BALTIMORE

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REHABILITATION OF CENTRAL AVENUE AND STORM DRAIN-PHASE II

PHASE I ENVIRONMENTAL SITE ASSESSMENT UPDATE

Whitman, Requardt & Associates, LLP

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EXECUTIVE SUMMARY

The City of Baltimore Department of Transportation (DOT) is planning to reconstruct Central Avenue (herein referenced as "project footprint") located in the City of Baltimore, Maryland. This Phase I Environmental Site Assessment (ESA) update has revealed evidence of recognized environmental concerns (RECs) in connection with the proposed construction activities at the project footprint.

Specifically, Whitman, Requardt, and Associates, LLP (WR&A) understands the reconstruction of Central Avenue to be a complete remodeling of Central Avenue from Lancaster Street to just north of Madison Street. The Central Avenue project's total length is over 6,000 feet, spanning from Monument Street to Lancaster Street. The reconstruction will be completed under two (2) phases. Phase I construction activities, between Baltimore Street to Madison Street, are currently underway. Phase II (herein referenced as "project footprint") will be from Lancaster Street to south of Baltimore Street, a length of approximately 3,300 feet. Construction will include grading, paving, installation of sidewalk and curb, underground utility replacement as needed, landscaping, as well as the rehabilitation of the Harford Run storm drain. The second phase of construction will include reconstruction of Central Avenue from Baltimore Street south to Lancaster Street. In addition, two (2) bridges located at the intersections of Aliceanna and Fleet Streets will be replaced under Phase 2. This Phase I Environmental Site Assessment report addresses RECs for the entire Central Avenue corridor considered by the two (2) phased reconstruction.

Currently, the project footprint consists of the remaining Phase II area of construction along Central Avenue from Lancaster Street to Baltimore Street. The project footprint is an urban environment with a mix of residential, light industrial, commercial, abandoned heavy industrial and vacant properties. Current land use consists of residential, automotive repair facilities, gas stations, schools, warehousing, suppliers, office space, recycling yards and other light industrial and commercial facilities. WR&A observed one approximate 500-gallon AST at Day's Auto & Repair Service facility located at 39 S. Central Avenue, multiple stacked 55-gallon drums within the S.H. Landsman & Son, Inc. bay door areas located at 227 S. Central Avenue, two fill ports associated with two underground storage tanks (USTs) at Central Service and Repair located at 1026 Eastern Avenue, and two fuel dispensers with two monitoring wells in close proximity to the H&S Bakery Distribution Center located at 603 S. Eden Street. In general, Central Avenue slopes to the south towards the Baltimore Inner Harbor and the vast majority of the project slopes to the southwest. Variations in the direction of groundwater flow can be expected throughout the project footprint based on soil conditions (fill) and potential fractures in the underlying bedrock.

Previous reports included both the Phase I and Phase II areas of construction. The 1998 Phase I Environmental Site Assessment (ESA) identified numerous environmental concerns within the project area. These include USTs, hazardous waste generating facilities and specific records from the Maryland Department of the Environment (MDE). Research to update the number of Oil Control Program Cases (OCPCASES) was performed for this Phase I ESA, and identified an additional 22 sites of concern within the project footprint. These cases were

investigated and are described in a table beginning on Page 15 entitled EDR IDENTIFIED REGULATORY SITES IN SURROUNDING REGION.

A Phase II ESA was completed in 1999 to investigate subsurface environmental contamination within the project area. The 1999 Phase II ESA identified one area of potential subsurface petroleum contamination in the Phase II construction area including soil and groundwater in the vicinity of 14 South Central Avenue.

A Final Phase II ESA Report was produced in 2003 included additional soil sampling and analysis, groundwater sampling and analysis and geographic conclusions predicting where contamination may be encountered during construction activities. The 2003 Final Phase II ESA Report concluded that construction activities from Lancaster Street to Bank Street below a depth of approximately three feet will likely encounter petroleum contaminated soil. This area falls within the Rehabilitation of Central Avenue Phase II project. Soil samples between these two streets also contained excessive levels of arsenic, lead and mercury and may limit disposal during excavation. Soil sampling conducted between Pratt Street and May Street indicated low petroleum concentrations with expected increases of Gasoline Range Organics (GRO) near Fayette Street, Lombard Street and Baltimore Street.

A 2008 Phase I ESA was prepared as an update to the previous 1998 Phase I ESA and identified numerous environmental concerns within the project area. These include USTs, hazardous waste generating facilities and specific records from the Maryland Department of the Environment (MDE). 21 additional sites of concern were identified and investigated to update the number of OCPCASES within the project footprint.

Historically, the project area has been utilized for industrial operations and previous environmental reports have documented elevated levels of petroleum contamination in the subsurface of the project area. Based on the information contained in this report including documented petroleum contamination and geotechnical investigations and findings, it is known that subsurface contamination exists throughout the project footprint. Furthermore, the history of industrial land use, OCPCASES, and the existence of USTs within the project footprint indicates the potential for more contamination. The City of Baltimore DOT contract will include contingent bid items to appropriately handle and/or dispose of contaminated materials if encountered. Considering the areas which are known to have subsurface contamination, guidelines for handling excavated soils within those areas will be required and communication with MDE for appropriate treatment is necessary.

INTRODUCTION

I. PROJECT DESCRIPTION

The City of Baltimore Department of Transportation (herein referenced as "the City") is planning to reconstruct Central Avenue between Lancaster Street and Madison Street, spanning over 6,000 feet in length in the City of Baltimore, Maryland. The reconstruction will consist of grading, paving, installation of sidewalk and curb, underground utility replacement as needed, landscaping, and the remedial design of the Harford Run storm drain, Aliceanna Street Bridge and Fleet Street Bridge. The reconstruction will be completed in two phases, Phase I and Phase II. Phase I construction activities have begun between Baltimore Street to Madison Street. Phase II (herein referenced as "project footprint") includes Lancaster Street to south of Baltimore Street, a length of approximately 3,300 feet. A *Site Location Map* is included in this report as *Figure 1*.

II. PURPOSE AND ASSUMPTIONS

Whitman, Requardt & Associates, LLP (WR&A) has prepared this Phase I Environmental Site Assessment (ESA) in general conformance with the scope and limitations of *ASTM Designation E1527-05: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, which has been determined to be consistent and compliant with the statutory criteria for all appropriate inquires (*40 CFR Part 312 Standards and Practices for All Appropriate Inquiries*). This Phase I ESA is an update to a previous Phase I ESA entitled *Rehabilitation of Central Avenue and Storm Drain Phase I Environmental Site Assessment* prepared by WR&A in 2008 and another Phase I entitled *Reconstruction of Central Avenue Phase I – Environmental Site Assessment*, prepared by Rummel, Klepper & Kahl, LLP (RK&K) in 1998. As stated above, the City is planning to continue the Phase II construction along Central Avenue from Lancaster Street to south of Baltimore Street. This Phase I ESA was performed using reasonably ascertainable information in order to identify recognized environmental conditions (RECs) on or around the project site.

III. LIMITATIONS

Information contained in this report is not intended to permit the City to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability. Rather, this information is intended to provide the City the necessary level of environmental due diligence to determine if contaminated environmental media or environmental impairments has the likelihood of being encountered during project construction. In addition, this information can be used to support regulatory coordination or management methods of contaminated media, if necessary.

Our conclusions regarding this site have been based on observations of existing conditions and our interpretation of site history and site usage data available at the time of report preparation. Therefore, conclusions reached regarding the conditions of this site do not represent a warranty, implied or expressed, that all areas within the project footprint are of a similar quality as may be inferred from observable site conditions and available site history.

Please be advised that as stated in the ASTM Standard, no environmental site assessment can wholly eliminate uncertainty regarding the potential for environmental liability in connection with the property. Our investigation and analysis is intended to reduce, but not eliminate, the potential for conditions that result in liability for the client.

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BACKGROUND INFORMATION

I. TOPOGRAPHY

The topographic information on the United States Geological Survey (USGS) Topographic Quadrangle Map (Baltimore East, MD) for the project site indicates that the ground surface elevation within the footprint of the project site ranges from approximately 20 feet above

Mean Sea Level (AMSL) on the northern portion of the project site to approximately mean sea level on the southern portion of the project site. In general, the project site slopes south towards the Baltimore Inner Harbor; however, variations in the direction of groundwater flow can be expected throughout the project footprint based on soil conditions (fill) and potential fractures in the underlying bedrock. A *Topographic Map* based on the USGS Topographic Quadrangle Map (Baltimore East, MD) is included in this report as *Figure 2*.

II. SOILS

According to the soils information provided by the United States Department of Agriculture, Natural Resource Conservation Service (NRCS), *Web Soil Survey for the City of Baltimore, Maryland (2012)*; all of the soils underlying the project site are classified as Urban lands (44UC). Urban lands (44UC) are made up of impervious surfaces and so altered by urban works and structures that soil identification is not possible. A *Soil Survey Map* showing the soils around the project site are shown in *Figure 3*.

III. GEOLOGY

According to the *Maryland Geologic Survey* (1981) the project site lies in the Western Shore Lowland Region of the Coastal Plain Province and contains sediments ranging in age from Triassic to Quaternary. The Western Shore Lowland Region within the Coastal Plain slopes gradually towards the Chesapeake Bay to the east. More specifically, the Coastal Plain is made up of sediments including gravel, sand, silt and clay which overlap rocks of the Piedmont Plateau at the Fall Zone, where it intercepts the Piedmont Plateau physiographic province. Coastal Plain rocks and sediments are typically classified as Lowland Deposits in the project area which extend between zero and 150 feet.

IV. PREVIOUS LAND USE

According to the previous Phase I ESAs completed by RK&K in 1998 and WR&A in 2008, *Sanborn® Fire Insurance Maps* from 1890, 1902, 1914, 1951, 1952, 1974 and 1976 were reviewed.

These maps provided historical land use within and around the project site from Pratt Street to East Baltimore Street. The maps dated 1890 and 1902 only included information about

properties west of Central Avenue, but the remaining maps covered the entire width of the project site within the designated streets. The 1890 Sanborn map indicates properties within the project footprint as consisting primarily of residential housing, several churches, a synagogue, a hospital, and a tin can factory. The 1902 map indicates the addition of United Railways and Electric Company along E. Pratt Street. The 1914 Sanborn map indicates the addition of Baltimore Lumber Company along Watson Street, Department of Street Cleaning along Granby Street/E. Pratt Street. In addition, properties east of Central Avenue include a contractor's storage yard, a coal yard, Joseph Goldman bottling works and other property types. The 1951 Sanborn map indicates the addition of meat/seafood packaging plants, automotive repair facilities, plastic manufacturing and experimental plants, a glass factory, R.H. Bozman and Bros. refrigerator manufacturing, a scrap iron yard, electrical repair facilities and other commercial properties. No significant land use changes were observed between the 1951 and 1952 maps. The 1976 Sanborn map indicated the addition of a public school along Central Avenue and an auto repair facility along Granby Street.

For this update, WR&A reviewed *Sanborn® Fire Insurance Maps* and historic aerial photos provided by EDR specifically within the Phase II project site. *Sanborn*® Maps dated 1890, 1902, 1914, 1951, 1952, 1967, 1971, 1974, 1979, and 1982 were reviewed. Historic aerial photos dated 1957, 1964, 1971, 1980, 1988, 1994, 2002, 2004, 2005, 2007, 2008, 2009, 2010 and 2011 were reviewed. The maps indicate that properties within the project site were a mix of commercial, industrial, and residential. In general, industrial land use increases in proximity to the harbor. Industrial land use is depicted within the project site on the 1890 *Sanborn*® map including several coal yards located along the west side of Central Avenue at Gough Street and Central Avenue and at E. Lombard Street and Central Avenue. Other industrial land uses include a malt house located west of Central Avenue at Fawn Street, an iron foundry located east of Central Avenue between Banks Street and Eastern Avenue. Additionally, the map depicts a railroad depot with an associated roundhouse and tracks leading to and from the property bordering the west side of Central Avenue between Canton Avenue and Alice Anna Street. Two large lumber yards are depicted to the south, between Alice Anna and Lancaster Street and north off Canton Street and Central Avenue. The 1890 map also depicts Harford Run located in the

center of Central Avenue from just south of Canton Street trending south towards the inner harbor.

The 1902 *Sanborn*® map indicates the project site has remained relatively unchanged from the 1890 map with the exception that Harford Run was labeled as "open sewage". The 1914 map depicts a few minor changes in land use including the malt house changing to a vinegar and yeast plant and a public school is depicted at the corner of Stiles Street and Central Avenue. The 1951 and 1952 maps depict the "Carrollton Pure Rye Distillery" occupying the property that was previously the vinegar and yeast plant. The former coal yard at Gough Street and Central Avenue is depicted as "Almeda Public School No. 2" and an associated playground area. Also, an iron scrap yard and coal yard are located north of Lombard Street, bordering Central Avenue to the east. The 1957 and 1964 aerial photos appear to support the site conditions indicated in 1952 map. The 1964 aerial photo only contains imagery from East Avenue south to Lancaster Street (omitting the northernmost blocks of the project site) with properties along Eastern Avenue appearing to be commercial and/or industrial. The 1967, 1969, 1971 and 1974 maps indicate that the lumber yard between E. Lomabard Street and E. Baltimore Street has been converted to an iron scrap yard and a few other businesses have changed names. The 1971 aerial photo appears to support land use depicted in the 1967, 1969, and 1971 maps. The 1979 and 1982 maps only show the areas immediately surrounding the inner harbor and indicate that it is relatively unchanged from the 1967, 1969, 1971 and 1974 maps. The 1980 aerial photo is not clear, but it appears the former railroad depot along Fleet Street has been razed. The other properties appear to support land use depicted in the 1979 and 1982 *Sanborn*® maps. The 1988 aerial photo indicates that the former railroad depot has been converted into a parking lot and it appears that Harford Run has been covered by roadway. The 1994 aerial photo depicts that the former railroad depot and part of the lumberyard on Lancaster Street are under development. The 2002, 2004, 2005 and 2007 aerial photos depict commercial buildings in the location of the former lumberyard and railroad depot. Additionally, the building located between Alice Anna Street and Lancaster Street, bordering Central Avenue to the east, has been razed and is under development. The 2008, 2009, 2010 and 2011 aerial photos depict that the lot between Alice Anna Street and Lancaster Street has been converted into a parking lot.

Historically, land use within the project footprint and in the surrounding area consisted of residential, light to heavy industrial (manufacturing plants, lumber and coal yards, automotive repair), and commercial properties with historical industrial land use increasing in proximity to the harbor.

V. REGULATORY CONTACTS AND INTERVIEWS

On July 25, 2012 WR&A contacted the Maryland Department of the Environment (MDE) and submitted an inquiry to review regulatory cases identified in the database search. On August 24, 2012 WR&A received files from MDE Waste Management Administration office. A summary of WR&A's file review is included in the "Regulatory Records Review" section of this report.

On July 27, 2012 WR&A submitted an inquiry to Ms. Linda McIver with the Bureau of Environmental Health. On August 21, 2012, Ms. McIver responded to WR&A's inquiry indicating that she would send a letter indicating whether or not they had information pertaining to the addresses listed. As of the completion of this report, WR&A has not received additional correspondence from Ms. McIver or the Bureau of Environmental Health. If future correspondence is received, the information will be submitted under separate cover to the Client. Copies of WR&A's correspondence are included in *Appendix A*.

VI. USER SUPPLIED INFORMATION

The Client provided WR&A copies of three previous reports prepared for the Central Avenue Reconstruction, completed by RK&K and entitled, *Reconstruction of Central Avenue Phase I – Environmental Site Assessment (1998)* (1998 Phase I ESA), *Reconstruction of Central Avenue Phase II – Environmental Site Assessment (1999)* (1999 Phase II ESA), and *Final Report, Reconstruction of Central Avenue – Environmental Site Assessment (2003)* (2003 Final Phase II ESA Report). These reports are summarized in the Previous Reports section below.

VIII.PREVIOUS REPORTS AND ADDITIONAL DATA

Previous reports included information regarding both the Phase I and Phase II construction areas. The 1998 Phase I ESA identified land uses within the project footprint as

residential, light industrial, commercial, abandoned heavy industrial and vacant land. The 1998 Phase I ESA identified 20 active USTs and nine closed USTs within the project footprint. Thirteen leaking underground storage tanks (LUSTs) were identified within the search area but none within the project footprint. Four small quantity generators (SQGs) and one large quantity generator (LQG) were identified within the project footprint. RK&K performed a regulatory records review at MDE of ten facilities of interest within the project site. Twelve potentially environmentally sensitive sites were noted during a field reconnaissance portion of the Phase I ESA. These potentially sensitive sites were identified for potential sources of contamination including USTs, fuel pumps, ASTs, manufacturing, solvents, and heavy metals. The 1998 Phase I ESA identified the potential for subsurface contamination due to the industrial history and industries currently in operation within the project site. The report recommended a subsurface investigation of soils and groundwater to identify contaminants throughout the areas to be affected by construction.

The 1999 Phase II ESA was completed in December, 1999 per request of the City "to identify and characterize potential subsurface environmental contamination within the Central Avenue project area as a result of fuel odor and volatile vapors detected in geotechnical test borings at the intersections of Central Avenue and Lombard Street and Central Avenue and Fayette Street in November 1998." Soil sampling was conducted between May, 26 1999 and June 4, 1999; sampling locations were tested using a Membrane Interface Probe (MIB) and electrical conductivity detectors. Laboratory analyses were performed on soil samples from seven representative locations. The soils were analyzed for Total Petroleum Hydrocarbons-Gasoline Range Organics (TPH-GRO), Total Petroleum Hydrocarbons-Diesel Range Organics (TPH-DRO), Total Petroleum Hydrocarbons (TPH), eight RCRA Toxic Metals, and Volatile Organic Compounds (VOCs). Lab results found elevated levels of TPH-GRO and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) in two soil samples (RK&K-6A and RK&K-20). Groundwater samples were taken at the Amoco Station at 1300 East Fayette Street, where gasoline contamination was most likely. Groundwater sample RK&K-4 contained 910µg/l GRO with BTEX levels below Maximum Contaminant Levels (MCL). The 1999 Phase II ESA identified two areas of potential subsurface petroleum hydrocarbon contamination. RK&K identified soil and groundwater contamination near Fayette Street and Central Avenue (within

the Phase I construction area) and on the project site in the vicinity of 14 South Central Avenue. The report concludes that the Amoco gas station located at 1300 East Fayette Street and Central Avenue may be associated considering its documented subsurface contamination. This document's recommendations include requiring construction provisions for handling and disposing of contaminated soils.

The 2003 Final Phase II ESA Report was completed in April 2003 to provide more detailed soil data for planning the storm drain reconstruction portion of this project. All laboratory testing was conducted by Phase Separation Science, Inc. (PSS). Soil sampling was performed at 35 locations throughout the project footprint and consisted of laboratory analysis for TPH-GRO, TPH-DRO, VOCs, Resource Conservation and Recovery Act (RCRA) toxic metals, polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons (PAHs). RCRA metals were detected in all soil samples: Arsenic was detected above MDE cleanup standards at four locations, barium was detected above MDE cleanup standards at one location, chromium was detected below MDE cleanup standards at every location, lead was detected above MDE cleanup standards at three locations, and mercury was detected above MDE cleanup standards at five locations. Thirteen soil samples contained TPH-DRO concentrations above the MDE limit set at that time (10 mg/kg). All soil samples tested for VOCs produced levels less than MDE cleanup standards. No PCBs were detected. Soil sample GP-132 contained the PAHs at levels above MDE non-residential soil cleanup standards. Groundwater samples were collected at five locations and analyzed for TPH-DRO and BTEX. Groundwater sample GW-106 had a TPH-GRO concentration of 3900µg/l which exceeded the MDE limit of 47µg/L and Benzene was detected at levels greater than MDE groundwater cleanup standards (5µg/l). Geographic conclusions were provided regarding the contamination found in the 2003 Final Report SSI. Construction activities from Lancaster Street to Bank Street, below a depth of approximately three feet, will likely encounter petroleum contaminated soil. Soil samples between these two streets also contained excessive levels of arsenic, lead and mercury and may limit disposal during excavation. Soil sampling between Pratt Street and May Street indicated low petroleum concentrations with expected increases of TPH-GRO near Fayette Street, Lombard Street and Baltimore Street.

A 2008 Phase I ESA was prepared as an update to the previous 1998 Phase I ESA to include current site conditions. The 2008 report identified numerous RECs within the project area. These include USTs, hazardous waste generating facilities and specific records from the Maryland Department of the Environment (MDE). 21 additional sites of concern were identified and investigated to update the number of OCPCASES within the project footprint.

During geotechnical drilling activities concerning the potential utility replacement for the Reconstruction of Central Avenue in July 2012, petroleum impacted soil was encountered at a soil boring located at the southwestern corner of the intersection of Alice Anna Street and Central Avenue (soil boring BA-3). A soil sample was collected and analytical results indicated concentrations of total TPH-DRO at 1,100 mg/kg, exceeding the MDE non-residential clean-up standards for soil (620 mg/kg). Currently, a work plan for a subsurface investigation is being developed to delineate subsurface contamination in the area.

SITE RECONNAISANCE

A site reconnaissance was conducted by WR&A personnel on August 23, 2012. The project site was surveyed for unusual environmental conditions including discolored or disturbed soil areas, drums, above-ground storage tanks (ASTs), USTs, discolored surface water, unusual or noxious odors, transformers, unusual surface features, septic or water supply systems, and groundwater monitoring wells.

At the time of WR&A's site reconnaissance, the project site consisted of Central Avenue bounded by Lancaster Street to the south and Baltimore Street to the north. The project area is an urban environment which consists of a mix of residential, light industrial, commercial, abandoned heavy industrial properties and vacant properties, which is consistent to that described in the 2008 Phase I ESA update and with RK&K's 1998 Phase I ESA. WR&A observed fill ports associated with two USTs and two gasoline/diesel fuel dispensers, located at Central Service and Repair; the facility is located at 1026 Eastern Avenue at the northwestern corner of Eastern Avenue and Central Avenue. No monitoring wells were observed. Several automotive repair facilities were observed bordering Central Avenue to the east and west. These

facilities include two Gerry's Tire facilities identified by the addresses 39 S. Central Avenue and 124 S. Central Avenue, Day's Auto & Repair Service located at 7 S. Central, Fells Point Collision located at 301 S. Central Avenue, and ABC Radiator located at 401 S. Central Avenue. One approximate 500-gallon AST was observed to the east, just behind the Day's Auto Repair facility located at 39 S. Central Avenue. WR&A observed the tank to be in fair condition with no obvious staining around it. Three active industrial warehouse facilities observed include a scrap metal facility, S.H. Landsman & Son, Inc., located at 227 S. Central Avenue, Systems Furniture Installations, located at 511 S. Central Avenue and H&S Bakery Distribution Center, located at 601 S. Eden Street. Multiple stacked 55-gallon drums were observed within the S.H. Landsman & Son, Inc. bay-door areas. The H&S Bakery Distribution Center was observed to have one diesel and one gasoline dispenser along the Central Avenue side of the facility. Additionally, WR&A observed two monitoring wells located close to the H&S Bakery fuel dispensers. The monitoring wells were located along Eastern Avenue at approximate distances of 45-ft. north and 135-ft. northwest, respectively. Two former industrial facilities were observed along Central Avenue including the abandoned Joseph Kavanagh Co. pipe factory and Canal Street Malt House which have been converted into condominiums. Two pad-mounted transformers were observed along S. Central Avenue. Both appeared new and in good condition with no leakage of fluids on or around the transformers.

WR&A did not observe pits, ponds, or lagoons on properties located throughout the project site. Photographs taken during WRA's site reconnaissance are included in this report as *Appendix B.*

SURROUNDING LAND USES

The project site is surrounded primarily by residential development to the east, west and north. Neighborhoods to the east of the project site include Harbor East, Little Italy and Jonestown. To the west, the neighborhoods include Fells Point, Washington Hill and Perkins Home. To the north, the neighborhoods include Washington Hill and Jonestown. Northwest Harbor and commercial docks are located south of the project site. Surrounding land use also includes light industrial facilities, vacant lots and John's Hopkins Hospital to the east.

REGULATORY RECORDS REVIEW

WR&A retained EDR to perform a search of Federal and State regulatory agency databases for the project site and surrounding vicinity. EDR performed this database search to meet the requirements of EPA's Standards and Practices for All Appropriate Inquires (40 CFR Part 312) and the ASTM Standard Practice for ESA (E 1527-05). WR&A personnel attempted to field-verify the locations of the regulatory sites identified by EDR, and this information is reflected in the contents of this section. The EDR Radius Map Report is attached to this report as *Appendix C*. EDR searched the following databases at the noted search distances:

FEDERAL DATABASES SEARCHED BY EDR		
DATABASE	**DESCRIPTION**	**SEARCH DISTANCE**
NPL	National Priorities List (Superfund). Hazardous waste sites targeted for possible long-term remedial action under the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS).	1 mile
Proposed NPL	Proposed National Priority List Sites.	1 mile
Delisted NPL	National Priority List Deletions. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establish the criteria that the EPA uses to delete sites from the NPL.	1 mile
NPL LIENS	Federal Superfund Liens.	Project site
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). Sites that are proposed for or on the NPL, or in the screening or assessment phase for possible inclusion on the NPL.	½ mile
Federal Facility	Federal Facility Site Information listing	1 mile
CERC-NFRAP	Archived CERCLIS sites with a status of No Further Remedial Action Planned (NFRAP), denoting sites where, following an initial investigation, either no contamination was found, contamination was removed quickly without need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. The NFRAP status does not necessarily indicate that no environmental concerns are present.	½ mile
LIENS 2	CERCLA Lien information. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies.	Project site
CORRACTS	Hazardous waste handlers with Resource Conservation and Recovery Act (RCRA) corrective action activity.	1 mile
RCRA-TSDF	Resource Conservation and Recovery Information System (RCRIS), Treatment, Storage, and Disposal (TSD) facilities. Hazardous waste handlers.	½ mile
RCRA-LQG	RCRIS sites that are large-quantity generators (LQG) of hazardous waste. LQGs generate over 1,000 kg of hazardous waste, or over 1 kg of acutely hazardous waste per month.	¼ mile
RCRA-SQG	RCRIS sites that are small-quantity generators (SQG) of hazardous waste. SQGs generate between 100 kg and 1,000 kg of hazardous waste per month.	¼ mile
RCRA-CESQG	RCRA-Conditionally Exempt Small Quantity Generators. CESQGs generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.	¼ mile
RCRA-NonGen	RCRA-Non Generators. Non-Generators do not presently generate hazardous waste.	¼ mile
ERNS	Emergency Response Notification System. Information on releases of oil and hazardous	Project site

FEDERAL DATABASES SEARCHED BY EDR		
DATABASE	**DESCRIPTION**	**SEARCH DISTANCE**
	substances.	
HMIRS	Hazardous Materials Information System Database. A list of release incident information reported to the Department of Transportation by carriers of hazardous materials.	Project site
US ENG CONTROLS	Engineering Controls Sites List. A list of sites with engineering controls in place including various forms of caps, building foundations, liners, and treatment methods.	½ mile
US INST CONTROL	Sites with Institutional Controls. A listing of sites with institutional controls in place, including administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements.	½ mile
DOD	Department of Defense Sites. Data set of federally owned or administered lands having area equal to or greater than 640 acres of the US, Puerto Rico, and the US Virgin Islands.	1 mile
FUDS	Formerly used Defense properties where the USACE is actively working or will take necessary cleanup actions.	1 mile
US BROWNFIELDS	A listing of Brownfield sites	½ mile
CONSENT	Superfund (CERCLA) Consent Decrees. Major legal settlements that establish responsibility and standard for cleanup at NPL (Superfund) sites.	1 mile
ROD	Records of Decision. ROD documents mandate a permanent cleanup at an NPL (Superfund) site containing technical and health information to aid in the cleanup.	1 mile
UMTRA	Uranium Mill Tailings Sites. (Mined by private companies for federal government use in national defense programs.)	½ mile
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations. A listing of illegal dump sites located on the Torres Martinez Indian Reservation located in eastern Riverside and northern Imperial County, California.	½ mile
ODI	Open Dump Inventory. Disposal facility that does not comply with one or more of CFR Part 257 or Part 258 Subtitle D Criteria.	½ mile
TRIS	Toxic Chemical Release Inventory System. TRIS identifies facilities, which release toxic chemicals into the air, water, and land in reportable quantities.	Project site
TSCA	Toxic Substance Control Act. An inventory, which includes locations and chemical production of more than 700 processors and manufacturers of chemicals.	Project site
FTTS	National Compliance Database tracking administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA, and EPCRA.	Project site
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing. Information was obtained from the National Compliance Database. May include data not included in newer FTTS database.	Project site
SSTS	Section 7 Tracking Systems of the Federal Insecticide, Fungicide, and Rodenticide Act	Project site
ICIS	Integrated Compliance Information System supports information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.	Project site
US CDL	Clandestine Drug Labs Database. Locations listed by the U.S. Department of Justice.	Project site
US HISTORICAL CDL	National Clandestine Laboratory Register. A listing of clandestine drug lab locations.	Project site
LUCIS	Land Use Control Information System. Contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.	½ mile
RADINFO	Radiation Information Database. Contains information about EPA regulated facilities for radiation and radioactivity.	Project site
DOT OPS	Incident and Accident Data from the Department of Transportation, Office of Pipeline Safety Incident and Accident data	Project site
PADS	PCB Activity Database System. The PADS database stores information about facilities that handle polychlorinated biphenyls (PCBs).	Project site
MLTS	Material License Tracking System. MLTS contains information on sites licensed by the NRC to handle radioactive materials.	Project site
MINES	Mines Master Index File. Contains all mine identification numbers issued for mines active	¼ mile

FEDERAL DATABASES SEARCHED BY EDR		
DATABASE	**DESCRIPTION**	**SEARCH DISTANCE**
	or opened since 1971.	
FINDS	Facility Index System. An inventory of all facilities that are regulated or tracked by the EPA.	Project site
RAATS	RCRA Administrative Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violations and includes administrative and civil actions brought by the EPA.	Project site
UIC	Underground Injection Wells Database	Project site
NPDES	Wastewater Permit Listing. Listings of wastewater permit locations.	Project Site
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing. It is comprised of representatives of states with established drycleaner remediation programs.	½ mile
COAL ASH	Coal Ash Disposal Site Listing	½ mile
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List. A listing of coal combustion residues surface impoundments with high hazard potential ratings.	½ mile
COAL ASH DOE	Sleam-Electric Plan Operation Data. A listing of power plants that store ash in surface ponds.	Project site
PCB TRANSFORMER	Database of PCB transformer registrations that includes all PCB registration submittals	Project site
US FIN ASSUR	Financial Assurance Information. All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean-up, closure, and post-closure care of their facilities.	Project site
EPA WATCH LIST	EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority.	Project site
PRP	A listing of verified Potentially Responsible Parties	Project site
2020 COR ACTION	2020 Corrective Action Program List. This RCRA cleanup baseline includes facilities expected to need corrective action. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation.	¼ mile
FINANCIAL ASSURANCE	Financial Assurance Information Listing	Project site
LRP	A listing of Land Restoration Program sites	½ mile

TRIBAL DATABASES SEARCHED BY EDR		
DATABASE	**DATABASE**	**DATABASE**
INDIAN RESERV	Indian administered lands of the US having area equal to or greater than 640 acres	1 mile
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land	½ mile
INDIAN UST	Underground Storage Tanks on Indian Land	¼ mile
INDIAN VCP	Voluntary Cleanup Priority Listing	½ mile
INDIAN ODI	Report on the Status of Open Dumps on Indian Land	½ mile
EDR PROPRIETARY RECORDS		
DATABASE	**DATABASE**	**DATABASE**
Manufactured Gas Plants	Database including records of coal gas plants used in the US from the 1800's to 1950's	1 mile
EDR Historical Auto Stations	EDR Proprietary Historic Gas Stations	¼ mile
ERD Historical Cleaners	EDR Proprietary Historic Dry Cleaners	¼ mile

LOCAL (MARYLAND) DATABASES SEARCHED BY EDR		
DATABASE	**DESCRIPTION**	**SEARCH DISTANCE**
SHWS	Notice of Potential Hazardous Waste Sites	1 mile
State Landfills	Permitted Solid Waste Disposal Facilities	½ mile
SWRCY	Recycling Directory	½ mile
OCPCASES	Oil Control Program Cases	½ mile
HIST LUST	Recovery Sites	½ mile
UST	Registered Underground Storage Tank List	¼ mile
FEMA UST	A listing of all FEMA owned underground storage tanks	¼ mile
ENG CONTROLS	Engineering Controls Site listing. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.	½ mile
Historical UST	Historical UST Registered Database	¼ mile
AST	Permitted Aboveground Storage Tanks	¼ mile
INST CONTROL	Voluntary Cleanup Program Applicants/Participants	½ mile
VCP	Voluntary Cleanup Program Applicants/Participants	½ mile
DRYCLEANERS	Registered Dry-cleaning Facilities	¼ mile
BROWNFIELDS	Eligible Brownfields Properties	½ mile
AIRS	Permit and Facility Information Listing	Project Site
LEAD	Lead Inspection Database	Project Site

The EDR report identified 132 OCPCASES associated with leaking storage tanks, 7 HIST USTs, 49 USTs, 39 Historical Cleaners sites, and other state and local records in the surrounding vicinity of the project site within the above specified search distances. Due to the high volume of records produced in the report and industrial history of the surrounding area, only OCPCASES within one city block were reviewed. WR&A requested that MDE search their files for records of the OCPCASES within the project site and specified search distance. MDE indicated that all OCPCASES were closed. On August 24, 2012 WR&A personnel reviewed OCPCASES files provided by MDE associated with sites that are within the project site and within the specified search distance. The site locations, regulatory status and other applicable information are listed in the table below.

EDR IDENTIFIED REGULATORY SITES IN SURROUNDING REGION			
LOCATION	**DATABASE INFORMATION**	**MDE FILE INFORMATION**	**DISTANCE/DIRECTION FROM PROJECT FOOTPRINT**
CENTRAL SERVICE AND REPAIR 1026 EASTERN AVE. BALTIMORE, MD 21202	**OCPCASES:** Case #: 01-0161BC4 Case Status: Closed	♦ Anonymous report of hydraulic fluid from service lifts were leaking around waste-oil tank ♦ MDE performs inspection of site and observes small amounts of stay-dry absorbent material in catch basin but no petroleum product ♦ MDE requires operator to pit and clean catch basin on a regular basis and properly dispose of product	Within project footprint
V&S CONTRACTORS, INC. (BALTIMORE CITY PROPERTIES) 1303 EAST BALTIMORE ST. BALTIMORE, MD 21202	**OCPCASES:** Case #: 01-0161BC4 Case Status: Closed	♦ Oil contaminated water was encountered during excavation work ♦ MDE permits discharge under specific requirements ♦ 8/3/2000 -Discharge permit for oil-contaminated groundwater through activated carbon to Harford Run (Permit # 2001-OGR-9188 ♦ No further work required	Within project footprint
HARBOR EAST, LLC/INNER HARBOR EAST 1001 FLEET ST. PARCEL C BALTIMORE, MD 21202	**OCPCASES:** Case #: 00-00014-BC Case Status: Closed Case #: 2012-0316-BC Case Status: Closed	♦ Petroleum stained soil observed during construction in 7/1999. ♦ MDE arrives onsite and screens soil; no VOCs detected ♦ 4,000 gallon UST discovered during construction on 9/3/1999 during construction ♦ MDE arrives on-site; requires proper disposal of tank and receipt ♦ Petroleum contamination found during excavation for a new steam line ♦ Soil and groundwater was disposed of at Veolia Energy Corp. ♦ No free product was reported ♦ Case closed on 7/24/ 2012	Within project footprint

EDR IDENTIFIED REGULATORY SITES IN SURROUNDING REGION			
LOCATION	**DATABASE INFORMATION**	**MDE FILE INFORMATION**	**DISTANCE/DIRECTION FROM PROJECT FOOTPRINT**
WESTERN AUTO 1006 EASTERN AVENUE BALTIMORE, MD 21202	**OCPCASES:** Case #: 91-2566BA4 Case Status: Closed	♦ Opened: 8/23/1990 ♦ Surface release: storm drain ♦ Complaint of waste oil and antifreeze being discharged to storm drain ♦ Corrective actions stated in letter to MDE from Western Auto ♦ Closure issued 4/20/1994	Within project footprint
FALLSWAY SPRING & EQUIPMENT 443 S. CENTRAL AVENUE BALTIMORE, MD 21202	**OCPCASES:** Case #: 07-0300BC Case Status: Closed	♦ Opened: 10/19/2006 ♦ UST removal and abandonment ♦ Three USTs removed: -One 750 gallon: other -One 550 gallon: diesel -One 1,000 gallon: kerosene ♦ One UST abandoned: -550 gallon: used oil ♦ Leaks found in all tanks ♦ Petroleum contamination exists at site ♦ Existing soils used as backfill per MDE guidelines ♦ Closure issued 12/6/2006	Within project footprint
S H LANDSMAN & SON INC 227-239 S CENTRAL AVE BALTIMORE, MD 21202	**OCPCASES:** Case #: 95-1851BC4 Case Status: Closed	♦ Opened: 2/10/1995 ♦ Pollution complaint of possible dumping of oil into storm drain ♦ MDE checked site several times and recorded no signs of dumping ♦ Closure issued 4/7/1995	Within project footprint
FORMER GERRY'S 124 S. CENTRAL AVENUE BALTIMORE, MD 21202	**OCPCASES:** Case #: 07-0270BC Case Status: Closed	♦ Opened: 10/6/2006 ♦ USTs removal: One 275 gallon tank containing used oil ♦ Soil samples at 8 feet bgs indicated minor gasoline and diesel contamination ♦ Existing soils used as backfill per MDE guidelines ♦ Closure issued 11/08/2006	Within project footprint
A & M REALTY CO. 316 S.CENTRAL AVE BALTIMORE, MD 21202	**OCPCASES:** Case #: 93-0400BC4 Case Status: Closed	♦ Opened: 8/24/1992 ♦ UST abandonment: one 8,500-gallon tank containing No. 4 oil ♦ Soil sample results below MDE cleanup standards ♦ Notice of compliance issued 10/29/1992	Within project footprint

EDR IDENTIFIED REGULATORY SITES IN SURROUNDING REGION			
LOCATION	**DATABASE INFORMATION**	**MDE FILE INFORMATION**	**DISTANCE/DIRECTION FROM PROJECT FOOTPRINT**
FLAGHOUSE COURTS BUILDING/SOLID WASTE CENTRAL DISTRICT 1125 GRANBY ST. BALTIMORE, MD 21202	**OCPCASES:** Case #: 91-1480BC4 Case Status: Closed Case #: 02-01564BC4 Case Status: Closed	♦ 3,000-gallon UST closed in place in 1991 ♦ Tank, product lines and vent pipe left uncapped ♦ Five subsurface soil samples were collected; analytical results were below detection limits ♦ Minimal soil contamination detected ♦ Vent pipe removed and location plugged with concrete ♦ Case closed 5/2000 ♦ Abandoned UST discovered on 6/7/2002 ♦ 3,000-gallon bare- steel gasoline UST installed in 1972 ♦ Phase II ESA was conducted and soil samples collected; analytical results were below MDE cleanup standards ♦ 750-gallon UST closed in place Tank was closed in place 8/2/2002 ♦ No record of case closure on file	± 71 feet north northwest
BALTIMORE POLISHING SYSTEM 1301 E. BALTIMORE ST. BALTIMORE, MD 21231	**OCPCASES:** Case #: 90-1306BC1 Case Status: Closed	♦ Opened: 1/2/1990 ♦ No file was available to review ♦ Closure issued 1/12/1990	±72 feet north
HOUSING AUTHORITY OF BALT. CITY 1128 WATSON STREET BALTIMORE, MD 21202	**OCPCASES:** Case #: 95-2778BC4 Case Status: Closed	♦ Opened: 6/23/2005 ♦ Two USTs removed: -One 750 gallon: No. 2 oil -One 1,000 gallon: No. 2 oil ♦ Soil sample results below MDE cleanup standards ♦ Closure issued 7/20/2008	±87 feet north
EXETER BUILDING 1003 EASTERN AVE. BALTIMORE, MD 21202	**OCPCASES:** Case #: 99-2266BC4 Case Status: Closed	♦ Opened: 1/30/1999 ♦ UST abandonment: one 2,000 gallon steel tank containing No. 2 oil ♦ Soil samples collected from bottom of tank pit indicated high elevated petroleum concentrations ♦ No further action indicated in file ♦ Closure issued 5/4/1999	±118 feet south southwest

EDR IDENTIFIED REGULATORY SITES IN SURROUNDING REGION			
LOCATION	**DATABASE INFORMATION**	**MDE FILE INFORMATION**	**DISTANCE/DIRECTION FROM PROJECT FOOTPRINT**
ODORS AT INTERSECTION OF EASTERN AVENUE AND EDEN ST. BALTIMORE, MD 21231	**OCPCASES:** Case #: 95-0584BC4 Case Status: Closed	♦ Opened: 8/27/1995 ♦ During a geotechnical investigation soil was screened using an OVM meter; high OVM readings indicated petroleum impacted soil between 3-7 feet below ground surface ♦ MDE inspected the site and determined that contamination was caused by surface runoff ♦ Closure issued 9/7/1995	±132 feet south southeast
STEEL & WIRE PRODUCTS 122 S EDEN ST BALTIMORE, MD 21231	**OCPCASES:** Case #: 95-2778BC4 Case Status: Closed	♦ Opened: 6/22/1995 ♦ UST removal: one 10,000 gallon diesel ♦ Soil sample in tank pit was above MDE cleanup standards ♦ Pit was excavated three feet below tank ♦ Soil samples at excavated depth were within MDE cleanup standards ♦ Closure issued 8/9/1996	±135 feet north northeast
FORMER BOHAGERS 701 S. EDEN ST. BALTIMORE, MD 21231	**OCPCASES:** Case #: 05-1265BC2 Case Status: Closed	♦ Opened: 6/29/2005 ♦ UST removal during sale of property ♦ One 300 gallon steel tank over 20 years old removed ♦ Soil samples inside tank pit contained elevated petroleum levels ♦ Soil samples outside tank pit below MDE Cleanup standards ♦ Closure issued 8/13/2007	±139 feet south southeast
CLARK'S AUTO REPAIR 417 S. EDEN ST. BALTIMORE, MD 21231	**OCPCASES:** Case #: 94-1385BC4 Case Status: Closed	♦ Opened: 11/2/1993 ♦ Pollution complaint called in regarding the property ♦ Site visit produced no confirmed spills or releases ♦ Closure issued 11/10/1993	± 145 feet southeast
FLAGHOUSE 1140 E. PRATT ST. BALTIMORE, MD 21202	**OCPCASES:** Case #: 04-0956BC2 Case Status: Closed	♦ Opened: 11/20/2003 ♦ Two USTs removed: -One 6,000 gallon: No. 2 oil -One 1,000 gallon: No. 2 oil ♦ Soil samples analytical results were below MDE cleanup standards ♦ Average groundwater depth: 10 feet below ground surface (bgs) ♦ Closure issued 3/10/2004	± 172 feet north northwest
FLAGHOUSE APTS. 1066 GRANBY ST.	**OCPCASES:** Case #: 04-0705BC4	♦ Opened: 10/9/2003 ♦ Two USTs removed: both 1,000	±199 feet east

EDR IDENTIFIED REGULATORY SITES IN SURROUNDING REGION			
LOCATION	**DATABASE INFORMATION**	**MDE FILE INFORMATION**	**DISTANCE/DIRECTION FROM PROJECT FOOTPRINT**
BALTIMORE, MD 21202	Case Status: Closed	gallon tanks containing gasoline ♦ Tank pit #1 excavated and 236.87 tons of soil was removed ♦ Tank pit #2 was sampled and no excavation was required ♦ Contamination may still exist at the site: building intended to be razed and contamination to be dealt with at a later time ♦ Closure issued 6/18/2004	
ROYAL FARMS #104 1010 EASTERN AVENUE BALTIMORE, MD 21202	**OCPCASES:** Case #: 00-1919BA4 Case Status: Closed	♦ Opened: 5/18/2000 ♦ UST removal and installation ♦ Six USTs removed: -Two 10,000 gallon: one gasoline, one diesel -One 6,000 gallon: gasoline -One 8,000 gallon: gasoline -Two 1,000 gallon: one heating oil, one used oil ♦ Two USTs installed: -One 20,000 gallon gasoline -One 12,000 gallon diesel ♦ Elevated BTEX levels and GRO detected in soils ♦ All contaminated soils disposed of properly ♦ All contaminated water treated or disposed of off-site ♦ Closure issued 12/5/2001	±199 feet south southwest
SKYLAR DEVELOPMENT (former Bagby furniture) 509 S. EXETER ST. BALTIMORE, MD 21202	**OCPCASES:** Case #: 98-2552BC4 Case Status: Closed	♦ Opened: 6/15/1998 ♦ UST abandonment: one 6,000 gallon steel tank containing heating oil ♦ Site poses no threat based on levels of contamination detected ♦ Closure issued 8/27/1998	± 237 feet south southwest
FLAG HOUSE COURTS APTS 1100 E. PRATT ST. BALTIMORE, MD 21231	**OCPCASES:** Case #: 04-1224BC2 Case Status: Closed	♦ Opened: 1/13/2004 ♦ UST removal: one 275 gallon steel tank containing No. 2 oil ♦ No petroleum contamination above MDE cleanup standards ♦ Closure issued 6/14/2004	± 280 feet north northwest
P.T. O'MALLEY LUMBER CO 701 S. EDEN ST. BALTIMORE, MD 21231	**OCPCASES:** Case #: 93-1582BC4 Case Status: Closed	♦ Opened: 2/10/1993 ♦ UST removal: one 500 gallon steel tank containing No. 2 fuel oil ♦ Small amount of soils reported as contaminated; backfilled ♦ Closure issued 2/16/41993	± 579 feet south southeast
INNER HARBOR LUMBER CO 900 FLEET ST. BALTIMORE, MD 21202	**OCPCASES:** Case #: 96-1082BC4 Case Status: Closed	♦ Opened: 11/20/1995 ♦ UST removal: one 5,000 gallon steel tank containing gasoline ♦ No leaks found	± 598 feet south southwest

EDR IDENTIFIED REGULATORY SITES IN SURROUNDING REGION			
LOCATION	**DATABASE INFORMATION**	**MDE FILE INFORMATION**	**DISTANCE/DIRECTION FROM PROJECT FOOTPRINT**
		♦ Soils had no odors, backfilled ♦ Closure issued 11/20/1995	
INNER HARBOR EAST MARINA 801 LANCASTER ST. BALTIMORE, MD 21202	**OCPCASES:** Case 04-0080BC4 Case Status: Closed	♦ Two 8,000 gallon double-walled FRP USTs installed in 1993 (gasoline and diesel) ♦ Removed from the ground in 3/2007 ♦ 473.83 tons of contaminated soil was excavated and removed from the site ♦ Soil samples were collected; analytical results were below MDE cleanup standards ♦ Closure issued 6/30/2009	± 630 feet south southwest

The EDR Report included a list of "Orphan Sites", which EDR indicates could not be plotted due to insufficient address and/or geographic coordinate information. Based on WR&A's review of the Orphan list, it appears that none of the sites are located within the specified search distances and are not likely to present additional environmental concerns.

Based on the information contained in this report, the sites of regulatory environmental concern summarized in RK&K's 1998 Phase I ESA and WR&A 2008 Phase I ESA update, and the sampling results presented in the 2003 Final Phase II ESA Report, subsurface contamination likely exists within the project footprint.

DATA GAPS

No data gaps have been identified in information obtained to prepare this report.

CONCLUSIONS AND RECOMMENDATIONS

The City of Baltimore is planning to reconstruct Central Avenue in the City of Baltimore, Maryland. Construction will be completed in two phases. Phase I construction activities have begun between Baltimore Street to Madison Street. Currently, the project footprint consists of the remaining Phase II area of construction along Central Avenue from Lancaster Street to Baltimore Street. Phase II is approximately 3,300 feet and will include grading, paving,

installing sidewalk and curb, replacing underground utilities as needed, landscaping and replacing the existing bridges at Aliceanna Street and Fleet Street. This Phase I ESA has revealed evidence of RECs associated with the project footprint.

At the time of WR&A's site reconnaissance the project footprint consisted of Central Avenue bounded by Lancaster Street to the south and Baltimore Street to the north. The project area is an urban environment which consists of a mix of residential, light industrial, commercial, abandoned heavy industrial properties and vacant properties. Several auto repair facilities were observed along Central Avenue within the project footprint. One approximate 500-gallon AST was observed just behind the Day's Auto Repair facility located at 39 S. Central Avenue. WR&A observed the tank to be in fair condition with no obvious staining around it. Fill ports associated with two USTs and two fuel dispensers were observed at Central Service and Repair located at 1026 Eastern Avenue. Two fuel dispensers were observed on the Central Avenue side of the H&S Bakery Distribution Center located at 601 S. Eden Street. Additionally, two monitoring wells were observed nearby on Eastern Avenue. Three active industrial warehouse facilities observed include a scrap metal facility, S.H. Landsman & Son, Inc., located at 227 S. Central Avenue, Systems Furniture Installations, located at 511 S. Central Avenue and H&S Bakery Distribution Center, located at 601 S. Eden Street. Multiple stacked 55-gallon drums were observed within the S.H. Landsman & Son, Inc. bay-door areas. Additionally, two pad-mounted transformers were observed along S. Central Avenue. Both transformers appeared new and in good condition with no leakage of fluids observed on or around the transformers. WR&A did not observe pits, ponds, or lagoons on properties located throughout the project footprint.

Historically, the project footprint has consisted of residential, industrial, and commercial uses. Previous land use within the project footprint consists of residential, light to heavy industrial (manufacturing plants, lumber yards, coal yards, automotive repair), and commercial properties with industrial use increasing south, towards the harbor. Land use surrounding the project footprint is primarily residential and commercial with some light industrial facilities. Northwest Harbor is located to the south.

Previous documents include the 1998 Phase I ESA, 1999 Phase II ESA, the 2003 Final Phase II ESA Report produced by RK&K and the 2008 Phase I ESA update produced by WR&A. Previous reports included both the Phase I and Phase II areas of construction. The 2003 Final Phase II ESA Report identified one area of environmental concern within the current project footprint along with numerous other potential environmentally sensitive sites. RK&K identified soil and groundwater contamination in the vicinity of 14 South Central Avenue within the project footprint. RK&K concluded that construction activities from Lancaster Street to Bank Street, below a depth of approximately three feet, will likely involve petroleum contaminated soil. Soil samples between Lancaster Street and Bank Street contained excessive levels of arsenic, lead and mercury and may limit disposal during excavation. Soil sampling and analysis was conducted in 1999 and again in 2003.

In addition to the sites of environmental concern identified in the 1998 Phase I ESA and the 2008 Phase I ESA update, WR&A identified OCPCASES which document petroleum releases within the project footprint. On August 24, 2012 WR&A personnel reviewed OCPCASES files provided by MDE associated with sites that are within the project footprint or within one city block of the project footprint. The file review indicated that the OCPCASES mainly represent UST closures, above ground spills, and some reports of dumping. Several cases were closed with subsurface contamination remaining on-site and likely contain petroleum contaminated soils and or groundwater, which could be encountered during construction.

Based on the information contained in this report, WR&A's site visit, the sites of regulatory environmental concern summarized in RK&K's 1998 Phase I ESA, the WR&A 2008 Phase I update, and the sampling results presented in the 2003 Final Phase II ESA Report and the results of additional sampling, it is likely that contamination and has adversely impacted the subsurface of the project footprint and will be encountered during construction activities.

SIGNATURE(S) AND QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL(S)

Signature of the environmental professional below certifies that he/she meets the definition of an environmental professional and maintains the relevant experience in accordance with *ASTM Designation E1527-05: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, which is pursuant to *40 CFR Part 312 Standards and Practices for All Appropriate Inquiries*.

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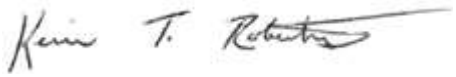

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