DECISION MEMORANDUM

DATE: February 20, 2018

FROM: Bill Schmithorst

TO: Brownfields Agreement File

RE: Ark-Les Laboratories
3400 Yonkers Road
Raleigh, Wake County
BF # 20088-16-092

Based on the following information, it has been determined that the above referenced site, whose intended use is for no uses other than office, retail, warehousing, parking, and commercial, can be made suitable for such uses.

Introduction:

The 5.68 acre property is developed with a vacant brick and concrete block building containing 68,109 square feet of floor space, which is divided into two tenant spaces. The building contained a showroom, office, hardware sales, and distribution storage warehouse spaces in the southern occupied portion, and office, storage, and former laboratory spaces in the northern vacant portion. The remainder of the subject property consists of asphalt-paved areas in the north, south, and west portions of the site, grassed areas in the northeast and southeast portions, and undeveloped wooded area in the west corner. An adjoining building to the south is occupied by a commercial wholesale florist and is a separate property that is not a party to this agreement.

Redevelopment Plans:
The property will be redeveloped for use as a corporate office and warehouse for an HVAC company. Land uses may include industrial, office, retail, parking, warehousing, and commercial. The property will not be used for residential purposes.

Site History:
The brownfields property was recently occupied by Hughes Kitchen and Bath Collection (showroom) and Hughes Supply (equipment sales) since 2005, before becoming vacant. The subject property is developed with one light industrial building, reportedly completed in 1965. Prior to 2005, the subject property was occupied by a light industrial manufacturer, Stackpole Components (later Ark-Les Electronic Laboratories) from the time of its development in 1965. Ark-Les Electronic Laboratories was a manufacturer of electronic resistors and switches. Prior to 1965 and back to at least 1949, the subject property existed as undeveloped land. No USTs were reported to have been used on the property.

The site is currently listed in Inactive Hazardous Sites Branch (ID NCN000402583) under Stackpole Components/Akr-Les Labs due to detections of TCE above groundwater NC 2L Standards. The site was initially listed under USEPA CERCLIS ID NCN000402583; however, the site is no longer listed as a CERCLIS site.

Potential Receptors:
Potential receptors are: construction workers, on-site workers, customers, vendors, and trespassers.

Contaminated Media:
DEQ has evaluated data collected from the following media at the subject property: soil, soil-gas, indoor air, and groundwater. DEQ relies on the following data to base its conclusions regarding the subject property and its suitability for its intended reuse.

Title	*Prepared by*	*Date of Report*
Limited Phase II Assessment Results - Metals Sampling Former Ark-Les Laboratories	The John R McAdams Company	August 31, 2017
2nd Round Vapor Intrusion Indoor Air Testing Report – Former Ark-Les Laboratories	The John R McAdams Company	August 8, 2017
Report of Findings, Vapor Intrusion Evaluation – 3400 Yonkers Road, Raleigh, NC	Highlands Environmental Solutions, Inc.	February 6, 2017
Vapor Indoor Air Testing Report, Former Ark-Les Laboratories – 3400 Yonkers Road, Raleigh, NC	The John R McAdams Company	January 11, 2017
Groundwater Quality Assessment Report	The EI Group, Inc.	November 2016
Phase I Environmental Site Assessment	The EI Group, Inc.	December 30, 2014
Limited Phase II Environmental Site Assessment	The EI Group, Inc.	December 30, 2014

Soil
A soil assessment was conducted in March 2013 and February 2014. During the two sampling events, 16 soil borings were advanced to the water table and continuously screened for volatiles and visible signs of contamination. No evidence of contamination was found, so one soil sample was collected from each soil boring. Soil sampling depths ranged from 1 ft. – 2 ft. to just above the water table based on the area of the site being assessed. Soil samples were analyzed for VOCs (USEPA 8260) and SVOCs (USEPA 8270). No compounds were detected above screening criteria. A limited soil assessment was conducted on August 1, 2017 to collect shallow soil samples for the analysis of RCRA metals. No metals were detected above non-residential screening criteria.

Groundwater

A groundwater assessment was conducted in February 2014. Seven groundwater monitoring wells were installed and sampled at the site. The latest groundwater sampling event occurred on October 24, 2016. Groundwater samples were submitted from each monitoring well for laboratory analysis of VOCs (USEPA Method 8260B) and SVOCs (USEPA Method 8270D). Groundwater contaminants detected above the NCAC 2L Standard include trichloroethene (Exhibit 2). As shown in the table below, the highest concentrations were above the calculated Hazard Index of 1. Additional groundwater samples were collected from three monitoring wells on August 1, 2017 for the analysis of RCRA metals. No metals were detected above NCAC 2L Standards.

Sub-Slab Soil Vapor
A sub-slab soil vapor assessment was conducted on November 29, 2016. Four sub-slab samples were collected beneath the slab of the building and submitted for laboratory analysis by USEPA Method TO-15. Contaminants detected above IHSB Non-residential Screening Levels included trichloroethylene (Exhibit 2). As shown in the table below, the highest concentrations were below the calculated Hazard Index of 1.

Soil Vapor
Four soil vapor samples were collected the area behind the building on November 29, 2016 and submitted for laboratory analysis by USEPA Method TO-15. Soil vapor contaminants detected were below IHSB Non-Residential Screening Levels. As shown in the table below, the highest concentrations were below the calculated Hazard Index of 1.

Indoor Soil Vapor
An indoor air vapor assessment was conducted on December 30, 2016. Seven indoor air samples were collected and submitted for laboratory analysis by USEPA Method TO-15. No indoor air soil vapor contaminants were detected above screening levels. As shown in the table below, the highest concentrations were below the calculated Hazard Index of 1. A second indoor air vapor assessment was conducted on May 19, 2017 and results were also below the calculated Hazard Index of 1.

Risk Calculations
Risk Calculations were performed using Excel worksheets provided by Sandy Mort, NCDEQ Brownfields Toxicologist. The risk calculations indicated the following based on available data, including the following media: groundwater and soil gas:

Summary of Risk Assessment Output				
PRIMARY CALCULATORS				
Receptor	**Pathway**	**Carcinogenic Risk**	**Hazard Index**	**Risk exceeded?**
Non-Residential Worker	Soil Combined Pathways	0.0E+00	0.0E+00	NO
	Groundwater Combined Pathways	7.9E-06	1.8E+00	YES
Construction Worker	Soil Combined Pathways	0.0E+00	0.0E+00	NO
VAPOR INTRUSION CALCULATORS				

Receptor	Pathway	Carcinogenic Risk	Hazard Index	Risk exceeded?
Non-Residential Worker	Groundwater to Indoor Air	3.2E-06	1.1E+00	YES
	Soil Gas to Indoor Air	1.8E-05	9.7E-01	NO
	Indoor Air	5.1E-05	2.5E-01	NO

The mediums affected include groundwater and soil gas. The groundwater and risk drivers are primarily related to TCE detected in groundwater. The highest concentration of TCE was detected in monitoring well MW-5 at 29 µg/L. No TCE was detected in soil and the source of TCE in groundwater is unknown.

Required Land Use Restrictions:
Based on the site-specific data provided to the Brownfield program, site reuse is suitable for industrial, office, retail, warehousing, parking and commercial as long as the agreed upon land use restrictions in the BFA are abided by.

1. No use other than for definitions for industrial, commercial, warehousing, office and parking.
2. No groundwater use
3. No disturbing soil without DEQ approval or for landscape/mowing/pruning/repair of underground infrastructure (written notice to DEQ)/work for EMP.
5. Soil Import/Export.
6. No new buildings until DEQ says indoor air is safe/no VI issues/VI protection installed.
8. EMP
9. Access to Brownfields Property for environmental assessment.
10. NBP reference in deed
11. No contaminants on property except for de minimis amounts, fluid in vehicles, fuels for generators/equipment
14. LURU submission January 1st

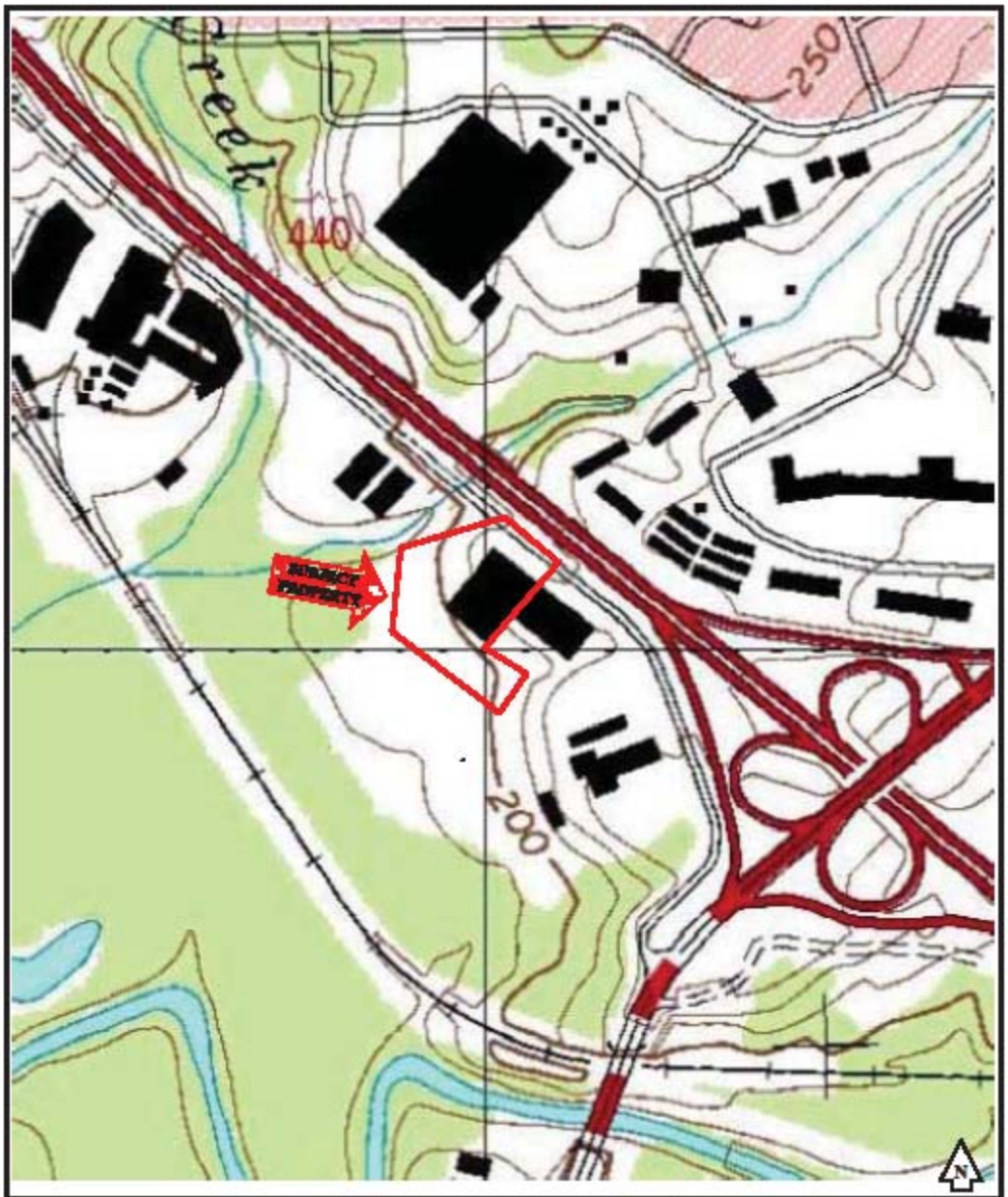

FIGURE NUMBER:	1
QUAD:	Raleigh East, NC
PROJECT NUMBER:	ENMO160157.00
ORIGINAL SCALE:	Not Available

SITE LOCATION MAP

3400 Yonkers Road-Kimshe
Raleigh, North Carolina

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