DECISION MEMORANDUM

DATE: May 30, 2018

FROM: Brad Atkinson

TO: BF Assessment File

RE: Block 42
500 North College Street
Charlotte, Mecklenburg County
BF # 21024-17-060

Based on the following information, it has been determined that the above referenced site, whose intended use is for no uses other than for retail, office, open space, recreation, high-density residential, hotel, restaurant, brewery or food production facility, storage units, parking, and, subject to DEQ's prior written approval, other commercial uses, can be made suitable for such uses.

Introduction:

This Agreement concerns 3.55 acres of property comprising an entire square block and is made up of parcels 08004210, 08004211, 08004212, 0800413, 0800414, and 0800415. Historical addresses for the Brownfields Property include 215, 217, 219, 221, 223, 225 and 229 East Eighth Street; 208, 210, 212, 214, 216, 218 and 228 East Ninth Street; 500, 502, 508, 510, 512, 514, and 516 North College Street. Current addresses associated with the parcels are: 500, 512, 514 and 516 North College Street; 212, 226 and 228 East Eighth Street; and 219 and 229 East Eighth Street. Parcel A (parcel ID# 08004213) has no address listed on the Mecklenburg County GIS.

The Brownfields Property is bordered to the northeast by East 9th Street, beyond which is land used for commercial purposes; to the northwest by North College Street, beyond which is property used for commercial purposes; to the southwest by East 8th Street, beyond which is property used for commercial purposes; and to the southeast by Charlotte Area Transit System Light Rail Line, beyond which is property used for commercial purposes.

Redevelopment Plans:

The Prospective Developers are LMC Block 42, LLC and LMV Block 42 Holdings, LP. Both companies are affiliated with Lennar Corporation based in Miami, Florida. Lennar Corporation has extensive real estate holding and developments across the United States.

The two buildings on-site were recently demolished to make way for the construction of one mid-rise building (8 floors), one high-rise building (33 floors), and one hotel for use as retail, office, open space, recreation, high-density residential, hotel, restaurant,

brewery or food production facility, storage units, parking, and, subject to DEQ's prior written approval, other commercial uses. A parking deck (8 floors), part of which will be subgrade and ventilated, will also be constructed on the Brownfields Property.

Site History:

The site was first developed as early as the 1880s as a lumber planing mill and wood product manufacturing company. That business was expanded into the 1910s. Residential properties were constructed on the site in the 1890s and into the 1910s to 1920s. A total of 14 residences were constructed at different locations across the site over time.

Sometime in the 1910s or 1920s, the planing mill and wood products manufacturing company as well as some homes were demolished and a rail spur and a warehouse were constructed on the southern portion of the site adjacent to the rail lines. Over the years, the warehouse was used by a paint and glass company, food broker, automotive supply company, electric appliance company, printing company, and a beer distributor for unknown purposes before its demolition sometime between 1996 and 2005. A 1950 Sanborn map shows a gasoline tank at the southern corner of the Brownfields Property adjacent to the food broker warehouse.

In the early 1950s, a new building was constructed on the eastern portion of the property and was used by restaurant equipment and ice machine supply companies and local government office space. That building was demolished in May, 2018.

Between 1951 and 1953, Southern Bearing and Parts, a metal bearings and parts manufacturer, constructed a facility on the western portion of the property that operated until the 1970s. That building was demolished in 2005 and paved with the existing parking lot.

In 1949, a residence on the northern portion of the site was demolished and a larger steel framed building was constructed in its place. The use or occupants of that building are not known. The building was later razed between 1968 and 1973. A separate building on an adjacent area of the northern portion of the site was constructed in the 1960s and its occupants included uniform companies, a lounge, a comedy club, food mart and artist cooperative. The building was demolished in May, 2018.

In 2003, an EPA Non-NPL CERCLA removal action for the Charlotte-Mecklenburg Emergency Management was recorded on the Brownfields Property located at 228 E. Ninth Street. A small quantity of potassium cyanide had been found at that business. EPA contacted Chemtron, Inc., a permitted treatment, storage and disposal company, to handle the material. Chemtron personnel packaged the material into a 5-gallon bucket and transported it to their facility in Ohio for incineration.

Potential Receptors:

Potential receptors are: construction workers, on-site workers, future residents, pets, visitors, hotel guests, restaurant patrons, and trespassers.

Contaminated Media:

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

Soil
Soil at the Brownfields Property contains volatile organic compounds (VOCs) with a maximum detected concentration of 1.1 mg/kg, all of which are below the residential Preliminary Soil Remediation Goals (PSRGs). Sources for the petroleum hydrocarbon VOCs are believed to be USTs or ASTs historically used to store heating oil, gasoline, and/or fuel oil at businesses and homes on the Brownfields Property. Semi-volatile organic compounds (SVOCs) are present at the eastern, northern and western portions of the site. Benzo(a)pyrene was detected at a maximum concentration of 0.33 mg/kg and was the only SVOC detected that exceeds the Residential PSRGs. The source of the SVOCs is not known. Metals are present in the soils at levels which are consistent with being naturally occurring. Hexavalent chromium was detected at a maximum concentration of 0.67 mg/kg and was the only metal that exceeded the residential PSRG.

Groundwater
Groundwater at the Brownfields Property contains few VOCs. Sources for the VOCs are believed to be USTs or ASTs used historically for the storage of heating oil, gasoline, and/or fuel oil for businesses and homes located on and adjacent to the Brownfields Property. Of greatest concern is TCE which was detected in groundwater in well TMW-3 at 510 µg/L and at TMW-4 at 59 µg/L. The depth to groundwater is approximately 12 – 16 feet below ground surface across the site. These onsite TCE detections in groundwater exceed both the NC 2L standard and the residential vapor intrusion screening levels (VISLs) for groundwater.

Surface Water
Surface water is not present on the site.

Soil Vapor
Soil vapor analysis was conducted to evaluate the potential for vapor intrusion from the onsite VOCs. TCE, which was detected in soil gas at SG-3 at 1,100 $\mu g/m^3$ and SG-4 at 220 $\mu g/m^3$ located on the western and southern portions of the site, was the only compound detected above the residential Vapor Intrusion Screening Level. Various hydrocarbon compounds are present in the soil gas, but the concentrations of those detections are all below residential Vapor Intrusion Screening Levels.

Sub-Slab Vapor
Sub-slab vapor samples were not collected because vapor mitigation systems will be incorporated into the buildings to be constructed across the site and the need for sub-slab sampling was not warranted.

Indoor Air
Indoor air was not sampled on the site because the two existing building will be razed.

Risk Calculations

Risk Calculations were performed using Excel worksheets provided by Sandy Mort, NCDEQ Brownfields Toxicologist. For the purposes of looking at the site spatially, the site was divided into two areas. Parcel A is planned for sale to a 3rd party and was evaluated as a stand-alone unit. Although the Parcel A did not screen high enough to warrant a vapor mitigation system, the PD has agreed to a vapor mitigation LUR for the entire Brownfields Property. However, should development of a building without a vapor mitigation system ever be proposed on Parcel A, additional assessment would be warranted to further delineate the boundary of the TCE contamination at TMW-4. The balance of the Property (Parcels B-F) were evaluated as another single unit and did screen high enough to warrant vapor mitigation.

Note: The risk calculations were completed using the September 2017 version before the February 2018 version was available. The EPA Risk Assessment web page which lists the compounds for which screening levels were changed shows that no compound present at the Brownfields Property had its screening level changed between these two time periods. Thus, the risk calculations did not need to be rerun using the updated February Risk Calculator.

The risk calculations indicated the following based on available data, including the following media: groundwater, soil, soil gas.

Summary of Risk Assessment Output **Output Form 1A**

Version Date: October 2017

Basis: June 2017 EPA RSL Table

Site ID: 21024-17-060

Exposure Unit ID: Block 42 - Parcel A

PRIMARY CALCULATORS

Receptor	Pathway	Carcinogenic Risk	Hazard Index	Risk exceeded?
Resident	Soil Combined Pathways	2.8E-06	1.6E-02	NO
	Groundwater Combined Pathways*	7.8E-07	4.0E-02	NO
Non-Residential Worker	Soil Combined Pathways	2.1E-06	4.6E-03	NO
	Groundwater Combined Pathways*	0.0E+00	0.0E+00	NO
Construction Worker	Soil Combined Pathways	0.0E+00	0.0E+00	NO
User Defined	Soil Combined Pathways	6.1E-06	3.5E-02	NO
	Surface Water Combined Pathways*	0.0E+00	0.0E+00	NO

VAPOR INTRUSION CALCULATORS

Receptor	Pathway	Carcinogenic Risk	Hazard Index	Risk exceeded?
Resident	Groundwater to Indoor Air	2.9E-09	4.8E-04	NO
	Soil Gas to Indoor Air	8.4E-06	1.5E-01	NO
	Indoor Air	0.0E+00	0.0E+00	NO
Non-Residential Worker	Groundwater to Indoor Air	2.4E-10	1.1E-04	NO
	Soil Gas to Indoor Air	6.4E-07	1.2E-02	NO
	Indoor Air	0.0E+00	0.0E+00	NO

CONTAMINANT MIGRATION CALCULATORS

Pathway	Source	Target POE Concentrations Exceeded?	
Protection of Groundwater Use	Source Soil	Exceedence of 2L at POE?	NM
	Source Groundwater	Exceedence of 2L at POE?	NM
Protection of Surface Water	Source Soil	Exceedence of 2B at POE?	NM
	Source Groundwater	Exceedence of 2B at POE?	NM

Notes:

1. If lead concentrations were entered in the exposure point concentration tables, see the individual calculator sheets for lead concentrations in comparison to screening levels. Note that lead is not included in cumulative risk calculations.

2. * = If concentrations in groundwater exceed the NC 2L Standards or IMAC, or concentrations in surface water exceed the NC 2B Standards, appropriate remediation and/or institutional control measures will be necessary to be eligible for a risk-based closure.

Summary of Risk Assessment Output				Output Form 1A
Version Date: October 2017				
Basis: June 2017 EPA RSL Table				
Site ID: 21024-17-060				
Exposure Unit ID: Block 42 - Parcels B-F				
PRIMARY CALCULATORS				
Receptor	**Pathway**	**Carcinogenic Risk**	**Hazard Index**	**Risk exceeded?**
Resident	Soil Combined Pathways	3.6E-06	2.1E-02	NO
	Groundwater Combined Pathways*	1.1E-03	1.8E+02	YES
Non-Residential Worker	Soil Combined Pathways	2.1E-06	1.7E-02	NO
	Groundwater Combined Pathways*	0.0E+00	0.0E+00	NO
Construction Worker	Soil Combined Pathways	0.0E+00	0.0E+00	NO
User Defined	Soil Combined Pathways	8.0E-06	1.3E-01	NO
	Surface Water Combined Pathways*	0.0E+00	0.0E+00	NO
VAPOR INTRUSION CALCULATORS				
Receptor	**Pathway**	**Carcinogenic Risk**	**Hazard Index**	**Risk exceeded?**
Resident	Groundwater to Indoor Air	4.3E-04	9.9E+01	YES
	Soil Gas to Indoor Air	8.4E-05	1.6E+01	YES
	Indoor Air	0.0E+00	0.0E+00	NO
Non-Residential Worker	Groundwater to Indoor Air	7.0E-05	2.3E+01	YES
	Soil Gas to Indoor Air	4.8E-06	1.3E+00	YES
	Indoor Air	0.0E+00	0.0E+00	NO
CONTAMINANT MIGRATION CALCULATORS				
Pathway	**Source**	**Target POE Concentrations Exceeded?**		
Protection of Groundwater Use	Source Soil	Exceedence of 2L at POE?		NM
	Source Groundwater	Exceedence of 2L at POE?		NM
Protection of Surface Water	Source Soil	Exceedence of 2B at POE?		NM
	Source Groundwater	Exceedence of 2B at POE?		NM
Notes:				
1. If lead concentrations were entered in the exposure point concentration tables, see the individual calculator sheets for lead concentrations in comparison to screening levels. Note that lead is not included in cumulative risk calculations.				
2. * = If concentrations in groundwater exceed the NC 2L Standards or IMAC, or concentrations in surface water exceed the NC 2B Standards, appropriate remediation and/or institutional control measures will be necessary to be eligible for a risk-based closure.				

<u>Required Land Use Restrictions:</u>

Land use restrictions will include the standard Environmental Management Plan, groundwater, soil disturbance, known contaminants, and vapor mitigation system LURs. Residential use will be limited to high density multi-family, and there will be prohibitions regarding commercial uses such as no drycleaners, no sensitive population use without DEQ approval.

Based on the site-specific data provided to the Brownfield program, the site reuse is suitable for the site as long as the agreed upon land use restrictions in the BFA are abided by.