafter, on each individual deed of property subdivided from the Property and subject to the Declaration.

F. The Declaration shall reserve a right of entry and inspection for Great Falls or its Beneficiaries that may be transferred to another single individual or entity for purposes of compliance monitoring.

1). Great Falls or its Beneficiaries shall ensure that the restrictions established by the Declaration remain on any subdivided property.

2). Great Falls or its Beneficiaries shall create a procedure to provide a single point of contact responsible for documenting current land use and compliance with the Declaration regardless of the Property's ownership status. The procedure shall be reviewed and approved by the Department before it is implemented.

G. The Declaration shall provide that the Department has an irrevocable right of access to the Property after Great Falls acquires the Property, and such right of access shall remain until remediation is accomplished for unrestricted use and monitoring is no longer required. Such access shall extend to the Department's authorized representatives and all persons performing response actions on the Property under the Department's oversight.

H. Great Falls or its Beneficiaries, or the individual or entity responsible for compliance monitoring, shall annually document the Property's land use and compliance with the Declaration to the Department. The report shall be submitted by May 31st of each year in a manner and form prescribed by the Department.

I. The Department may amend the Declaration in response to changes in law, completion of remedial actions meeting the applicable standards in effect at the time, or if other circumstances of the Property change; however, said amendment shall not be applied retroactively unless expressly provided for in the legislation. An amendment may strengthen, relax, or remove restrictions based on the EPA RSL Summary Table in effect at that time; however, the Department shall not impose a more restrictive condition based solely on changes in the EPA RSL Summary Table. An amendment to the Declaration shall be duly executed and recorded using procedures similar to those detailed above.

NOTIFICATION

9. All notices required to be given by either party to the other shall be in writing. Each party shall have a continuing obligation to identify a contact person, whose name, address, and telephone number must be updated to the other party, throughout the term of the Contract. Notices by electronic mail or facsimile shall be acceptable if acknowledged in writing by the recipient; with the delivery date being the date of acknowledgment or earlier date if stated in the acknowledgment. All other forms of notice shall be deemed sufficiently given if delivered at the address shown below, or at such place or to such agent as the parties may from time to time designate in writing, by: 1) regular U.S. Mail by which notice shall be deemed to occur seven (7) days after the postmark date; 2) Certified or Registered Mail by which notice shall be deemed to occur on the date received as shown on the receipt; 3) commercial delivery service company by which notice shall be deemed to occur on the date received as shown on the receipt; or 4) hand delivery to the other party.

A. All correspondence, notices, work plans, and reports shall be submitted to:

Angela Gorman
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

B. All correspondence and notices to Great Falls shall be submitted to Great Falls' designated contact person who as of the effective date of this Contract shall be:

Lee Montgomery, Mayor
Town of Great Falls
810 Dearborn Street
Great Falls, South Carolina 29055

FINANCIAL REIMBURSEMENT

10. Great Falls or its Beneficiaries shall reimburse the Department for its public participation costs and for oversight costs of activities specific to this Contract as provided by S.C. Code Ann. § 44-56-750(D) (2018). The oversight costs shall include the direct and indirect costs incurred by the Department in implementing the Voluntary Cleanup Program as related to this Contract, and any future amendments thereto, and may include costs related to this Contract and incurred by the Department prior to execution of this Contract. Invoices for oversight costs will be sent to Great Falls on a quarterly basis. In recognition of Great Falls' status as a local government entity, the Department waives reimbursement of oversight costs, exclusive of the cost incurred for public participation. The Department reserves the right to reinstate oversight billing upon thirty (30) day notice to Great Falls; however, said billing shall not include any costs incurred by the Department prior to receipt of the notice. All costs are payable within thirty (30) days of the Department's invoice submitted to:

Lee Montgomery, Mayor
Town of Great Falls
810 Dearborn Street
Great Falls, South Carolina 29055

A. Failure to submit timely payment for costs upon receipt of the Department's invoice is grounds for termination of the Contract pursuant to Paragraph 16 herein.

B. Payment for costs incurred by the Department pursuant to this Contract shall become immediately due upon termination of the Contract by any party pursuant to Paragraph 16 herein.

ACCESS TO THE PROPERTY

11. Great Falls agrees the Department has an irrevocable right of access to the Property for environmental response matters after Great Falls acquires the Property. This right of access remains until such time as remediation is accomplished for unrestricted use and monitoring is no longer required, and shall extend to the Department's authorized representatives and all other persons performing response actions on the Property under the Department's oversight.

CERTIFICATE OF COMPLETION AND COVENANT NOT TO SUE

12. A Certificate of Completion shall be issued to Great Falls or its Beneficiaries for the Property under this Contract as follows:

A. Great Falls or its Beneficiaries shall request a Certificate of Completion pursuant to S.C. Code Ann. § 44-56-750(C)(1) (2018) after the response actions are completed and any required Declarations are recorded pursuant to this Contract. The request shall be in writing and shall report 1) the amount of soil that was removed or remediated on the Property and 2) the cost of all environmental work conducted pursuant to this Contract.

B. Pursuant to S.C. Code Ann. § 44-56-750(C)(1) the Department shall issue the Certificate of Completion with its covenant not to sue upon determining that Great Falls or its Beneficiaries has successfully and completely complied with the Contract and the voluntary cleanup approved under S.C. Code Ann. §§ 44-56-710 through 760 (2018).

C. The Department may issue a Provisional Certificate of Completion if the substantive response actions required under this Contract are complete and a required Declaration has been recorded but all actions under this Contract have not been completed due to Property-specific circumstances.

1). A Provisional Certificate of Completion will include specific performance standards that Great Falls or its Beneficiaries shall continue to meet.

2). The Provisional Certificate of Completion may include the Department's covenant not to sue for Existing Contamination; however, said covenant shall be automatically revoked if Great Falls or its Beneficiaries do not satisfactorily complete the requirements of the Contract as stipulated in the Provisional Certificate of Completion.

ECONOMIC BENEFITS REPORTING

14. Great Falls or its Beneficiaries shall report information to the Department that demonstrates that the activities pursuant to this Contract have been beneficial to the State and community. The report shall be submitted within two (2) years after the execution date of this Contract, and annually thereafter until two (2) years after redevelopment of the Property is complete. Great Falls shall summarize the new operations at the Property, the number of jobs created, the amount of property taxes paid, and the total amount invested in the Property for property acquisition and capital improvements.

CONTRACT OBLIGATIONS AND PROTECTIONS INURE

15. The terms, conditions, obligations, and protections of this Contract apply to and inure to the benefit of the Department, Great Falls, and its Beneficiaries as set forth below. The following stipulations apply to ensure the transition of all obligations and protections to successive Beneficiaries for any portion of the Property:

A. Great Falls or its Beneficiaries shall provide a copy of this Contract and applicable Appendices to any Successor. Transmittal of the Contract copy may be via any commonly accepted mechanism.

B. Great Falls and its Beneficiaries shall not allow residential occupancy on any portion of the Property prior to obtaining the Certificate of Completion or a

Provisional Certificate of Completion specific to that portion of the Property allowing residential occupancy.

C. If the Certificate of Completion has not been issued, Great Falls or its Beneficiaries shall request approval from the Department prior to transferring the obligations and protections of this Contract to a new person or entity. The Department shall not unreasonably withhold its approval upon receipt of a Non-Responsible Party Application for Voluntary Cleanup Contract documenting that the new person or entity:

1). Is not a Responsible Party for the Site;

2). Has sufficient resources to complete the activities of this Contract;

3). Will not use the Property for activities that are inconsistent with the terms and conditions of this Contract;

4). Will assume the protections and all obligations of this Contract; and

5). Will, in the Department's sole discretion, provide a measurable benefit to the State and the community as a result of this transfer.

D. If the Certificate of Completion has been issued and the portion of the Property is subject to a Declaration or other ongoing obligation pursuant to this Contract, Great Falls or its Beneficiaries shall provide written notification to the Department identifying the new individual or entity within thirty (30) days after the effective date of the ownership change or other possessory transfer of the Property.

1). The notification shall include a signed statement from the new individual or entity that its use of the Property will remain consistent with the terms of the Contract and the Declaration, and that it will assume the ongoing obligations and protections of this Contract.

2). This requirement is waived for an individual or entity acquiring a portion of the Property for individual commercial use provided the Declaration is noted on the master deed for the planned development, and the Department has

approved the procedure for a single point of contact responsible for documenting current land use and compliance with the Covenant.

CONTRACT TERMINATION

16. Great Falls, its Beneficiaries, and the Department each reserve the right to unilaterally terminate this Contract by giving thirty (30) days advance written notice to the other party. Termination shall be subject to the following:

A. The Department may not terminate this Contract without cause and before termination shall provide Great Falls or its Beneficiaries an opportunity to correct the cause(s) for termination, which may include, but is not limited to, the following:

1). Failure to complete the terms and conditions of this Contract;

2). Change in Great Falls' or its Beneficiaries' business activities on the Property or use of the Property that are inconsistent with the terms and conditions of this Contract;

3). Failure to submit timely payment for costs upon receipt of the Department's invoice;

4). Failure of Great Falls or its Beneficiaries to implement appropriate response actions for additional Contamination or releases caused by Great Falls or its Beneficiaries;

5). Knowingly providing the Department with false or incomplete information or knowing failure to disclose material information;

6). Failure by Great Falls or its Beneficiaries to obtain the applicable permits from the Department for the response actions or other activities undertaken at the Property pursuant to this Contract; or

7). Failure by Great Falls or its Beneficiaries to make material progress toward the expansion, redevelopment, or reuse of the property as determined by the Department upon consideration of Great Falls' or its Beneficiaries' marketing

efforts, regional economic conditions, and other pertinent information on the Property.

B. Should Great Falls or its Beneficiaries elect to terminate, that party shall certify to the Department's satisfaction that any environmental or physical hazards caused or contributed by Great Falls or its Beneficiaries have been stabilized or mitigated such that the Property does not pose hazards to human health or the environment.

C. Termination of this Contract by any party does not waive the Department's authority to require response action under any applicable state or federal law.

D. Termination of this Contract by any party does not end the obligations of Great Falls or its Beneficiaries to pay costs incurred by the Department pursuant to this Contract. Payment for such costs shall become immediately due.

E. Upon termination of this Contract, the protections provided under this Contract shall be null and void as to any party who participated in actions giving rise to termination of the Contract. Revocation of protections shall also apply to that party's lenders, parents, subsidiaries, and successors, including lessees, heirs, devisees, and other parties taking an interest in the Property through that party who participated in actions giving rise to termination of the Contract. The protections will continue for any party who has received protections through a Certificate of Completion for this Contract, and who did not participate in the actions giving rise to the termination.

ENTITLEMENT OF PROTECTIONS AND BENEFITS

17. Great Falls and its Beneficiaries are entitled to the protections and benefits in regard to Existing Contamination provided by South Carolina statutes as follows:

A. Effective on the date this Contract is first executed by the Department:

1). Protection from contribution claims under CERCLA § 113, 42 U.S.C. § 9613 and S.C. Code Ann. § 44-56-200 (2018).

2). Protection from third-party claims as provided by S.C. Code Ann. § 44-56-750(H) (2018).

3). Eligibility to file annual application for Voluntary Cleanup Activity Tax Credits pursuant to the Income Tax Act, S.C. Code Ann. § 12-6-3550 (2014).

B. Effective on the date the Certificate of Completion is issued by the Department.

1). The Department's covenant not to sue Great Falls and its Beneficiaries for Existing Contamination but not for any Contamination, releases, and consequences caused or contributed by Great Falls or its Beneficiaries.

2). Specific tax credits or additional benefits expressly contingent in South Carolina statutes on issuance of the Certificate of Completion.

C. These Protections and Benefits do not apply to any Contamination, releases, and consequences caused or contributed by Great Falls or its Beneficiaries. The Department retains all rights under State and Federal laws to compel Great Falls and its Beneficiaries to perform or pay for response activity for any Contamination, releases, and consequences caused or contributed by Great Falls or its Beneficiaries.

RESERVATION OF RIGHTS BY THE DEPARTMENT

18. Nothing in this Contract is intended to be, or shall be construed as, a release or covenant not to sue for any claim or cause of action, past or future, that the Department may have against any person, firm, or corporation other than Great Falls and its Beneficiaries. The Department reserves the right to undertake future response actions at the Site and to seek to compel parties, other than Great Falls and its Beneficiaries, to perform or pay for response actions at the Site. Nothing in this Contract shall in any way restrict or limit the nature or scope of response

actions that may be taken or be required by the Department in exercising its authority under State and Federal law.

RESERVATION OF RIGHTS BY GREAT FALLS

19. Great Falls retains all rights to assert claims in law or equity against any person, company, or entity with respect to the Property, except as limited elsewhere by this Contract. Great Falls and its Beneficiaries specifically deny responsibility for response costs or damages resulting from Existing Contamination except for Contamination, releases, and consequences they cause or contribute. However, Great Falls and its Beneficiaries agree to undertake the requirements of this Contract.

BURDEN OF PROOF

20. Great Falls and its Beneficiaries shall have the continuing obligation to demonstrate that any newly discovered Contamination is not caused or contributed by Great Falls or its Beneficiaries. Great Falls and its Beneficiaries shall make this demonstration to the Department's satisfaction in accordance with State or Federal Law applicable to such newly discovered Contamination. For purposes of this clause, newly discovered Contamination means finding types of Contamination not previously identified at the Property or substantially higher concentrations of Existing Contamination.

LIMITATION OF CLAIMS BY GREAT FALLS AND ITS BENEFICIARIES

21. In consideration of the protections from the Department under this Contract, Great Falls and its Beneficiaries agree not to assert any claims or causes of action against the Department or to seek other costs, damages, or attorney's fees from the Department arising out of activities undertaken at the Property pursuant to this Contract. This limitation shall not extend to any claims or causes of action resulting from the Department's intentional or negligent acts or omissions, or the Department's willful breach of this Contract.

SIGNATORIES

22. The signatories below hereby represent that they are authorized to and do enter into this Contract on behalf of their respective parties.

THE SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

BY: _____ DATE: 6-29-2021

Henry J. Porter, Chief
Bureau of Land and Waste Management

_____ DATE: 6/28/21

Reviewed by Office of General Counsel

TOWN OF GREAT FALLS

BY: _____ DATE: 5-7-21

Lee Montgomery - Mayor
Printed Name and Title

APPENDIX A

Application for Non Responsible Party Voluntary Cleanup Contract

Town of Great Falls

March 15, 2021

Non Responsible Party Application for Voluntary Cleanup Contract

I. Applicant Information

1. Applicant is a: ☐ Single Entity ☐ Co-Entity *(Each Co-Entity must complete items 1-8)*
2. Applicant Type: ☐ Private Individual /Sole Proprietorship ☐ For-profit Business (Corp., Partnership, etc.) ☐ Tax-Exempt Trust/ Corporation/ Organization ☑ Government / Other Public Funded Entity
3. Applicant's Legal Name Town of Great Falls, South Carolina
4. Contract Signatures for this Applicant

a. Authorized Signatory

Lee Montgomery	Mayor	greatfalls@truvista.net
Name	Title	Email
810 Dearborn Street	803-482-2055	803-482-4155
Address	Phone1	Phone2
Great Falls	South Carolina	29055
City	State	Zip

b. Other Signatories ☐ None

Name	Title	Phone	Email	Signature Required On Contract?
Glenn Smith	Mayor, Pro Tem	803-482-4747	gsmith209@hotmail.com	☑
		803-482-5747 (mobile)		☐
		( ) -		☐

5. Physical Location of Applicant's Headquarters

810 Dearborn Street		
Street address		Suite Number
Great Falls	South Carolina	29055
City	State	Zip

6. Mailing address: ☑ Same as Authorized Signatory Go to question 7

Contact person (If different from Authorized Signatory)			Title
Street Number or PO Box	Phone1		Phone 2
City	State	Zip	Email

7. Company Structure Information ☑ Not-applicable (Local Government, Sole Proprietorship, Private Individual) - Go to Question #8
   a. Company is Incorporated/ Organized/ Registered in _____ (state)
   b. List all principals, officers, directors, controlling shareholders, or other owners with >5% ownership interest.

Attach additional pages if needed.

Name	Name

RECEIVED
MAR 15 2021
SITE ASSESSMENT, REMEDIATION, & REVITALIZATION

   c. Is the applicant a subsidiary, parent or affiliate of any other business organization not otherwise identified on this form?
   ☐ Yes ☐ No
   d. If yes, identify all affiliations: _____

8. Non-Responsible Party Certification

By signature below, it is affirmed that no person or entity identified anywhere above:

1. Is a current owner of the property
2. Is a Responsible Party for the site
3. Is a parent, successor, or subsidiary of any Responsible Party or owner of the property
4. Has had any involvement with the property in the past other than activities performed in anticipation of participation in the Voluntary Cleanup Program

Lee Montgomery — Authorized Signatory

Glenn R Smith — Co Signatories

THIS IS CERTIFIED AS A TRUE AND CORRECT COPY
SIGNATURE M. Mock

II. Property Information

9. Location: Eastern side of Dearborn Street in Great Falls (No street number assigned), approximately bounded by Farrow St and Church St

   a. Physical Address: _____

   b. County: Chester Zip Code: 29055

   c. ☐ Property is outside any municipal boundaries ☑ Property is inside the municipal limits of: Great Falls (town/city)

10. List any Companies or Site names by which the Property is known
    Republic Mill 1 J. P. Stevens

11. Total Size of Property Covered by this Contract: Eleven Acres

12. How many parcels comprise the Property? One

13. Current Zoning (general description)
    C1, central commercial district

14. a. Does the property have any above- or below-ground storage tanks? ☐ Yes ☑ No

    b. If Yes, provide information on the number and capacity of the tanks, their contents, and whether they will be retained, or closed and/or removed.

15. Parcel Information *Complete the information below for each Parcel (attach additional sheets if needed)*

a. Tax Map Parcel#	202-13-02-003-000	
b. Acreage	11	
c. Current Owner	Chester County Forfeited Land Commission	
d. Owner Mailing Address	PO Drawer 686 Chester SC 29706	
e. Contact Person for Access	Donald A Wade	
f. Access Person's Phone #		
g. Is Parcel CurrentlyVacant?	☑ Yes ☐ No	☐ Yes ☐ No
h. Buildings on the parcel? (check all that apply)	☐ None ☑ Demolished/Ruins ☐ Intact, To be demolished ☐ Intact, To be re-used	☐ None ☐ Demolished/Ruins ☐ Intact, To be demolished ☐ Intact, To be re-used
i. Business/facility operations	☐ Never Operated on the parcel ☑ Not operating since 1979 (approx date) ☐ In operation: nature of the business	☐ Never Operated on the parcel ☐ Not operating since _____ (approx date) ☐ In operation: nature of the business

a. Tax Map Parcel#		
b. Acreage		
c. Current Owner		
d. Owner Mailing Address		
e. Contact Person for Access		
f. Access Person's Phone #		
g. Is Parcel CurrentlyVacant?	☐ Yes ☐ No	☐ Yes ☐ No
h. Buildings on the parcel? (check all that apply)	☐ None ☐ Demolished/Ruins ☐ Intact, To be demolished ☐ Intact, To be re-used	☐ None ☐ Demolished/Ruins ☐ Intact, To be demolished ☐ Intact, To be re-used
i. Business/facility operations	☐ Never Operated on the parcel ☐ Not operating since _____ (approx date) ☐ In operation: nature of the business	☐ Never Operated on the parcel ☐ Not operating since _____ (approx date) ☐ In operation: nature of the business

a. Tax Map Parcel#		
b. Acreage		
c. Current Owner		
d. Owner Mailing Address		
e. Contact Person for Access		
f. Access Person's Phone #		
g. Is Parcel CurrentlyVacant?	☐ Yes ☐ No	☐ Yes ☐ No
h. Buildings on the parcel? (check all that apply)	☐ None ☐ Demolished/Ruins ☐ Intact, To be demolished ☐ Intact, To be re-used	☐ None ☐ Demolished/Ruins ☐ Intact, To be demolished ☐ Intact, To be re-used
i. Business/facility operations	☐ Never Operated on the parcel ☐ Not operating since _____ (approx date) ☐ In operation: nature of the business	☐ Never Operated on the parcel ☐ Not operating since _____ (approx date) ☐ In operation: nature of the business

III. Property Redevelopment

16. Describe the intended re-use of the property:
(attach additional sheets if necessary)

The Town of Great Falls desires to convert this property to a park/recreational area in support of the whitewater recreational site that Duke is developing on the Catawba River that is adjacent to this property.

17. a. Will the future use include any chemical processes, petroleum or chemical storage and handling, on-site waste disposal, or generate any hazardous substances? ☐ Yes ☑ No
b. If Yes, identify the substances and discuss steps that will be taken to prevent their release to the environment.

18. Will redevelopment lead to the creation of permanent jobs on the property? ☐ Yes Anticipated Number _____
☑ No

19. Projected Increase to the Tax Base as a result of this redevelopment: $ 0, publicly owned

20. a. Will there be Intangible benefits from this redevelopment such as:
☐ LEED, Earth Craft, EnergyStar, or similar certification of Sustainable Development
☑ Creation / Preservation of Green Space on the Property
☐ Deconstruction/ Recycling of demolition or building debris
☐ Other _____

b. Please Describe:

The Town of Great Falls desires to obtain this property adjacent to the Catawba River and maintain it as greenspace and/or recreational space in conjunction with the whitewater recreational development that Duke is creating on the river

21. Anticipated date of closing or acquiring title to the property April / _____ / 2021

22. Redevelopment Certification
By signature below, the applicant(s) affirm that their proposed use and activities will not knowingly aggravate or contribute to existing contamination or pose significant human health or environmental risks on the property.

Lu Montgomery Glenn R. Smith
Signature(s)

IV. Project Management And Financial Viability (Co-Entities, refer to instruction sheet)

23. Environmental Consulting Firm
☐ None as of this application date

Cardno, Inc.				
Company				
1812 Lincoln Street, Suite 301	Columbia	SC	29201	
Address	City	State	Zip	
Gail Rawls Jeter		803 929 6059	803 210 6080	Gail.Jeter@Cardno.com
Project Contact1	S.C PE/PG Reg. #	Phone1	Phone 2	email
Peter Whitehouse		803 576 4771	910 580 7901	Peter.Whitehouse@Cardno.com
Project Contact 2	S.C PE/PG Reg. #	Phone1	Phone 2	email

24. Legal Counsel (Optional)

Coleman & Tolen, LLC				
Firm				
Creighton B. Coleman	803-635-6884			
Attorney	Phone1		Phone 2	
Post Office Box 1006	Winnsboro	SC	29180	creighton@colemantolen.com
Street Number or PO Box	City	State	Zip	email

25. Applicant's Billing Address ☑ Same as Contact person in #6 above Go to question #26

Financial Contact Title

Company Phone

Address

City State Zip

26. **Financial Viability**

By signature(s) below, the applicant agrees to:

1. Pay the Department's costs upon receipt of invoices for implementing the Voluntary Cleanup Program for this Property, and
2. Provide financial statements, if requested, to document financial viability to conduct the response actions on the Property.

☑ Waiver Requested (*Check Box If applicable)*
The applicant is a Local Government or qualifies as a 501(c) Non-Profit Organization, and requests waiver of some Departmental costs of implementing this contract.

Lee Montgomery Glenn R Smith
Signatures

V. Application Completion (The following are required along with this form. Check applicable boxes)

27. The Legal Description of the Property is attached as a: ☑ Plat Map ☐ Metes and Bounds Text ☐ Both

28. The Phase I Environmental Site Assessment Report is attached as a:
☑ New report completed in the past six months by Cardno, Inc.
(Name of Environmental Firm)
☐ Older report updated in the past six months by _____
(Name of Environmental Firm)

29. Environmental sampling data and other reports: *(check one)*
☐ The Applicant is not aware of any environmental testing on the property
☑ The Applicant believes the Department already has all environmental data in its files on: Republic Mill # 1 (Site Name)
☐ The Following reports are attached:

Report Date	Report Name	Environmental Firm

30. Mailing addresses of Former Owners, Operators and other Potentially Responsible Parties:(check one)
☑ Enclosed with this Application as an Attachment
☐ Will be submitted along with (or before) the signed contract

31. The applicants attest by signature below that this application is accurate to their best knowledge. Furthermore, the applicants request DHEC evaluate the Property for inclusion in the Brownfields Voluntary Cleanup Program and draft a Non-Responsible Party Contract for the Property.

Lee Montgomery Glenn R Smith
Signature(s)

This Section for Department Use Only

Assigned File Name		
Eligible for NRP Contract	☐ Y ☐ N	
Assigned File Number		
Assigned Contract Number		

Former Owners/Operators
Republic Mill 1
To be Acquired by the Town of Great Falls
TMS 202-13-02-003-000

To the best of our knowledge:

Chester County Forfeited Land Commission PO Drawer 686 Chester SC 29706	Current Owner
C & S Demolition, LLC 680 Nelson Rd. Milledgeville, GA, 31061	May 6, 2005 – January 25, 2019 Please Note: The Georgia Secretary of State's website indicates that this LLC is dissolved.
Great Falls Mills, Inc Registered Agent Jaime Van Zadeloff 296 Tom Savage Road Prosperity, SC 29127	September 21, 2004 – May 6, 2005 Please Note: The SC Secretary of State's website indicates that this corporation was dissolved in 2008.
GFSC Inc Registered Agent William C Mullins Jr 1562 Victoria Lane Myrtle Beach, SC 29577	August 5, 2003 – September 21, 2004 Please Note: The SC Secretary of State's website indicates that this corporation was dissolved in 2007.
Chester County Forfeited Land Commission	December 22, 1997 – August 5, 2003
James Paul Gile, IRA Internet research finds a James Paul Gile in Port Orange, Florida who once lived in Lancaster and Chester, SC. 69 Walton Boulevard Port Orange, FL 32129	June 15, 1990 - December 22, 1997
Donald R. Hoover and Jo S. Hoover No information found by a reasonable internet search.	March 2, 1987 - June 15, 1990
First State Savings and Loan, Division of Poughkeepsie Savings Bank, FSB January 6, 1986 – Foreclosure Action - Lamar H. Kelsey Ill, appointed Special Referee, Plaintiff against Kratex Corporation, formerly Kratex Textile Machinery Sales and Service, Inc., Bernd Krammer and South Carolina National Bank, Defendants, to and First State Savings & Loan Association.	January 6, 1986 - March 2, 1987

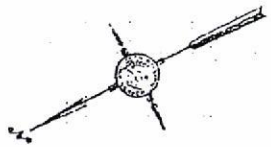
Kratex Textile Machinery Sales & Service, Inc. Registered Agent Bernd Krammer 101 Coventry Drive Spartanburg, SC	August 4, 1983 – January 6, 1986 The SC Secretary of State's website indicates that this corporation was dissolved on February 17, 1989.
J.P. Stevens & Company Registered Agent Corporation Service Co. 1301 Gervais Street Columbia, SC 29201	September 4, 1946 – August 4, 1983 (J.P. Stevens was purchased by West Point Pepperell) Please Note: The SC Secretary of State's website indicates that J P Stevens was dissolved on August 30, 1999.
West Point Pepperell, Inc. PO Box 71 West Point, GA, 31833-0071	
Southern Power Company	? – September 4, 1946

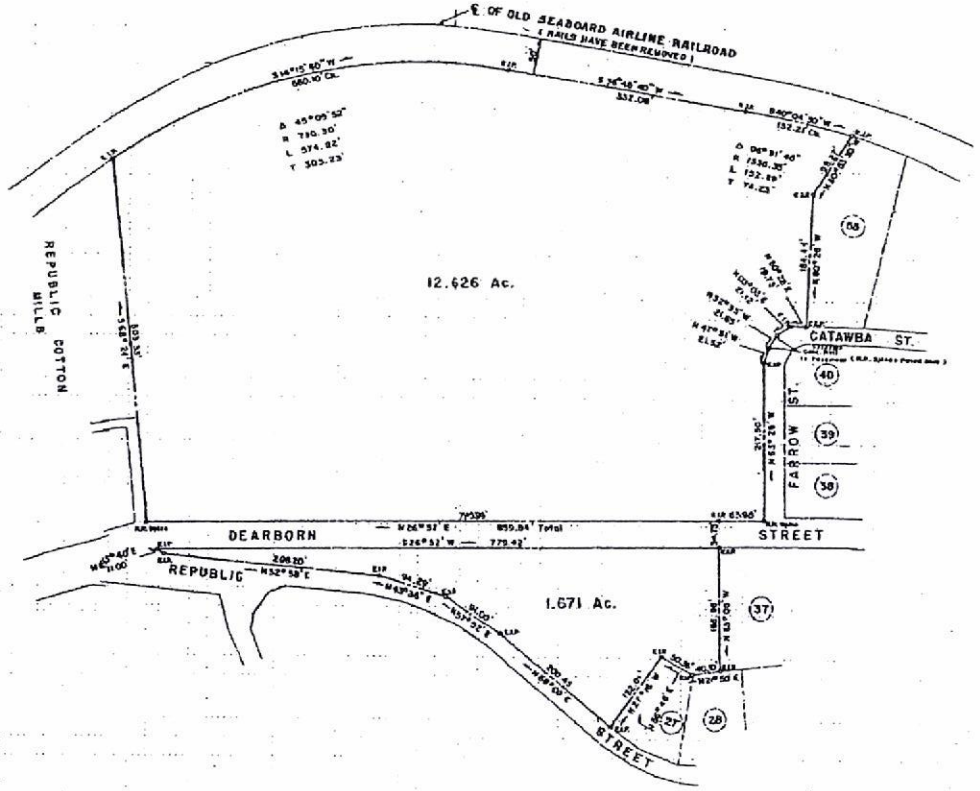
In 1927, most of the subsidiary companies, including Southern Power Company, Catawba Power Company, Great Falls Power Company, and Western Carolina Power Company were merged into Duke Power. Duke Power became Duke Energy after some additional mergers.

Duke Energy Headquarters
526 South Church Street
Charlotte, North Carolina 28202

133 p.3

Cabinet B Slide 133 PLAT BOOK 133 PAGE 3





Date 4:15 PM
Recorded March 15, 1991
In Cab. B Slide 133 Page 3
Clerk of Court
Chester S.C.

NOTE:
EASTERN PROPERTY LINE IS BASED ON RIGHT-OF-WAY LINE OF OLD SEABOARD AIRLINE RAILROAD WHICH WAS ESTABLISHED 50' WEST OF THE CENTERLINE OF THE EXISTING RAILROAD BED.

THIS PROPERTY IS SUBJECT TO EASEMENTS AND RIGHTS OF WAY OF RECORD.

GRAPHIC SCALE

PROPERTY OF
REPUBLIC COTTON MILLS
GREAT FALLS, SOUTH CAROLINA
DIVISION OF
J. P. STEVENS & COMPANY, INC.
SCALE: 1" = 100' JUNE 21, 1983

SOUTHERN MAPPING & ENGINEERING CO. GREENSBORO, NORTH CAROLINA
DRAWN BY: M.C.F. DATE: 6/21/83 CHECKED BY: H.G.H. DATE: 6/22/83

THIS PROPERTY FIELD CHECKED & MAP REVISED THIS THE 30th-17th DAY OF MAY, 1990.
Ralph D. Stout

I, RALPH D. STOUT, SURVEYOR AND MAKER OF THIS PLAT, HEREBY CERTIFY THAT IT IS A CORRECT REPRESENTATION OF THE LAND SURVEYED.
Ralph D. Stout

S.C. REGISTERATION NO. 549

NORTH CAROLINA REGISTERED LAND SURVEYOR SEAL 549 RALPH D. STOUT

8-5102-83

FILED IN OFFICE OF CLERK OF COURT CHESTER COUNTY, S.C.

THIS IS CERTIFIED AS A TRUE AND CORRECT COPY
SIGNATURE M. McCoy

Town of Great Falls, South Carolina

APPENDIX B

ASBESTOS CONTAINING MATERIALS SURVEY
FORMER GREAT FALLS REPUBLIC MILL #1
CARDNO, INC., MAY 28, 2019

Asbestos-Containing Materials Survey

Former Great Falls Republic Mill #1

May 28, 2019

Cardno®

Contact Information

Cardno
1812 Lincoln Street
Suite 301
Columbia, SC, 29201, USA

Telephone: 803.929.6060
www.cardno.com

Author(s)	Peter Whitehouse Geologist I SC Asbestos Inspector #BI-01796
Approved By	Conrad Peters Environmental Scientist II SC Asbestos Inspector #BI-01810

Document Information

Prepared for

Catawba Regional Council of Governments (CRCOG)
212 Hampton Street
Rock Hill, SC 29730

Project Name	Asbestos-Containing Materials Survey Former Great Falls Republic Mill #1
File Reference	Republic_Mill_ACM_Survey
Job Reference	PB00268000
Date	May 2019
Version Number	1.1
Effective Date	May 15, 2019
Date Approved	May 28, 2019

Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
1.0	05/15/2019	Draft	Peter Whitehouse	Conrad Peters
1.1	05/28/2019	Final	Peter Whitehouse	Gail Jeter

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Appendices

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1 Purpose and Scope of Services

Cardno, Inc. (Cardno) has completed an Asbestos-Containing Materials Survey at the Former Great Falls Republic Mill #1 site to observe the remaining building debris and note and/or sample potential asbestos-containing material (ACM) on the subject property. The identification of ACM and presumed ACM ultimately may make it possible to separate the waste into general construction debris and ACM waste for disposal purposes. Cardno provided the services as outlined below for conducting a representative asbestos survey of identified building materials at the site:

1. Review of existing asbestos reports for any previous building areas, if provided.
2. Survey the specified area to identify homogeneous areas (HAs).
3. Identify accessible suspect ACM following AHERA requirements (which also meets the sampling requirements found in 29 CFR 1926.1101), the National Emission Standards for Hazardous Air Pollutants (NESHAP), and SC R.61-86.1.
4. Collect and analyze bulk samples of suspect friable and non-friable materials to evaluate potential asbestos content.
5. Quantify and qualify ACM, including material condition, location, and potential for disturbance.

2 Assumptions and Limitations

The results, findings, conclusions, and recommendations expressed in the report are based only on conditions that were noted during Cardno's assessment of the Former Great Falls Republic Mill #1 site, located on South Dearborn Street in Great Falls, South Carolina, on April 11, 2019.

The selection of sample locations and frequency of sampling was based on Cardno's observations, the assumption that similar materials in the same area are homogeneous, and applicable regulations. Additional ACM may exist in concealed areas not surveyed or identified.

3 General Site Conditions

The site was previously used as a textile mill, and was destroyed by fire in the early 2000s. Since then, the site has been vacant and abandoned, and the former structures have been demolished with building debris left in place. The survey area was limited to visible materials on the ground. The site is lightly vegetated with approximately 10,000 cubic

yards of building debris present in several distinct piles[1]. An aerial layout of the site is included as **Figure 1**, and approximate debris pile extents are shown in **Figure 2**.

4 Previous Reporting

CTC Public Benefit Corporation (CTC) completed a Phase I Environmental Site Assessment (ESA) at the subject property in October 2011. During the course of the Phase I ESA, it was determined that based on the age of the former structures at the site, it is likely that building debris contained ACM. No other previous reporting was provided to Cardno personnel in connection with potential ACM at the site.

5 Asbestos-Containing Material Survey

On April 11, 2019, Mr. Peter Whitehouse (SC Building Inspector # BI-01796) and Mr. Conrad Peters (SC Building Inspector # BI-01810) of Cardno conducted an Asbestos-Containing Materials survey at the Former Great Falls Republic Mill #1, located along South Dearborn St. in Great Falls, SC, to assess the potential presence of ACM in debris piles remaining at the site after a fire destroyed the former main mill structure in the early 2000s. The area was observed to be covered in general construction debris, such as concrete, and wood.

5.1 Homogeneous Areas (HAs)

Prior to collecting samples, HAs were identified to develop a sampling strategy. A homogeneous area can be described as one or more areas of material that are similar in appearance and texture and that have the same known or apparent installation date and function. The number of samples collected from each homogeneous sampling area may vary, based on the type of material and professional judgment.

5.2 Hazard Assessment

A physical assessment was performed for each suspect homogeneous areas, a physical assessment was performed for each material on the list. A physical assessment includes evaluating the condition, assessing the potential for disturbance, and determining the friability of each material (i.e. the potential for a material to be crumbled or reduced to powder by hand pressure when dry). Each material on the list was further classified into one of three categories:

[1] Estimation made with drawn debris pile areas (**Figure 2**), assuming conical volume with an average height of 10 feet.

1. Surfacing Materials: Spray-applied or troweled surfaces such as joint compound, plaster ceilings and walls, fireproofing, textured paints, textured plasters, and spray-applied acoustical surfaces.
2. Thermal System Insulation: Insulation used to inhibit heat gain or loss on pipes, boilers, tanks, ducts, and various other building components.
3. Miscellaneous Materials: Friable and non-friable products and materials that do not fit in any of the above two categories such as resilient floor covering, baseboards, mastics, adhesives, roofing material, caulking, glazing, and siding. This category also contains wallboard and ceiling tile.

Potential ACM were then assessed by their condition as good (intact), fair (damaged) or poor (significantly damaged) per Title 40 Code of Federal Regulations Part 763.

5.3 Sampling Strategy

The asbestos survey was conducted in general accordance with the AHERA requirements (which also meets the sampling requirements found in 29 CFR 1926.1101), the National Emission Standards for Hazardous Air Pollutants (NESHAP), and SC R.61-86.1.

Cardno personnel visually assessed the site for the presence of building materials that are suspected to contain asbestos. Bulk samples of identified suspect ACM were collected by South Carolina licensed asbestos building inspectors (Mr. Peter Whitehouse, # BI-01796 & Mr. Conrad Peters # BI-01810) and placed into individual containers for transport to EMSL, a National Voluntary Laboratory Accreditation Program (NVLAP)/American Industrial Hygiene Association (AIHA)-accredited laboratory, for analysis. Copies of applicable accreditation forms are included in **Appendix A**. Materials visibly identified as non-asbestos (e.g. rubber, wood, vinyl wall panels, foam rubber, etc.) were not sampled. The asbestos survey consisted of three basic procedures:

1. Conducting visual observations of the debris piles;
2. Identifying homogeneous areas (HAs) of suspect surfacing, thermal system insulation, and miscellaneous materials; and
3. Sampling accessible, friable and non-friable suspect ACM.

Collection of bulk asbestos samples involves physically removing a small piece of material and placing it in a marked, airtight container. Sample containers are marked with a unique identification number, which is recorded in the field notes.

5.4 Sampling Activities

On April 11, 2019, Cardno personnel conducted an Asbestos-Containing Materials survey at the Former Great Falls Republic Mill #1. During the course of the site assessment activities, 28 individual bulk samples were collected from across the site. Sample descriptions, locations, and approximate material amounts are included in tabular format as **Table 1**. A sample location map is included as **Figure 3**.

5.5 Sampling Limitations

During the survey, Cardno identified potential ACM in building materials remaining at the site. Though the investigation was conducted to give a representative report of site

conditions, it is possible that additional ACM may be present at the site in inaccessible or concealed spaces, or areas below visible debris. These spaces include, but are not limited to, pipe chases, spaces between wall/ceiling/door/floor cavities, interior of mechanical components such as boiler cavities, interior ducts, beneath foundation pads, etc. If future demolition activities render these areas exposed, Cardno recommends further assessment of these spaces be conducted at that time to identify and confirm the presence or absence of additional ACM. Prior to additional sampling, all such unidentified materials should be treated as Presumed ACM (PACM) in accordance with 29 CFR 1926.1101 and 1910.1001.

6 Results

Bulk samples were analyzed by the EMSL laboratory located in Charlotte, North Carolina using polarized light microscopy (PLM) according to EPA Method 600/M4-82-020. Additionally, per South Carolina Regulation 61-86.1, one of every three non-friable organically bound (NOB) samples were analyzed per homogeneous area via Transmission Electron Microscopy (TEM). EMSL participates in the NVLAP, a quality assurance program for PLM, and is accredited by the National Institute of Standards and Technology (NIST). If multiple components were present within a sample matrix (i.e. floor tile and mastic), each of the components were separated and analyzed individually. Of the 28 bulk samples, a total of 52 individual components were analyzed by EMSL. A summary of the analytical results are included in the EMSL Analytical report as **Appendix B** and are presented in tabular format as **Table 1**.

The following materials were identified as ACM:

- The fibrous layer within built-up roofing material along the northern end of the main mill foundation and in the area of the remaining tower
    - 8% Chrysotile, friable
- White putty/caulking material along the western end of the main mill foundation
    - 60% Chrysotile, NOB
- Black caulking/sealant around piping & building foundation joints
    - 6% Chrysotile, NOB
- Vinyl floor tile and mastic in the former office area
    - 4% - 10% asbestos, NOB

A photographic log of materials identified as containing >1% asbestos by volume is included as **Appendix C**. No other tested materials contained >1% asbestos.

7 Conclusions and Recommendations

General construction debris (e.g., concrete, roofing material, wood) were present in debris piles on the site. These materials were visually assessed to identify potential ACM materials. 28 suspect materials were collected via bulk sample and analyzed for percent asbestos by volume via PLM and/or TEM by EMSL Analytical, Inc., per applicable

regulations. The following materials contained >1% asbestos by volume, and are considered to be ACM:

- Built-up roofing material along the northern end of the main mill foundation and in the area of the remaining tower
    - 8% Chrysotile
- White putty/caulking material along the western end of the main mill foundation
    - 60% Chrysotile, NOB
- Black caulking/sealant around piping & building foundation joints
    - 6% Chrysotile, NOB
- Vinyl floor tile and mastic in the former office area
    - 4% - 10% asbestos, NOB

As shown in **Appendix B**, the fibrous layer within built-up roofing material was always determined to be ACM. Since a fibrous layer is still present within much of the roofing material in the debris piles, and is bound to the rest of the matrix, all roofing material across the site should be considered ACM.

It may be possible for the general debris at the site to be screened by a South Carolina Asbestos Building Inspector during demolition and clean-up activities. Removal of non-ACM debris is possible in certain areas and there is the possibility of separating ACM from non-ACM debris.

There is also the possibility for additional suspect ACM to be present. Any suspect ACM should not be disturbed, and treated as ACM, unless analytical testing proves otherwise. An asbestos project design addressing both general construction debris and ACM debris should be developed by an accredited project designer before work begins. Considerations of the worker training, air monitoring, and a review of disposal facilities should be included in the asbestos project design as well. The South Carolina Department of Health and Environmental Control (SCDHEC) should be consulted about any future disposal plans, necessary permits, and proposed methods.

Contractors and employees working at the site should be made aware of the possibility that concealed ACM may be found during demolition and debris removal and appropriate actions taken (employee training, personal protective equipment, etc.). They should be advised not to disturb known or suspect ACM without owner approval. Any concealed building materials discovered during demolition and disposal activities, which are suspected to contain asbestos, should be sampled and analyzed to confirm the presence of asbestos prior to disturbing. During demolition and excavation, if a material that is a suspect ACM material is observed, the material should be sampled and analyzed to confirm asbestos prior to disturbing.

References

1. 40 Code of Federal Regulations (CFR) Part 763, Subpart E.
2. 40 CFR Part 61, Subpart M – National Emission Standard for Asbestos (NESHAP).
3. CTC Public Benefit Corporation. Former Republic Mill #1 Phase I Environmental Site Assessment. 2011. October.
4. South Carolina Department of Health and Environmental Control, Bureau of Air Quality. 2008. Regulation 61-86.1: Standards of Performance for Asbestos Projects. SC R61-86.1. June.
5. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA). 1986. Asbestos Hazard Emergency Response Act (AHERA) 15 U.S.C. §2651. March.

Former Great Falls
Republic Mill #1

TABLES

Asbestos Inspection Field Sheet

Site Name: Republic Mill #1		**Building No.**: N/A (debris piles)	**Date**: 04/11/2019		**Inspector**: Peter Whitehouse	
Sample #	**Sample Description**	**Locations**	**Condition/Friable?**	**Approximate Amount**	**Asbestos Contents**	**Comments**
RM-01	Built-up roofing	Northern debris pile	Damaged/No	Widespread - all piles	8% Chrysotile (fibrous layer)	When analyzed, fibrous layer always ACM
RM-02	Built-up roofing	Northern debris pile	Damaged/No	Widespread - all piles	Positive stop (fibrous layer)	
RM-03	Putty/flashing, gray	Northern debris pile	Damaged/No	Northernmost piles	60% Chrysotile	
RM-04	Insulation, yellow	Northern debris pile	Damaged/Yes	Widespread - all piles	ND	
RM-05	Reinforced board, silver	Western founation spine	Damaged/No		ND	
RM-06	Built-up roofing	Western founation spine	Damaged/No	Widespread - all piles	ND	
RM-07	Built-up roofing	Western founation spine	Damaged/No	Widespread - all piles	ND	
RM-08	Built-up roofing	Western founation spine	Damaged/No	Widespread - all piles	ND	
RM-09	Foam glass	Western founation spine	Damaged/Yes	Widespread - all piles	ND	
RM-10	Fibrous tubing	Western founation spine	Damaged/No		ND	
RM-11	Foam glass caulking	Western founation spine	Damaged/No		6% Chrysotile	Seen on multiple piping intake joints
RM-12	Rolled flooring, red	Western founation spine	Damaged/No		ND	Overlaying concrete foundation
RM-13	12"x12" FT w/ mastic, wt.	Former office (SE)	Damaged/No	100 sf	4% Chrysotile (mastic only)	12"x12" atop 9"x9" & additional layer
RM-14	9"x9" FT w/ mastic, brown	Former office (SE)	Damaged/No	100 sf	4-10% Chrysotile (all layers)	12"x12" atop 9"x9" & additional layer
RM-15	3 layers FT	Former office (SE)	Damaged/No	100 sf	Positive stop (all layers)	12"x12" atop 9"x9" & additional layer
RM-16	Built-up roofing	Western founation spine	Damaged/No	Widespread - all piles	ND	
RM-17	Reinforced cloth	Western founation spine	Damaged/No		ND	
RM-18	Insulation, yellow	Central piles	Damaged/Yes	Widespread - all piles	ND	
Notes: FT: floor tile; sf: square feet; wt.: white; ND: non-detect						

Asbestos Inspection Field Sheet

Site Name: Republic Mill #1		**Building No.**: N/A (debris piles)	**Date**: 04/11/2019		**Inspector**: Peter Whitehouse	
Sample #	**Sample Description**	**Locations**	**Condition/Friable?**	**Approximate Amount**	**Asbestos Contents**	**Comments**
RM-19	Insulation w/ metallic back	SW piles	Damaged/Yes	Widespread - all piles	ND	
RM-20	Reinforced cloth	SW piles	Damaged/No		ND	
RM-21	Built-up roofing	South central piles	Damaged/No	Widespread - all piles	ND	
RM-22	Bolted-down cloth	South central piles	Damaged/No		ND	
RM-23	Built-up roofing	SE piles	Damaged/No	Widespread - all piles	ND	
RM-24	Built-up roofing	SE piles	Damaged/No	Widespread - all piles	ND	
RM-25	Built-up roofing	Eastern spine piles	Damaged/No	Widespread - all piles	ND	
RM-26	Built-up roofing	Eastern spine piles	Damaged/No	Widespread - all piles	ND	
RM-27	Built-up roofing	Eastern spine piles	Damaged/No	Widespread - all piles	Positive stop (fibrous layer)	
RM-28	Built-up roofing	Eastern pile	Damaged/No	Widespread - all piles	ND	

Notes: FT: floor tile; sf: square feet; wt.: white; ND: non-detect; w/: with

Former Great Falls
Republic Mill #1

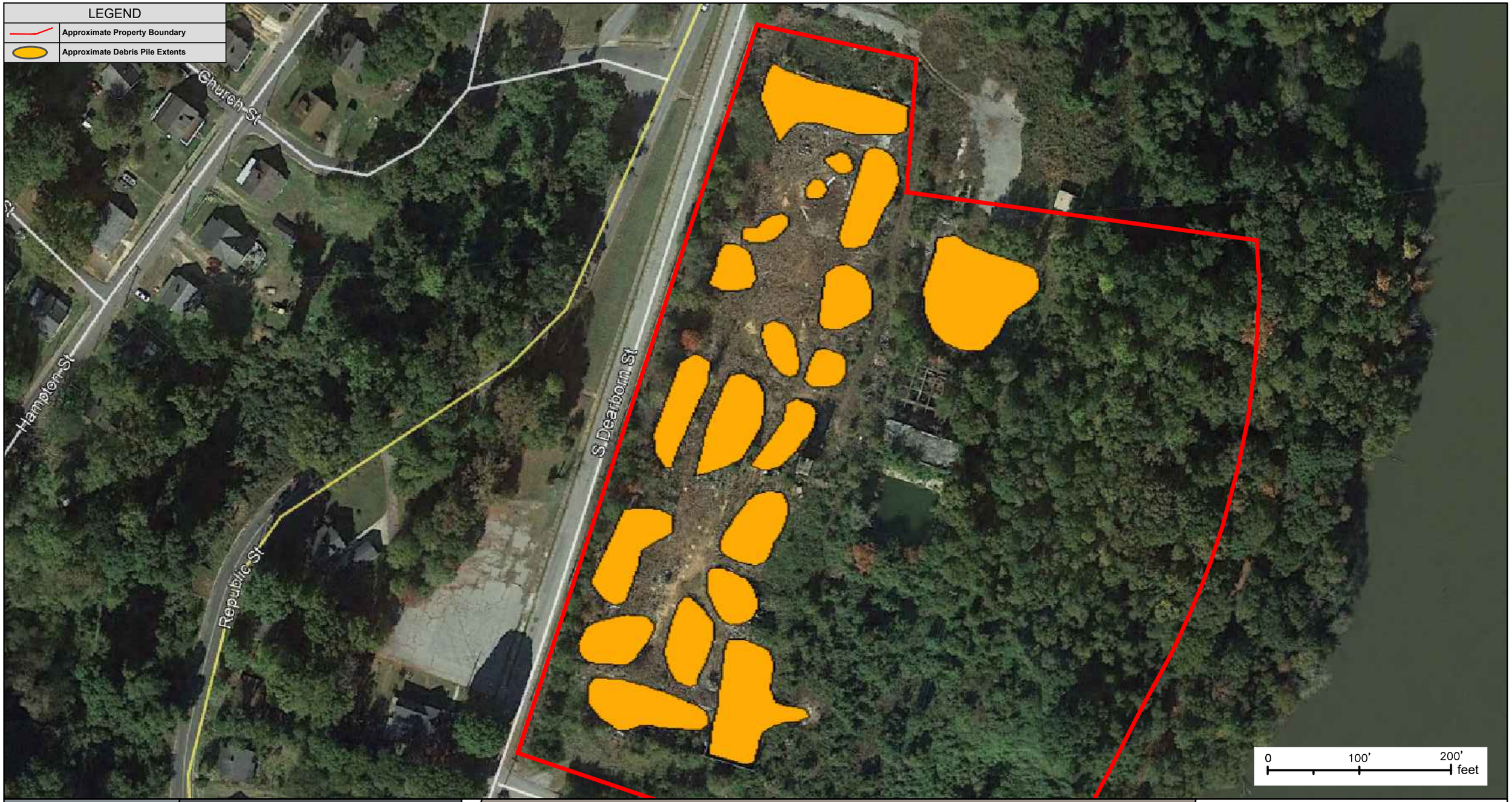
FIGURES

Notes: Imagery from Google Earth
Tax Map boundary from Beacon

FIGURE 1: AERIAL SITE LAYOUT

Former Great Falls Republic Mill #1
Great Falls, SC

Cardno
1812 Lincoln St., Suite 301
Columbia, SC 29201
803-929-6060



Notes: Imagery from Google Earth

FIGURE 2: APPROXIMATE DEBRIS PILE EXTENTS

Former Great Falls Republic Mill #1
Great Falls, SC

Cardno
1812 Lincoln St., Suite 301
Columbia, SC 29201
803-929-6060

LEGEND	
	Approximate Property Boundary
	Approximate Bulk Sample Location
RM-XX	Sample Contains <1% Asbestos
RM-XX	Sample Contains >1% Asbestos (ACM)

2018

Church St

Hampton St

Republic St

RM-01
RM-02
RM-04
RM-03
RM-05
RM-07
RM-06
RM-28
RM-27
RM-08
RM-09
RM-10
RM-16
RM-26
RM-11
RM-12
RM-18
RM-13 - 15
RM-17
RM-25
RM-19
RM-21
RM-20
RM-24
RM-22
RM-23

0 100' 200' feet

N

Notes: Imagery from Google Earth

FIGURE 3: SAMPLE LOCATION MAP

Former Great Falls Republic Mill #1
Great Falls, SC

Cardno
1812 Lincoln St., Suite 301
Columbia, SC 29201
803–929–6060

Former Great Falls
Republic Mill #1

APPENDIX A

RECORDS OF ACCREDITATION

SCDHEC ISSUED

Asbestos ID Card

Peter Whitehouse

CONSULTBI **BI-01796**

Expiration Date:
02/21/20

SCDHEC ISSUED

Asbestos ID Card

Conrad L Peters

CONSULTBI **BI-01810**

Expiration Date:
12/06/19

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

EMSL Analytical, Inc.

10801 Southern Loops Blvd., Pineville, NC 28134

Laboratory ID: 192283

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	**INDUSTRIAL HYGIENE**	Accreditation Expires: September 01, 2020
✓	**ENVIRONMENTAL LEAD**	Accreditation Expires: September 01, 2020
✓	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: September 01, 2020
☐	**FOOD**	Accreditation Expires:
☐	**UNIQUE SCOPES**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Beth Bair

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Cheryl O. Morton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 16: 03/21/2018

Date Issued: 08/31/2018

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

EMSL Analytical, Inc.
10801 Southern Loops Blvd., Pineville, NC 28134

Laboratory ID: **192283**
Issue Date: 08/31/2018

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 10/01/2014

IHLAP Scope Category	**Field of Testing (FoT)** (FoTs cover all relevant IH matrices)	**Technology sub-type/ Detector**	**Published Reference Method/Title of In-house Method**	**Method Description or Analyte** *(for internal methods only)*
Chromatography Core	Gas Chromatography	GC/FID	NIOSH 1003 Modified	
			NIOSH 1500 Modified	
			NIOSH 1501 Modified	
	GC/MS		EPA TO-15	
	Ion Chromatography (IC)		NIOSH 7903	
			OSHA ID-165SG	
	Liquid Chromatography	HPLC/UV	NIOSH 2016 Modified	
Spectrometry Core	Atomic Absorption	CVAA	NIOSH 6009 Modified	
		FAA	NIOSH 7082	
	Inductively-Coupled Plasma	ICP/AES	NIOSH 7300 Modified	
			NIOSH 7303	
	Infrared		NIOSH 7602	
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	
Miscellaneous Core	Gravimetric		NIOSH 0500	
			NIOSH 0600	
			NIOSH 5000	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200841-0

EMSL Analytical, Inc.

Pineville, NC

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2018-07-01 through 2019-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

EMSL Analytical, Inc.
10801 Southern Loop Blvd.
Pineville, NC 28134
Mr. Lee Plumley
Phone: 704-525-2205 Fax: 704-525-2382
Email: lplumley@emsl.com
http://www.emsl.com

ASBESTOS FIBER ANALYSIS **NVLAP LAB CODE 200841-0**

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

Code	*Description*
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

For the National Voluntary Laboratory Accreditation Program

Former Great Falls
Republic Mill #1

APPENDIX B

EMSL ANALYTICAL REPORT

EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

http://www.EMSL.com / charlottelab@emsl.com

EMSL Order:	411903481
Customer ID:	CARN75
Customer PO:	
Project ID:	

Attention:	Peter Whitehouse.	**Phone:**	(803) 929-6060
	Cardno	**Fax:**	
	1812 Lincoln St	**Received Date:**	04/16/2019 12:00 PM
	Ste 301	**Analysis Date:**	04/19/2019 - 04/23/2019
	Columbia, SC 29201	**Collected Date:**	04/11/2019
Project:	Republic Mill #1		

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RM-01-Fibrous Layer *411903481-0001*	Debris Pile atop Foundation - Roofing Material, Black	Black Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile
RM-01-Tar *411903481-0001A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
RM-01-Cellulose Layer *411903481-0001B*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	15% Cellulose	5% Ca Carbonate 80% Non-fibrous (Other)	None Detected
RM-01-Insulation *411903481-0001C*	Debris Pile atop Foundation - Roofing Material, Black	Brown/White Fibrous Homogeneous	60% Cellulose	15% Perlite 25% Non-fibrous (Other)	None Detected
RM-02-Fibrous Layer *411903481-0002*	Debris Pile atop Foundation - Roofing Material, Black				Positive Stop (Not Analyzed)
RM-02-Tar *411903481-0002A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
RM-02-Cellulose Layer *411903481-0002B*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
RM-02-Insulation *411903481-0002C*	Debris Pile atop Foundation - Roofing Material, Black	Gray Non-Fibrous Homogeneous		15% Perlite 85% Non-fibrous (Other)	None Detected
RM-03 *411903481-0003*	Debris Pile atop Foundation - Putty Material	Gray/White Fibrous Homogeneous		40% Non-fibrous (Other)	60% Chrysotile
RM-04 *411903481-0004*	Debris Pile atop Foundation - Insulation (Yellow)	Tan Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
RM-05 *411903481-0005*	Debris Pile atop Foundation - Fibrous Metallic Material	White/Silver Fibrous Homogeneous	80% Glass	20% Non-fibrous (Other)	None Detected
RM-06-Cellulose Layer *411903481-0006*	Debris Pile atop Foundation - Roofing Material (Black)	Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
RM-06-Tar *411903481-0006A*	Debris Pile atop Foundation - Roofing Material (Black)	Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
RM-06-Insulation *411903481-0006B*	Debris Pile atop Foundation - Roofing Material (Black)	Brown Fibrous Homogeneous	50% Min. Wool	30% Ca Carbonate 20% Non-fibrous (Other)	None Detected
RM-07 *411903481-0007*	Debris Pile atop Foundation - Roofing Material (Black)	Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
RM-08 *411903481-0008*	Debris Pile atop Foundation - Roofing Material (Black)	Black Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected

Initial report from: 04/23/2019 11:13:12

EMSL Analytical, Inc.
10801 Southern Loop Blvd Pineville, NC 28134
Tel/Fax: (704) 525-2205 / (704) 525-2382
http://www.EMSL.com / charlottelab@emsl.com

EMSL Order: 411903481
Customer ID: CARN75
Customer PO:
Project ID:

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RM-09 *411903481-0009*	Debris Pile atop Foundation - Foam Glass	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
RM-10 *411903481-0010*	Debris Pile on Western Building Spine - Fibrous Tubing	Brown/Black Fibrous Homogeneous	20% Fibrous (Other)	80% Non-fibrous (Other)	None Detected
RM-11 *411903481-0011*	Debris Pile atop Foundation - Foam Glass Caulking	Gray/Black Fibrous Homogeneous		5% Ca Carbonate 89% Non-fibrous (Other)	6% Chrysotile
RM-12 *411903481-0012*	Flooring on Foundation - Trowelled-On Flooring (Red)	Tan/Red Non-Fibrous Homogeneous		25% Quartz 20% Ca Carbonate 55% Non-fibrous (Other)	None Detected
RM-13-Floor Tile *411903481-0013*	Flooring on Foundation - 12"x12" Floor Tile (White) & Mastic	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
RM-13-Mastic *411903481-0013A*	Flooring on Foundation - 12"x12" Floor Tile (White) & Mastic	Black Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
RM-14-Top Mastic *411903481-0014*	Flooring on Foundation - 9"x9" Floor Tile (Brown) & Mastic	Black Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
RM-14-Floor Tile *411903481-0014A*	Flooring on Foundation - 9"x9" Floor Tile (Brown) & Mastic	Brown Non-Fibrous Homogeneous		20% Ca Carbonate 70% Non-fibrous (Other)	10% Chrysotile
RM-14-Bottom Mastic *411903481-0014B*	Flooring on Foundation - 9"x9" Floor Tile (Brown) & Mastic	Black Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
RM-15-Top Mastic *411903481-0015* *Sample bag labeled RM-14*	Flooring on Foundation - Rm-13 & Rm-14 Third Layer				Positive Stop (Not Analyzed)
RM-15-Floor Tile *411903481-0015A*	Flooring on Foundation - Rm-13 & Rm-14 Third Layer				Positive Stop (Not Analyzed)
RM-15-Bottom Mastic *411903481-0015B*	Flooring on Foundation - Rm-13 & Rm-14 Third Layer				Positive Stop (Not Analyzed)
RM-16-Tar *411903481-0016*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
RM-16-Cellulose Layer *411903481-0016A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
RM-17 *411903481-0017*	Debris Pile atop Foundation - Reinforced Cloth	Gray Non-Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
RM-18 *411903481-0018*	Debris Pile atop Foundation - Insulation (Yellow)	Brown/Tan Fibrous Homogeneous	98% Min. Wool	2% Non-fibrous (Other)	None Detected

Initial report from: 04/23/2019 11:13:12

EMSL Analytical, Inc.
10801 Southern Loop Blvd Pineville, NC 28134
Tel/Fax: (704) 525-2205 / (704) 525-2382
http://www.EMSL.com / charlottelab@emsl.com

EMSL Order: 411903481
Customer ID: CARN75
Customer PO:
Project ID:

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RM-19-Mastic *411903481-0019*	Debris Pile atop Foundation - Insulation w/ Metallic Backing	Black/Silver Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
RM-19-Insulation *411903481-0019A*	Debris Pile atop Foundation - Insulation w/ Metallic Backing	Brown Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
RM-20 *411903481-0020*	Debris Pile atop Foundation - Reinforced Cloth	Brown/Tan Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
RM-21 *411903481-0021*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	20% Cellulose	2% Ca Carbonate 78% Non-fibrous (Other)	None Detected
RM-22-White Layer *411903481-0022*	Debris Pile atop Foundation - Bolted Cloth & Line	White Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
RM-22-Brown Layer *411903481-0022A*	Debris Pile atop Foundation - Bolted Cloth & Line	Brown Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
RM-23-Tar *411903481-0023*	Debris Pile atop Foundation - Roofing Material, Black	Black Fibrous Homogeneous	4% Cellulose	2% Quartz 94% Non-fibrous (Other)	None Detected
RM-23-Cellulose Layer *411903481-0023A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
RM-24-Tar *411903481-0024*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
RM-24-Cellulose Layer *411903481-0024A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
RM-25-Tar *411903481-0025*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
RM-25-Cellulose Layer *411903481-0025A*	Debris Pile atop Foundation - Roofing Material, Black	Black Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
RM-26-Tar *411903481-0026*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
RM-26-Cellulose Layer *411903481-0026A*	Debris Pile atop Foundation - Roofing Material, Black	Brown/Black Fibrous Homogeneous	30% Cellulose	5% Quartz 8% Ca Carbonate 57% Non-fibrous (Other)	None Detected
RM-27-Fibrous Layer *411903481-0027*	Debris Pile atop Foundation - Roofing Material, Black				Positive Stop (Not Analyzed)
RM-27-Tar *411903481-0027A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
RM-27-Cellulose Layer *411903481-0027B*	Debris Pile atop Foundation - Roofing Material, Black	Black Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
RM-27-Insulation *411903481-0027C*	Debris Pile atop Foundation - Roofing Material, Black	Brown Fibrous Homogeneous	3% Cellulose 60% Min. Wool	37% Non-fibrous (Other)	None Detected

Initial report from: 04/23/2019 11:13:12

EMSL Analytical, Inc.
10801 Southern Loop Blvd Pineville, NC 28134
Tel/Fax: (704) 525-2205 / (704) 525-2382
http://www.EMSL.com / charlottelab@emsl.com

EMSL Order:	411903481
Customer ID:	CARN75
Customer PO:	
Project ID:	

Analyst(s)

Katherine Sluder (4)
Lacy Searcy (12)
Matthew McDonald (6)
Sarah Breneman (23)

Lee Plumley, Laboratory Manager
or Other Approved Signatory

Initial report from: 04/23/2019 11:13:12

EMSL Analytical, Inc.
10801 Southern Loop Blvd Pineville, NC 28134
Tel/Fax: (704) 525-2205 / (704) 525-2382
http://www.EMSL.com / charlottelab@emsl.com

EMSL Order: 411903481
Customer ID: CARN75
Customer PO:
Project ID:

Attention: Peter Whitehouse.
Cardno
1812 Lincoln St
Ste 301
Columbia, SC 29201
Project: Republic Mill #1

Phone: (803) 929-6060
Fax:
Received Date: 04/16/2019 12:00 PM
Analysis Date: 04/25/2019
Collected Date: 04/11/2019

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
RM-28-Tar *411903481-0028*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
RM-28-Cellulose Layer *411903481-0029*	Debris Pile atop Foundation - Roofing Material, Black	Black Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Aaron Hartley (2)

Lee Plumley, Laboratory Manager
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Pineville, NC

Initial report from: 04/25/2019 11:01:38

OrderID: 411903481

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only): 411903481

EMSL Analytical, Inc.
10801 Southern Loop Blvd
Pineville, NC 28134
PHONE: (704) 525-2205
FAX: (704) 525-2382

Company : Cardno	**EMSL-Bill to:** ☐ Same ☑ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 1812 Lincoln St. Suite 301	
City: Columbia **State/Province:** SC	**Zip/Postal Code:** 29201 **Country:** US
Report To (Name): Peter Whitehouse	**Telephone #:** 8039296060
Email Address: peter.whitehouse@cardno.com	**Fax #:** **Purchase Order:**
Project Name/Number: Republic Mill #1	**Please Provide Results:** ☐ Fax ☑ Email ☐ Mail
U.S. State Samples Taken: SC	**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt

Turnaround Time (TAT) Options* – Please Check

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

*For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PLM - Bulk (reporting limit)	TEM – Bulk
☑ PLM EPA 600/R-93/116 (<1%)	☐ TEM EPA NOB – EPA 600/R-93/116 Section 2.5.5.1
☐ PLM EPA NOB (<1%)	☐ NY ELAP Method 198.4 (TEM)
Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ Chatfield Protocol (semi-quantitative)
Point Count w/Gravimetric ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM % by Mass – EPA 600/R-93/116 Section 2.5.5.2
☐ NIOSH 9002 (<1%)	☐ TEM Qualitative via Filtration Prep Technique
☐ NY ELAP Method 198.1 (friable in NY)	☐ TEM Qualitative via Drop Mount Prep Technique
☐ NY ELAP Method 198.6 NOB (non-friable-NY)	**Other**
☐ OSHA ID-191 Modified	☑ If NOB, 2 PLM + 1 TEM, if PLM are non-detect
☐ Standard Addition Method	

☑ **Check For Positive Stop – Clearly Identify Homogenous Group** **Date Sampled:** 4/11/19

Samplers Name: Peter Whitehouse **Samplers Signature:** Peter A. Whitehouse

Sample #	HA #	Sample Location	Material Description
RM-01	1	debris pile atop foundation	roofing material, black
RM-02	1	"	"
RM-03	2	"	putty material
RM-04	3	"	insulation (yellow)
RM-05	4	"	fibrous metalic material
RM-06	1	"	roofing material (black)
RM-07	1	"	"
RM-08	1	"	"
RM-09	5	"	foam glass
RM-10	6	debris pile on western building spine	fibrous tubing

Client Sample # (s): RM-01 through RM-28 **Total # of Samples:** 28

Relinquished (Client): Peter Whitehouse **Date:** 4/11/19 **Time:** 17:00

Received (Lab): Kyle Nixon **Date:** 4/16/19 **Time:** 12pm UPS

Comments/Special Instructions:
BillTo: Cardno, 1812 Lincoln St., Suite 301, Columbia, SC, 29201, US
Attention: Peter Whitehouse Phone: 9105807901 Email: peter.whitehouse@cardno.com Purchase Order: stop positive per material layer

1Z 2E3 4A3 03 5234 4703

OrderID: 411903481

EMSL Analytical, Inc.
10801 Southern Loop Blvd

Pineville, NC 28134
PHONE: (704) 525-2205
FAX: (704) 525-2382

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(Lab Use Only)*: 411903481

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

Sample #	HA #	Sample Location	Material Description
RM-11	7	debris pile atop foundation	foam glass caulking
RM-12	8	flooring on foundation	troweled-on flooring (red)
RM-13	9	"	12" x 12" floor tile (white) +mastic
RM-14	10	"	9" x 9" floor tile (brown) +mastic
RM-15	11	"	RM-13 + RM-14 + third layer +mastic
RM-16	1	debris pile atop foundation	roofing material, black
RM-17	12	"	reinforced cloth
RM-18	3	"	insulation (yellow)
RM-19	13	"	insulation w/ metallic backing
RM-20	12	"	reinforced cloth
RM-21	1	"	roofing material, black
RM-22	14	"	bolted cloth + line
RM-23	1	"	roofing material, black
RM-24	1	"	"
RM-25	1	"	"
RM-26	1	"	"
RM-27	1	"	"
RM-28	1	"	"

***Comments/Special Instructions:**
BillTo: Cardno, 1812 Lincoln St., Suite 301, Columbia, SC, 29201, US
Attention: Peter Whitehouse Phone: 9105807901 Email: peter.whitehouse@cardno.com Purchase Order:

Page 2 of 2 pages

Former Great Falls
Republic Mill #1

APPENDIX C

PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Site Location:
Former Great Falls Republic Mill #1
Dearborn St.., Great Falls, Chester County, South Carolina 29055

Project
PB00268000

Photo No.	Date:
1	04/11/2019

Direction Photo Taken:
SE

Description:
The fibrous layer of the black built up roofing found across the site was identified as ACM (8% chrysotile).

Photo No.	Date:
2	04/11/2019

Direction Photo Taken:
E

Description:
A white putty material along the northern spine of the main mill was found to be ACM (60% Chrysotile).

PHOTOGRAPHIC LOG

Site Location:
Former Great Falls Republic Mill #1
Dearborn St.., Great Falls, Chester County, South Carolina 29055

Project
PB00268000

Photo No.	**Date:**
3	**02/28/2019**

Direction Photo Taken:
N

Description:
A view of the former office area where 12” x 12” vinyl floor tile was present atop 9” x 9” vinyl floor tile. The 9” x 9” vinyl floor tile and all mastic were found to be ACM.

Photo No.	**Date:**
4	**04/11/2019**

Direction Photo Taken:
N

Description:
A black caulking material attaching foam glass to utility piping along foundational walls was found to be ACM.

Please Respect the Environment

About Cardno

Cardno is an ASX-200 professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage, and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

Cardno Zero Harm

Cardno ZERO HARM EVERY JOB. EVERY DAY.

At Cardno, our primary concern is to develop and maintain safe and healthy conditions for anyone involved at our project worksites. We require full compliance with our Health and Safety Policy Manual and established work procedures and expect the same protocol from our subcontractors. We are committed to achieving our Zero Harm goal by continually improving our safety systems, education, and vigilance at the workplace and in the field. Safety is a Cardno core value and through strong leadership and active employee participation, we seek to implement and reinforce these leading actions on every job, every day.

www.cardno.com

Cardno®

Town of Great Falls, South Carolina

APPENDIX C

FORMER REPUBLIC MILL #1 SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN, JUNE 28, 2019, CARDNO, INC. INC.

Brownfields Phase II Environmental Site Assessment

Former Republic Mill #1

South Dearborn Street at Republic Street

Great Falls, Chester County, South Carolina

Site-Specific Quality Assurance Project Plan, Addendum 1A, Revision 1

EPA Brownfields Assessment Cooperative Agreement

BF- 00D73118-0

Prepared for:

Catawba Regional Council of Governments

Attn: Mr. Robert Moody

PO Box 450

215 Hampton Street

Rock Hill, SC 29731

Prepared by:

1812 Lincoln Street, Suite 301

Columbia, South Carolina, 29201

Phone: (803) 929-6060

May 24, 2019

A1. APPROVALS

Cardno Project Manager:

Signature

Bobby Wolf, PG 6/7/2019

Printed Name per Date

Cardno Quality Assurance/Quality Control (QA/QC) Manager:

Signature

Charles Saunders, PG 6/18/2019

Printed Name per Date

Environmental Protection Agency (EPA) Project Officer:

Signature

Brian Gross 6/11/2019

Printed Name per Date

EPA Designated Approving Official (DAO):

Signature

Brian Gross 6/11/2019

Printed Name per Date

Catawba CRCOG Brownfields Program Director:

06.28.2019

Signature

Robert Moody

Printed Name per Date

South Carolina Department of Health and Environmental Control (SCDHEC) Brownfields Project Manager:

Signature

Angela Gorman 6/18/19

Printed Name per Date

Access Analytical, Inc. (Access) Laboratory QA Manager:

Signature

Ashley Amick 6/18/19

Printed Name per Date

A2. TABLE OF CONTENTS

A3. DISTRIBUTION LIST

The following individuals will receive copies of the approved Quality Assurance Project Plan (QAPP) and subsequent revisions:

- Brian Gross, Brownfields Project Officer and Designated Approving Official (DAO), EPA Region 4, 61 Forsyth Street, Atlanta, Georgia 30303-8960, Phone: (404) 562-8604, Email: gross.brian@epa.gov

- Angela Gorman, South Carolina Department of Health and Environmental Control (SCDHEC) Project Manager, Bureau of Land and Waste Management, Brownfields Program, 2600 Bull Street, Columbia, SC 29223, Phone: (803) 898-0929, Email: gormanak@dhec.sc.gov

- Robert Moody, AICP, Brownfields Program Director, Catawba Regional Council of Governments, 215 Hampton Street, Suite 200, Rock Hill, SC 29730, Phone: (803) 327-9041, Email: rmoody@catawbacog.org

- Bobby Wolf, PG, Cardno Project Manager, 1812 Lincoln Street, Suite 301 Columbia SC 29201, Phone: (803) 929-6060, Email: bobby.wolf@cardno.com

- Gail Rawls Jeter, Cardno Client Relationship Manager, 1812 Lincoln Street, Suite 301 Columbia SC 29201 (803) 929-6059, Email: gail.jeter@cardno.com

- Charles Saunders, PG, Quality Assurance/Quality Control (QA/QC) Manager, Cardno, 10988 Richardson Road, Ashland, Virginia 23005, Phone: (804) 412-6554, Email: chee.saunders@cardno.com.

- David Sykes, Cardno Field Team Leader, 1812 Lincoln Street, Suite 301 Columbia SC 29201, Phone: (803) 929-6065, Email: david.sykes@cardno.com.

- Cardno Field Technician(s) will be selected prior to the commencement of the field activities based on personnel schedules and the project start date.

- Ashley Amick, President, Access Analytical, Inc., 15 Thames Valley Road, Irmo, South Carolina 29063, Phone: (803) 781-4243 , Email: aamick@axs-inc.com

A4. PROJECT/TASK ORGANIZATION

The Catawba Regional Council of Governments (CRCOG) has a Brownfields Assessment Grant with the U.S. Environmental Protection Agency (EPA).The CRCOG selected Cardno as the consultant to implement their Brownfields Assessment Cooperative Agreement for hazardous and petroleum substances (EPA Cooperative Agreement No. BF- 00D73118-0). As such, Cardno is responsible for conducting and overseeing the environmental assessments funded by the brownfields project.

The CRCOG will conduct a Phase II Environmental Site Assessment (ESA) at the Former Republic Mill #1 in Great Falls, SC. The information presented in this document is an addendum to the January 30, 2019, Generic QAPP for the completion of ESAs under the CRCOG's brownfields program and addresses the changes for implementation of this Phase II ESA. This addendum has been prepared in accordance with the EPA Region 4 Brownfields Program.

The information presented in this document represents the minimum standards required for the completion of the project. A project organization chart is provided as **Figure 1**. The following are the individuals participating in the project and their specific roles and responsibilities:

Brian Gross, EPA Region 4 Brownfields Project Officer and Designated Approving Official (DAO) - The EPA Project Officer is responsible for overseeing and monitoring the grant. As part of that responsibility, he ensures the processes described in the work plan are followed and the terms and conditions of the grant are met. In his role as DAO, he provides technical review of the combined Generic and Site-Specific QAPP that is generated. This work includes the approval of the combined Generic and Site-Specific QAPP and any revisions.

Angela Gorman, South Carolina Department of Health and Environmental Control (SCDHEC) Brownfields Project Manager – This individual is involved in the review and approval of the final site assessment plan(s), combined Generic and Site-Specific QAPP, and report(s). This individual also ensures that plans are in compliance with the current SCDHEC rules and regulations in the event that a purchaser of the property wishes to enroll the property in the SCDEHC Voluntary Cleanup Program.

Robert Moody, CRCOG Brownfields Administrator – The CRCOG Administrator is responsible for the overall strategic direction of the project. The Administrator ensures project activities are executed in accordance with the approved Work Plan and the Terms and Conditions of the Cooperative Agreement.

Bobby Wolf, PG, Cardno Project Manager – The Cardno Project Manager (Project Manager) will be the primary decision maker for the project and the primary user of the data to determine whether or not further action is required at the site. This individual will also coordinate the project activities and will have overall responsibility of the investigation. This individual's specific responsibilities are as follows:

1. Approving the Quality Assurance Project Plan (QAPP) and subsequent revisions;
2. Ensuring project activities are conducted in accordance with the QAPP;
3. Coordinating field and laboratory activities for the confirmation and waste characterization sampling as specified in the QAPP;
4. Coordinating corrective actions outside of standard operating procedures with the Field Team leader, and coordinating with the Laboratory Director to correct any corresponding problems encountered in the chemical analyses;

5. Coordinating the corrective actions for problems that may affect the established data quality objectives;
6. Reviewing and submitting a final assessment report, detailing all field and lab activities, results, and conclusions;
7. Making final project decisions with the authority to commit the necessary resources to conduct the project.

Gail Jeter, Cardno Client Relationship Manager (CRM) – The CRM serves in an advisory role to the Project Manager and performs the following duties:

1. Serves as the primary interface between Cardno and the client throughout the Project;
2. Reports to the EPA Project Manager, SCDHEC Project Manager, and The CRCOG's Brownfield Program Director regarding the project status;
3. Ensures the project continues to meet and exceed the client requirements; and,
4. Supports the Project Manager and ensures the appropriate resources are dedicated to complete the project to the client's satisfaction.

Charles Saunders, PG, Cardno QA/QC Manager – The QA/QC Manager provides documentation audits and technical review to assist in promoting, implementing, and documenting QA compliance. The QA/QC Manager is isolated from the implementation Project Manager. This process allows lateral support as a peer to the Project Manager without introducing unintentional biases from conducting the work. The QA/QC Manager must have extensive environmental and regulatory assessment experience at both the state and federal levels. The QA/QC Manager reviews the data validation for the project.

David Sykes, Cardno Senior Scientist/ Field Team Leader – The Senior Scientist/ Field Team Leader reports to the Cardno Project Manager and is responsible for the following duties:

1. Reviewing and complying with the Generic QAPP;
2. Developing the Site-Specific Health and Safety Plan (HASP);
3. Developing a Site-specific QAPP Addendum, noting any exceptions and/or additions to the Generic QAPP;
4. Coordinating field and laboratory activities as specified in the Scope of Work (SOW) and the QAPP;
5. Selecting and supervising the Field Team Technicians;
6. Distributing the approved QAPP and subsequent revisions to the members of the Field Team Technicians;
7. Conducting the field activities per the approved QAPP;
8. Coordinating all field activities with the CRM;
9. Implementing corrective actions within standard operating procedures in the field, documenting corrective actions in the field logs, and providing a copy of the documentation to the CRM;

10. Coordinating corrective actions outside of standard operating procedures with the CRM, instituting corrective actions; documenting corrective actions in the field logs, and providing a copy of the documentation to the CRM;
11. Reporting progress, including conformance with the budget and timeline, to the Cardno Project Manager and Cardno CRM;
12. Coordinating corrective actions outside of standard operating procedures with the Cardno Project Manager, and coordinating with the Laboratory Director to correct any corresponding problems encountered in the chemical analyses;
13. Coordinating with the Cardno Project Manager on corrective actions for problems that may affect the established data quality objectives;
14. Compiling documentation detailing any corrective actions and providing them to the Cardno QA/QC Manager and the Cardno Project Manager; and,
15. Developing a final assessment report, detailing all field and lab activities, results, and conclusions.

Cardno Field Team Technicians – These individuals will perform the actual fieldwork per the QAPP and at the direction of the Field Team Leader. The field team typically consists of two to three people and may include the Field team Leader once the field team activities are scheduled.

Access Labs Laboratory QA Manager – The Laboratory QA Manager is responsible for the following:

1. Coordinating the analysis of the soil and groundwater samples and selecting the analytical team;
2. Coordinating the receipt of the soil and groundwater samples at the laboratory;
3. Ensuring internal laboratory audits are conducted per the Laboratory's Quality Assurance Manual (QAM), and distributing the applicable sections of the QAPP and subsequent revisions to members of the analytical team; and,
4. Instituting corrective actions for problems encountered in the chemical analyses and reporting laboratory problems affecting the project data to the Project Manager. Corrective actions for chemical analyses will be detailed in a lab report that will be provided via electronic mail.

A5. PROBLEM DEFINITION/BACKGROUND

The CRCOG has been awarded a Brownfields Assessment Grant from the EPA under Cooperative Agreement BF- 00D73118-0. Funding from this grant will be used to conduct a Phase II ESA at the Former Republic Mill #1 (hereinafter referred to as the property) located on South Dearborn Street in Great Falls, South Carolina.

The CRCOG is pursuing a Phase II ESA at the property to help redevelop the property. The CRCOG anticipates that the Town of Great Falls may acquire the property under the oversight of the SCDHEC Voluntary Cleanup Program (VCP); therefore, this ESA is

designed to meet the initial assessment requirements of a Voluntary Cleanup Contract (VCC).

The historical information indicates the property was a cotton weaving facility from approximately 1910 until 1979. The mill facility used coal as its fuel source and stored coal on-site. Mill facilities of this era typically disposed of waste products on-site without any control or restrictions. The historical information also shows a transformer house was located on the property that probably used polychlorinated biphenyls (PCBs).

A5.1 Site Location and Description

The property was the site of the former Republic Mill #1 facility located at the intersection of South Dearborn and Republic Streets in Great Falls, SC. A Property Location Map, consisting of the relevant portion of the United States Geological Survey (USGS) Great Falls topographic map is included for reference (**Figure 2**). The layout of the property is depicted on **Figure 3**, which includes an aerial photograph of the property and surrounding properties**.**

The former mill property is now divided into three parcels. Two are contiguous on the east side of Dearborn Street and are the subject of this ESA. The contiguous parcels are identified by Tax Map System Numbers (TMS#) 202-13-02-003-000 and 202-13-02-020-000.

The largest parcel, TMS# 202-13-02-003-000, is now owned by the Chester County Forfeited Land Commission. The parcel is approximately 11 acres and contains all of the former mill's manufacturing and auxiliary operations. The western half of the parcel is mostly level and slightly elevated above the adjacent South Dearborn Street. This half of the parcel is almost completely covered with building foundations, wall remnants, asphalt paving, and large piles of building debris. With the exception of a two-story freight elevator shaft and a former water filtration unit, the portions of buildings that remain are so far demolished and overgrown that their former uses cannot be distinguished.

The east half of parcel TMS# 202-13-02-003-000 is densely overgrown and is largely impassible. The east half slopes down to the Seaboard Coastline Railroad property that was formerly occupied by a rail spur adjacent to the Great Falls Reservoir/ Catawba River. Parts of the slope are moderate and could be traversable by foot if the vegetation were cleared; however, there is a deep, overgrown depression with steep sides located approximately in the middle of the eastern half of the parcel. The depression covers less than an acre and has the appearance of being a borrow pit possibly dating from the construction of the mill.

The other contiguous parcel on the east side of Dearborn Street, TMS# 202-13-02-020-000, is owned by the Town of Great Falls. It is approximately 1.7 acres. The available information suggests the mill used the parcel as a driveway, employee parking area, and jail. The parcel is now vacant except for the old, two-cell jail building of approximately 360 square feet. The rear of the jail (east side) borders on another overgrown, steep-sided depression known locally as the "Green Hole". The area beyond the Green Hole slopes moderately down to the former rail spur property but is thickly overgrown and largely impassible.

The third parcel is on the opposite side of Dearborn Street; however, it is not included in this ESA because it is privately owned and not subject to Great Falls' redevelopment plans. The available information suggests the third parcel, TMS# 202-13-01-001-000, was a paved

employee parking area and is unlikely to have any impact on the parcels of concern to this ESA.

A5.2 Site and Regional Characteristics

The Town of Great Falls occupies the crest of a generally northeast-southwest trending ridgeline parallel to the Catawba River. According to the USGS and the South Carolina Geologic Survey (SCGS), the area is located in the Piedmont Physiographic Province of South Carolina and within the Charlotte Belt geologic terrane, in close proximity to the Carolina terrane (slate belt). The Charlotte Belt is a northeast trending belt of medium- to high-rank metamorphic rocks along with a complicated sequence of igneous rock intrusions. The Piedmont Physiographic Province is characterized by differing thicknesses of saprolite overlying a transition zone of weathered, highly fractured bedrock. This transition zone generally grades into more consolidated, less fractured rock with depth. Groundwater flow through the saprolite is generally controlled by primary and relic secondary porosity features. Secondary porosity features such as fractures, faults, and weathered zones dictate movement of groundwater in the transition zone.

According to the Groundwater Atlas of the United States, the primary aquifer system in the area of the property is the Piedmont and Blue Ridge Aquifer System. The system is composed principally of crystalline bedrock overlain by unconsolidated regolith. Included in the regolith are the following: saprolite, which is a layer of earthy, decomposed rock developed by weathering of the bedrock; soil that develops on the upper part of the saprolite; and alluvium, which is mainly confined to stream valleys. The saprolite is by far the largest component of the regolith. Typically, the regolith contains both saturated and unsaturated zones. Groundwater in the regolith is stored in and transmitted through openings (pores) between the soil and rock particles. Local flow systems exist within the regolith often providing preferential flow paths in coarser lenses and relic geological structural features in the weathered rock. The crystalline rocks underlying the regolith have an extremely low permeability and porosity. As a result, groundwater is typically found in interconnected vertical or horizontal fractures and within foliations in the rock itself.

The property elevation ranges from approximately 460 to 380 feet Mean Sea Level (MSL). The property's western half is mostly level with the eastern half sloping steeply to the southeast toward the Great Falls Reservoir/ Catawba River. Site-specific groundwater information is not available for the site. Based on a review of the Site topography, groundwater is likely to be encountered at depths exceeding 50 feet below ground surface (bgs) on the western half of the property and at depths of 20-25 feet bgs on the eastern edge. The direction of groundwater flow is unknown, but it is expected to follow the surface topography flowing primarily to the southeast toward the Great Falls Reservoir/Catawba River.

A5.3 Current and Historic Uses of the Property

The historical information indicates the property was developed as a cotton textile mill in 1909 by the Republic Textile Mill Company. The mill was purchased by the J.P. Stevens Company in 1946 and continued to operate as a textile mill until 1979. The site was

purchased by the C&S Demolition, LLC, in 2005, which demolished the mill structures to reclaim salvageable materials in approximately 2005-2006. Most structures on the property were demolished; however, extensive piles of debris were left strewn across the western half of the property in the footprint of the former mill buildings. The property is now abandoned and owned by the Chester County Forfeited Land Commission and the Town of Great Falls.

Review of Sanborn Insurance Company maps from 1926 and 1938 for the Town of Great Falls show the Republic Mill #1 (i.e. the property) was the first of three company mills built in the Town before 1923. The maps also show a coal trestle, coal-fired boilers, a smokestack, and a transformer house at the rear of the mill building.

The map information shows the Republic Mill #1 and the Republic Mill #2, approximately a quarter mile to the north of the property, were constructed within a few years of each other and most likely were interdependent operations. The map information suggests the Mill #1 was primarily involved in the initial phases of cotton textile production. The map indicates Mill #1 had cotton warehouses, opening rooms, lint and waste houses, and a “picker” room, but no finished cloth warehouses. Mill #2 had finished cloth warehouses, which is suggestive that weaving operations occurred at Mill #2, with Mill #1 possibly only spinning thread for use at the other mill. As further indication that the two mills were built to be dependent on each other, the machine shops and the vehicle repair facilities for the mill operations were located at Mill #2. Other operations common with large mill operations such an ice plant, gasoline storage tanks, oil house, and bulk cotton warehouses were located along Dearborn Street between the two mills.

In addition to operating the textile mills, the Republic Textile Mills Company performed most of the municipal functions in the town, including supplying water to the other mills and the town from a water filtration plant located on the property. The water plant drew water from the Great Falls Reservoir via an intake pipe located at the property’s southeast corner. The water was pumped thru a large sand filter and treatment plant on the back (east side) of the Republic Mill #1 building. The treated water was stored in an approximate 500,000-gallon open reservoir on the back of the building and distributed to similar reservoirs at the other two mills and various water towers around the town.

Recent aerial photographs show the sand filter unit, water plant building, and the open reservoir are largely intact; however, the surrounding debris and extensive overgrowth prevent access to the structures. The coal trestle, smokestack, boiler house, and transformer house are demolished with no identifiable landmarks remaining.

In addition to the potential areas of concern identified from the historic maps, a Phase I ESA completed in 2007 reported secondhand verbal reports that a landfill was possibly located in the overgrown southeast quadrant of the property. The verbal information suggests the landfill was used for waste from this mill and the other two Republic Textile Mills. Since the Republic Textile Mills Company performed other municipal functions in the Town, it is possible that domestic garbage and other municipal waste was disposed of at the location. The area is heavily overgrown severely limiting access and visual observations.

Figure 4 shows the approximate locations of the existing landmarks on the property and the areas of concern identified from historical sources.

A5.4 Previous Investigations

A Phase I ESA was completed by URS Corporation in April 2007. The URS report does not diagram or state that it addressed the contiguous parcels comprising the subject property; however, it estimates the area as being 12.6 acres, which is the approximate total of both parcels. The 2007 Phase I ESA identified the following as Recognized Environmental Conditions (RECs):

- Based on the subject Site's historical utilization as a textile facility from approximately 1910 until 1979, there is the potential for environmental impacts from the utilization of unknown raw materials and/or hazardous wastes previously utilized at the facility.

- The subject Site is listed on the SCDHEC State Hazardous Waste Site (SHWS) database (EPA ID: SCS123456908). No additional information regarding the listing was provided within the EDR database report. This information represents a Recognized Environmental Condition for the subject property.

- At the time of the Site inspection, several 55-gallon drums of unknown material/origin were observed on the eastern portion of the subject Site. The observed drums could have potentially stored raw materials/hazardous substances stored/generated on-site or illegally disposed on the property; therefore, these drums represent an REC for the subject Site.

- At the time of the Site inspection, numerous empty 5-gallon containers of hydraulic oil were noted throughout the Site. This material is presumed to be utilized for demolition associated equipment; however, this information could not be verified.

- The Site contacts indicated that the southeast portion of the subject property had historically been utilized for the dumping of mill generated solid waste. In addition, the Site contacts indicated that additional Republic Mills (#2 and #3) located in close vicinity to the subject Site could have potentially utilized the area for the disposal of materials. During the site reconnaissance, large pieces of concrete debris, drums of unknown material, and scrap cotton material were noted in this area. The area is over-grown with vegetation rendering it difficult to determine the nature of the observed materials or the presence of additional materials.

- Based on URS' review of historical information, the EDR regulatory database report, and site reconnaissance observations, one (1) off-site facility was identified that appears to represent a Recognized Environmental Condition for the subject property. Republic Mill #2 (EPA ID: SCD000822239), located at 401 Dearborn Street, is listed as a SHWS site. The site is located approximately 2,068 feet to the north-northwest of the subject property (upgradient). The site is also listed on the South Carolina Groundwater Contamination Inventory (GWCI), SC Brownfields, and ALLSITES (Site Assessment & Remediation Public Record Database) databases. According to the

EDR report, the 5.2 acre site is regulated by CERCLA and has soil and groundwater contamination. Contaminants of concern for soil and groundwater include: arsenic, barium, beryllium, benzo(a)pyrene, chromium, lead, and thalium. According to the database, the site is currently in the assessment phase. Based on its listing on the SHWS, GWCI, and ALLSITES databases, known soil and groundwater contamination, and upgradient location relative to the subject site, there is the potential for this facility to represent a Recognized Environmental Condition to the subject property.

- URS reviewed the Orphan Summary list within the EDR database report, which consists of sites that have not been geocoded based on the lack of sufficient data regarding their exact location within the general area. One (1) LUST/UST site, T&G Superette, was listed on Dearborn Street; however no street number was identified in the database. The site was also listed on the FINDS database. During the site reconnaissance this site was not noted to be in close proximity to the subject property; however, the lack of information regarding the location represents a significant data gap and this site has the potential to represent a Recognized Environmental Condition to the subject property.

Note: The URS report noted concern about a 15,000-gallon gasoline Aboveground Storage Tank (AST) in its review of the 1926 and 1938 Sanborn Insurance Company maps, but did not consider it to be a REC for unknown reasons. Also, the URS report noted the presence of a LUST site and another UST site northwest of the property, but dismissed both as potential RECs because the EDR database information listed both sites with lower elevations than the subject property. Based on Cardno's review of the topography and probable groundwater flow directions, the former gasoline AST is potentially upgradient of the smaller parcel and the other sites are potentially upgradient of the larger parcel.

A Phase I ESA was completed by CTC Public Benefit Corporation in October 2011. The ESA was conducted on the 11-acre parcel, TMS # 202-13-02-003-000, and the parcel on the opposite side of Dearborn Street (TMS # 202-13-01-001-000), which were both owned by C&S Demolition, LLS, at the time. The contiguous parcel, TMS # 202-13-02-020-000, was not included in the ESA since ownership had already transferred from C&S Demolition to the Town of Great Falls. The 2011 ESA identified the following as RECs on the property:

- Based on the historical utilization of the subject property as a textile facility from approximately 1910 until 1979, there is a potential for environmental impacts to have occurred due to the use of unknown raw materials, the use of hazardous chemicals or petroleum products during the day-to-day operations at the site, and/or the presence or generation of hazardous wastes at the facility.

- The subject property is included in the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) database due to the observation of semi-volatile organic compounds (SVOCs) in sediment samples obtained from a reservoir in close proximity to the subject property.

- The subject property is included in the Resource Conservation and Recovery Act - No Longer Regulated (RCRA NLR) database because the subject property was formerly

occupied by a waste generator. As a result, there is a potential for wastes once generated on the subject property to have impacted site groundwater or soils.

- The subject property is included in the Federal Brownfields database. The information contained within the database report indicates that Brownfield funding was utilized to conduct a Phase I ESA of the subject property on April 27, 2007 at the direction of the SCDHEC. The investigation revealed the presence of contamination at the site; however, the type of contamination found was reported as "unknown" in the database.

- According to Sanborn Fire Insurance Maps dated 1926 and 1938, a Transformer House was formerly located on the subject property. This structure was razed during demolition/salvage operations conducted on-site; therefore, no evidence of the condition, number, or type of transformers that may have been present in the Transformer House could be observed during the site reconnaissance. Given the time period that the transformer house was in existence (at least 1926 through 1938), it is possible that the transformers utilized PCBs.

- According to Sanborn Fire Insurance Maps dated 1926 and 1938, the mill facility utilized coal as a fuel source and a coal trestle was present on-site. Mill facilities that utilized coal typically stored coal on-site and often disposed of waste products on-site. Therefore, the potential for contamination associated with coal and coal waste products to impact soils and groundwater on the subject property exists.

- During the site reconnaissance, several 55-gallon drums of unknown origin and content were observed on the northeastern portion of the subject property. The drums were unmarked or illegible and in poor condition. The drums could have contained raw materials and/or hazardous substances that had been used, stored, and/or generated on-site, or may have been illegally disposed of on the subject property.

- A review of the previous Phase I ESA conducted by URS in April 2007 revealed that former mill employees had indicated to URS that the southeast portion of the subject property had historically been utilized for the dumping of mill generated waste and that the other former Republic Mills in the area (Mills #2 and #3) may have also dumped waste material on this portion of the subject property. Although debris was observed on the southeastern portion of the subject property during the site reconnaissance, the area was heavily overgrown severely limiting access and inhibiting visual observations. The potential for the southeast portion of the subject property to have been utilized for the dumping of mill generated wastes is considered a recognized environmental condition (REC).

On February 28, 2019, Mr. Craig Dukes, Cardno Senior Scientist, and Mr. Peter Whitehouse, Cardno Geologist, visited the property to determine the change in conditions since the 2011 ESA. Most of the property was found overtaken by thick vegetation. Structures visible in the 2011 ESA photographs were largely inaccessible and unrecognizable. Extensive debris piles remain on the western half of the property.

A5.5 Chemicals of Concern

There has been no analytical testing on the property. Textile mill operations that primarily engaged in cotton spinning operations, as likely occurred on this property, typically did not use a wide range of chemicals as found in textile plants that performed dyeing and fabric finishing. The subject property did use coal-fired boilers and a smokestack so there is a high probability that PAHs (Polycyclic Aromatic Hydrocarbons) and metals are concentrated in that area of the property from the coal use. The property had an electrical transformer house that operated during the period when PCBs were commonly used, so PCB contamination is possible especially in the area of the transformer house.

Some large textile operations performed equipment maintenance on-site using solvents and petroleum lubricants; however, the Sanborn Insurance Company maps suggest that these activities most likely occurred at the Mill #2, one-quarter mile north of the property. However, if wastes were brought from the Mill #2 and Mill #3 for landfill disposal on the property as alleged, any substances in use at those locations may have been introduced to the property.

The analytical sampling protocol will conform to the general SCDHEC VCC requirements and is designed to detect the broad range of potential contaminants, including EPA Target Analyte List (TAL) metals and the Target Compound List (TCL) Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), PCBs, and Pesticides.

A5.6 Conceptual Site Model

The storage and use of hazardous materials and petroleum products associated with past practices conducted on the property may have resulted in a release to onsite soils and, consequently, an impact to groundwater.

The facility used coal fired boilers and a smokestack. Releases of metals, PAHs, and other semi-volatile organic compounds are typically found at higher concentrations in soils near areas where coal was stored and burned. The facility also had a transformer house that operated during the time when PCBs were commonly used in electrical equipment. Releases of PCBs and other transformer oils may have occurred during operation and/or decommissioning of the transformer house.

The two deep depressions on site, including the “Green Hole”, may have originated as borrow pits during construction of the mill and it is possible that wastes were disposed of into the depressions in the subsequent years. Due to the inaccessibility and safety concerns, the soils at the bottom of the depressions cannot be sampled; however, groundwater downgradient of the depressions should demonstrate an impact if wastes were disposed since there has been sufficient passage of time for contaminants to migrate.

A5.7 Purpose of Assessment

The ESA will include critical data collection of samples of soil and groundwater to assist in anticipation of facilitating the subject property’s reuse. Determining if soils and groundwater on the site are impacted with hazardous substances and/or petroleum products in excess of

allowable SCDHEC standards will aid in decisions on site redevelopment and removal activities to ensure no unacceptable exposures remain.

The scope of work is designed to confirm the presence or absence of environmental impacts and the general magnitude of impacts, but not to fully delineate impacts or to design a remediation strategy.

Non-critical determinations during the ESA will include documenting and recording the soil characteristics and general lithology during sampling collection and monitoring well installation. This information will be used to supplement the critical data; it is not needed to make the decision of whether or not remediation is necessary.

Groundwater quality results will be compared to the primary maximum contaminant level (MCL) standards in the South Carolina State Primary Drinking Water Regulations, R.61-58. The SCDHEC does not set state-specific contaminant cleanup target levels for soil, but instead defaults to the USEPA "Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites" as the criteria determining further action on a site. As per SCDHEC guidance, sites slated for residential and other potential high contact uses (schools, daycares, etc.) are evaluated against Residential RSL values for soil; all other sites are compared to occupational/industrial-use RSLs.

The significance and nature of impacts to the area of concern will be determined by direct evaluation of the analytical data generated. If analytes are not detected, or are detected in the samples at concentrations below the applicable RSLs, then it can be concluded that the contaminants of concern identified do not pose a significant threat to human health or the environment. If analytes are found above regulatory criteria in the specific media, then the degree to which these impacts affect redevelopment of the site must be evaluated further. Additional assessment including a Vapor Intrusion evaluation and/or an Analysis of Brownfields Cleanup Alternatives (ABCA) to evaluate remedial actions and/or institutional controls, would then be recommended.

A6. PROJECT/TASK DESCRIPTION AND SCHEDULE

The scope of work is detailed in Section A6.1. In addition to the laboratory analysis of soil and groundwater, general observations including soil lithology will also be made to aid in the decision making process.

The scope of work described in subsequent sections will be completed in phases as follows:

- Vegetation will be cleared on the back (east) side of the former mill building as shown in **Figure 5** to allow sampling equipment access to the areas around the former boiler, smokestack, transformer house, and potential landfill area. If the clearing process reveals other potential impacted areas, the SCDHEC Project Manager will be consulted for adjustment and/or addition of sampling points prior to the technical team mobilization.

- The initial technical team mobilization to the site will include critical data collection of surface and subsurface soils; installation of monitoring wells; and collecting the non-critical data on general lithology and local groundwater use.
- Groundwater will be sampled a minimum of 24 hours after the installation of the monitoring wells to allow the groundwater conditions to equilibrate.
- The data collected in all initial phases will determine the need for additional assessment or remediation. The need for additional work will be evaluated with input from all project stakeholders as described in the Generic QAPP. If needed, additional assessment work scopes, including a Vapor Intrusion evaluation, will be detailed in revisions to this addendum. If assessment is complete, an ABCA may be prepared.
- The investigation-derived waste (IDW) generated during the assessment activities will consist of soil cuttings and purged groundwater. All IDW will be containerized in 55-gallon drums and stored on-site pending the results of laboratory analysis. Based on the analytical results, the IDW will be disposed of properly.
- The monitoring wells will be left in place at the conclusion of the initial sampling pending reviews of the analytical results. If the SCDHEC determines no further use for the wells, they will be abandoned at a later date pursuant to the SC Well Standards R.61-71.

A6.1 Proposed Investigation

Soil samples will be collected and groundwater monitoring wells will be installed at predetermined locations based on the findings of previous assessments and the judgment of experienced Cardno personnel. The proposed soil boring and groundwater monitoring well locations are illustrated on **Figure 6 and 7.**

The following summarizes the various critical sample media to be collected at the property, with specific methodology and analytical criteria detailed further in section **B1:**

- **Soil Samples**: Fifteen (15) soil sample locations will be sampled. All locations will have a shallow sample (0 to 1’ bgs), and a subsurface sample (2’ to 3’ bgs or deeper) for a total of thirty (30) soil samples for analysis.
- **Groundwater Samples:** Seven (7) groundwater monitoring wells will be installed and sampled.

A6.2 Field Measurements

The soil samples will be collected from specified target depths at predetermined locations, therefore, field screening will not be necessary. Approximate locations of the sampling points will be determined in the field through use of Global Positioning System (GPS) and/or a tape measure referenced to identifiable fixed landmarks.

Groundwater levels in the newly installed monitoring wells will be allowed to recover for a period of at least 24 hours after installation and development., Upon recovery, the

groundwater levels will be gauged with an electric water level meter capable of measuring the depth to the air/liquid interface to within +/- 0.01 foot. Water level measurements will be collected from all site wells on the property and the adjacent parcel within a 24-hour period to ensure that the groundwater flow gradient and direction can be accurately determined. Groundwater elevations will be calculated based on top of casing (TOC) elevations, as determined by a registered South Carolina land surveyor and will be used to prepare a potentiometric surface map illustrating the groundwater flow direction and gradient at the site.

Prior to groundwater sample collection, each monitoring well will be purged via the low-flow method using a variable speed peristaltic pump and new dedicated tubing (or with a variable speed, electric submersible pump if groundwater depths prohibit the use of peristaltic pumps) until consistent values (i.e., less than 10% variance between consecutive readings) are obtained for dissolved oxygen, specific conductivity, and temperature, and consecutive pH measurements are within ± 0.2 pH units, or, if drawdown cannot be controlled during low-flow sampling, the monitoring well formation fails to recharge (i.e. the well runs dry). Turbidity will be monitored during purging with a calibrated turbidity meter. These measurements will be collected during the purging process to ensure that representative groundwater samples are obtained.

No other field measurements are anticipated.

A6.3 Laboratory Testing

Based on the RECs identified, all constituents of concern within the following analytical method categories for soil and ground water have been identified for this assessment and include the following:

- TAL Metals by EPA Methods 6010 and 7470;
- TCL VOCs by EPA Methods 8260B and 5035;
- TCL SVOCs by EPA Method 8270D;
- TCL SVOCs by EPA with low level PAHs by EPA Method 8270D SIM (water samples only)
- PCBs by EPA Method 8082; and
- Pesticides by EPA Method 8081.

The Listings of Accredited Analyses, detailing all analytes for soil and groundwater, are provided in the Access Analytical QAM included in **Attachment A**.

A6.4 Critical Samples

Determining if soil and ground water on the site are impacted with hazardous substances in excess of allowable SCDHEC standards will aid in decisions on site redevelopment and removal activities to ensure no unacceptable exposures remain. The following summarizes

the various critical sample media to be collected at the property, with specific methodology and analytical criteria detailed further in section **B1**:

- **Subsurface Borings:** Six (6) borings will be collected in the potential landfill area for visual examination of evidence of waste disposal. The borings will extend to depths of approximately 8’ bgs or to the bottom of waste, if deeper.

- **Soil Samples:** Fifteen (15) soil sample locations will be sampled, including two of the boring locations in the potential landfill area. All locations will have a shallow sample (0 to 1’ bgs), and a subsurface sample (2’ to 3’ bgs, or deeper) for a total of thirty (30) soil samples for analysis.

- **Groundwater Samples**: Seven (7) groundwater monitoring wells will be installed and sampled.

A6.5 Non Critical Data

Non-critical determinations during the ESA will be used to supplement the critical data; it is not needed to make the decision of whether or not remediation is necessary. The following non-critical data will be reported from the ESA:

- **Soil characteristics and general lithology**: Observations of general soil characteristics will be recorded during soil sampling collection. General lithology will be described during monitoring well installation.

- **Groundwater characteristics**: Observations will include water quality characteristics (pH, temperature, conductivity, dissolved oxygen, turbidity, color, and odor).

A6.6 Regulatory Standards

The SCDHEC does not set state-specific contaminant cleanup target levels for soil, but instead defaults to the USEPA "Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites" as the criteria determining further action on a site. RSL values will be obtained from the most recent version of the “EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites” in effect when the electronic analytical results are received from the laboratory.

As per SCDHEC guidance, soils from sites slated for residential and other potential high contact uses (schools, daycares, etc.) are evaluated against Residential RSL values for soil; all other sites are compared to occupational/industrial-use RSLs. Soil data will be compared to the residential and industrial criteria for direct soil exposure and the MCL-Based Soil Screening Levels (SSL) listed in the RSL tables.

Groundwater quality results will be compared to the primary MCL standards if specified in the South Carolina State Primary Drinking Water Regulations, R.61-58, or to the EPA RSL values for “Tapwater” if not specified.

A6.7 Data Use

Surface soil, subsurface soil, and groundwater samples will be collected to provide analytical data for site characterization. The significance and nature of impacts to the areas of concern will be determined by direct evaluation of the analytical data generated. If analytes are not detected or are detected in the soil samples at concentrations below the applicable EPA RSLs (residential and/or industrial), and, if analytes are not detected or are detected in groundwater at concentrations below EPA MCLs, and/or EPA RSL Residential Tapwater values, then it can be concluded that the contaminants of concern identified on the site do not pose a significant threat to human health or the environment. If analytes are found above regulatory criteria in the soil or ground water, then the degree to which these impacts affect redevelopment of the site must be evaluated. Further assessment, including a Vapor Intrusion evaluation, and/or an ABCA to evaluate remedial actions and/or institutional controls, would then be recommended.

A6.8 Schedule

The start date for sample collection is based on the final approval of this Site-Specific QAPP Addendum. The initial activities to clear vegetation to allow sampling access will occur no later than 30 days after approval by all required signatories. Soil borings, soil sampling, monitoring well installation, and associated fieldwork will begin within fourteen days after clearing and should take approximately three days to complete.

Groundwater samples will be collected a minimum of twenty-four hours after well installation to allow the groundwater conditions to equilibrate and will take approximately one day to complete.

Soil and groundwater samples will be shipped overnight or hand carried to the laboratory while maintaining chain-of custody requirements as detailed in the Generic QAPP. Laboratory results will be sent to the Cardno Field team leader with normal laboratory turnaround, which is generally within 14 business days of sample receipt.

A draft Phase II ESA report should be complete within 30 days after receipt of all laboratory results.

A7. QUALITY OBJECTIVES AND CRITERIA FOR MEASUREMENT DATA

The ESA will collect soil and groundwater samples on the property to meet the general requirements of the SCDHEC Brownfields/VCP. Samples will be analyzed for the wide range of potential TAL-Metals, TCL-VOC, TCL-SVOC and TCL-PCB contaminants consistent with the SCDHEC protocol for uncontrolled sites.

As per SCDHEC guidance, soil data will be compared to the residential and industrial criteria for direct soil exposure and the Maximum Contaminant Level (MCL)-Based Soil Screening Levels (SSL) listed in the RSL tables. Groundwater quality results will be compared to the primary maximum contaminant level (MCL) standards if specified in the South Carolina State

Primary Drinking Water Regulations, R.61-58, or to the EPA RSL values for “Tapwater” if not specified.

The selected laboratory methods are sufficient to meet the required detection levels. The Data Quality Objectives for this ESA are included as Table 1.

A8. SPECIAL TRAINING REQUIREMENTS/CERTIFICATION

The soil sampling Field Technicians will require no additional training beyond those listed in the Generic QAPP sub-section A7 – Special Training Requirements.

A9. DOCUMENTS AND RECORDS

See the Generic QAPP sub-section A8 – Documents and Records for these details.

B1. SAMPLING DESIGN PROCESS

The proposed Phase II ESA will evaluate potential environmental impacts to soil and ground water at the property. Collection of samples will not be random because they are intended to evaluate/delineate potential releases on the property.

All boring and sample collection activities will be conducted in accordance with the EPA Region 4 Science and Ecosystem Support Division (SESD) Field Branches Quality System and Technical Procedures. The proposed sampling locations may be adjusted slightly in the field based on observations suggestive of a release (staining, odors, etc.) and site conditions. Proposed sample locations are shown on **Figures 6 and 7**. The field staff will be provided with a copy of this plan for reference while in the field.

The Data Quality Objectives (DQOs) for this ESA are included as **Table 1.**

Table 2 provides the type and number of samples, their analysis criteria, and QA/QC samples.

B1.1 Subsurface Soil Borings

Six (6) subsurface soil borings will be collected in the potential landfill area for visual examination of waste disposal. The borings will be collected with a direct-push rig utilizing disposable polyethylene liner tubes in a hollow stem auguring system. The liner tubes will be opened on-site and visually examined to determine if there is evidence that waste was disposed in this location. The borings will extend to a minimum depth of 8’ bgs at each location, or to 1’ below the deepest extent of waste if found deeper than 8’ bgs.

B1.2 Soil Sample Collection (Critical)

Fifteen (15) soil sample locations as shown on **Figure 6** will be sampled. Two of the locations will be from the boring sample locations in the potential landfill area. All locations will have a shallow sample (0 to 1’ bgs) and a subsurface sample (2’ to 3’ bgs or deeper) for a total of thirty (30) soil samples for analysis. If waste is found in the potential landfill area, the

subsurface samples at those locations will be from the horizon of soil immediately underlying the deepest extent of waste.

Depending on field conditions, the samples may be collected with hand tools or with a direct-push rig utilizing disposable polyethylene liner tubes. In order to minimize losses due to volatilization during sample collection, samples for VOC analysis will be obtained directly from the hand tool or liner tubes, as applicable, using a laboratory supplied, disposable sampling device and will not be homogenized prior to placement within the laboratory-prepared sample containers. After the samples for VOC analysis have been collected, the remaining portion of the specified soil sample interval will be placed in disposable, single use polyethylene bags for mixing and transferred to applicable sample containers for the remaining analytes.

Soil samples locations and analytical requirements are detailed below and further detailed in **Table 2:**

- One (1) location, (SS/SB-01) will be collected as an upgradient control location on the upper edge of the small parcel to establish concentrations of constituents either naturally occurring or commonly occurring from human influences in the area unrelated to the property. The surface soil sample will be analyzed for the TAL Metals excluding cyanide and TCL SVOCs. The subsurface soil sample will be analyzed for the TAL Metals excluding cyanide, TCL SVOCs, and TCL VOCs.
- Three (3) soil sample locations, (SS/SB-02, -07, -08) will be collected from among the debris piles on the upper (west), mostly-level section of the property corresponding the former mill building footprint. The surface soil samples will be analyzed for the TAL Metals excluding cyanide and TCL SVOCs. Any surface soil sample collected beneath pavement or in areas of staining will also be analyzed for the TCL VOCs. The subsurface soil samples will be analyzed for the TAL Metals excluding cyanide, TCL SVOCs, and TCL VOCs.
- Three (3) soil sample locations (SS/SB-09,-10,-11) will be collected in the general vicinity of the former coal trestle. The surface soil samples will be analyzed for the TAL Metals excluding cyanide and TCL SVOCs. Any surface soil sample collected beneath pavement or in areas of staining will also be analyzed for the TCL VOCs. The subsurface soil samples will be analyzed for the TAL Metals excluding cyanide, TCL SVOCs, and TCL VOCs.
- Two (2) soil sample locations (SS/SB-12, -13) will be collected in the general vicinity of the former transformer house. The surface soil samples will be analyzed for the TAL Metals excluding cyanide, TCL SVOCs, and TCL PCBs. Any surface soil sample collected beneath pavement or in areas of staining will also be analyzed for the TCL VOCs.T he subsurface soil sample will be analyzed for the TAL Metals excluding cyanide, TCL SVOCs, TCL PCBs, and TCL VOCs.
- Four (4) soil sample locations (SS-03, -04, -14, -15) will be collected in the general downgradient directions from the mill building, smokestack, and boilers. The surface soil samples will be analyzed for the TAL Metals excluding cyanide and TCL SVOCs. Any surface soil sample collected beneath pavement or in areas of staining

will also be analyzed for the TCL VOCs. The subsurface soil samples will be analyzed for the TAL Metals excluding cyanide, TCL SVOCs, and TCL VOCs.

- Two (2) soil sample locations will be collected from the potential landfill area with the exact locations dependent on the findings of the test borings. If none of the borings exhibit visual evidence of waste, the samples will be from the furthest apart upgradient and downgradient borings in the area, and will consist of a surface soil sample (0-1' bgs) and a subsurface soil sample (2-3' bgs). If any borings encounter waste, the samples will be selected to be representative of the waste and the subsurface samples will be collected from the soil horizon immediately below the deepest observable waste deposits. The surface soil samples will be analyzed for all TAL and TCL constituents except for TCL VOCs, except TCL VOCs will be collected if in an area of soil staining. The subsurface samples will be analyzed for all TAL and TCL constituents.

B1.3 Monitoring Well Installation/Groundwater Sample Collection (Critical)

Seven (7) groundwater monitoring wells will be installed on the property as shown on **Figure 7**. The wells will be permanent and will be fitted with stickup protective casings to assist in relocating the wells in the event that the SCDHEC wishes to assume long-term monitoring of the wells.

The groundwater monitoring wells will be installed under the direct supervision of a South Carolina certified well driller and all installation activities will conform to the South Carolina Well Standards R.61-71.

The groundwater monitoring wells will be installed using an air rotary drill rig advancing 4.25-inch inside diameter hollow-stem augers. Cardno personnel will log the subsurface lithology and identify the depth to the water table via examination of the air rotary cuttings.

The groundwater monitoring wells will be constructed using a 2-inch diameter, Schedule 40, flush threaded, polyvinyl chloride (PVC) casing fitted with a 2-inch diameter, Schedule 40 PVC, factory milled, 0.01-inch slot size, screened section. The screened section will be 10 feet in length. After placing the well screen and riser in the borehole, an artificial filter pack will be placed from the terminus of the borehole to approximately two feet above the screened section. The filter pack will be followed by a bentonite plug with a minimum of two feet in thickness. The plug will be hydrated and the borehole will be sealed to a depth of approximately twelve inches below ground surface using a Portland cement/bentonite grout to allow for the placement of an above-ground protective casing. A schematic of a typical shallow groundwater monitoring well is included as **Figure 8**.

The monitoring wells will be placed at a depth bracketing the water table, with the majority of the screen submerged. The wells on the west side and in middle of the property are estimated to be completed to a depth of 50-65' bgs. The wells on the east side of the property are estimated to be completed to a depth of 20-30' bgs.

As-built construction logs of the groundwater monitoring wells will be generated after installation. The well driller will complete a Water Well Record, SCDHEC Form 1903, for submittal to the SCDHEC for each monitoring well installed.

Post installation, the monitoring wells will be developed by over pumping and the use of a surge block (if warranted by the presence of an excessive amount of fines) until clear, relatively sediment-free water is produced.

The groundwater monitoring well locations will be surveyed by a South Carolina registered land surveyor. Monitoring well TOC elevations will be referenced to MSL. The TOC elevations will be used to calculate the groundwater flow direction and hydraulic gradient. The survey may be conducted before or after sample collection.

The newly-installed wells will be allowed to equilibrate for at least twenty-four hours before sampling. Groundwater levels will be gauged with an electric water level meter capable of measuring the depth to the air/liquid interface to within +/- 0.01 foot. Water level measurements will be collected from all wells on the property and adjacent property within a 24-hour period to ensure that the groundwater flow gradient and direction can be accurately determined. Groundwater elevations will be calculated based on the surveyed TOC elevations and a water-level map will be prepared to illustrate the groundwater flow direction and gradient at the site.

Prior to sample collection, each monitoring well will be purged via the low-flow method using a variable speed peristaltic pump and new dedicated tubing (or with a variable speed, electric submersible pump if groundwater depths prohibit the use of peristaltic pumps) until consistent values (i.e., less than 10% variance between consecutive readings) are obtained for dissolved oxygen, specific conductivity, and temperature, and consecutive pH measurements are within ± 0.2 pH units, or, if drawdown cannot be controlled during low-flow sampling, the monitoring well formation fails to recharge (i.e. the well runs dry). Turbidity will be monitored during purging with a calibrated turbidity meter. These measurements will be collected during the purging process to ensure that representative groundwater samples are obtained.

The monitoring wells will be sampled using low-flow techniques with a variable speed peristaltic pump (or with a variable speed, electric submersible pump if groundwater depths inhibit the use of peristaltic pumps). Sample bottles for VOCs will be filled first, followed by bottles for the remaining additional analyses. Sample containers will be supplied by the analytical laboratory, and will be pre-preserved by the laboratory in accordance with the analytical method to be performed. The laboratory will provide preservation methods for the various analytics.

All groundwater samples will be collected and analyzed for TAL Metals excluding cyanide, TCL SVOCs including low level PAHs, and TCL VOCs. In addition, one well in the middle of the property (i.e., either MW-3 or MW-4 depending on recharge rates) will be analyzed for TCL PCBs, TCL Pesticides, and Cyanide.

B1.4 Quality Assurance/Quality Control Samples

The following QA/QC samples will be collected for analysis:

- One duplicate surface soil sample from one location in the center of the property (i.e., vicinity of the former transformer house, coal trestle, smokestack, etc.).
- One duplicate subsurface soil sample collected at another location in the center of the property (i.e., vicinity of the former transformer house, coal trestle, smokestack, etc.).
- One duplicate groundwater sample to be determined in the field based on the well recharge characteristics of one of the newly installed wells downgradient of a source area.
- One equipment blank collected during soil sampling activities.
- Up to four (4) field blanks, with one collected on each day of soil or groundwater sampling activities.

No equipment blanks will be collected during groundwater sampling as single-use, disposable tubing will be used.

The equipment blank and field blanks will be analyzed for the TAL Metals, TCL SVOCs, and TCL VOCs. Duplicate sample analyses will mirror the analyses requested for their respective base samples. The quality control samples will be labeled on the sample bottles and chain-of-custody forms, as appropriate.

Trip blanks will be provided with each delivery of VOCs samples submitted to the laboratory. One temperature blank will be included per sample cooler sent to the laboratory.

B1.4 Authorizations, Permits, and Clearances

On-site activities associated with this project will not commence until the proper authorizations, permits, and clearances are obtained, as applicable. These may include, but are not limited to, the following items.

- Monitoring Well Approval: The Cardno Field Team Manager will obtain monitoring well approval from the SCDHEC prior to installing the wells.
- The Town of Great Falls and the Chester County Forfeited Land Commission own the property. Each entity has granted permission to access, clear vegetation and conduct any sampling necessary for this ESA.

Cardno personnel will oversee the installation of the groundwater monitoring wells; log the subsurface materials encountered during groundwater monitoring well installation and soil boring installation; and collect the groundwater, waste, and soil samples. Upon completion of the sampling effort, Cardno will produce a Phase II ESA report summarizing the field activities. The report will include a narrative of the field event; copies of all field forms generated; and tables and figures summarizing the groundwater and soil analytical data.

Analytical data will be compared to the regulatory standards referenced in Section **A6** to identify constituents and areas of concern.

B2. SAMPLING AND ANALYTICAL METHODS REQUIREMENTS

To ensure that potential chemicals/contaminants of concern (COCs) are identified, the soil and groundwater samples collected will be analyzed for the parameters as detailed in **Section B1**. **Table 2** provides a summary of sample locations, rationale, laboratory analyses, and required QA/QC samples.

B3. SAMPLE HANDLING AND CUSTODY REQUIREMENTS

The Laboratory QAM for Access Analytical Inc.is provided in **Appendix A** (CD Format). All other information pertaining to sample handling and custody requirements is provided in the Generic QAPP document.

B4. ANALYTICAL METHODS AND REQUIREMENTS

Analytical methods are provided in **Table 2** and are presented in Sections **A6** and **B1** of this document. All other analytical information is provided in the Generic QAPP document.

B5. FIELD QUALITY CONTROL REQUIREMENTS

Quality control samples will be collected during field studies for various purposes, which include the isolation of site-effects (control samples) and the evaluation of field/laboratory variability (spikes and blanks, trip blanks, duplicates). One duplicate surface soil sample, one duplicate subsurface soil sample, one duplicate groundwater sample, one equipment blank, and up to four (4) field blanks will be collected. The proposed equipment blank, field blanks, and duplicate samples are referenced in **Table 2**.

Trip blanks are used to evaluate if VOC samples were contaminated during storage and/or transportation back to the laboratory (a measure of sample handling variability resulting in positive bias in contaminant concentration). Trip blanks will be provided with each delivery of VOC samples submitted to the laboratory. Temperature blanks will be included in each sample cooler to ensure that the samples were maintained at the appropriate temperature pending delivery to the laboratory.

All other field quality control requirements are provided in the Generic QAPP document.

B6. LABORATORY QUALITY CONTROL REQUIREMENTS

This information is provided in the Generic QAPP document. In addition, the laboratory QAM is provided in **Attachment A** (CD Format) of this document.

B7. FIELD EQUIPMENT AND CORRECTIVE ACTION

This information is provided in the Generic QAPP document.

B8. LAB EQUIPMENT AND CORRECTIVE ACTION

The laboratory QAMs are provided in **Attachment A** (CD Format), and all other information is provided in the Generic QAPP document.

B9. ANALYTICAL SENSITIVITY AND PROJECT CRITERIA

Method detection limits and reporting limits for each analytical method are provided in **Table 3**. Additional information is provided in the Generic QAPP document.

B10. DATA MANAGEMENT AND DOCUMENTS

The laboratory QAM is provided in **Attachment A** (CD Format). All other information is provided in the Generic QAPP document.

C1. ASSESSMENT AND RESPONSE ACTIONS

Information pertaining to Assessment and Response Actions is provided in the Generic QAPP document.

C2. PROJECT REPORTS

Information pertaining to project reports is provided in the Generic QAPP document.

D1. FIELD DATA EVALUATION

Information pertaining to Field Data Evaluation is provided in the Generic QAPP document.

D2. LABORATORY DATA EVALUATION

Data qualifiers are assigned by the laboratory if necessary. The data evaluation process used by Access Analytical, Inc. can be found in Section 5 of the QAM provided in **Attachment A**. All other information is provided in the Generic QAPP document.

D3. DATA USABILITY AND PROJECT VERIFICATION

The laboratory personnel will verify the laboratory data generated for accuracy according to the laboratory's QC procedures provided in Section 5 of the laboratory's QAM as provided in **Attachment A.** All other information is provided in the Generic QAPP document.

REFERENCES

1. Cardno, Generic Quality Assurance Project Plan (QAPP) – Revision 1, August 8, 2018.
2. URS Corporation, Phase I Environmental Site Assessment (ESA) Report, Former Republic Mill #1, April 16, 2007.
3. CTC Public Benefit Corporation Phase I Environmental Site Assessment (ESA) Report, Former Republic Mill #1, October 14, 2011
4. U.S. Environmental Protection Agency. 2006. EPA *Guidance on Systematic Planning Using the Data Quality Objectives Process*. EPA 240/B-06/001. February.
5. U.S. Environmental Protection Agency. 2002. *EPA Guidance for Quality Assurance Project Plans*. EPA QA/G-5. EPA 240/R-02/009. December.
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8. U.S. Environmental Protection Agency. 1998. *Quality Assurance Guidance for Conducting Brownfields Site Assessments*. EPA 540-R-98-038. September.
9. U.S. Environmental Protection Agency Region 4. 2010. Brownfields QAPPs Interim Instructions Generic and Site-Specific QAPP Addendum for Brownfields Site Assessments and/or Cleanups. July 2010.
10. U.S. Environmental Protection Agency Region 4, 2016. *Field Branches Quality System and Technical Procedures*, http://www.epa.gov/quality/quality-system-and-technical-procedures-sesd-field-branches#qsp

LIST OF ABBREVIATIONS

ABCA	Analysis of Brownfields Cleanup Alternatives
ACM	Asbestos Containing Material
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
bgs	Below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, and Total Xylenes
CAB	Cellulose Acetate Butyrate
CD	Compact Disc
CERCLIS	Comprehensive Environmental Response and Liability Information System
COC	Contaminants/Chemicals of Concern
CRCOG	Catawba Regional Council Of Governments
CRM	Client Relationship Manager
DAO	Designated Approving Official
DPT	Direct Push Technology
DQO	Data Quality Objective
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
GPR	Ground Penetrating Radar
GPS	Global Positioning System
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
ID	Identification
IDW	Investigation Derived Waste
MCLs	Maximum Contaminant Level
MSL	Mean Sea Level
MW	Monitor Well
NA	Not Applicable
NLR	No Longer Regulated
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
P.E.	Professional Engineer
P.G.	Professional Geologist
PPE	Personal Protective Equipment
PQLs	Practical Quantification Limits
PVC	Polyvinyl Chloride
QA	Quality Assurance
QAM	Quality Assurance Manual
QAPP	Quality Assurance Project Plan
QC	Quality Control
REC	Recognized Environmental Condition
RCRA	Resource and Conservation Recovery Act
RPD	Relative Percent Difference
RSL	Regional Screening Levels
SC	South Carolina
SCGS	South Carolina Geological Survey
SESD	Science and Ecosystem Support Division
SCDHEC	South Carolina Department of Health and Environmental Control
SOP	Standard Operating Procedure
SOW	Scope of Work
SVOC	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristics Leaching Procedure
TMS	Tax Map System
TOC	Top of casing
USCS	Unified Soil Classification System
USGS	United States Geological Survey
UST	Underground Storage Tank
VCC	Voluntary Cleanup Contract
VCP	Voluntary Cleanup Program

VOC	Volatile Organic Compounds

Tables

Table 1: Project-Specific Data Quality Objectives for the Former Republic Mill #1, Great Falls

Data Quality Objective	Project Specific Action
State Problem	A Phase I ESA suggested the possible presence of petroleum and hazardous substances in surface soils and groundwater on the property, which complicates its reuse. The CRCOG wishes to foster redevelopment of the property and intends to use its Brownfields Assessment grant funds to conduct a Phase II ESA to characterize contamination on the property. The ESA will include samples of soil and groundwater to meet the sampling requirements of the SCDHEC Voluntary Cleanup Program
Identify the Decision	Samples of soil and groundwater are required to resolve whether contamination exists that must be addressed in redevelopment of the site. The principal objective of this investigation is to provide analytical data to evaluate potential contaminants in surface soils, subsurface soils, and ground water. The data interpretation will answer the question: "Have the potential releases impacted the site via mechanisms of exposure regulated by the SCDHEC?"
Identify Inputs to the Decision	The ESA will collect surface and subsurface soil samples on the property and groundwater samples on the property. Samples will be analyzed for the wide range of potential Tal Metals, TCL VOC and TCL SVOC contaminants consistent with SCDHEC protocol for uncontrolled sites. As per SCDHEC guidance, soil contaminant concentrations will be compared to the USEPA RSLs (residential and industrial) and the MCL-Based-SSLs listed in the RSL tables. Groundwater quality results will be compared to the primary maximum contaminant level (MCL) standards in the South Carolina State Primary Drinking Water Regulations, R.61-58. or, if not specified in R.61-58, to the EPA RSL values for "Tapwater."
Define the Boundaries of the Study	Spatial Boundaries: The investigation will be confined to the property. Temporal Boundaries: This assessment must be completed before the end of the EPA grant deadline of September 30, 2021. Financial Boundaries: The assessment of the property is being conducted under an EPA Cooperative Agreement. Therefore, the investigative activities must be performed in as cost effective a manner as possible to ensure that adequate funding is available for assessment of other sites under The CRCOG's Brownfield Program.
Develop a Decision Rule	If analytes are not detected or are only detected at concentrations below the applicable media-specific screening criteria, then it can be concluded that contamination in the soil/groundwater does not preclude redevelopment of the site. If analytes in samples are detected above the screening criteria, further sampling, remedial activities, and/or institutional controls under the SCDHEC purview may be required of the site owner or other responsible parties.
Specify Limits on Decision Errors	Since variance of the data cannot be estimated at this time and the number of samples is restricted by financial considerations, a confidence limit of the data cannot be established. Results of the sampling data will be reviewed by Cardno to determine if additional sampling and/or remediation will likely be required. Cardno will work with the SCDHEC to identify any areas where data gaps may exist before it can be determined how to render the property suitable for re-use.
Optimize Design	The work plan is cost-effective and meets the needs of both the stakeholders and the regulatory authority. The scope of work is sufficient to determine if additional assessment or remedial efforts will be required and to provide characterization data to ensure the proper disposal of contaminated material. Each planned data point has justifiable reason for collection. The design was optimized to collect sufficient data to determine if potential risks to human health and the environment are presented by these items and to characterize the nature of contaminated material observed on site to ensure proper disposal while staying within budget and time constraints.

Table 2: Sampling Locations, QA/QC samples and Analyses Summary

SAMPLE SCHEDULE

Due to destruction of identifiable landmarks on the property, all samples are shown as approximate coordinates. Actual locations may vary based on field observations once the vegetation is cleared.			
TEST BORINGS	**Potential Landfill Area in property southeast quadrant**		
	Approximate Coordinates		
Boring Designation	**Latitude**	**Longitude**	
TB1	34.564388°	-80.889679°	The borings will be collected with a direct-push rig utilizing disposable polyethylene liner tubes in a conventional hollow stem auguring system. The liner tubes will be opened on-site and visually examined to determine if waste was disposed. The borings will extend to a minimum depth of 8' bgs at each location, or to 1' below the deepest extent of waste if found deeper than 8' bgs.
TB2	34.564484°	-80.889503°	
TB3	34.564415°	-80.889540°	
TB4	34.564333°	-80.889424°	
TB5	34.564265°	-80.889427°	
TB6	34.564310°	-80.889340°	

GROUNDWATER SAMPLES (SOP: SESDPROC-301-R4)				
Sample ID	**Latitude**	**Longitude**	**Analysis**	**Rationale**
GF-MW-01	34.566502°	-80.889198°	Metals SVOCs w/ SIM VOCs	Upgradient Control Sample on smaller parcel
GF-MW-02	34.565765°	-80.890341°	Metals SVOCs w/ SIM VOCs	Upgradient control Sample on larger parcel
GF-MW-03	34.565022°	-80.889561°	Metals SVOCs w/ SIM VOCs	Generally downgradient of transformer house, smokestack area, coal trestle
GF-MW-04	34.564673°	-80.889777°	Full TAL/TCL*	Generally downgradient of smokestack area, boilers, production area of mill. *Full TAL/TCL analysis may be done on MW-03 sample if well has higher yield of water
GF-MW-05	34.565827°	-80.888248°	Metals SVOCs w/ SIM VOCs	Downgradient of “Green Hole” (accessed from former RR spur property)
GF-MW-06	34.564412°	-80.888856°	Metals SVOCs w/ SIM VOCs	Downgradient of Depression #2 (accessed from former RR spur property)
GF-MW-07	34.563805°	-80.889427°	Metals SVOCs w/ SIM VOCs	Downgradient of potential landfill area at southernmost extent of property (accessed from former RR spur property).
GF-##-MW-DUP (ID to be assigned in field)	QC/QA Duplicate Sample of one of above locations		Metals SVOCs w/ SIM VOCs	Duplicate groundwater sample to be determined in the field based on the well recharge characteristics of one of the newly installed wells downgradient of a source area.

SOIL SAMPLES (SOP: SESDPROC-300-R3)				
Sample ID	**Latitude**	**Longitude**	**Analysis**	**Rationale**
GF-SS/SB -01 (SS 0-1' bgs, SB 2-3 bgs)	34.566502°	-80.889198°	For sample locations GF-01- GF-12, all SS (0-1') samples analyzed for Metals and SVOCs; all SB samples (2-3') analyzed for Metals, SVOCs, and VOCs. Any surface soil sample (0-1'bgs) collected beneath pavement or in an area of stained soil also be analyzed for VOCs.	At location of MW-01. This is an upgradient control location on the upper edge of the small parcel to establish concentrations of constituents either naturally occurring or commonly occurring from human influences in the area unrelated to the property.
GF-SS/SB -02 (SS 0-1' bgs, SB 2-3 bgs)	34.565765°	-80.890341°		At, or near, location of MW-02. While this generally is an upgradient control location on the larger parcel, a soil sample at this location may show impacts from smokestack emissions or debris dispersal across the area..
GF-SS/SB -03 (SS 0-1' bgs, SB 2-3 bgs)	34.565022°	-80.889561°		At location of MW-03. This is a sample from the general downgradient direction from the mill building, smokestack, and boilers.
GF-SS/SB -04 (SS 0-1' bgs, SB 2-3 bgs)	34.564673°	-80.889777°		At location of MW-04. This is a sample from the general downgradient direction from the mill building, smokestack, and boilers.
Location -05	NO SOIL SAMPLES			Locations -05, -06, & -07 do not have soil samples because they are downgradient groundwater samples only
Location -06				
Location -07				
GF-SS/SB -08 (SS 0-1' bgs, SB 2-3 bgs)	34.566240°	-80.889838°		Sample collected from among the debris piles on the upper (west), mostly-level section of the property corresponding to the former mill building footprint.
GF-SS/SB -09 (SS 0-1' bgs, SB 2-3 bgs)	34.565247°	-80.890418°		Sample collected from among the debris piles on the upper (west), mostly-level section of the property corresponding to the former mill building footprint.
GF-SS/SB -10 (SS 0-1' bgs, SB 2-3 bgs)	34.565281°	-80.890023°		Sample collected in the general vicinity of the former coal trestle.
GF-SS/SB -11 (SS 0-1' bgs, SB 2-3 bgs)	34.565194°	-80.890051°		Sample collected in the general vicinity of the former coal trestle.

GF-SS/SB -12 (SS 0-1' bgs, SB 2-3 bgs)	34.565147°	-80.889836°		Sample collected in the general vicinity of the former coal trestle.
GF-SS/SB -13 (SS 0-1' bgs, SB 2-3 bgs)	34.565063°	-80.890122°	For sample locations GF-13 & GF-14, all SS (0-1') samples analyzed for Metals, SVOCs and PCBs; all SB samples (2-3') analyzed for Metals, SVOCs, PCBs, and VOCs.	Sample collected in the general vicinity of the former transformer house
GF-SS/SB -14 (SS 0-1' bgs, SB 2-3 bgs)	34.564951°	-80.889938°		Sample collected in the general vicinity of the former transformer house
GF-SS/SB -15 (SS 0-1' bgs, SB 2-3 bgs)	34.564805°	-80.890189°	For sample locations GF-15 & GF-16, all SS (0-1') samples analyzed for Metals and SVOCs; all SB samples (2-3') analyzed for Metals, SVOCs, and VOCs.	This is a sample from the general downgradient direction from the mill building, smokestack, and boilers.
GF-SS/SB -16 (SS 0-1' bgs, SB 2-3 bgs)	34.564810°	-80.889937°		This is a sample from the general downgradient direction from the mill building, smokestack, and boilers.
GF-SS/SB -17 (SS 0-1' bgs, SB 2-3' bgs*)	To be determined from Boring Examination		For sample locations GF-16 & GF-17, all SS (0-1') samples analyzed for FULL TAL/TCL except VOCs; all SB samples analyzed for FULL TAL/TCL.	Samples will be collected from the potential landfill area with the locations dependent on the findings of the test borings. If none of the borings exhibit visual evidence of waste, the samples will be from the furthest apart upgradient and downgradient borings in the area, and will consist of a surface soil (0-1' bgs) and a subsurface soil (2-3' bgs). *If any borings encounter waste, the samples will be selected to be representative of the waste and the subsurface samples will be collected from the soil horizon immediately below the deepest observable waste deposits.
GF-SS/SB -18 (SS 0-1' bgs, SB 2-3 bgs*)	To be determined from Boring Examination			

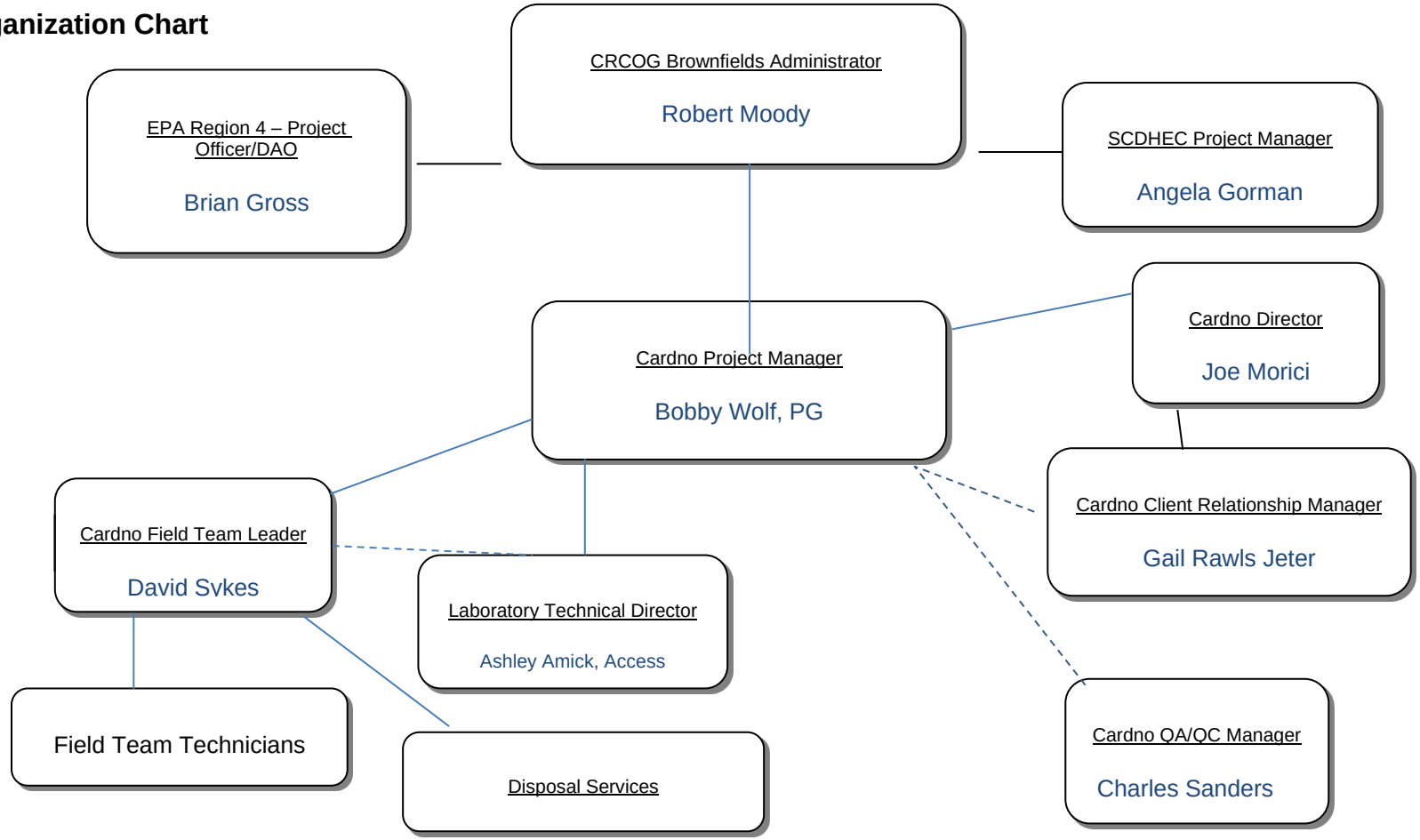
QUALITY CONTROL SAMPLES			
GF-##-SS-DUP (ID# to be assigned in field)	Surface soil (0-1’ bgs) duplicate sample collected from a location selected from GF-09 to GF-15	Mirror Analysis of the sample location	QC Duplicate Sample
GF-##-SB-DUP (ID# to be assigned in field)	Subsurface soil (2-3’ bgs) duplicate sample collected from a location selected from GF-09 to GF-15 (different location than the SS-DUP)	Mirror Analysis of the sample location	QC Duplicate Sample
GF-##-MW-DUP (ID# to be assigned in field)	Duplicate Groundwater Sample of either MW-03 or MW04	Metals, VOCs w/SIM, VOCs	QC duplicate groundwater sample to be determined in the field based on the well recharge characteristics of one of the newly installed wells downgradient of a source area.
EB-01	Equipment rinsate blank collected from soil sampling equipment.	Metals, SVOCs, VOCs	QA/QC sample
FB-01	Field blank collected on day one of sampling at the property	VOCs, SVOCs, Metals	QA/QC sample
FB-02	Field blank collected on the day two of sampling at the property		QA/QC sample
FB-03 (if needed)	Field blank collected on day three of sampling at the property (if needed)		QA/QC sample
FB-04 (if needed)	Field blank collected on day four of sampling at the property (if needed)		QA/QC sample

Analytical Parameters	
Metals	TAL Metals without Cyanide (USEPA Methods 6010, 7470)
SVOCs	TCL SVOCs without Pesticides and PCBs (USEPA Methods 8270D)
SVOCs w/ SIM	TCL SVOCs with low level PAHs (USEPA Methods 8270D, 8270D SIM) but without Pesticides and PCBs
VOCs	TCL VOCs (USEPA Methods 8260B, 535)
Full TAL/TCL	TAL Metals including Cyanide (USEPA Methods 6010, 7470, 9014) TCL SVOCs (USEPA Methods 8270D) TCL Pesticides (USEPA Method 8081B) TCL PCBS (USEPA Method 8082) TCL VOCs (USEPA Methods 8260B, 535)
Full TAL/TCL with SIM	TAL Metals including Cyanide (USEPA Methods 6010, 7470,9014) TCL SVOCs (USEPA Method 8270D) including low level PAHs (USEPA Method 8270D SIM) TCL Pesticides (USEPA Method 8081B) TCL PCBs (USEPA Method 8082) TCL VOCs (USEPA Methods 8260B, 535),
PCBs	TCL PCBs (USEPA Method 8082)

Table 3: Laboratory Method Detection Levels

Figures

Figure 1: Project Organization Chart



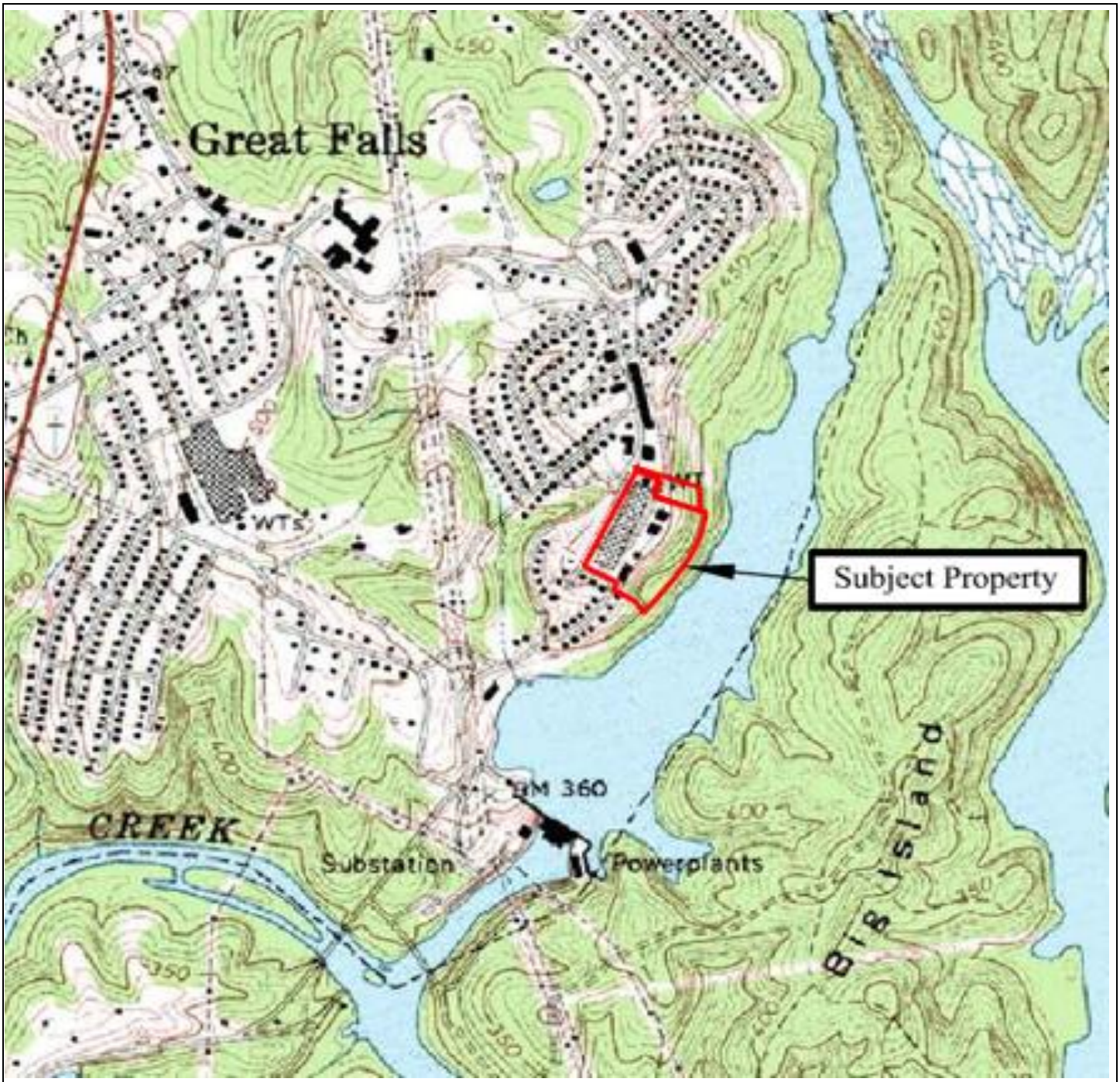


Figure 2: Site Location Map

Republic Mill #1, Great Falls, SC

SOURCE; USGS Quadrangles Great Falls 1969

Figure 3: Property Aerial

Republic Mill #1, Great Falls, SC

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Figure 4: Areas of Concern

Republic Mill #1, Great Falls, SC

Figure 5: Area to clear for sampling access

Republic Mill #1, Great Falls, SC

Figure 6: Soil and Boring Samples

Republic Mill #1, Great Falls, SC

Cardno
Shaping the Future

Figure 7: Groundwater Monitoring Wells

Republic Mill #1, Great Falls, SC

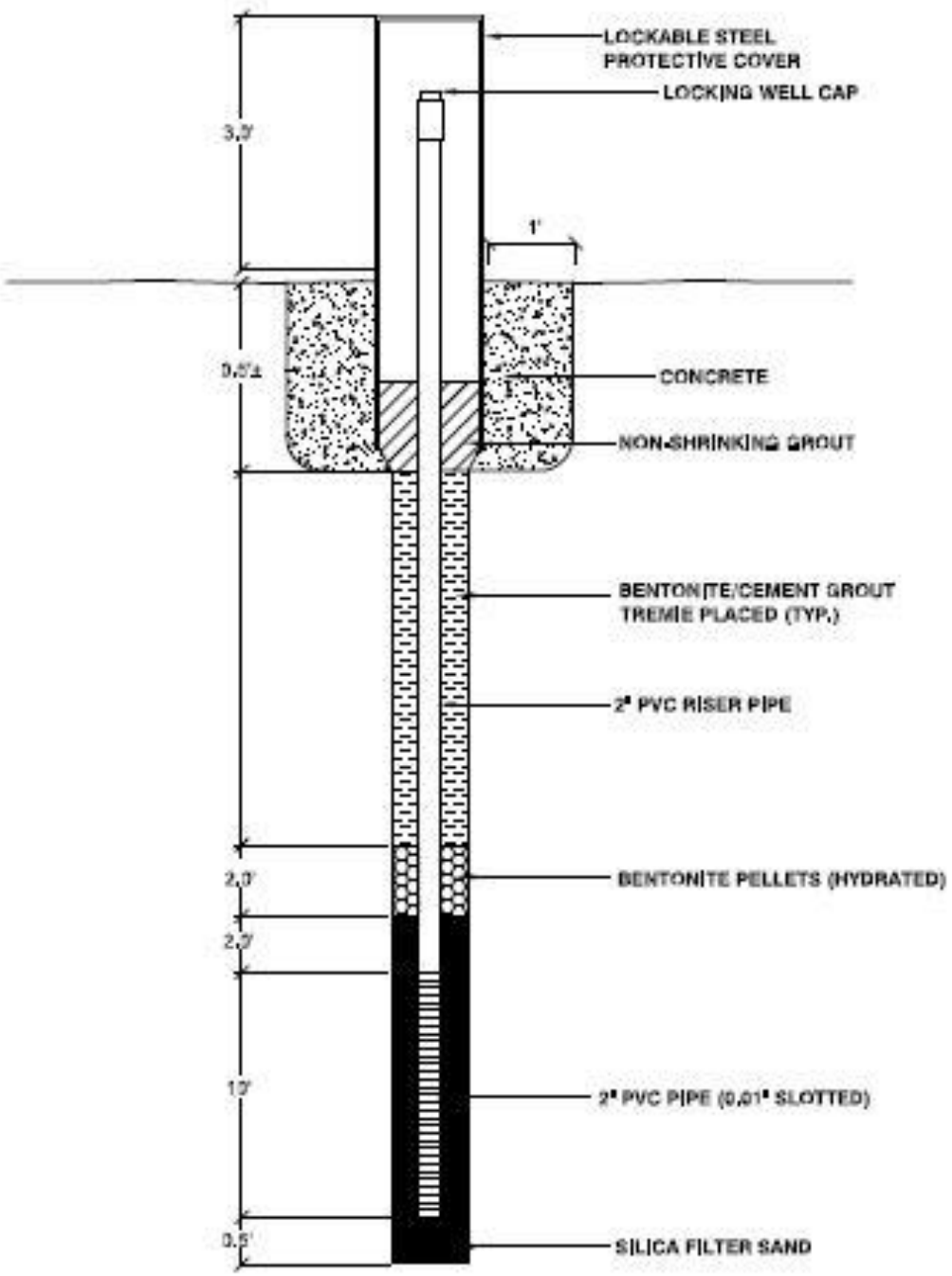

Figure 8: Typical Monitoring Well

Attachment A: Access Laboratory QAM

Town of Great Falls, South Carolina

APPENDIX D

ASBESTOS PROJECT DESIGN
REPUBLIC MILL #1, JULY 24, 2020, S&ME, INC.

Asbestos Project Design
Republic Mill #1
Dearborn Street
Great Falls, South Carolina
S&ME Project No. 4226-20-069

PREPARED FOR:

Cardno Inc.
1812 Lincoln Street, Suite 301
Columbia, SC 29201

PREPARED BY:

S&ME, Inc.
48 Brookfield Oaks Drive, Suite F
Greenville, SC 29607

July 24, 2020

July 24, 2020

Cardno, Inc.
1812 Lincoln Street, Suite 301
Columbia, South Carolina 29201

Attention: Ms. Gail Jeter

Reference: **Asbestos Project Design**
Republic Mill #1
Dearborn Street
Great Falls, South Carolina
S&ME Project No. 4269-20-069

Dear Ms. Jeter:

S&ME, Inc. (S&ME) is pleased to provide the attached Asbestos Project Design, in general accordance with S&ME Proposal No. 42-2000659, dated July 14, 2020. The design addresses the abatement actions, personal protective equipment, and disposal of asbestos containing materials (ACMs) and associated contaminated non-asbestos materials in the debris piles on the former Republic Mill #1 site. The purpose of this document is to support the removal, transportation, and disposal of ACMs. The removal of ACMs and contaminated debris is expected to be performed in association with other planned site cleanup activities.

We appreciate the opportunity to provide you with our asbestos project design services. If you have any questions concerning this plan, please call us at (864) 297-9944.

Sincerely,

S&ME, Inc.

Anna Deal, MPH
Industrial Hygienist
adeal@smeinc.com

Sherman Woodson, CIH, CSP
Senior Industrial Hygienist
swoodson@smeinc.com
SCDHEC Project Designer # PD-00091

Enclosures: May 28, 2019 Asbestos-Containing Materials Survey Report (Cardno)

1.0 General

This document is provided as guidance for the removal and disposal of and contaminated debris from the debris piles at the former Republic Mill #1 in Great Falls, South Carolina. This project design references the South Carolina Department of Health and Environmental Control (SCDHEC) asbestos regulation (Standards of Performance for Asbestos Projects 61-86.1) Asbestos activities will be performed in accordance with other applicable Federal regulations to include but not limited to 40 CFR 61 , Subpart M [Environmental Protection Agency (EPA)] and 29 CFR 1926.1101 [Occupational Safety and Health Administration (OSHA)].

Republic Mill #1 is a former textile mill that was destroyed by fire in the early 2000s. Any remaining structures were demolished with the building debris left in place in debris piles spread throughout the site. The only known asbestos assessment was performed for the debris piles in 2019 by licensed asbestos inspectors with Cardno. The May 28, 2019 Cardno report is attached and referenced in this project design.

The removal and disposal of the following asbestos-containing materials (ACMs) and contaminated debris are included as part of this plan:

- Built-Up roofing material along the northern end of the main mill foundation and in the area of the remaining tower,
- Roof flashing and mastic (noted as putty/caulking material in the survey report) along the western end of the main mill foundation,
- Mastic in glass rock insulation around piping and building foundation joints, and
- Vinyl floor tile and mastic in the former office area,

Based on the observations of S&ME, all of the identified ACMs are non-friable materials in damaged condition. These non-friable ACMs have therefore been rendered friable by the damage caused during the fire and subsequent demolition activities. However, all of the ACM's are located in exterior debris piles and the removal of these materials is addressed as outdoor removal activities. The damaged ACMs above are mixed in with other construction debris, including brick, concrete, and wood. See the attached asbestos survey report for summary tables of building materials sampled and figures showing where ACMs are located.

The asbestos abatement contractor (Contractor) will be licensed by the SCDHEC Asbestos Section to perform the abatement activities with appropriate work procedures for outdoor asbestos removal tasks. The Contractor will submit written notification for removal of to the SCDHEC Asbestos Section regarding the estimated quantity and type(s) of ACMs scheduled for removal and obtain landfill approval to dispose the referenced ACMs. The Contractor will assume full responsibility and liability for compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers and visitors to the site. The Contractor will request a Variance for any work practices that differ from the SCDHEC asbestos regulation. The Variance Request must be approved in writing by SCDHEC prior to the start of any work practices that differ from SCDHEC regulations.

2.0 Abatement Submittals

1. The Contractor will maintain the following documentation onsite:

   - - SCDHEC Notification;
   - - SCDHEC worker and supervisor licenses;
   - - SCDHEC landfill approval letter;
   - - Medical and respiratory statement of compliance with 29 CFR 1910.134 and 1926.1101; and
   - - Pollution Liability Insurance.

2. The Contractor will submit to the Owner the following documentation at the completion of work activities:

   - Daily logs
   - Disposal manifest

3.0 Abatement Procedures (Debris Piles)

1. The removal of debris with contamination from asbestos-containing materials will be notified as an outdoor project, in accordance with SCDHEC Regulation 61-86.1.

2. Outdoor removal activities are required to be conducted using wet removal methods with no release of visible emissions during preparation, removal, or cleanup. It is anticipated that the debris will primarily be removed using front end loaders and placed in roll-off dumpsters lined with polyethylene sheeting.

3. Although not required for outdoor removal activities, asbestos air monitoring will be conducted at the perimeter of the site to document daily asbestos concentrations during the removal activities. There are residential and commercial buildings in close proximity to the site perimeter. Air monitoring is addressed in Section 9.0 of this plan.

4.0 Abatement Control Areas

1. The outdoor work area will be secured at the end of each shift to prevent entry into the work areas.

2. An asbestos control area will be established in the areas where asbestos is removed or otherwise disturbed, as required by SCDHEC and OSHA.

3. Asbestos danger signs in accordance with OSHA 29 CFR 1926.1101 will be displayed at all approaches to the asbestos abatement areas.

4. Control boundaries shall be established with a minimum of red, asbestos danger barrier tape.

5.0 Abatement Control of Pollution

1. A visual inspection will be conducted by the owner's representative and the Contractor after the removal of the asbestos materials and contaminated debris included herein. The visual inspection will be complete if no visible debris is identified in the work area.

2. Debris will be placed in polyethylene-lined dumpsters and appropriately labeled in accordance with SCDHEC, EPA, and OSHA regulations.

6.0 Personal Protective Equipment

1. Respiratory protection will be worn as warranted in accordance with 29 CFR 126.1101 and 29 CFR 1910.134.

2. Respirators must be approved by MSHA and the National Institute for Occupational Safety and Health (NIOSH).

3. Additional Personal Protective Equipment to include but not limited to hand, face, foot and eye protection will be provided and employed by the Contractor as required by OSHA.

7.0 Disposal

1. Waste containers used to hold and/or transport asbestos waste will be properly labeled in accordance with OSHA 29 CFR 1926.1101, EPA 40 CFR 61.152 and DOT Regulations.

2. Waste containers will be sealed and locked at all times waste is not being loaded or unloaded. The waste container will be enclosed and lined with (2) layers of 6-mil polyethylene sheeting on all interior surfaces.

3. Waste will be transported and disposed in a manner that will not permit the release of asbestos fibers into the air.

4. Waste will be transported by the Contractor to the appropriate SCDHEC permitted landfill.

5. The Contractor will obtain trip tickets from the landfill to document disposal of all asbestos waste. Trip tickets will be signed by the landfill operator and contractor will submit copies to SCDHEC upon completion of the project.

6. A chain-of-custody form will be used and include the names of the building owner, contractor and disposal site, the estimated quantity of asbestos waste, and the type and number of containers used. Each time the material changes custody, the form will be signed by the persons exchanging custody.

8.0 Interface of Trades

No other contractors or personnel will enter the control area during asbestos abatement activities.

9.0 Air Monitoring

1. Air sampling is not required by SCDHEC for outdoor removal activities. However due to the presence of nearby residences, it is recommended that perimeter air monitoring be performed by a SCDHEC licensed Air Sampler during debris removal activities where ACMs and contaminated debris are present to document airborne asbestos concentrations during these activities.

2. Air Personal sampling will be performed in accordance with OSHA 29 CFR 1926.1101 and is the responsibility of the Contractor.

Attachment: 2019 Asbestos Survey Report

Attachment

Asbestos-Containing Materials Survey

Former Great Falls Republic Mill #1

May 28, 2019

Cardno®

Contact Information

Cardno
1812 Lincoln Street
Suite 301
Columbia, SC, 29201, USA

Telephone: 803.929.6060
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Author(s)	Peter Whitehouse Geologist I SC Asbestos Inspector #BI-01796
Approved By	Conrad Peters Environmental Scientist II SC Asbestos Inspector #BI-01810

Document Information

Prepared for

Catawba Regional Council of Governments (CRCOG)
212 Hampton Street
Rock Hill, SC 29730

Project Name	Asbestos-Containing Materials Survey Former Great Falls Republic Mill #1
File Reference	Republic_Mill_ACM_Survey
Job Reference	PB00268000
Date	May 2019
Version Number	1.1
Effective Date	May 15, 2019
Date Approved	May 28, 2019

Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
1.0	05/15/2019	Draft	Peter Whitehouse	Conrad Peters
1.1	05/28/2019	Final	Peter Whitehouse	Gail Jeter

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Appendices

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1 Purpose and Scope of Services

Cardno, Inc. (Cardno) has completed an Asbestos-Containing Materials Survey at the Former Great Falls Republic Mill #1 site to observe the remaining building debris and note and/or sample potential asbestos-containing material (ACM) on the subject property. The identification of ACM and presumed ACM ultimately may make it possible to separate the waste into general construction debris and ACM waste for disposal purposes. Cardno provided the services as outlined below for conducting a representative asbestos survey of identified building materials at the site:

1. Review of existing asbestos reports for any previous building areas, if provided.
2. Survey the specified area to identify homogeneous areas (HAs).
3. Identify accessible suspect ACM following AHERA requirements (which also meets the sampling requirements found in 29 CFR 1926.1101), the National Emission Standards for Hazardous Air Pollutants (NESHAP), and SC R.61-86.1.
4. Collect and analyze bulk samples of suspect friable and non-friable materials to evaluate potential asbestos content.
5. Quantify and qualify ACM, including material condition, location, and potential for disturbance.

2 Assumptions and Limitations

The results, findings, conclusions, and recommendations expressed in the report are based only on conditions that were noted during Cardno's assessment of the Former Great Falls Republic Mill #1 site, located on South Dearborn Street in Great Falls, South Carolina, on April 11, 2019.

The selection of sample locations and frequency of sampling was based on Cardno's observations, the assumption that similar materials in the same area are homogeneous, and applicable regulations. Additional ACM may exist in concealed areas not surveyed or identified.

3 General Site Conditions

The site was previously used as a textile mill, and was destroyed by fire in the early 2000s. Since then, the site has been vacant and abandoned, and the former structures have been demolished with building debris left in place. The survey area was limited to visible materials on the ground. The site is lightly vegetated with approximately 10,000 cubic

yards of building debris present in several distinct piles[1]. An aerial layout of the site is included as **Figure 1**, and approximate debris pile extents are shown in **Figure 2**.

4 Previous Reporting

CTC Public Benefit Corporation (CTC) completed a Phase I Environmental Site Assessment (ESA) at the subject property in October 2011. During the course of the Phase I ESA, it was determined that based on the age of the former structures at the site, it is likely that building debris contained ACM. No other previous reporting was provided to Cardno personnel in connection with potential ACM at the site.

5 Asbestos-Containing Material Survey

On April 11, 2019, Mr. Peter Whitehouse (SC Building Inspector # BI-01796) and Mr. Conrad Peters (SC Building Inspector # BI-01810) of Cardno conducted an Asbestos-Containing Materials survey at the Former Great Falls Republic Mill #1, located along South Dearborn St. in Great Falls, SC, to assess the potential presence of ACM in debris piles remaining at the site after a fire destroyed the former main mill structure in the early 2000s. The area was observed to be covered in general construction debris, such as concrete, and wood.

5.1 Homogeneous Areas (HAs)

Prior to collecting samples, HAs were identified to develop a sampling strategy. A homogeneous area can be described as one or more areas of material that are similar in appearance and texture and that have the same known or apparent installation date and function. The number of samples collected from each homogeneous sampling area may vary, based on the type of material and professional judgment.

5.2 Hazard Assessment

A physical assessment was performed for each suspect homogeneous areas, a physical assessment was performed for each material on the list. A physical assessment includes evaluating the condition, assessing the potential for disturbance, and determining the friability of each material (i.e. the potential for a material to be crumbled or reduced to powder by hand pressure when dry). Each material on the list was further classified into one of three categories:

[1] Estimation made with drawn debris pile areas (**Figure 2**), assuming conical volume with an average height of 10 feet.

1. Surfacing Materials: Spray-applied or troweled surfaces such as joint compound, plaster ceilings and walls, fireproofing, textured paints, textured plasters, and spray-applied acoustical surfaces.
2. Thermal System Insulation: Insulation used to inhibit heat gain or loss on pipes, boilers, tanks, ducts, and various other building components.
3. Miscellaneous Materials: Friable and non-friable products and materials that do not fit in any of the above two categories such as resilient floor covering, baseboards, mastics, adhesives, roofing material, caulking, glazing, and siding. This category also contains wallboard and ceiling tile.

Potential ACM were then assessed by their condition as good (intact), fair (damaged) or poor (significantly damaged) per Title 40 Code of Federal Regulations Part 763.

5.3 Sampling Strategy

The asbestos survey was conducted in general accordance with the AHERA requirements (which also meets the sampling requirements found in 29 CFR 1926.1101), the National Emission Standards for Hazardous Air Pollutants (NESHAP), and SC R.61-86.1.

Cardno personnel visually assessed the site for the presence of building materials that are suspected to contain asbestos. Bulk samples of identified suspect ACM were collected by South Carolina licensed asbestos building inspectors (Mr. Peter Whitehouse, # BI-01796 & Mr. Conrad Peters # BI-01810) and placed into individual containers for transport to EMSL, a National Voluntary Laboratory Accreditation Program (NVLAP)/American Industrial Hygiene Association (AIHA)-accredited laboratory, for analysis. Copies of applicable accreditation forms are included in **Appendix A**. Materials visibly identified as non-asbestos (e.g. rubber, wood, vinyl wall panels, foam rubber, etc.) were not sampled. The asbestos survey consisted of three basic procedures:

1. Conducting visual observations of the debris piles;
2. Identifying homogeneous areas (HAs) of suspect surfacing, thermal system insulation, and miscellaneous materials; and
3. Sampling accessible, friable and non-friable suspect ACM.

Collection of bulk asbestos samples involves physically removing a small piece of material and placing it in a marked, airtight container. Sample containers are marked with a unique identification number, which is recorded in the field notes.

5.4 Sampling Activities

On April 11, 2019, Cardno personnel conducted an Asbestos-Containing Materials survey at the Former Great Falls Republic Mill #1. During the course of the site assessment activities, 28 individual bulk samples were collected from across the site. Sample descriptions, locations, and approximate material amounts are included in tabular format as **Table 1**. A sample location map is included as **Figure 3**.

5.5 Sampling Limitations

During the survey, Cardno identified potential ACM in building materials remaining at the site. Though the investigation was conducted to give a representative report of site

conditions, it is possible that additional ACM may be present at the site in inaccessible or concealed spaces, or areas below visible debris. These spaces include, but are not limited to, pipe chases, spaces between wall/ceiling/door/floor cavities, interior of mechanical components such as boiler cavities, interior ducts, beneath foundation pads, etc. If future demolition activities render these areas exposed, Cardno recommends further assessment of these spaces be conducted at that time to identify and confirm the presence or absence of additional ACM. Prior to additional sampling, all such unidentified materials should be treated as Presumed ACM (PACM) in accordance with 29 CFR 1926.1101 and 1910.1001.

6 Results

Bulk samples were analyzed by the EMSL laboratory located in Charlotte, North Carolina using polarized light microscopy (PLM) according to EPA Method 600/M4-82-020. Additionally, per South Carolina Regulation 61-86.1, one of every three non-friable organically bound (NOB) samples were analyzed per homogeneous area via Transmission Electron Microscopy (TEM). EMSL participates in the NVLAP, a quality assurance program for PLM, and is accredited by the National Institute of Standards and Technology (NIST). If multiple components were present within a sample matrix (i.e. floor tile and mastic), each of the components were separated and analyzed individually. Of the 28 bulk samples, a total of 52 individual components were analyzed by EMSL. A summary of the analytical results are included in the EMSL Analytical report as **Appendix B** and are presented in tabular format as **Table 1**.

The following materials were identified as ACM:

- The fibrous layer within built-up roofing material along the northern end of the main mill foundation and in the area of the remaining tower
    - 8% Chrysotile, friable
- White putty/caulking material along the western end of the main mill foundation
    - 60% Chrysotile, NOB
- Black caulking/sealant around piping & building foundation joints
    - 6% Chrysotile, NOB
- Vinyl floor tile and mastic in the former office area
    - 4% - 10% asbestos, NOB

A photographic log of materials identified as containing >1% asbestos by volume is included as **Appendix C**. No other tested materials contained >1% asbestos.

7 Conclusions and Recommendations

General construction debris (e.g., concrete, roofing material, wood) were present in debris piles on the site. These materials were visually assessed to identify potential ACM materials. 28 suspect materials were collected via bulk sample and analyzed for percent asbestos by volume via PLM and/or TEM by EMSL Analytical, Inc., per applicable

regulations. The following materials contained >1% asbestos by volume, and are considered to be ACM:

- Built-up roofing material along the northern end of the main mill foundation and in the area of the remaining tower
    - 8% Chrysotile
- White putty/caulking material along the western end of the main mill foundation
    - 60% Chrysotile, NOB
- Black caulking/sealant around piping & building foundation joints
    - 6% Chrysotile, NOB
- Vinyl floor tile and mastic in the former office area
    - 4% - 10% asbestos, NOB

As shown in **Appendix B**, the fibrous layer within built-up roofing material was always determined to be ACM. Since a fibrous layer is still present within much of the roofing material in the debris piles, and is bound to the rest of the matrix, all roofing material across the site should be considered ACM.

It may be possible for the general debris at the site to be screened by a South Carolina Asbestos Building Inspector during demolition and clean-up activities. Removal of non-ACM debris is possible in certain areas and there is the possibility of separating ACM from non-ACM debris.

There is also the possibility for additional suspect ACM to be present. Any suspect ACM should not be disturbed, and treated as ACM, unless analytical testing proves otherwise. An asbestos project design addressing both general construction debris and ACM debris should be developed by an accredited project designer before work begins. Considerations of the worker training, air monitoring, and a review of disposal facilities should be included in the asbestos project design as well. The South Carolina Department of Health and Environmental Control (SCDHEC) should be consulted about any future disposal plans, necessary permits, and proposed methods.

Contractors and employees working at the site should be made aware of the possibility that concealed ACM may be found during demolition and debris removal and appropriate actions taken (employee training, personal protective equipment, etc.). They should be advised not to disturb known or suspect ACM without owner approval. Any concealed building materials discovered during demolition and disposal activities, which are suspected to contain asbestos, should be sampled and analyzed to confirm the presence of asbestos prior to disturbing. During demolition and excavation, if a material that is a suspect ACM material is observed, the material should be sampled and analyzed to confirm asbestos prior to disturbing.

References

1. 40 Code of Federal Regulations (CFR) Part 763, Subpart E.
2. 40 CFR Part 61, Subpart M – National Emission Standard for Asbestos (NESHAP).
3. CTC Public Benefit Corporation. Former Republic Mill #1 Phase I Environmental Site Assessment. 2011. October.
4. South Carolina Department of Health and Environmental Control, Bureau of Air Quality. 2008. Regulation 61-86.1: Standards of Performance for Asbestos Projects. SC R61-86.1. June.
5. U. S. Department of Labor, Occupational Safety and Health Administration (OSHA). 1986. Asbestos Hazard Emergency Response Act (AHERA) 15 U.S.C. §2651. March.

Former Great Falls
Republic Mill #1

TABLES

Asbestos Inspection Field Sheet

Site Name: Republic Mill #1		**Building No.**: N/A (debris piles)	**Date**: 04/11/2019		**Inspector**: Peter Whitehouse	
Sample #	**Sample Description**	**Locations**	**Condition/Friable?**	**Approximate Amount**	**Asbestos Contents**	**Comments**
RM-01	Built-up roofing	Northern debris pile	Damaged/No	Widespread - all piles	8% Chrysotile (fibrous layer)	When analyzed, fibrous layer always ACM
RM-02	Built-up roofing	Northern debris pile	Damaged/No	Widespread - all piles	Positive stop (fibrous layer)	
RM-03	Putty/flashing, gray	Northern debris pile	Damaged/No	Northernmost piles	60% Chrysotile	
RM-04	Insulation, yellow	Northern debris pile	Damaged/Yes	Widespread - all piles	ND	
RM-05	Reinforced board, silver	Western founation spine	Damaged/No		ND	
RM-06	Built-up roofing	Western founation spine	Damaged/No	Widespread - all piles	ND	
RM-07	Built-up roofing	Western founation spine	Damaged/No	Widespread - all piles	ND	
RM-08	Built-up roofing	Western founation spine	Damaged/No	Widespread - all piles	ND	
RM-09	Foam glass	Western founation spine	Damaged/Yes	Widespread - all piles	ND	
RM-10	Fibrous tubing	Western founation spine	Damaged/No		ND	
RM-11	Foam glass caulking	Western founation spine	Damaged/No		6% Chrysotile	Seen on multiple piping intake joints
RM-12	Rolled flooring, red	Western founation spine	Damaged/No		ND	Overlaying concrete foundation
RM-13	12"x12" FT w/ mastic, wt.	Former office (SE)	Damaged/No	100 sf	4% Chrysotile (mastic only)	12"x12" atop 9"x9" & additional layer
RM-14	9"x9" FT w/ mastic, brown	Former office (SE)	Damaged/No	100 sf	4-10% Chrysotile (all layers)	12"x12" atop 9"x9" & additional layer
RM-15	3 layers FT	Former office (SE)	Damaged/No	100 sf	Positive stop (all layers)	12"x12" atop 9"x9" & additional layer
RM-16	Built-up roofing	Western founation spine	Damaged/No	Widespread - all piles	ND	
RM-17	Reinforced cloth	Western founation spine	Damaged/No		ND	
RM-18	Insulation, yellow	Central piles	Damaged/Yes	Widespread - all piles	ND	
Notes: FT: floor tile; sf: square feet; wt.: white; ND: non-detect						

Asbestos Inspection Field Sheet

Site Name: Republic Mill #1		**Building No.**: N/A (debris piles)	**Date**: 04/11/2019		**Inspector**: Peter Whitehouse	
Sample #	**Sample Description**	**Locations**	**Condition/Friable?**	**Approximate Amount**	**Asbestos Contents**	**Comments**
RM-19	Insulation w/ metallic back	SW piles	Damaged/Yes	Widespread - all piles	ND	
RM-20	Reinforced cloth	SW piles	Damaged/No		ND	
RM-21	Built-up roofing	South central piles	Damaged/No	Widespread - all piles	ND	
RM-22	Bolted-down cloth	South central piles	Damaged/No		ND	
RM-23	Built-up roofing	SE piles	Damaged/No	Widespread - all piles	ND	
RM-24	Built-up roofing	SE piles	Damaged/No	Widespread - all piles	ND	
RM-25	Built-up roofing	Eastern spine piles	Damaged/No	Widespread - all piles	ND	
RM-26	Built-up roofing	Eastern spine piles	Damaged/No	Widespread - all piles	ND	
RM-27	Built-up roofing	Eastern spine piles	Damaged/No	Widespread - all piles	Positive stop (fibrous layer)	
RM-28	Built-up roofing	Eastern pile	Damaged/No	Widespread - all piles	ND	

Notes: FT: floor tile; sf: square feet; wt.: white; ND: non-detect; w/: with

Former Great Falls
Republic Mill #1

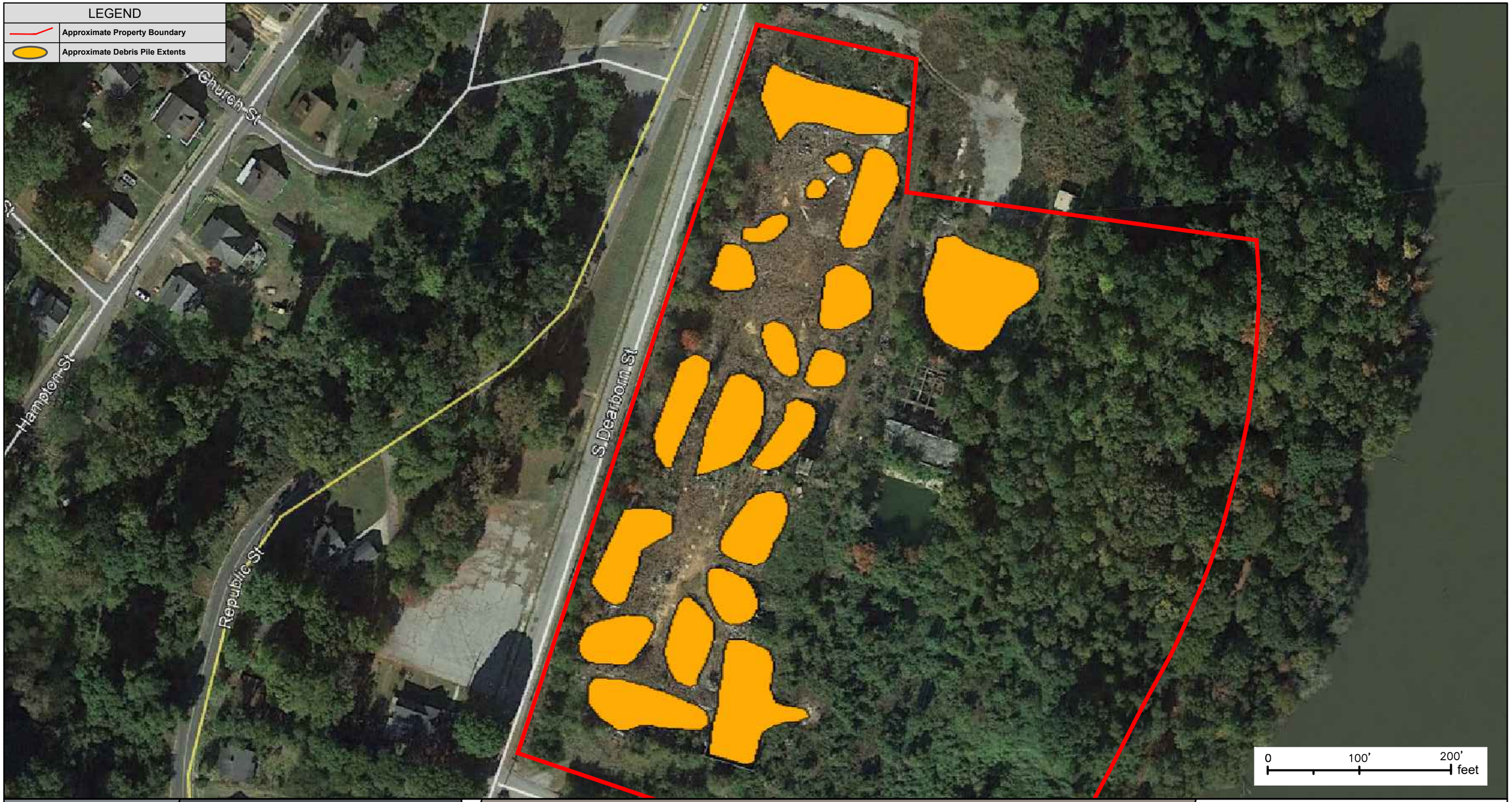
FIGURES

Notes: Imagery from Google Earth
Tax Map boundary from Beacon

FIGURE 1: AERIAL SITE LAYOUT

Former Great Falls Republic Mill #1
Great Falls, SC

Cardno
1812 Lincoln St., Suite 301
Columbia, SC 29201
803-929-6060



Notes: Imagery from Google Earth

FIGURE 2: APPROXIMATE DEBRIS PILE EXTENTS

Former Great Falls Republic Mill #1
Great Falls, SC

Cardno
1812 Lincoln St., Suite 301
Columbia, SC 29201
803-929-6060

LEGEND	
	Approximate Property Boundary
	Approximate Bulk Sample Location
RM-XX	Sample Contains <1% Asbestos
RM-XX	Sample Contains >1% Asbestos (ACM)

2018

Church St

Hampton St

Republic St

RM-01
RM-02
RM-04
RM-03
RM-05
RM-07
RM-06
RM-28
RM-27
RM-08
RM-09
RM-10
RM-16
RM-26
RM-11
RM-12
RM-18
RM-13 - 15
RM-17
RM-25
RM-19
RM-21
RM-20
RM-24
RM-22
RM-23

0 100' 200' feet

N

Notes: Imagery from Google Earth

FIGURE 3: SAMPLE LOCATION MAP

Former Great Falls Republic Mill #1
Great Falls, SC

Cardno
1812 Lincoln St., Suite 301
Columbia, SC 29201
803–929–6060

Former Great Falls
Republic Mill #1

APPENDIX A

RECORDS OF ACCREDITATION

SCDHEC ISSUED

Asbestos ID Card

Peter Whitehouse

CONSULTBI **BI-01796**

Expiration Date:
02/21/20

SCDHEC ISSUED

Asbestos ID Card

Conrad L Peters

CONSULTBI **BI-01810**

Expiration Date:
12/06/19

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

EMSL Analytical, Inc.

10801 Southern Loops Blvd., Pineville, NC 28134

Laboratory ID: 192283

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	**INDUSTRIAL HYGIENE**	Accreditation Expires: September 01, 2020
✓	**ENVIRONMENTAL LEAD**	Accreditation Expires: September 01, 2020
✓	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: September 01, 2020
☐	**FOOD**	Accreditation Expires:
☐	**UNIQUE SCOPES**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Beth Bair

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Cheryl O. Morton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 16: 03/21/2018

Date Issued: 08/31/2018

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

EMSL Analytical, Inc.
10801 Southern Loops Blvd., Pineville, NC 28134

Laboratory ID: **192283**
Issue Date: 08/31/2018

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 10/01/2014

IHLAP Scope Category	**Field of Testing (FoT)** (FoTs cover all relevant IH matrices)	**Technology sub-type/ Detector**	**Published Reference Method/Title of In-house Method**	**Method Description or Analyte** *(for internal methods only)*
Chromatography Core	Gas Chromatography	GC/FID	NIOSH 1003 Modified	
			NIOSH 1500 Modified	
			NIOSH 1501 Modified	
	GC/MS		EPA TO-15	
	Ion Chromatography (IC)		NIOSH 7903	
			OSHA ID-165SG	
	Liquid Chromatography	HPLC/UV	NIOSH 2016 Modified	
Spectrometry Core	Atomic Absorption	CVAA	NIOSH 6009 Modified	
		FAA	NIOSH 7082	
	Inductively-Coupled Plasma	ICP/AES	NIOSH 7300 Modified	
			NIOSH 7303	
	Infrared		NIOSH 7602	
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	
Miscellaneous Core	Gravimetric		NIOSH 0500	
			NIOSH 0600	
			NIOSH 5000	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200841-0

EMSL Analytical, Inc.

Pineville, NC

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2018-07-01 through 2019-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

EMSL Analytical, Inc.
10801 Southern Loop Blvd.
Pineville, NC 28134
Mr. Lee Plumley
Phone: 704-525-2205 Fax: 704-525-2382
Email: lplumley@emsl.com
http://www.emsl.com

ASBESTOS FIBER ANALYSIS — NVLAP LAB CODE 200841-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

Code	*Description*
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

For the National Voluntary Laboratory Accreditation Program

Former Great Falls
Republic Mill #1

APPENDIX B

EMSL ANALYTICAL REPORT

EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

http://www.EMSL.com / charlottelab@emsl.com

EMSL Order:	411903481
Customer ID:	CARN75
Customer PO:	
Project ID:	

Attention:	Peter Whitehouse.	**Phone:**	(803) 929-6060
	Cardno	**Fax:**	
	1812 Lincoln St	**Received Date:**	04/16/2019 12:00 PM
	Ste 301	**Analysis Date:**	04/19/2019 - 04/23/2019
	Columbia, SC 29201	**Collected Date:**	04/11/2019
Project:	Republic Mill #1		

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RM-01-Fibrous Layer *411903481-0001*	Debris Pile atop Foundation - Roofing Material, Black	Black Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile
RM-01-Tar *411903481-0001A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
RM-01-Cellulose Layer *411903481-0001B*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	15% Cellulose	5% Ca Carbonate 80% Non-fibrous (Other)	None Detected
RM-01-Insulation *411903481-0001C*	Debris Pile atop Foundation - Roofing Material, Black	Brown/White Fibrous Homogeneous	60% Cellulose	15% Perlite 25% Non-fibrous (Other)	None Detected
RM-02-Fibrous Layer *411903481-0002*	Debris Pile atop Foundation - Roofing Material, Black				Positive Stop (Not Analyzed)
RM-02-Tar *411903481-0002A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
RM-02-Cellulose Layer *411903481-0002B*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
RM-02-Insulation *411903481-0002C*	Debris Pile atop Foundation - Roofing Material, Black	Gray Non-Fibrous Homogeneous		15% Perlite 85% Non-fibrous (Other)	None Detected
RM-03 *411903481-0003*	Debris Pile atop Foundation - Putty Material	Gray/White Fibrous Homogeneous		40% Non-fibrous (Other)	60% Chrysotile
RM-04 *411903481-0004*	Debris Pile atop Foundation - Insulation (Yellow)	Tan Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
RM-05 *411903481-0005*	Debris Pile atop Foundation - Fibrous Metallic Material	White/Silver Fibrous Homogeneous	80% Glass	20% Non-fibrous (Other)	None Detected
RM-06-Cellulose Layer *411903481-0006*	Debris Pile atop Foundation - Roofing Material (Black)	Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
RM-06-Tar *411903481-0006A*	Debris Pile atop Foundation - Roofing Material (Black)	Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
RM-06-Insulation *411903481-0006B*	Debris Pile atop Foundation - Roofing Material (Black)	Brown Fibrous Homogeneous	50% Min. Wool	30% Ca Carbonate 20% Non-fibrous (Other)	None Detected
RM-07 *411903481-0007*	Debris Pile atop Foundation - Roofing Material (Black)	Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
RM-08 *411903481-0008*	Debris Pile atop Foundation - Roofing Material (Black)	Black Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected

Initial report from: 04/23/2019 11:13:12

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Project ID:

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RM-09 *411903481-0009*	Debris Pile atop Foundation - Foam Glass	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
RM-10 *411903481-0010*	Debris Pile on Western Building Spine - Fibrous Tubing	Brown/Black Fibrous Homogeneous	20% Fibrous (Other)	80% Non-fibrous (Other)	None Detected
RM-11 *411903481-0011*	Debris Pile atop Foundation - Foam Glass Caulking	Gray/Black Fibrous Homogeneous		5% Ca Carbonate 89% Non-fibrous (Other)	6% Chrysotile
RM-12 *411903481-0012*	Flooring on Foundation - Trowelled-On Flooring (Red)	Tan/Red Non-Fibrous Homogeneous		25% Quartz 20% Ca Carbonate 55% Non-fibrous (Other)	None Detected
RM-13-Floor Tile *411903481-0013*	Flooring on Foundation - 12"x12" Floor Tile (White) & Mastic	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
RM-13-Mastic *411903481-0013A*	Flooring on Foundation - 12"x12" Floor Tile (White) & Mastic	Black Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
RM-14-Top Mastic *411903481-0014*	Flooring on Foundation - 9"x9" Floor Tile (Brown) & Mastic	Black Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
RM-14-Floor Tile *411903481-0014A*	Flooring on Foundation - 9"x9" Floor Tile (Brown) & Mastic	Brown Non-Fibrous Homogeneous		20% Ca Carbonate 70% Non-fibrous (Other)	10% Chrysotile
RM-14-Bottom Mastic *411903481-0014B*	Flooring on Foundation - 9"x9" Floor Tile (Brown) & Mastic	Black Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
RM-15-Top Mastic *411903481-0015* *Sample bag labeled RM-14*	Flooring on Foundation - Rm-13 & Rm-14 Third Layer				Positive Stop (Not Analyzed)
RM-15-Floor Tile *411903481-0015A*	Flooring on Foundation - Rm-13 & Rm-14 Third Layer				Positive Stop (Not Analyzed)
RM-15-Bottom Mastic *411903481-0015B*	Flooring on Foundation - Rm-13 & Rm-14 Third Layer				Positive Stop (Not Analyzed)
RM-16-Tar *411903481-0016*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
RM-16-Cellulose Layer *411903481-0016A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
RM-17 *411903481-0017*	Debris Pile atop Foundation - Reinforced Cloth	Gray Non-Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
RM-18 *411903481-0018*	Debris Pile atop Foundation - Insulation (Yellow)	Brown/Tan Fibrous Homogeneous	98% Min. Wool	2% Non-fibrous (Other)	None Detected

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EMSL Order: 411903481
Customer ID: CARN75
Customer PO:
Project ID:

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
RM-19-Mastic *411903481-0019*	Debris Pile atop Foundation - Insulation w/ Metallic Backing	Black/Silver Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
RM-19-Insulation *411903481-0019A*	Debris Pile atop Foundation - Insulation w/ Metallic Backing	Brown Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
RM-20 *411903481-0020*	Debris Pile atop Foundation - Reinforced Cloth	Brown/Tan Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
RM-21 *411903481-0021*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	20% Cellulose	2% Ca Carbonate 78% Non-fibrous (Other)	None Detected
RM-22-White Layer *411903481-0022*	Debris Pile atop Foundation - Bolted Cloth & Line	White Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
RM-22-Brown Layer *411903481-0022A*	Debris Pile atop Foundation - Bolted Cloth & Line	Brown Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
RM-23-Tar *411903481-0023*	Debris Pile atop Foundation - Roofing Material, Black	Black Fibrous Homogeneous	4% Cellulose	2% Quartz 94% Non-fibrous (Other)	None Detected
RM-23-Cellulose Layer *411903481-0023A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
RM-24-Tar *411903481-0024*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
RM-24-Cellulose Layer *411903481-0024A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
RM-25-Tar *411903481-0025*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
RM-25-Cellulose Layer *411903481-0025A*	Debris Pile atop Foundation - Roofing Material, Black	Black Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
RM-26-Tar *411903481-0026*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
RM-26-Cellulose Layer *411903481-0026A*	Debris Pile atop Foundation - Roofing Material, Black	Brown/Black Fibrous Homogeneous	30% Cellulose	5% Quartz 8% Ca Carbonate 57% Non-fibrous (Other)	None Detected
RM-27-Fibrous Layer *411903481-0027*	Debris Pile atop Foundation - Roofing Material, Black				Positive Stop (Not Analyzed)
RM-27-Tar *411903481-0027A*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
RM-27-Cellulose Layer *411903481-0027B*	Debris Pile atop Foundation - Roofing Material, Black	Black Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
RM-27-Insulation *411903481-0027C*	Debris Pile atop Foundation - Roofing Material, Black	Brown Fibrous Homogeneous	3% Cellulose 60% Min. Wool	37% Non-fibrous (Other)	None Detected

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EMSL Order:	411903481
Customer ID:	CARN75
Customer PO:	
Project ID:	

Analyst(s)

Katherine Sluder (4)
Lacy Searcy (12)
Matthew McDonald (6)
Sarah Breneman (23)

Lee Plumley, Laboratory Manager
or Other Approved Signatory

Initial report from: 04/23/2019 11:13:12

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EMSL Order: 411903481
Customer ID: CARN75
Customer PO:
Project ID:

Attention: Peter Whitehouse.
Cardno
1812 Lincoln St
Ste 301
Columbia, SC 29201
Project: Republic Mill #1

Phone: (803) 929-6060
Fax:
Received Date: 04/16/2019 12:00 PM
Analysis Date: 04/25/2019
Collected Date: 04/11/2019

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
RM-28-Tar *411903481-0028*	Debris Pile atop Foundation - Roofing Material, Black	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
RM-28-Cellulose Layer *411903481-0029*	Debris Pile atop Foundation - Roofing Material, Black	Black Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Aaron Hartley (2)

Lee Plumley, Laboratory Manager
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Pineville, NC

Initial report from: 04/25/2019 11:01:38

OrderID: 411903481

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (*Lab Use Only*): 411903481

EMSL Analytical, Inc.
10801 Southern Loop Blvd

Pineville, NC 28134
PHONE: (704) 525-2205
FAX: (704) 525-2382

Company : Cardno	**EMSL-Bill to:** ☐ Same ☑ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 1812 Lincoln St. Suite 301	
City: Columbia **State/Province:** SC	**Zip/Postal Code:** 29201 **Country:** US
Report To (Name): Peter Whitehouse	**Telephone #:** 8039296060
Email Address: peter.whitehouse@cardno.com	**Fax #:** **Purchase Order:**
Project Name/Number: Republic Mill #1	**Please Provide Results:** ☐ Fax ☑ Email ☐ Mail
U.S. State Samples Taken: SC	**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt

Turnaround Time (TAT) Options* – Please Check

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

**For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PLM - Bulk (reporting limit)	TEM – Bulk
☑ PLM EPA 600/R-93/116 (<1%)	☐ TEM EPA NOB – EPA 600/R-93/116 Section 2.5.5.1
☐ PLM EPA NOB (<1%)	☐ NY ELAP Method 198.4 (TEM)
Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ Chatfield Protocol (semi-quantitative)
Point Count w/Gravimetric ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM % by Mass – EPA 600/R-93/116 Section 2.5.5.2
☐ NIOSH 9002 (<1%)	☐ TEM Qualitative via Filtration Prep Technique
☐ NY ELAP Method 198.1 (friable in NY)	☐ TEM Qualitative via Drop Mount Prep Technique
☐ NY ELAP Method 198.6 NOB (non-friable-NY)	**Other**
☐ OSHA ID-191 Modified	☑ If NOB, 2 PLM + 1 TEM, if PLM are non-detect
☐ Standard Addition Method	

☑ **Check For Positive Stop – Clearly Identify Homogenous Group** **Date Sampled:** 4/11/19

Samplers Name: Peter Whitehouse **Samplers Signature:** Peter A. Whitehouse

Sample #	HA #	Sample Location	Material Description
RM-01	1	debris pile atop foundation	roofing material, black
RM-02	1	"	"
RM-03	2	"	putty material
RM-04	3	"	insulation (yellow)
RM-05	4	"	fibrous metalic material
RM-06	1	"	roofing material (black)
RM-07	1	"	"
RM-08	1	"	"
RM-09	5	"	foam glass
RM-10	6	debris pile on western building spine	fibrous tubing

Client Sample # (s): RM-01 through RM-28 **Total # of Samples:** 28

Relinquished (Client): Peter Whitehouse **Date:** 4/11/19 **Time:** 17:00

Received (Lab): Kyle Nixon **Date:** 4/16/19 **Time:** 12pm UPS

Comments/Special Instructions:
BillTo: Cardno, 1812 Lincoln St., Suite 301, Columbia, SC, 29201, US
Attention: Peter Whitehouse Phone: 9105807901 Email: peter.whitehouse@cardno.com Purchase Order: stop positive per material layer

1Z 2E3 4A3 03 5234 4703

OrderID: 411903481

EMSL Analytical, Inc.
10801 Southern Loop Blvd

Pineville, NC 28134
PHONE: (704) 525-2205
FAX: (704) 525-2382

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(Lab Use Only)*: 411903481

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

Sample #	HA #	Sample Location	Material Description
RM-11	7	debris pile atop foundation	foam glass caulking
RM-12	8	flooring on foundation	trowelled-on flooring (red)
RM-13	9	"	12" x 12" floor tile (white) +mastic
RM-14	10	"	9" x 9" floor tile (brown) +mastic
RM-15	11	"	RM-13 + RM-14 + third layer +mastic
RM-16	1	debris pile atop foundation	roofing material, black
RM-17	12	"	reinforced cloth
RM-18	3	"	insulation (yellow)
RM-19	13	"	insulation w/ metallic backing
RM-20	12	"	reinforced cloth
RM-21	1	"	roofing material, black
RM-22	14	"	bolted cloth + line
RM-23	1	"	roofing material, black
RM-24	1	"	"
RM-25	1	"	"
RM-26	1	"	"
RM-27	1	"	"
RM-28	1	"	"

***Comments/Special Instructions:**
BillTo: Cardno, 1812 Lincoln St., Suite 301, Columbia, SC, 29201, US
Attention: Peter Whitehouse Phone: 9105807901 Email: peter.whitehouse@cardno.com Purchase Order:

Page 2 of 2 pages

Former Great Falls
Republic Mill #1

APPENDIX C

PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Site Location:
Former Great Falls Republic Mill #1
Dearborn St.., Great Falls, Chester County, South Carolina 29055

Project
PB00268000

Photo No.	Date:
1	04/11/2019

Direction Photo Taken:
SE

Description:
The fibrous layer of the black built up roofing found across the site was identified as ACM (8% chrysotile).

Photo No.	Date:
2	04/11/2019

Direction Photo Taken:
E

Description:
A white putty material along the northern spine of the main mill was found to be ACM (60% Chrysotile).

PHOTOGRAPHIC LOG

Site Location:
Former Great Falls Republic Mill #1
Dearborn St.., Great Falls, Chester County, South Carolina 29055

Project
PB00268000

Photo No.	**Date:**
3	**02/28/2019**

Direction Photo Taken:
N

Description:
A view of the former office area where 12” x 12” vinyl floor tile was present atop 9” x 9” vinyl floor tile. The 9” x 9” vinyl floor tile and all mastic were found to be ACM.

Photo No.	**Date:**
4	**04/11/2019**

Direction Photo Taken:
N

Description:
A black caulking material attaching foam glass to utility piping along foundational walls was found to be ACM.

Please Respect the Environment

About Cardno

Cardno is an ASX-200 professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage, and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

Cardno Zero Harm

Cardno ZERO HARM EVERY JOB. EVERY DAY.

At Cardno, our primary concern is to develop and maintain safe and healthy conditions for anyone involved at our project worksites. We require full compliance with our Health and Safety Policy Manual and established work procedures and expect the same protocol from our subcontractors. We are committed to achieving our Zero Harm goal by continually improving our safety systems, education, and vigilance at the workplace and in the field. Safety is a Cardno core value and through strong leadership and active employee participation, we seek to implement and reinforce these leading actions on every job, every day.

www.cardno.com

Cardno®

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Cardno Zero Harm

Cardno ZERO HARM EVERY JOB. EVERY DAY.

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