Zoning Commission Order No. 14-19
Request for Extension of Time
(Consolidated Planned Unit Development at Square 772, Lot 24 – formerly Lots 1, 2, 6, 7, 19, 801, and 802)

Affidavit of Applicant in Support of Two-Year Extension of Time

I, Berkeley M. Shervin, being duly sworn, depose and state as follows:

1. I am Berkeley M. Shervin, Managing Member of M Street Development Group, LLC, which is the owner of Lot 24 in Square 772 (the "Property"). The Property is subject to Zoning Commission (Z.C.) Order No. 14-19, which granted consolidated PUD approval with an effective date of November 20, 2015 for the construction of a mixed-use development project composed of retail and residential uses on the Property. Pursuant to Z.C. Order 14-19, Decision No. D(2), a building permit application must be filed for the PUD no later than November 20, 2017, and construction of the PUD must begin no later than November 20, 2018.

2. The approved project has approximately 418,798 square feet of gross floor area, of which approximately 408,496 square feet of gross floor area will be devoted to residential use comprised of 416 residential units (plus or minus 10%) and approximately 10,302 square feet of gross floor area will be devoted to retail use. The approved project will include approximately 187 off-street parking spaces located in a below-grade parking structure. The building will be constructed to a maximum height of 110 feet at its highest point, and will step down to approximately 80 feet and 50 feet from west to east.

3. On August 24, 2016, we filed a building permit application for the approved project (B1612326) (ProjectDox submission confirmation, filing fee, and permit application attached at Exhibit A), thus complying with the first condition of Decision No. D(2). Since that time, we have worked diligently to move forward with construction of the approved project but have experienced significant delays outside of our reasonable control primarily due to ongoing negotiations with BP Oil Company ("BP"), the responsible party for completing soil remediation measures on the southeastern portion of the Property (corner of 4th and M Streets), which was a former Amoco gas station #84664 ("BP Site"). The contamination on

the BP Site, remediation measures, the requirement to obtain regulatory approval from DOEE prior to the commencement of any work on the Property and related negotiations have delayed our efforts to commence construction prior to November 20, 2018. We are therefore unable to comply with the construction time limit set forth in Z.C. Order No. 14-19.

4. Since the PUD was approved on November 20, 2015, we have worked diligently with BP to finalize agreements and timelines for remediating the contaminated soil on the BP Site. A detailed history all remediation work on the BP Site beginning in 1996 is included in the report from Q1 2016, prepared by GES, Inc. (BP's environmental consulting firm) and is attached hereto as Exhibit B.

5. The portion of the Property that includes the former BP/Amoco gasoline station was purchased on July 28, 2003 by Channing One, LLC, a wholly-owned affiliate of M Street Development Group, LLC (the "Applicant"). Environmental reports provided by the prior property owner indicated that some remediation work had been completed on the BP Site prior to 2003, but that soil and groundwater monitoring work was on-going and additional remediation work would be necessary. The following is an overview of the work completed on the BP Site following approval of the PUD:

    a. Pursuant to the Right of Access and Entry and Environmental Remediation Agreement dated October 14, 2004, BP is responsible for addressing any and all contamination issues associated with the BP Site. As a result, our development team spent months in negotiations with BP and its environmental consultants to formulate a Corrective Action Plan ("CAP") to properly address the contamination present on the BP Site. Approval of the CAP by DDOE is required before a building permit can be issued and any construction can take place on the Property.

    b. On April 28, 2016, our development team and BP officials met with DOEE to review the approved PUD redevelopment plans for the Property and discuss the general outline of the mandatory CAP.

    c. On July 29, 2016, BP submitted the agreed-upon CAP to DOEE, however it was not acceptable to DOEE and required revision.

d. On September 9, 2016, HITT Construction compiled bids from subcontractors with construction pricing, which was incorporated into our financial models and issued to our prospective construction lender.

e. On December 22, 2016, BP submitted a revised CAP to DOEE which incorporated the recommendations requested by DOEE staff.

f. On January 5, 2017, the revised CAP was approved by DOEE. A copy of the approved CAP, not including the 69 pages of figures, is attached as Exhibit C, and email correspondence regarding the CAP, including an email from DOEE approving the revised CAP, is attached as Exhibit D.

g. Concurrently, from May, 2016 through January, 2017, we engaged in ongoing negotiations with BP on the need for a written Coordination Agreement to establish field procedures under the proposed CAP for remediating contaminated soil and/or groundwater during construction of the PUD and an accompanying timeline. We engaged environmental consultants and environmental counsel and prepared a draft Coordination Agreement. However, a final agreement was never reached with BP due to BP's position that the Right of Access and Entry and Environmental Remediation Agreement was sufficiently detailed to guide the remediation work in the field while under construction. A copy of our proposed draft Coordination Agreement is attached as Exhibit E.

h. On March 6 – 10, 2017, under the direction of BP's environmental consultant (Antea Group) and as monitored by our environmental consultant (Stephen W. Saul, PG), contaminated soil was removed (excavated) from the former BP Site in accordance with the DOEE-approved CAP.

i. On March 19, 2017, Mr. Saul issued a Soil Excavation Summary Report of Observations (Exhibit F), which indicated that "the excavation appears to have been successful in removing the most significantly impacted soils. However, there remains a possibility that future excavation in the area north of the excavation may

encounter pockets of impacted soils associated with the former fuel facilities and operations." Upon receipt of Mr. Saul's report we contacted DOEE to discuss the results of the BP work and review any concerns DOEE had about the limits of the excavation. We were advised that DOEE was satisfied with the results of the work BP had completed.

j. Due to delays associated with BP's effort to obtain approval of its CAP and the subsequent delay (until March 6, 2017) in completing the work required by DOEE under the approved CAP, the construction pricing that our general contractor previously provided on September 9, 2016 could no longer be relied upon. Once the construction pricing was lost, the project had to be taken back out into the marketplace and re-priced.

k. On June 28, 2017, HITT Contracting re-priced the job with the subcontractor market. The result was a nearly $7.2 million increase in total cost. We therefore spent additional time exploring viable options for value engineering.

l. Losing the construction pricing also placed the capital structure and related project financing at risk. As a result, the capital partner we identified in January of 2017 and spent many months working with on budget, design work, and market studies was not able to adequately finance the project.

m. In the first quarter of 2018, we identified and reached agreement with a replacement capital partner. We subsequently worked through an on-boarding process including sharing of budget and pro forma, design work, and market studies.

n. Between April 16, 2018 and June 6, 2018, ICOR, Ltd. studied and issued recommendations for a protective soil barrier designed by a Certified Professional Geologist to be installed over the BP Site, as recommended in Section 9.2 of the approved CAP. A letter from ICOR, Ltd. recommending the specific soil barrier design and system, without the associated 91 pages of exhibits, is attached as Exhibit G.

o. Given the intended residential use of the Property and the fact that the limits of disturbance adjoin public space, thus affecting the sheeting and shoring design, the research, evaluation and determination on a final soil barrier design is still on-going as technologies continually evolve. After the system was designed, our General Contractor advised us to research CoreFlex, a waterproofing system fully welded and sealed that can be applied to contaminated soils. Our efforts to design and install the most effective system are ongoing.

6. Following the unanticipated delays cited above, our development team has the project back on track. We are currently in the debt markets to obtain construction financing. At this time, we have received several financing term sheets from local construction lenders and are in the process of reviewing them. Once the construction lender is identified, the general contractor will be asked to obtain final construction pricing so that preparations for the commencement of construction can begin. Should no additional delays be encountered, construction could commence as soon as the 2nd or 3rd quarter of 2019.

7. Outside of financing and environmental efforts, we have continued to pursue permits for the approved project.
    a. Raze Permit R1500176: Issued July 17, 2016 (Exhibit H). In August, 2018 we re-filed for the Raze Permit pursuant to expired DOH Vector Clearance and DDOT Occupancy Permit. This permit application is currently under review.
    b. Sheeting Permit No. SH1600013: Issued October 17, 2017. Six-month extension request approved, extending permit until April 17, 2019. A copy of the original permit and the extended permit are attached at Exhibit I.
    c. Foundation Permit No. FD1600109: Issued July 18, 2017. Six-month extension request approved until January 18, 2019. A copy of the original permit and the extended permit are attached at Exhibit J.
    d. Building Permit Application: B1612326 filed on August 24, 2016. Comment responses sent to expeditor on September 26, 2018.

8. In addition, in the summer of 2015 we engaged WDG Architecture to complete the construction drawings for the project. The following timeline reflects their work since November, 2015:
    a. December 18, 2015. Design Document architectural drawing set complete.
    b. February 2, 2016. 50% Construction Drawing set complete.
    c. March 9, 2016. Foundation to Grade drawings complete.

d. July 15, 2016. Permit / construction bid set complete.
e. May 19, 2017. Construction drawings are 100% complete.

9. We executed a First Source Employee Agreement with the District's Department of Employment Services ("DOES") on August 30, 2016 (Exhibit K).

10. We have also undertaken the following actions that are required to move forward with redevelopment of the Property:
    a. Completed extensive geotechnical due diligence in August, 2016. A copy of the Geotechnical Engineering Report, excluding 46 pages of figures, is attached as Exhibit L;
    b. Submitted an initial service application to Washington Gas regarding utility distribution systems for the project on April 1, 2016. A copy of the service request is attached as Exhibit M;
    c. Submitted an initial service application to Pepco regarding utility distribution on November 24, 2014. A copy of the service application is attached as Exhibit N.
    d. Submitted water and sewer plans to DC Water in 2016, and posted $350,330 in cash for water and sewer pipe inspection deposits on August 18, 2016. Copies of the deposits and sheeting/shoring estimates are attached as Exhibit O;
    e. As previously cited, we have engaged a general contractor, HITT Contracting, and underwent two rounds of Construction Bidding with subcontractors, with a third planned for late 2018.

11. We are committed to moving forward with the development of the PUD. To date, we have invested nearly $5.5 million in the Property, including legal, architectural, engineering, and other consulting fees. There is no financial advantage to not redevelop the Property, and we have every incentive to develop the Property as soon as is feasible. Accordingly, the requested extension will allow us the time needed to complete all remaining predevelopment-related steps. We anticipate finalizing our financing and commencing construction in the within the next two (2) years.

I solemnly affirm under the penalty of perjury that the contents of this Affidavit are true and correct to the best of my personal knowledge.

M Street Development Group, LLC,
a District of Columbia limited liability company

By: _____

Name: Berkeley M. Shervin

Title: Managing Member

Sworn and subscribed to me this 5TH day of OCTOBER, 2018.

_____
Notary Public

My Commission Expires: 03/15/21

EXHIBIT A TO AFFIDAVIT

Track Status of Building Permit Application

To review the status of an application, enter the Application ID or Property Address below and click find to continue. Please note that the application status is refreshed every night at **3.00 AM** so the status you see below reflects the updates from the day before.

Search By: **Application ID** | **Property Address**

Enter the ApplicationID to review Application Status:

ApplicationID*: B1612326 Find

Application Status:

Please see the table below for review statuses. The table is not shown if the reviews have not been identified. A blank Status date means that the initial review has not been completed.

Permits Status

	ApplicationID	Permit Type	Date Filed	Full Address	Agent Name	Phone Number
⊞	B1612326	New Building Permit	08/24/2016	300 M ST NE	PITTINGER-DUNHAM CAPITOL PERMITS	202-387-6669

THIS CHECK IS VOID WITHOUT A BLUE & GREEN BACKGROUND AND AN ARTIFICIAL WATERMARK ON THE BACK - HOLD AT ANGLE TO VIEW

UNITED BANK
68-444-560

013125

M STREET DEV. GROUP, LLC
5101 WISCONSIN AVE NW, STE.200
WASHINGTON, DC 20016
202-882-1100

8/18/2016

Pay to the Order of DC Treasurer

$20,000 .00

Twenty Thousand and 00/100**********DOLLARS

D.C. Treasurer

SIGNATURE LINE A COLORED BACKGROUND - BORDER CONTAINS MICROPRINTING

Building Permit - Plan Check Fee

⑈013125⑈ ⑆056004445⑆ 00432663961⑈

M STREET DEV. GROUP, LLC

013125

DC Treasurer 60873 · Consultant	Building Permit - Plan Check Fee	8/18/2016	20,000.00

United Bank - Chec	Building Permit - Plan Check Fee	20,000.00

PRE-FILE NUMBERS		ZONING DISTRICT	FILE NUMBER	PERMIT NUMBER	
N.C.P.C. No:	O.G. No:	DD/C-2-C			By:
H.P.A. No:	S.S.L. No:	Ward No:	Receipt No:	Date:	Receipt No:

GOVERNMENT OF THE DISTRICT OF COLUMBIA

DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS
BUILDING AND LAND REGULATION ADMINISTRATION PERMIT SERVICE CENTER
dcra.dc.gov

BLRA-33
(Rev.10/2011)

APPLICATION FOR CONSTRUCTION PERMITS ON PRIVATE PROPERTY

(PRINT IN INK OR TYPE, DO NOT WRITE IN SHADED AREAS)

CLEARANCE TO FILE
By_____Date_____

ERASING, CROSSING OUT, WHITING OUT, OR OTHERWISE ALTERING ANY ENTERED INFORMATION WILL VOID THIS APPLICATION

(A) ALL APPLICANTS MUST COMPLETE ITEMS 1 THRU 32

1 Address of Proposed Work:	Suite No.	2 Lot	3. Square	4. Application Date
300 M STREET, NE				

5 Owner of Building or Property	6 Address (*include Zip Code*)	7 Phone
M STREET DEVELOPMENT GROUP, LLC	5101 WISCONSIN AVE, NE, #200 WASHINGTON, DC 20016	202-882-1100
8 Agent for Owner: (*if applicable*)	**9. Address (*include Zip Code*)**	**10. Phone**
Phillip Dunham Capitol Permits	490 M St SW W103 Washington DC 20024	202-387-6669

11. Type of Proposed Work (Select only one) ALL APPLICANTS MUST COMPLETE SECTIONS AF AND AG

- ☐ New Building(B)
- ☐ Addition(B)
- ☐ Addition Alteration Repair(B)
- ☐ Alteration and Repair(B)
- ☐ Raze Building(C)
- ☐ Retaining Wall(D)
- ☐ Fence(E)
- ☐ Shed(F)
- ☐ Garage(F)
- ☐ Awning(G)
- ☐ Sign(H)
- ☐ After Hours(I)
- ☐ Demolition(J)
- ☐ Blasting Operations(K)
- ☐ Christmas Tree Stand(L)
- ☐ Fireworks Stand(L)
- ☐ Exterior Cleaning Information(M)
- ☐ Capacity Placard(N)
- ☐ Fire Retardant Paint(O)
- ☐ Flag Pole(P)
- ☐ Observation Stand(Q)
- ☐ Scaffolding Information (R)
- ☐ Soil Boring(S)
- ☐ Tower Crane(T)
- ☐ Foundation Only(U)
- ☐ Underground Storage Tank(V)
- ☐ Water And Damp Proofing(W)
- ☐ Sheeting and Shoring(X)
- ☐ Tenant Layout(Y)
- ☐ Swimming Pool(Z)
- ☐ Special Sign(AA)
- ☐ Projection(AB)
- ☐ Excavation only (AC)
- ☐ Tent(AD)
- ☐ Antenna (AE)

12. Description of Proposed Work: NEW 425 UNIT APARTMENT BUILDING WITH APPROXIMATELY 10,000 SF RETAIL, BELOW GRADE PARKING, AND AMENITIES.

13 Existing Use(s) of Building or Property	14 Ex. No of Stories of Bldg	15 Ex. No of Dwelling Units	Official Use Only: Miscellaneous FEE $
C-M-1 VACANT WAREHOUSE AND SURFACE PARKING LOTS	2	0	
16 Proposed Use(s) of Building or Property	**17 Prop. No of Stories of Bldg**	**18 Prop. No of Dwelling Units**	**By: / Date:**
C-3-C MIXED USE. - 425 APARTMENTS - 10,000 SF RETAIL	11	425	

19 Starting Date	20 Completion Date of work	21 Method of Removing Construction Debris	22 Does the proposed work involve **disturbing the earth** or razing a building?
11/1/2016	3/1/2019	☐ Pick-up Truck ☒ Dumpster ☐ Other (*specify*)	☒ Yes, answer q. 23 ☐ No, SKIP q. 23-27

23. Is the area of disturbed earth more than 50 sq. ft?	24. Soil Erosion Control Methods	25. Area of Offsite Drainage	26. No of Footings or Columns	27 Size of Footings or Columns
☒ Yes, answer q. 24-25 ☐ No, SKIP q. 24-25		sq. ft		

ALWAYS SIGN THE APPLICATION ON PAGE 3 (SECTION I)

Complete Section B if the proposed work is **new building, addition or alteration.** (Page 2)
Complete Section C if the proposed work is **razing a building.** (Page 2)
Complete Section D if the proposed work is a **retaining wall.** (Page 2)
Complete Section E if the proposed work is a **fence.** (Page 3)
Complete Section F if the proposed work is a **shed/garage.** (Page 3)
Complete Section G if the proposed work is an **awning.** (Page 3)
Complete Section H if the proposed work is a **sign.** (Page 3)

OFFICIAL USE ONLY

	R	P	H	A	
M					
P					
E					W ☐ Yes ☐ No
F					PLANS
S					☐ No ☐ Sm ☐ Lg

28. Existing Stories Plus:	29. Proposed Stories Plus:	30. Existing Stories Penthouse: ☐ Yes ☒ No	31. Proposed Stories Penthouse: ☒ Yes ☐ No	32. Is this related to a Stop Work order: ☐ Yes ☑ No
2	11			

(B) NEW BUILDING ,ADDITION, & ALTERATION (COMPLETE ITEMS B-1 THRU B-37)

B-1. Architect's Name:	B-2. D.C. Lic. No.:	B-3. Architect's Address: (include Zip Code)	B-4. Phone:
B-5. Engineer's Name:	B-6. D.C. Lic. No.:	B-7. Engineer's Address: (include Zip Code)	B-8. Phone:
B-9. Building Contractor's Name:	B-10. D.C. Lic. No.:	B-11. Contractor's Address:	B-12. Phone:

B-13. Type of Construction:	B-14. Fire Suppression:	B-15. Booster Pump:	B-16. Total Lot Area :	B-18. Present Gross Floor Area of Bldg.:	B-17. Breakdown of Lot Area (=100%)		
☐ Masonry ☐ Steel ☐ Wood ☐ Other ☑ Concrete	☒ Fully Sprinklered ☐ Partially Sprinklered ☐ Standpipe System ☐ None ☐ Other	☒ New ☐ Existing ☐ None	67,446 Sq. ft	18,000	a. building	77	%
					b. paved area		%
					c. greenery		%

B-19. Proposed Gross floor Area of Bldg.:	B-20. Length:	B-21. Width:	B-22.Height:	B-23. Floors involved in this permit:	B-24. Projection beyond building line?
412,485			110	☐ All ☒ Floors 1 – 11	☐ Yes, Answer q. B-23 to B-27 ☒ No, SKIP q. B-23 to B-27

B-25. Number and type of projection:	B-26. Distance of Projection: ft.	B-27. Width of Projection: Ft.	B-28. Width of Building frontage: Ft	B-29. Signature of Owner (projection only):

B-30. Water or Sewer Excavation:	B-31. Driveway Construction:	B-32.Sheeting/Shoring Necessary:	B-33. Elevators Involved:	B-34. No. and Type of Elevator:	B-35. Plans Certified by Engineer:
☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes, Answer B-34. ☐ No	5 TRACTION	☒ Yes, Cert. Attached ☐ No

B-36. Estimated Cost of Work
(a) New/Add.: $_____
(b) Alt/Repair $_____
_____
Total $_____

B-37. Volume of New Bldg. or Addition Cubic ft.

OFFICIAL USE ONLY

Alter/Repair FEE	New Const. FEE	Filing Fee	TOTAL PERMIT FEE
$	$	$	$

By:	Date:	By:	Date:	By:	Date:	By:	Date:

(C) RAZING A BUILDING (COMPLETE ITEMS C-1 THRU C-18)

C-1. Insurance Company:	C-2. Policy or Cert. No.:	C-3. Policy Expiration Date:	C-4. Raze Method:

C-5. Building Material:	C-6. Raze Entire Building:	C-7. Building is Condemned:	C-8. Building is Vacant:	C-9. Building has Vault:	C-10. Disconnect Utilities :
	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No

C-11. Length:	C-12. Width:	C-13. Height:	C-14. Volume:

OFFICIAL USE ONLY

C-15. Is Building an Accessory Structure:	C-16. Asbestos in the building?	C-17. Party Wall:	C-18.Owners Notified:	Fee:$	By:	Date :
☐ Yes ☐ No	☐ No ☐ Yes,location _____ _____	☐ Yes ☐ No	☐ Yes ☐ No			

(D) RETAINING WALL (COMPLETE ITEMS D-1 to D-6)

The retaining wall will not obstruct any accessible parking required by D.C. Zoning Regulations

D-1. Cost of work,$:	D-2. Material:	D-3. Height:	D-4. Color:	D-5. Location:
				☐ Entirely on Owner's Land ☐ Party Line with Adjacent Neighboring Land *

*If party wall , the owner of the adjoining property must agree to the erection of the retaining wall and this application

D-6. Address of Adjoining Owner:

OFFICIAL USE ONLY

Fee: $	By:	Date:

EXHIBIT B TO AFFIDAVIT

Remediation Management Services Company

1 West Pennsylvania Avenue
Suite 925
Towson, MD 21204
USA

Office: 410.825.8213
Fax: 410.825.7011
Mobile: 443.838.7143
nicholas.onufrak@bp.com

April 29, 2016

Mr. Brian Barone
Department of Energy & Environment (DOEE)
Toxic Substance Division
Underground Storage Tank Branch
1200 First Street NE, 5th Floor
Washington, DC 20002

Re: **FIRST QUARTER 2016 MONITORING REPORT**
LUST Case #97-030
Former Amoco Station #84664
330 M Street NE
Washington, DC

Dear Mr. Barone,

Remediation Management Services Co. (RMSC), on behalf of BP Products of North America, Inc. (BP) is submitting this First Quarter Monitoring Report 2016 for former Amoco #84664 located at 330 M Street NE (site). The report contains groundwater monitoring data for the period of January 1, 2016 through March 31, 2016.

Activities completed this period include:

- Gauging and groundwater sampling of all accessible monitoring wells on March 9, 2016.

On March 9, 2016, Groundwater & Environmental Services, Inc. (GES) field personnel observed damage to monitoring well MW-23 due to apparent excavation and fresh grass seed in the vicinity of the well. The well pad appeared to be moved from its last known location and the gripper plug was stuck below the cement grout in the manhole. The well casing was not observed within the manhole. GES notified the DOEE on March 9, 2016. The DOEE requested that the well be permanently abandoned and investigate who may have destroyed the monitoring well. On March 22, 2016, GES submitted a Freedom of Information Act (FOIA) request to the District of Columbia for information on excavation work completed in the area. GES received a notification on April 11, 2016 that a review of the request was completed, but no information was available regarding the apparent work completed which resulted in the dustruction of monitoring well MW-23. GES, onbahalf of BP will properly abandon MW-23 per the Department of Consumer and Regulatory Affairs (DCRA) and DC Water Quality guidelines and standards.

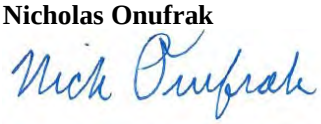
GES was given notice from the property owner that the site will be re-developed in the fall of 2016. Pending the outcome of a meeting on April 28, 2016 and further negotiations between BP, GES, DOEE and the property owner, A Corrective Action Plan (CAP) will be submitted to DOEE incorporating the redevelopment plan for the property.

BP requests a modification to the existing groundwater sampling program at the Site. Currently, all accessible monitoring wells are gauged and sampled on a quarterly basis. BP requests to modify the

groundwater monitoring program to sample select monitoring wells (MW-2, MW-3, MW-5, MW-6, MW-9, MW-12, MW-14, MW-15, MW-16, MW-17, MW-18 and MW-22) annually. These monitoring wells have groundwater concentrations below all Risk Based Corrective Action (RBCA) Tier I risk based screening levels (RBSLs) for at least four consecutive sampling events. Additionally, the plume and source area groundwater concentrations have demonstrated stability. All other monitoring wells will continue to be gauged and sampled on a quarterly basis. BP requests a written response to this change to the groundwater monitoring program.

During the second quarter 2016, BP will continue quarterly monitoring well sampling and reporting and coordinate the abandonment od monitoring well MW-23. Should you have any questions or require additional information, please contact the undersigned at 410-825-8213 or Andrea Taylorson-Collins (GES) at 800-220-3606 extension 3703.

Sincerely,
Nicholas Onufrak



Operations Project Manager

c: Berkeley Shervin
GES File (PSID# 574736)

FIRST QUARTER 2016 MONITORING REPORT

Former Amoco Station #84664
330 M Street NE
Washington, DC
LUST CASE #97-030

Prepared for:
Remediation Management Services Company
A BP Products NA, Inc. affiliate
1 West Pennsylvania Avenue, Suite 925
Towson, Maryland 21204-5031
Attn: Mr. Nicholas J. Onufrak

Prepared by:
GES, Inc.
1350 Blair Drive, Suite A
Odenton, MD 21113
(800) 220-3606

Submittal to:
Mr. Brian Barone
Department of Energy & Environment
Toxic Substances Division
Underground Storage Tank Branch
1200 First Street NE, 5th Floor
Washington, DC 20002

BACKGROUND INFORMATION:

- Inactive service station, currently an paved lot used for vehicle and equipment storage
- Gas, water and sewer utilities located east and south of the Site
- Local lithology: sand and clay
- Sensitive receptors: residential basements located approximately 60 feet south of the Site and Two Rivers Public Charter School approximately 250 feet northeast.

SITE HISTORY:

December 30, 1996	An emergency response occurred for vapors in nearby residential basements to the south. The product dispensing system was removed from service until overfill protection could be installed. Tanknology tested the underground storage tanks (USTs) and product lines and all tested tight. Inventory records were reviewed and no discrepancies were noted.
January 7, 1997	Two monitoring wells (MW-1 and MW-2) were installed per the District Department of the Environment (DDOE) and overfill protection were installed per District of Columbia Fire Marshal (DCFM) directive. Fuel dispensing operations were commenced.
February 7, 1997	Emergency Response Status Report submitted to the DDOE detailing emergency response activities conducted between December 30, 1996 and January 1997 in relation to reports of hydrocarbon vapors in the basement of 1162 4th St. Basements of nearby homes and utility manholes were screened for volatile organic carbons (VOCs), but none were observed. LPH were observed in manholes that provide access to the UST sumps.
April 22, 1997	Fuel sales ceased pending site abandonment activities and product was removed from the tanks.
May 20, 1997	Emergency Response Status Report was submitted to the DDOE due to hydrocarbon odors reported in the basement of 403 M Street reported on April 28, 1997. The report detailed response activities performed including: tank testing, gauging and screening the residence with a flame-ionization detector (FID) with which no vapors were identified. FID readings of 2,000 parts per million (ppm) and 18 percent (%) lower explosive limit (LEL) were detected in the Potomac Electric Power Company (PEPCO) manhole located at on the northwest corner at intersection of 4th and M Street. Additional LEL and FID readings were also recorded in the PEPCO manholes along M St. The report concluded that the vapors observed were related to a Washington Gas natural gas leak that was repaired at the intersection of 4th and M St.
May 29, 1997	All Underground Storage Tanks (USTs) were removed and the station was abandoned.
July 1997	A UST closure report was submitted to the DDOE.
August 26, 1997	Monitoring well MW-03 was installed north of the former UST field per the DDOE telephone directive.
1997 to 2003	Semi-annual groundwater sampling was performed.
Prior to May 2002	Monitoring well MW-03 was destroyed. URS Corporation (URS), on behalf of BP, assumed environmental management of the site from Handex of Maryland, Inc.

May 2003	Two on-site monitoring wells MW-04 and MW-05 and three off-site monitoring wells (MW-06 through MW-08) were installed.
May 21, 2003	Liquid-phase hydrocarbons (LPH) were detected in monitoring well MW-01 (0.04 feet).
June 11, 2003	LPH was detected in monitoring well MW-01 (0.03 feet), and an absorbent sock was placed in the well.
July 2003	A Comprehensive Site Assessment (CSA) was submitted to the DDOE.
August 2003 to November 2003	High Vacuum Extraction and Treatment (HEAT) events were conducted on various wells at the site.
December 2003 to November 2005	Monthly HEAT events were conducted on monitoring well MW-08.
January 9, 2004	A surfactant solution was injected into monitoring wells MW-02 and MW-08, and extracted on January 13, 2004.
February 2004	18 soil borings were advanced off-site using direct push technology to delineate impacts. Temporary 1-inch piezometers were installed, groundwater samples were collected, and the piezometers were abandoned.
May 2004	The Comprehensive Site Assessment Addendum (CSAA) was submitted to the DDOE.
May 7, 2004	Filter socks containing oxygen-releasing material (EZ-Ox®) were installed in three monitoring wells MW-01, MW-06 and MW-07.
July 30, 2004	URS submitted a Work Plan to further assess the potential for off-site petroleum migration at the site.
August 2, 2004	The DDOE approved the Work Plan.
February 17, 2005	Groundwater samples for geochemical parameters (alkalinity, biological oxygen demand (BOD), chemical oxygen demand (COD), nitrate and nitrite, sulfate and sulfide, and total iron) were collected from monitoring wells MW-01, MW-06 and MW-07, and submitted for analysis.
March 14, 2005	A passive skimmer was deployed in monitoring well MW-08.
April 5, 2005	URS requested safety variance to the Work Plan.
April 5, 2005	DDOE approves the variance to the Work Plan.
August 26, 2005	EZ-Ox® filter socks were re-deployed in monitoring wells MW-01 and MW-06. Filter socks were later re-deployed in monitoring well MW-07.
November 3, 2005	After the HEAT event, the passive skimmer was not re-deployed in monitoring well MW-08 in anticipation of the bio-nutrient application.
December 20, 2005	URS initiated a bio-nutrient augmentation pilot test at the site. A total of approximately 100 gallons of a proprietary mix containing petroleum-degrading microorganisms and nutrients were applied to monitoring wells MW-01, MW-06, MW-07 and MW-08.
January 30, 2006	A request for an Underground Injection Control (UIC) Rule Authorization for enhanced bioremediation activities being conducted at the site was submitted to the U.S. Environmental Protection Agency (EPA) Region III.
February 9, 2006	The EPA granted the request and assigned Rule Authorization identification number DCS5B0010009 to this and several other BP/Former Amoco sites undergoing similar bioremediation activities.
March 8, 2006	A proposal for an Interim Corrective Action Implementation Study to evaluate the effectiveness of microbe augmentation and nutrient stimulation on biodegradation processes at the site was submitted for the DDOE's review.
July 14, 2006	A groundwater flow direction survey was conducted on monitoring wells MW-02 and MW-06, using a Kerfoot Technologies Model 40 GEOFLO Horizontal Heat-Pulse Groundwater Flowmeter.
September 27, 2006	An Enhanced Fluid Recovery (EFR) event using a vacuum truck was conducted on monitoring well MW-08. As appropriate based on measureable detections of LPH, subsequent EFR events on monitoring well MW-08 were conducted.
November 29, 2006	A pump-down test was conducted on monitoring well MW-08. The purpose of the test was to measure the rate of LPH recharge in the well, and to determine the ideal recovery depth for future EFR operations.
December 5, 2007	Monitoring wells MW-01, MW-06, MW-07 and MW-08 were redeveloped to improve the hydraulic communication.

SITE HISTORY (CONT.):

August 4, 2008	Monitoring wells MW-01, MW-06, and MW-07 were redeveloped using a surge block.
August 2008 to December 10, 2008	Petroleum-impacted water and LPH were evacuated monthly from monitoring well MW-08.
December 2008 to December 12, 2008	A bio-nutrient solution was applied to monitoring wells MW-01 (130 gallons total over 3 days) and MW-06 (5 gallons during a single injection event) and MW-07 (30 gallons total over 3 days).
January 2009 to April 2009	Petroleum impacted water and LPH were evacuated monthly from monitoring well MW-08.
March 26, 2009	A bio-nutrient solution was applied to monitoring well MW-07 (10 gallons).
May 2009 to August 2009	Petroleum-impacted water and LPH were evacuated monthly from monitoring well MW-08.
June 23, 2009	A bio-nutrient solution was applied to monitoring well MW-01 (40 gallons) and MW-07 (7 gallons).
September 2009 to December 2009	Petroleum-impacted water and LPH were evacuated monthly from monitoring well MW-08.
October 1, 2009	A bio-nutrient solution was applied to monitoring wells MW-01 (20 gallons), MW-02 (10 gallons) and MW-07 (10 gallons).
January 2010 to December 2010	Petroleum-impacted water and LPH were evacuated monthly from monitoring well MW-08.
June 17, 2010	A bio-nutrient solution was applied to monitoring wells MW-01 (30 gallons) and MW-07 (20 gallons).
September 22, 2010	A bio-nutrient solution was applied to monitoring wells MW-01 (13 gallons), MW-02 (3 gallons), and MW-07 (8 gallons).
December 8, 2010	One pound of Epsom salt was added to monitoring well MW-01.
January 2011 to April 2011	Petroleum-impacted water and LPH were evacuated monthly from monitoring well MW-08.
March 10, 2011	A Temporary Monthly Enhanced Fluid Recovery Event Shutdown Request was submitted to the DDOE.
April 14, 2011	The DDOE approves Temporary Monthly Enhanced Fluid Recovery Event Shutdown Request.
May 20 and May 27, 2011	Monitoring wells MW-01, MW-07 and MW-08 were surged with surfactant. An EFR event was performed on monitoring wells MW-01, MW-07, and MW-08 for an hour each.
August 18, 2011	Monitoring wells MW-01, MW-07 and MW-08 were surged with surfactant. An EFR event was performed on monitoring wells MW-01, MW-07, and MW-08 for an hour each.
October 20, 2011	Monitoring wells MW-01, MW-07 and MW-08 was surged with surfactant. An EFR event was performed on monitoring wells MW-01, MW-07, and MW-08 for an hour each.
October 20, 2011	BP issued a safety stand-down due to an incident that occurred at BP site 84724 (2917 Martin Luther King Jr Avenue, SE Washington, DC). No work was conducted at any BP District of Columbia site during the safety stand down.
November 16, 2011	The safety stand down was lifted by BP.
December 22, 2012	GES, on behalf of BP, began environmental management of the site.
February 15, 2013	GES submitted a Work Plan for Comprehensive Site Investigation to the DDOE.
February 20, 2013	The DDOE approves a Work Plan for Comprehensive Site Investigation.
July 2, 2013	GES applied for a Construction in Public Space Permit.
July 26, 2013	GES applied for a Public Space Occupancy Permit.
August 27, 2013	The DDOE Water Quality Division (WQD) objected to the nested monitoring well installation.
September 20, 2013	GES submitted a Revised Work Plan for Comprehensive Site Investigation.
September 23, 2013	The DDOE approved the revised Work Plan.
October 16, 2013	A Public Space Occupancy Permit and a Construction in Public Space Permit were issued to GES to complete the subsurface investigation.
November 4, 2013 to November 8, 2013	A MIP investigation was conducted and three vapor points VP-1, VP-2, and VP-3 were installed.
November 14, 2013 to November 27, 2013	Ten off-site monitoring wells MW-09, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, and MW-18 were installed to delineate the soil and groundwater impacts.
January 10, 2014	All existing monitoring wells, vapor points, soil borings and on-site features were re-surveyed.

February 24, 2014	GES submitted a Site Assessment Work Plan and a Comprehensive Site Assessment Addendum.
February 24, 2014	The DDOE approved the Site Assessment Work Plan, which includes the submittal of a Comprehensive Site Assessment Work Plan by April 30, 2014.
April 30, 2014	GES submitted a Comprehensive Site Assessment Work Plan to the DDOE.
June 24, 2014	DDOE approved the Comprehensive Site Assessment Work Plan submitted on April 30, 2014.
July 21-22, 2014	Re-development activities were completed per the Comprehensive Site Assessment Work plan on monitoring wells MW-7 and MW-8.
July 29, 2014	DDOE approved reduced analytical requirements of PAH compounds for quarterly groundwater sampling. Naphthalene, 1,2-dibromoethane and 1,2-dichloroethane will continue to be analyzed. DDOE also approved the removal of sampling for TPH-ORO in all groundwater samples.
August 13, 2014	Installation of passive bag samplers in monitoring wells MW-1, MW-11, MW-8, MW-14, MW-7 and MW-15.
September 12, 2014	Passive bag samplers were retrieved from MW-1, MW-11, MW-8, MW-14, MW- and MW-15.
October 24, 2014	GES submitted a *Comprehensive Site Assessment Addendum* (CSAA) which summarized monitoring well redevelopment activities and passive bag sampling analysis. The CSAA recommended additional delineation
December 5, 2015	DDOE approved the CSAA submitted on October 24, 2014.
January 5, 2015	GES submitted public space and construction permits to DCRA and DC Water Quality as part of the Comprehensive Site Assessment Addendum.
February 26, 2015	A case review meeting was held between the DDOE, BP and GES to update the status of the site and ongoing work.
April 22, 2015	DDOE approved to eliminate ethylene dibromide (EDB) and ethylene dichloride (EDC) analysis for groundwater in all monitoring wells.
June 1-4, 2015	Monitoring wells MW-01, MW-07 and MW-08 were abandoned and replaced by MW-19, MW-20 and MW-21, respectfully. Delineation monitoring wells MW-22 and MW-23 were installed west of the site in the DC right of way.
July 9, 2015	All existing monitoring wells, vapor points, soil borings and on-site features were re-surveyed.
August 12, 2015	DC Mayor announces re-designation of DDOE as the Department of Energy & Environment (DOEE).
September 18, 2015	GES on behalf of BP submitted a Tier I Risk Based Corrective Action (RBCA) assessment to DOEE and a CSAA.
March 9, 2016	During quarterly groundwater sampling activities, monitoring well MW-23 was observed to be damaged, no sample was collected. GES notified the DOEE which requested the monitoring well be properly abandoned if possible and investigate who may have damaged the well.

SCHEDULE:

Period covered by this report:	January 1, 2016 through March 31, 2016
Status of project:	CSA complete. Develop a Corrective Action Plan.
Work performed during this period:	- All accessible monitoring wells were gauged and sampled on March 9, 2016.
Work planned for next period:	- Quarterly groundwater sampling and gauging - Abandon monitoring well MW-23 due to damage by a third party - Corrective Action Plan development - Tier II RBCA endpoint development

SITE MONITORING:

Gauging/Sampling Frequency:	Quarterly
Sampling Analytical:	BTEX/MTBE/TBA/Naphthalene (8260B), TPH-GRO/ TPH-DRO (8015B).
Total number of monitoring wells/ Number of monitoring wells sampled:	19/18
Depth to water range:	9.61 (MW-04) to 31.46 (MW-06) feet below top of casing on March 9, 2016
Monitoring wells with LPH:	None this period; last detected in monitoring well MW-08 (0.01 feet on November 11, 2010)

		Tier 1 RBSL for Residential Adult
Maximum Benzene in groundwater:	MW-11 (**1,600** µg/L)	67.6 µg/L
Maximum Toluene in groundwater:	MW-11 (11,000 µg/L)	900,000 µg/L
Maximum Ethylbenzene in groundwater:	MW-11 (**1,600** µg/L)	206 µg/L
Maximum Total Xylenes in groundwater:	MW-11 (7,300 µg/L)	20,500 µg/L
Maximum MTBE in groundwater:	MW-11 (8,900 µg/L)	16,100 µ/L

Groundwater Contouring:

	Hydraulic Gradient and Flow Direction
Shallow well zone (MW-09, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, and MW-18, MW-22,)	0.03 ft/ft east (MW-22 to MW-09)
Deep well zone (MW-02, MW-04, MW-05, MW-06, MW-19, MW-20, and MW-21)	0.19 ft/ft northwest (MW-20 to MW-4)

HYDROCARBON RECOVERY:

		Gallons
LPH recovered via manual bailing:	This Period:	0.00
	To Date:	1.52
Hydrocarbon impacted groundwater/LPH Removed by EFR/HEAT:	This Period:	0.00
	To Date:	35.40
	TOTAL:	**36.92**

ATTACHMENTS:

Figure 1	Site Location Map
Figure 2	Local Area Map
Figure 3	Site Map
Figure 4	Groundwater Monitoring Map (March 9, 2016)
Figure 5	Historical Soil Sample Location Map
Table 1	Historical Soil Analytical Data Summary
Table 2	Historical Liquid Level and Groundwater Analytical Data Summary
Table 3	Polycyclic Aromatic Hydrocarbons Analytical Data Summary
Table 4	Historical MNA Analytical Data Summary
Table 5	Historical Soil Vapor Analytical Data Summary
Appendix A	Laboratory Report and Chain of Custody Documentation

EXHIBIT C TO AFFIDAVIT

Remediation Management Services Company

1 West Pennsylvania Avenue
Suite 925
Towson, MD 21204
USA

Office: 410.825.8213
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Mobile: 443.838.7143
nicholas.onufrak@bp.com

December 22, 2016

Mr. Brian Barone
District Department of the Environment
Toxic Substance Division
Underground Storage Tank Branch
1200 First Street NE, 5th Floor
Washington, DC 20002

Re: **CORRECTIVE ACTION PLAN**
LUST Case #97-030
BP Site # 84664
330 M Street NE
Washington, DC

Dear Mr. Barone:

Remediation Management Services Co. (RMSC), on behalf of BP Products of North America, Inc. is submitting the attached Corrective Action Plan (CAP) for the above-referenced property.

RMSC appreciates the continued guidance of the DDOE. Should you have any questions or require additional information, please contact me at (410) 825-8701.

Sincerely,
Nicholas Onufrak

Operations Project Manager

c: Berkeley Shervin
GES File (PSID# 600247)

Corrective Action Plan

BP Site #84664
Department of Energy & Environment LUST Case #97-030
330 M Street NE
Washington, DC

Prepared for:

Remediation Management Services Co. (RMSC)
on behalf of BP Products North America Inc.
1 West Pennsylvania Avenue
Suite 925
Towson, Maryland 21204

Prepared by:

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.
1350 Blair Drive Suite A
Odenton, Maryland

December 22, 2016

CORRECTIVE ACTION PLAN

Former Amoco Service Station #84664
330 M Street, NE
Washington, DC
LUST Case # 97-030

Prepared for:

Remediation Management Services Co. (RMSC)
on behalf of BP Products of North America, Inc.
1 West Pennsylvania Ave
Suite 925
Towson, MD 21204

Decmember 22, 2016

Prepared by:

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Staff Environmental Scientist

Reviewed by:

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1.0 INTRODUCTION

Groundwater & Environmental Services, Inc. (GES) is pleased to submit a *Corrective Action Plan* (CAP) for the former Amoco station located at 330 M Street, NE Washington, DC (Site). The District of Columbia Department of the Energy and Environment (DOEE) Leaking Underground Storage Tank (LUST) case number assigned to the site is #97-030. The objective of this CAP is to provide a remedial approach that achieves the Site Specific Target Levels (SSTLs) set forth in the District of Columbia Risk-Based Correct Action Technical Guidance (Risk-Based Decision Making) June 2011 (DCRBCA) that achieves levels required for the redevelopment activities planned for the Site in the fall of 2016. The DCRBCA SSTLs are based on risk to human health and the environment. A Site Location Map is included as **Figure 1**; a Local Area Map in included as **Figure 2**, and a Site Map is included as F**igure 3**.

This Corrective Action Plan will complete the following objectives:

1.) Removal and reduction of the soil source area on Site.
2.) Removal of soil with any potential on-site vapor intrusion risk to the proposed re-development structure as groundwater depth does not pose a risk.
3.) A vapor mitigation plan including a vapor liner and passive sub-slab depressurization system (SSDS) to mitigate vapors that may migrate from down-gradient off-Site sources that cannot logistically be removed.
4.) Assure worker safety during potential exposure to impacted soil and groundwater during Site redevelopment.
5.) Reduction of the chemicals of concern in the groundwater plume through removal of soil source area and leachate migration.
6.) Develop a monitoring plan to monitor the groundwater plume and plan for further remediation if removal of the soil source area does not produce a reduction in the groundwater plume sufficient for protection of Site specific receptors.

2.0 SITE HISTORY

The site is a former Amoco gasoline retail facility. Environmental activities began at the site when LUST case 97-030 was opened by the DOEE in January 1997 in response to a report of vapors in residential basements south of the site in December 1996. The utilities surrounding the site were screened for volatile organic carbons using an organic vapor analyzer/ flame ionization device (OVA/FID) and no volatile organic compounds (VOCs) were observed. As part of the investigation, DOEE directed the installation of two groundwater monitoring wells, MW-01 and MW-02, in January 1997. A second complaint of vapors in a basement was reported in April 1997; however, the source of the vapors was determined to be the result of a natural gas leak in one of the residences and was unrelated to the Amoco service station. PEPCO responded and completed repairs on April 28, 1997.

In April 1997, gas station operations at the site ceased as the service station were closed for demolition. Three 12,000-gallon gasoline and one 12,000-gallon diesel underground storage tanks (USTs) were removed from the site from the site in May 1997. In June 1997, product delivery lines leading from the tank field to the four dispenser island were removed. Approximately 430.90 tons of excavated soils were disposed at Cherokee Environmental Group in Beltsville, MD. Soil samples collected from beneath the four USTs and the four dispensers revealed impacts to subsurface soil. Following the submittal of a *UST Closure Report* in July 1997, the DOEE required the installation of an additional monitoring well, MW-3.

Semi-annual groundwater sampling was performed from 1997 to 2003, during which time MW-3 was destroyed.

A *Comprehensive Site Assessment* (CSA) was conducted in May 2003 to delineate soil and groundwater impacts, during which 18 soil borings (five were converted to monitoring wells, MW-4 through MW-8) were installed on and off Site (SB-12 was advanced solely for geotechnical parameters). Soil and groundwater impacts were observed both on and off site. To further delineate the soil and groundwater impacts, a CSA Addendum was submitted to the DOEE in May 2004, which included an additional 18 soil borings (SB-1 through SB-18) off-site in the downgradient direction (**Figure 4, Soil Sample Location Map**). All 18 borings were converted to temporary groundwater piezometers. Of the soil samples collected from borings during this CSA Addendum, benzene concentrations in soil do not exceed the DC Tier 0 Soil Quality Standard of 1 milligram per kilogram (mg/kg). The total benzene, toluene, ethylbenzene and total xylenes (BTEX) concentration in one sample [SB-7, 10'-12.5', (43.16 mg/kg)] exceeds the DC Tier 0 Soil Quality Standard of 10 mg/kg total BTEX. The DC Tier 0 total petroleum hydrocarbons-gasoline range organics (TPH-GRO) Soil Quality Standard of 100 mg/kg was exceeded in one sample [SB-7, 10'-12.5', (218 mg/kg)]. Groundwater samples collected from three of the temporary piezometers (SB-1, shallow), SB-7 (shallow), and SB-16 (deep) exhibited benzene concentrations that exceed the DC Tier 0 Groundwater Quality Standard of 0.005 milligrams per liter (mg/L). The DC Tier 0 Groundwater Quality Standard of 1 mg/L TPH was exceeded in two of the samples (SB-1, shallow, and SB-7, shallow).

High Vacuum Extraction and Treatment events were conducted on select wells from August 2003 through October 2011. Surfactant solution was injected and extracted from select wells from January 2004 through October 2011. Bio-nutrient amendments were applied to select wells from December 2005 through September 2010.

A Membrane Interface Probe (MIP) investigation was performed in November 2013 with a CSA Addendum submitted on February 24, 2014. Three off-site vapor points, VP-1, VP-2, and VP-3, and ten off-site monitoring wells, MW-09, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, and MW-18 were installed in November 2013 to further delineate soil and groundwater impacts identified during the 2003 and 2004 CSAs. The findings in this report indicate that residual petroleum impacts occur in the subsurface and that dissolved compounds including BTEX, methyl tertiary butyl ether (MTBE) and TPH, in exceedance of Tier 0 cleanup standards, have migrated in the groundwater moving southwest from the Site. Horizontal delineation of the dissolved petroleum hydrocarbon plume is considered complete to the north (upgradient), south (downgradient) and east (side-gradient) areas surrounding the Site. Additional delineation is warranted southwest of the Site beyond the recently installed well MW-13 in the downgradient direction toward 3rd Street, NE. Additional vertical delineation may be warranted for source area or interior plume locations which contain wells that are currently screened either to deep (>25 ft bgs), such as MW-5 or screened to shallow (<25 ft bgs), such as well MW-13. Soil gas results obtained from the three soil vapor points were below DCRBCA Tier I Risk Based Screening Levels. Therefore any vapor intrusion pathways between identified subsurface impacts to local risk receptors were considered incomplete.

On October 24, 2014, BP submitted a Comprehensive Site Assessment Addendum (CSAA) which summarized the deployment of passive bag samplers in select wells on-site and off-site. Passive Diffusion Bag (PDB) samplers were deployed in well clusters MW-01 and MW-11, MW-08 and MW-14, and MW-07 and MW-15 at different depths and were allowed to equilibrate in the wells for four weeks to account for the diffusion rates of the constituents of concern (COCs). The concentrations within the PDB

samplers deployed in the well clusters at similar depths demonstrated that concentrations were not consistent with one another. The concentrations at deeper depths in the deeper screened wells were generally not higher, which indicated that there is not a source zone within the deep aquifer zone. This data suggests that the historic deeper wells were not properly constructed, which allowed for cross contamination in the deep water bearing zone. The DOEE reviewed the CSAA and agreed that the well construction of the old deeper wells could be contributing to the impacts in these wells.

One last additional CSA Addendum was completed on September 18, 2015. Monitoring wells MW-01, MW-07 and MW-08 were abandoned as the well screens were cracked and no well construction records were available potentially causing a preferential pathway for contaminants to migrate to the deeper aquifer through the cracked screen or potentially long screens. These three wells were replaced with three monitoring wells (MW-19, MW-20 and MW-21) with discrete screens from 30-35 feet below grade (fbg) in June 2015. Additional delineation monitoring wells MW-22 and MW-23 were installed down M Street in June 2015. Monitoring well MW-23, located downgradient of the source area and on the northern side of M Street, indicated elevated concentrations of BTEX constituents. However, as this well had detections of the leaded gasoline derivative, ethylene dichloride (EDC), no MTBE and a different BTEX ratio then the BP plume and in the vicinity of another former UST site. The impacts in MW-23 were deemed to be related to closed LUST case #2002-078 for 310 M Street and the well was requested to be abandoned.

On March 9, 2016 monitoring well MW-23 was identified as being damaged due to third party excavation near the monitoring well. GES notified the DOEE the same day. The DOEE requested that the monitoring well be properly abandoned. On May 5, 2016 MW-23 was properly abandoned.

BP and GES met with the property owner and the DOEE regarding redevelopment of the property on April 28, 2016. The property owner shared the redevelopment plan which includes limited excavation at the former BP station location with maximum excavation of 6 feet below grade for footers and utilities at the Site. The redevelopment will consist of slab on grade construction for a mixed use commercial on grade with multi-level residential units above the first floor commercial space. BP agreed to complete a Corrective Action Plan that would mitigate risk to the redevelopment of the property.

3.0 SITE DESCRIPTION

3.1 Property Information

Currently, the property is owned by M Street Development Group, LLC and currently serves as a vehicle and equipment storage yard for the District of Columbia Housing Authority. A small office trailer and other storage containers are located on the property. The property was previously a vacant lot and prior to that, a service station.

The property owner (M Street Development Group, LLC) plans to redevelop the site with a multi-story residential and commercial building in the fall of 2016.

3.2 Site Location and Topography

The site is located at 330 M Street, NE Washington, DC. The area surrounding the site consists of a mix of commercial and residential properties. Local site topography is predominantly flat but slopes slightly

toward the west and southwest. All wells and additional site features were professionally surveyed on July 9, 2015. Topographic surface elevation ranges from 64.29 feet (ft) above mean sea level (AMSL) at MW-12 to 55.25 ft AMSL at MW-22. A Site Location Map noting the site in relation to the surrounding topography and regional features is included as **Figure 1**.

3.3 Regional Geology

The site lies in the western portion of the Coastal Plain Physiographic Province of Washington DC. The site is underlain by grey to grey-brown gravel, sand, silt and clay that are correlated to the middle Pleistocene-age Chicamuxen Church Formation found in Maryland and Virginia (USGS 1994).

3.4 Surrounding Properties

The site is immediately surrounded by residential and commercial properties. Residential row homes are located across M Street to the south of the Site. To the north of the site is a parking lot, beyond which are multi-story commercial businesses and buildings. To the east is 4th Street, NE, beyond which are residential homes. The property located to the west is a DC Metropolitan Police Department parking area. The residential homes located to the south and east of the site are observed to have basements; however, each home is built up on a small embankment. None of the basements appear to exist below street level. A Local Area Map presenting the site in comparison to surrounding buildings and residential neighborhoods is included as **Figure 2.**

An Environmental Data Resources (EDR) report was reviewed to determine if there were any historical properties that may be contributing to the groundwater impacts, specifically near MW-23. A review of the report indicated that a former filling station was located on M Street at the corner of M Street and 3rd street. The map from 1929 indicates that the site use is noted to be "D.C. Street Cleaning Department." The Sanborn map from 1959 indicates that there are three gasoline tanks (labeled GT) associated with a filling station on the corner of M Street and 3rd St, no improvements are shown where the Site is located (330 M Street). The filling station and three gas tanks are shown on Sanborn maps from 1959 to 1985. In 1989 the three gas tanks are no longer noted on the Sanborn Map. The Site is noted to be a filling station beginning in 1985 according to the maps.

Aerial photographs of the site and surrounding areas were reviewed to evaluate historical activities around the Site. One photograph from 1951 shows the suspect filling station at the corner of 3rd St. and M Street and what appear to be dispensers in the vicinity of the gas tanks.

3.5 Utilities

The site and the surrounding area are served by mostly underground utilities that have affected the location of monitoring wells and soil vapor points. Underground electrical, gas, water and sewer lines are located in all directions of the property. Washington, DC is served by DC Water which obtains water from the Potomac River near Great Falls and is treated at the Dalecarlia Reservoir by the Washington Aqueduct (a division of the U.S. Army Corps of Engineers). There are no permanent on site improvements. There is an office trailer on site which does not have sewer or water service. There is power drop to the trailer. Locations of site utilities are illustrated on the Site Map included as **Figure 3**.

3.6 Surface Water Bodies

The site is located in the Anacostia River Watershed and presumed to drain to the southwest, south and southeast. The closest surface water body is McMillan Reservoir located approximately 1.32 miles, upgradient and northwest of the Site. McMillan Reservoir is an active reservoir used for water storage. The location of the reservoir is shown on **Figure 1**.

4.0 GEOLOGY AND HYDROGEOLOGY

4.1 Stratigraphy

The site is underlain by grey to grey-brown gravel, sand, silt and clay. A & B Section Alignment Map is provided as **Figure 5**, which shows the locations of cross-sections A-A' and B-B' for stratigraphic purposes. Cross-section A-A' is presented in **Figure 6** and spans from MW-03 in the northeastern corner of the site to MW-16 located near the residential row homes to the southwest of the site. Cross-section A-A' is primarily underlain by sand and clay with small sections fill, gravel, and sand. Cross-section B-B' is present in **Figure 7** and spans from east to west from MW-06 to MW-22. Cross-section B-B' is primarily underlain by clay and sand with small sections of fill, gravel, and sand, similarly to cross-section A-A'.

4.2 Water Table Elevation

Historically, groundwater has been encountered at the site ranging from 7.99 to 35.25 feet below ground surface (bgs). A perched water bearing zone is located above the groundwater table. The most recent groundwater elevations at the site were 15.31 feet bgs in MW-11 and 23.93 feet bgs in MW-19 on June 15, 2016.

4.3 Groundwater Flow

A groundwater monitoring map in the perched water bearing zone and the groundwater table is presented as **Figure 11**. Groundwater flow in the perched water bearing zone is variable with flow to the northwest, west, southwest, and southeast with a hydraulic gradient of 0.02 feet/feet west from MW-12 to MW-13. Groundwater flow in the water table is primarily to the south southeast with a hydraulic gradient of 0.18 feet/feet south southwest from MW-04 to MW-20.

5.0 SITE CONDITIONS

5.1 Groundwater

LNAPL was only detected once in MW-01 on May 21, 2003 with a thickness of 0.04 feet and has been detected intermittently in monitoring well MW-08 from November 25, 2003 through November 11, 2010 with a maximum thickness of 0.98 feet on January 27, 2009 (**Table 2**- Historical Liquid Level and Groundwater Analytical Data Summary). On- and off-site groundwater is above Tier I RSBLs and is classified in shallow and deep aquifer zones. Due to apparent poor well construction, contamination may have migrated from the shallow zone to the deep zone at select former monitoring well locations (MW-01, MW-07 and MW-08); however, these wells were replaced by MW-19, MW-20 and MW-21,

respectively, and concentrations have shown a steady decrease since the replacement in June 2015. **Figure 11 – Groundwater Monitoring Map** (March 9, 2016) summarizes groundwater concentrations, groundwater elevation and contours for shallow and deep aquifers.

Monitoring well MW-11 benzene concentration is the highest onsite at 1,600 µg/L located off-Site and south of the area that is planned to be excavated. The benzene concentration in MW-11 indicates the source from soil exists as shown in historic soil samples (PTM and SB03-8) to the north. Monitoring well MW-13 which is located southwest across M street also indicates exceedance of Tier I RSBLs for residential adults. However, monitoring wells MW-09, MW-10 located between MW-11 and MW-13 do not exceed Tier I RSBLs for benzene which may indicate that a separate source may exist near MW-13. A possible source near MW-13 may be the former gasoline filing station which was on the corner of M Street and 3rd Street to the west. Monitoring well MW-23 was located between the former gasoline filling station and MW-13. In the CSA submitted to DOEE in September 2015 multiple lines of evidence were presented which determined that groundwater concentrations from MW-23 were not associated with the former BP leased station. **Figure 12** - Benzene Concentration Map (March 9, 2016) shows the extent of the shallow and deep benzene plume.

Based on the on and off-Site exceedances of the Tier 1 RBSLs in the groundwater remediation of the soil source area is warranted to prevent an on-going source and assist with natural attenuation of the constituents of concern (COCs). If removal of the soil source does not cause a significant decrease in the groundwater concentrations to be protective of receptors after one year of post-excavation monitoring then remediation of the groundwater will be evaluated to achieve closure concentrations in groundwater.

5.2 Soil

A review of the soil data and PID readings from the UST system removal and the multiple conceptual site model investigations using boring logs, monitoring well logs and MIP data collected throughout the history of the LUST case indicates petroleum hydrocarbons with concentrations that exceed the DC RBCA Tier 1 RBSLs are present in the subsurface at depths less than the required six feet of separation distance from the proposed slab on grade building on Site at two locations (PTM at 5 fbg and SB03-8 at 5-7 fbg). **Table 1** summarizes all historical soil data with locations of the sample locations depicted on **Figure 4**. **Figures 8, 9** and **10** are the Cross Sections that identify soils that need to be removed to be protective of the vapor intrusion pathway on site. These figures identify the depths and locations of soil that exceeds Tier I RBSLs for on-site commercial and residential indoor inhalation. Based on the locations of the vapor intrusion exceedance of the Tier 1 RBSLs at depth of 6 fbg or less the source are of the former dispenser is selected for excavation to remove the vapor intrusion pathway from impacted shallow soils. **Figure 9** depicts the north to south cross section of the site. The excavation is limited to the north by the former UST excavation that was completed to approximately 14 feet below grade and SB03-06 which most impacted sample which had a maximum benzene concentration that was non-detect <0.0012 mg/kg. The excavation is limited to the south by the property boundary but also could not extend beyond this point due to multiple large public utilities in this area including underground electric, water and gas lines. **Figure 10** depicts the west to east cross section of the site. The excavation is limited to the west by data from PTM (benzene concentration of non-detect <0.0002 mg/kg at 3 fbg) and SB03-09 (benzene concentration of 0.002 mg/kg at 10-12 fbg) that are below the Tier 1 RBSL for residential adults and children. The excavation is limited to the east by data from PTE (benzene concentration of non-detect <0.0002 mg/kg at 3 fbg) and SB03-05 (benzene concentration of non-detect <0.0013 mg/kg at 10-12 fbg) that are below the Tier 1 RBSL for residential adults and children.

5.3 Soil Vapor

Three soil vapor points are located off-site to evaluate vapor intrusion to the homes located across M Street. No soil vapor points were located on site as there are currently no structures on site where vapor intrusion could potentially be an issue. The soil vapor points have been sampled semi-annually since December 2013 with the exception of VP-1 which has only been sampled twice due to water in the sampling point. The soil vapor points are screened from 3.5 to 4.5 feet below grade as there are no known subsurface structures that extend beyond this depth from the sidewalk grade. The historical soil vapor analytical data summary is included in **Table 3**. Data from these three soil vapor points has consistently remained below the Tier 1 RBSL for on-site residential child, on-site residential adult and on-site commercial worker. Remediation of soil and groundwater for off-site vapor intrusion of current structures is not warranted based on these data. Per Section 5.2 and Section 5.1 soil removal is warranted as data suggests soil vapors may exceed residential and commercial standards on site of remediation does not occur before redevelopment for future use for commercial and residential purposes.

6.0 RISK CONTEXT

The *District of Columbia Underground Storage Tank Regulations* include the DCRBCA or Risk-Based Decision Making (DCRBDM) process. This process can be used to develop site-specific RBSLs and site specific target levels (SSTLs) for remediation. This approach is supported by the United States Environmental Protection Agency (USEPA) for LUST sites. The DCRBCA process recognizes and balances (i) the need to protect public health, water resources, and the environmental of the District, (ii) the variations in site-specific land use and hydrogeological characteristics, (iii) the existing laws and regulations of the District, and (iv) resource limitations. Appropriate risk and exposure assessment practices suggested by the USEPA and the American Section of the International Association for Testing and Materials (ASTM) E1739-95 Standard have been integrated into this process. The intent of the DCRBCA process for USTs is to develop site-specific target levels protective of current and potential future (i) human health, (ii) environment, (iii) nuisance conditions, and (iv) explosive type situations. A Tier I RBCA was completed for this site and submitted to the DOEE on September 18, 2015.

6.1 RBCA Data

The source area was identified as the former tankfield, and wells MW-01, MW-11, and MW-19 were identified to be within the source area. Data from MW-11 and MW-19 were used for calculations relating to the onsite source area. Data from MW-01 was not used in these calculations because this well is abandoned. Point of Demonstration (POD) wells were identified for both the shallow and the deep aquifers. The POD well for the shallow aquifer was identified to be MW-22, and the POD well for the deep aquifer was identified to be MW-20. A Point of Exposure (POE) of 500 feet from the property boundary was utilized due to the fact that no potable groundwater wells are permitted for use in Washington DC.

Complete pathways include:

- On-site and off-site future indoor inhalation of vapors for subsurface soil and groundwater for residential adults and children and commercial workers because residential or commercial structures may be constructed in the future.

- On-site and off-site outdoor inhalation of vapors and particulate matter, ingestion, and dermal contact with subsurface soil and dermal contact with groundwater are complete because future construction projects could expose construction workers to contaminated soil and groundwater.
- Groundwater Resource Protection

On-site representative concentrations for soil and groundwater were calculated using an average of the last two years of data from MW-11 and MW-19. Data from MW-11and MW-19 were also used to calculate the representative concentrations for commercial workers because there are currently no buildings on site. Off-site representative concentrations for groundwater were calculated using an average of the last two years of data from MW-08 and the data from MW-21 as a continuation of data from MW-08 as MW-21 was recently installed and meant to be a replacement well for MW-08. The representative concentrations for soil were calculated using the maximum concentration from soil data from the last two years.

6.2 Surface Water

The closest surface water body is McMillan Reservoir located approximately 1.32 miles, upgradient and northwest of the Site. McMillan Reservoir is an active reservoir used for water storage. The location of the reservoir is shown on **Figure 1**. Due to the distance from the site, impacts to surface water are unlikely and therefore this was not considered a complete pathway that needed to be evaluated in the RBCA.

6.3 Groundwater Resource Protection

Form 18 of the DC RBCA program was completed for MW-22 (320 feet from the source) and MW-20 (62 feet from the source area). Neither point of demonstration well exceeded the Tier I Groundwater Resource Protection Target Concentration for any constituent of concern. Therefore, groundwater resource protection pathway is protected.

6.4 Human Health

6.5 Construction Workers

The soil and groundwater representative concentrations did not exceed the ingestion, outdoor inhalation of vapors and particulate matter, and dermal contact for on-site or off-site commercial workers (Form 17). A Soil and Groundwater Management Plan will be written for the site to assure that proper PPE is in place when contacting and disposing of impacted soil and groundwater during construction activities as a precaution in case more impacted soil and groundwater are encountered during redevelopment of the property.

6.6 Commercial Workers

The soil representative concentrations for benzene, ethylbenzene and xylenes, EDB, MTBE, naphthalene and TPH-GRO exceeded the RBSL for inhalation of vapors for off-site commercial workers and benzene, ethylbenzene, EDB, MTBE, naphthalene for on-site commercial workers. The groundwater

representative concentration for benzene and ethylbenzene exceed the indoor inhalation RBSLs for off-site commercial workers and only benzene for on-site commercial workers.

However, the RBCA model does not take into account distance separation with attenuation from the sample location and the lowest grade of the commercial structure and therefore, the RBCA model is not applicable to the current off-site conditions as off-site commercial worker structures are slab on grade and the soil samples from below these structures did not indicate petroleum impacts at shallow depths. Soil vapor concentrations collected from VP-1 through VP-3 on a semi-annual frequency are below Tier I Risk Based Screening Levels. Therefore, there is no likely risk to human health through vapor intrusion to the off-site commercial workers.

On-site soils exceed the Tier I RBSL in select areas. In order to provide an adequate vertical separation distance to protect the future slab on grade mixed use structure with commercial space on the first floor, impacted soil from 0-6 feet below grade would need to be excavated and backfilled with clean soil. Six feet of clean soil would create for barrier of any upward migrating hydrocarbon vapors per the U.S. EPA Petroleum Vapor Intrusion Technical Guide for LUST sites, June 2015 (EPA PVI guidance). While EDB has been detected in certain areas of the Site, EDB is not a constituent of BP's gasoline release at this Site as BP began operation at this Site in 1985 when lead constituents had already been removed from gasoline and therefore, this CAP does not address this constituent as BP is not the responsible party for EDB.

6.7 Residential Adults and Children

The soil representative concentrations for BTEX, MTBE and naphthalene exceeded the RBSL for inhalation of vapors for off-site residential adults and children and benzene, ethylbenzene, xylenes, MTBE, naphthalene and TPH-GRO exceeded for on-site residential adults and children. The groundwater representative concentration for benzene, ethylbenzene and naphthalene exceed the indoor inhalation RBSLs for off-site and on-site residential adults and children.

However, the RBCA model does not take into account distance separation with natural attenuation from the sample location or groundwater level and the lowest grade of the residential structure and therefore, the RBCA model is not applicable to the current off-site conditions as off-site residential structures do not exceed three feet below the side walk grade on M street and the soil samples from below these structures did not indicate petroleum impacts at shallow depths. Soil vapor concentrations collected from VP-1 through VP-3 on a semi-annual frequency are below Tier I Risk Based Screening Levels. Therefore, there is no likely risk to human health through vapor intrusion to the off-site residents on the south side of M Street. In addition, the average groundwater level is typically approximately 15-22 feet below grade, greater than 6 feet from the bottom of any subsurface structure and approximately 9 feet below the depth of the deepest excavation proposed during the redevelopment of the former BP Site.

On-site soils exceed the Tier I RBSL in select areas. In order to provide an adequate vertical separation distance to protect the future slab on grade mixed use structure with commercial space on the first floor, impacted soil from 0-6 feet below grade would need to be excavated and backfilled with clean soil. Six feet of clean soil would create for barrier of any upward migrating hydrocarbon vapors per the U.S. EPA Petroleum Vapor Intrusion Technical Guide for LUST sites, June 2015 (EPA PVI guidance). While EDB has been detected in certain areas of the Site, EDB is not a constituent of BP's gasoline release at this Site as BP began operation at this Site in 1985 when lead constituents had already been removed from

gasoline and therefore, this CAP does not address this constituent as BP is not the responsible party for EDB.

7.0 REMEDIAL GOALS

This Corrective Action Plan will complete the following remedial goals:

1.) Removal and reduction of the soil source area on Site.
2.) Removal of soil with any potential on-site vapor intrusion risk to the proposed re-development structure as groundwater depth does not pose a risk.
3.) A vapor mitigation plan including a vapor liner and passive sub-slab depressurization system (SSDS) to mitigate vapors that may migrate from down-gradient off-Site sources that cannot logistically be removed.
4.) Assure worker safety during potential exposure to impacted soil and groundwater during Site redevelopment.
5.) Reduction of the chemicals of concern in the groundwater plume through removal of soil source area and leachate migration.
6.) Develop a monitoring plan to monitor the groundwater plume and plan for further remediation if removal of the soil source area does not produce a reduction in the groundwater plume sufficient for protection of Site specific receptors.

8.0 REMEDIAL TECHNOLOGY FEASIBILITY EVALUATION

Various remediation technologies have been screened to determine the most appropriate method or methods to remediate the dissolved-phase and adsorbed-phase hydrocarbons that exist in the subsurface. Remedial technologies selected for consideration are based on the site-specific conditions mentioned above, including the soil boring and monitoring well installation activities, groundwater sampling and gauging activities, risk assessment, and historic Site activities. The potential remedial technologies and site-specific factors associated with each are discussed below. The technologies have been evaluated based on their effectiveness in addressing each of the following aspects of the remedial strategy for the Site:

- Source area remediation;
- Reduction of vapor intrusion risk;
- Long term groundwater resources protection; and
- Sustainability

- *Monitored Natural Attenuation:* MNA relies upon natural subsurface processes to reduce contaminant concentrations to acceptable levels. As stated in OSWER Directive 9200.4-17P, 1999, “the natural attenuation processes that are at work in such a remediation approach include a variety of physical, chemical, or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater. These in-situ processes include biodegradation; dispersion; dilution; sorption; volatilization; radioactive decay; and chemical or biological stabilization, transformation, or destruction of contaminants.” (p. 3) The contaminants at the Site have been shown to be naturally attenuating and iron-reducing, sulfate-reducing, and methanogenesis conditions exists in the most impacted groundwater at the site (**Table 4**). However, based on the dissolved concentrations and associated time frame to meet remedial objectives, monitored natural attenuation as a stand-alone technology is

not a recommended remedial alternative at this time. Natural attenuation may be considered once contaminant concentrations have been further reduced. Monitoring for groundwater quality parameters and indicators of anaerobic biodegradation processes can be completed to further characterize the subsurface and determine the potential for MNA or bioremediation to be effective.

- *Enhanced Anaerobic Bioremediation:* This technology relies on indigenous microorganisms to reduce contaminant levels, but in the absence of oxygen. In this case, compounds like sulfate, nitrate, or iron are used as electron acceptors injected into the subsurface to reduce petroleum hydrocarbon concentrations. Where the amendments can be effectively distributed, this technology may be appropriate for remediating groundwater with low to moderate petroleum concentrations. The former bio-nutrient amendments have caused some contaminant reductions and previous elevated sulfate concentrations have depleted over time, but they have not adequately addressed impacts in the saturated or unsaturated zone. Based on the concentration levels observed at this Site as well as the significant impacts in the vadose zone, enhanced anaerobic bioremediation is not viable as a stand-alone remedy. However, while a more aggressive approach is recommended in the area of highest impacts, electron donor applications could be beneficial for long-term saturated zone remediation.

- *BOS 200 Injections:* BOS 200® is a Trap & Treat® in situ remediation that integrates two technologies: 1) the trapping of the contaminants via carbon adsorption and 2) the subsequent treatment via biological degradation within the BOS 200 matrix. It can be used to degrade petroleum hydrocarbons and other similar compounds. A BOS 200 injection is mainly a slurry of granular activated carbon with water, but the product includes micro and macro nutrients, time release terminal electron acceptors, and a blend of facultative organisms designed for aerobic and anaerobic conditions in the carbon. The activated carbon readily adsorbs hydrocarbons and then bacteria degrade the sorbed compounds. When BOS 200 is mixed with water, the resulting slurry has elevated concentrations of nitrate, sulfate, and chloride. This results in elevated concentrations in the groundwater wherever the material is injected. To inject the BOS 200, a top down injection is conducted at various vertical intervals using equipment on a Geoprobe. Relatively high pressures are used for injection (i.e., enough pressure to provide localized soil lifting and propagation of BOS 200 from the injection tip in clays and silts). A grid of tight horizontal injection spacing (e.g., 7.5 to 10 foot centers) is commonly used. In areas where refusal is likely, preclearing using sonic or auger drilling can be conducted to achieve the targeted depths.

  BOS 200 can be an effective technology at this site to remediate saturated impacts because of its proven effectiveness in tighter soils through the use of high pressure injection, the ability to inject past typical refusal depths through pre-clearing, and the ability to target numerous vertical intervals of impacts. The technology is also viable because it can be implemented in an area with limited access, such as the public right-of-way, and because it can be used to address source areas or as a barrier to prevent downgradient contaminant migration. While BOS 200 can be used to address saturated impacts, it is not a viable approach to address the unsaturated source area or prevent vapor intrusion from unsaturated impacts. For this reason, BOS 200 is only recommended as an approach if the remedial strategy requires an aggressive technology in the saturated zone and in the downgradient area of the site.

- *Soil Excavation:* This remedial option requires the excavation and removal of impacted soil for off-site treatment. Soil excavation provides effective remediation wherever impacted soils that can be effectively accessed and removed. Excavation stabilization (e.g., shoring, sheeting) can be utilized

where necessary to access greater depths. Also, dewatering can be conducted to remove saturated impacts, but would require either off-site water disposal or discharge permitting and water treatment.

Soil excavation has been identified as a viable remedial approach to address shallow source area impacts within the property boundary as an effective approach to prevent vapor intrusion by removing the source and creating a sufficient separation distance between impacts and the future building slab. Because the site is soon to be undergoing redevelopment, soil excavation is the primary technology that can address unsaturated impacts within a manageable timeline. In addition to the immediate benefits of source removal in terms of vapor intrusion, remediation of the unsaturated zone source area will also prevent further contamination migration from the unsaturated to the saturated zones. While soil excavation is recommended for unsaturated soil impacts, excavation of saturated impacts not recommended because of the depths required and the difficulties posed when generating impacted groundwater. Excavation with a backhoe, as opposed to an auger, is recommended because the depth of the unsaturated impacts can be achieved with a backhoe and sufficient access around the excavation can be attained. Excavation stabilization would be required to achieve the depth required to remove the impacts.

9.0 CORRECTIVE ACTION PROPOSAL

The proposed remedy for the Site is to excavate an identified source area of shallow impacted soil that exceeds DOEE RBCA Tier 1 RBSLs for on-site residential adult soil to indoor air. As the proposed redevelopment at this site will only consist of commercial slab on grade space on the former BP leased property, this proposed remedy will protect the future commercial worker receptor (and any potential future residential use) for this location for soil to indoor inhalation per the U.S. EPA Petroleum Vapor Intrusion Technical Guide for LUST sites, June 2015 (EPA PVI guidance). The excavation would provide a sufficient thickness of clean soil to provide an adequate vertical separation distance for any upward migrating hydrocarbon vapors.

The proposed excavation area is presented on the Section Alignment Map included as **Figure 8**. The proposed excavation area is approximately 15 feet deep and extends over an area that is approximately 30 feet long and 15 feet wide. Cross sections C-C' and D-D', included as **Figure 9 and Figure 10**, depict the subsurface soil lithology where the proposed excavation is to occur. Soil benzene concentrations and photoionization detector (PID) readings are also displayed on the cross sections.

The proposed excavation area was determined by evaluating historic soil and groundwater concentrations at the site, along with historical activities. Only two shallow soil samples (i.e., above 10 fbg) have been shown to exceed the DOEE RBCA Tier 1 RBSLs and both were collected beneath the former middle gasoline dispenser (PTM at 5 fbg and SB03-8 from 5-7 fbg). To the north of this area, excavation activities were previously completed associated with removal of the USTs, with documented soil samples collected at the bottom of the excavations and all soil removed to approximately 14 feet below grade and backfilled with clean material. To the north of the proposed excavation, the "Tank 2" UST area was previously excavated to approximately 14 fbg and backfilled with clean material. Therefore, the proposed excavation area extends roughly from the former Tank 2 excavation south to the southern property boundary (the extent of the redevelopment in this direction), a distance of approximately 15 feet. The excavation encompasses the former middle gasoline dispenser island where the highest levels of impacted soil were observed. To the east and to the west, the excavation extends nearly to the adjacent former

dispenser islands where impacts were not observed at shallow depths. This distance is approximately 30 feet.

Soils within the excavation area will be excavated via mechanical means to approximately 15 feet below grade. BP will have a vac truck available during the excavation and will remove GW from the excavation as needed to achieve the depth of 15 feet per the excavation design. BP will remove any grossly impacted material from the excavation walls or floor if found. Determination of the appropriate methodology and equipment used for the excavation will be determined prior to mobilization. However, it is expected that a slide-rail shoring system will be used to stabilize the sides of the excavation pit and impacted soils will be directly loaded into trucks for proper off-site disposal. At least the top four (4) feet of soil is expected to be unimpacted and may be reused as clean fill during backfilling activities.

During the excavation activities, soils will be continuously field-screened using a PID. Soil samples from each side wall and along the bottom of the excavation will be collected and submitted for laboratory analysis for BTEX, MTBE, EDB, EDC, TBA and naphthalene in accordance with EPA Method 8260B and TPH-DRO/TPH-GRO in accordance with EPA Method 8015B.

A Soil and Groundwater Management Plan will be written for the redevelopment activities at this Site to document with the property owner how any impacted soil and groundwater that is contacted will be managed and how construction workers will be protected during the redevelopment if unexpected impacts are encountered. This document and implementation of the document will protect the construction worker receptor at this site. The Soil and Groundwater Management Plan will provide specific criteria and guidance in regard to notification, soil screening, segregation, handling and transportation, and laboratory analytical protocols to be used during planned excavation activities. Stipulated in the Soil Management Plan will be that management of petroleum contaminated soil from shall be in compliance with all applicable provisions of federal and DC laws or regulations. This includes the DDOE requirement that no contaminated soil which exceeds Tier 0 standards be placed back into the ground at the Site, unless specifically agreed to by the LUST Case Manager. BP will respond with BP contractors or reimburse the developer's contractors if impacted soils or tanks are encountered on the former BP leased site.

9.1 Backfilling Activities & Soil Amendments

The excavation will be immediately backfilled following excavation activities. The area will be brought back to grade prior to the property owner completing construction activities in this area. The backfill material will consist of certified clean fill materials and will be properly compacted. The fill material used will meet the definition of "clean biologically active soil" with sufficient silt and clay content to be included in an assessment of vertical separation.

During backfilling activities, the bottom of the excavation will be amended with granular gypsum. The gypsum will provide a sustained sulfate source for enhanced anaerobic bioremediation beneath and downgradient of the excavation. Anaerobic bioremediation relies on indigenous microorganisms to reduce contaminant levels in the absence of oxygen. Sulfate would be the provided electron acceptors used in the subsurface to breakdown the petroleum hydrocarbons. Data suggests that iron-reducing, sulfate-reducing, and methanogenesis conditions exist in the most impacted groundwater at the site and sulfate is depleted from historic levels. Monitoring for groundwater quality parameters and indicators of anaerobic biodegradation processes will be completed to monitor bioremediation over time.

9.2 Vapor Barrier and Passive SSDS

As noted above, the excavation and backfill activities would provide a sufficient thickness of clean soil to provide an adequate barrier to upward migrating hydrocarbon vapors in the source area, and an adequate clean soil barrier presently exists outside the source area. Therefore, the exposure pathway from impacted soil media to future building receptors will be incomplete. However, a soil vapor barrier is suggested as a protective measure to assure residual vapors possibly transported through utilities from off-site impacts, do not migrate to the building slab. A passive vapor barrier system would be installed beneath slab surfaces. The design of the vapor barrier and passive sub-slab depressurization system (SSDS) will be completed and coordinated with the property owner following CAP approval. The selected vapor barrier product will be compatible with petroleum hydrocarbon compounds and a minimum of 30 mil (0.03 inches) thickness. Installation and testing of the vapor barrier will be completed in accordance with manufacturer recommendations.

9.3 Off-Site Remediation

Once the excavation has been completed, a minimum of one year of post-excavation groundwater monitoring will be conducted to evaluate the groundwater concentrations in comparison to applicate site specific target values for the applicable receptors before further remediation is considered. Removing a large area of continuous soil source should allow for significant reduction in the down-gradient groundwater concentrations over time. In addition, the sulfate amendment to the excavation (in the form of granular gypsum) will provide electron acceptors for ongoing anaerobic bioremediation.

Off-site remedial activities would be considered in the public space on the south side of M street where monitoring wells MW-20 and MW-21 are located. The proposed remedial strategy would involve the injection of the product BOS 200. BOS 200 integrates two technologies: 1) the trapping of the contaminants via carbon adsorption and 2) the subsequent treatment via biological degradation within the BOS 200 matrix. The product incorporates sulfate (15% by weight), nitrate, phosphate, and ammonia to enhance biological degradation. To achieve adequate distribution of the BOS 200, the injection would be proposed 1) using top down techniques, 2) using relatively high pressure injections (i.e., enough pressure to provide localized soil lifting and propagation of BOS 200 from the injection tip in clays and silts), and 3) using a tight horizontal and vertical injection spacing (7.5 to 10 foot centers). Following shallower injections, the deeper injection zone would be precleared using sonic or auger drilling in order to achieve the targeted depths of 28 to 35 feet without refusal.

10.0 CONCLUSIONS

BP has prepared this CAP to address residual subsurface soil and groundwater impacts at the site. The proposed remedy of targeted excavation will remove the soil source area, which was identified using all historical soil data available. By removing the soil source area from 0-15 feet below grade, the vapor intrusion risk will be mitigated by the clean soil separation and groundwater concentrations in shallow and deep zones should decrease. A vac truck will be available during the excavation and will remove groundwater from the excavation as needed to achieve the depth of 15 fbg. Any grossly impacted material will be removed from the excavation walls or floor if found. Impacted soils or tanks that are encountered on the former BP leased site during redevlopment will be properly documented and disposed of during the redevlopment of the Site. A minimum of one year of quarterly groundwater monitoring will be completed following the targeted soil excavation activities. Should groundwater concentrations reduce below Tier I RBSLs or Tier II SSTLs, case closure would be requested after an additional year of monitoring. If groundwater concentrations do not decline below the RBSLs or SSTLs, remedial options will then be evaluated to move the site towards closure. In addition, as a precaution a 30 mil vapor barrier will be installed over the formerly BP leased property and passive sub-slab depressurization system

piping will be installed to ensure utility conduits that may pass through off-site impacts do not impact the slab on grade commercial and residential redevelopment proposed at this Site.

11.0 SCHEDULE

11.1 Monitoring Schedule

Site groundwater monitoring wells will be sampled and gauged for liquid level data on the current monitoring frequency which consists of annually (1st quarter) – All monitoring wells. During the 2nd, 3rd, 4th Quarter - MW-6, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-19, MW-20, MW-21, and MW-22. Groundwater samples will be analyzed for BTEX/MTBE/TBA/Naphthalene (8260B), TPH-GRO/ TPH-DRO (8015B). Monitoring well MW-13 will be analyzed for EDB and EDC during the monitoring period.

In addition, to monitor bioremediation and the sulfate amendment over time, groundwater quality parameters (temperature, dissolved oxygen [DO], oxidation reduction potential [ORP], conductivity and pH) will be monitored and groundwater samples will be analyzed for sulfate (SO_4^{2-}). This additional monitoring will be conducted at select monitoring wells in the vicinity and downgradient of the excavation area.

11.2 Reporting Schedule

BP will submit *Quarterly Monitoring Reports* to the DOEE summarizing the quarterly groundwater monitoring and remediation activities. The reports will show tabulated data, site maps, and a groundwater monitoring map summarizing the groundwater analytical results for the quarter.

11.3 Remediation Schedule

After the DOEE reviews and approves the Corrective Action Plan an excavation permit will be submitted within three weeks of CAP approval. Within two months of permit approval complete shallow source area removal excavation. Excavation is slated to be completed in three weeks pending no access issues. Within 60 days of all final laboratory data receipt, complete a Soil Source Area Removal Report. GES will work with the property owner to develop a vapor barrier and SSDS design that meets their construction schedule.

EXHIBIT D TO AFFIDAVIT

From:	Berk Shervin
To:	Sara Grant
Subject:	FW: LUST Case #97-030 - CAP - Former Amoco Station #84664 - 330 M Street NE Washington, DC
Date:	Monday, September 24, 2018 5:06:50 PM

From: Berk Shervin
Sent: Thursday, January 05, 2017 9:13 AM
To: 'bock@ebocklaw.com' <bock@ebocklaw.com>
Cc: Sara Grant <sgrant@thewilkescompany.com>
Subject: FW: LUST Case #97-030 - CAP - Former Amoco Station #84664 - 330 M Street NE Washington, DC

Eric – the BP CAP has now been approved. I will send Nick another note now on the coordination agreement. Regards, Berk

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From: Barone, Brian (DOEE) [mailto:brian.barone@dc.gov]
Sent: Thursday, January 05, 2017 8:54 AM
To: Denise Woodring <DWoodring@gesonline.com>
Cc: Berk Shervin <bshervin@thewilkescompany.com>; I-BP: Nicholas Onufrak <Nicholas.Onufrak@bp.com>; Andrea Taylorson-Collins <ATaylorsoncollins@gesonline.com>; Scott Andresini <sandresini@gesonline.com>; Timothy Boswell <TBoswell@gesonline.com>
Subject: RE: LUST Case #97-030 - CAP - Former Amoco Station #84664 - 330 M Street NE Washington, DC

Hi Andrea,

Thank you very much for those updates. I have reviewed the revised corrective action plan and hereby approve the CAP for implementation effective immediately. Best of luck with your remedial efforts. If there are any questions please feel free to contact me directly.

Thanks very much to all parties on keeping this project moving. There will always be delays, but if everyone keeps the lines of communication open I am certain we can all work toward the common goal of closure of this case.

Best regards,

Brian Barone | Environmental Protection Specialist
Department of Energy and Environment
Government of the District of Columbia
Toxic Substances Division, Underground Storage Tanks Branch
1200 First St. NE, 5th Floor
Washington, DC 20002
Main: 202 535 2600
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Website: www.doee.dc.gov

From: Denise Woodring [mailto:DWoodring@gesonline.com]
Sent: Wednesday, January 04, 2017 4:40 PM
To: Barone, Brian (DOEE)
Cc: Berkeley M. Shervin (bshervin@thewilkescompany.com); I-BP: Nicholas Onufrak; Andrea Taylorson-Collins; Scott Andresini; Timothy Boswell
Subject: LUST Case #97-030 - CAP - Former Amoco Station #84664 - 330 M Street NE Washington, DC

Good Afternoon Brian,

BP has revised the Corrective Action Plan (CAP) for Former BP #84664, 330 M St DC per the DDOE's request on 12/14/16. Please see the two highlighted sections (Section 9, page 13 and Section 10, page 14) in the attached report that incorporate the three DDOE comments below:

1. BP will have a vac truck available during the excavation and will remove groundwater from the excavation as needed to achieve the depth of 15 feet per the excavation design.
2. BP will remove any grossly impacted material from the excavation walls or floor if found.
3. BP will respond with BP contractors or reimburse the developer's contractors if impacted soils or tanks are encountered on the former BP leased site.

Please let us know if you have any additional comments or concerns regarding this CAP. A hard copy of this report will be sent to the DDOE on January 5, 2017.

Thank you,
Andrea Taylorson-Collins
Senior Project Manager / Environmental Scientist
Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, MD 21113
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Sent by:
Denise Woodring
Project Management Assistant, Maryland

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EXHIBIT E TO AFFIDAVIT

THIS COORDINATION AGREEMENT ("Agreement") made this ____ day of _____ , 2016 by and between BP PRODUCTS NORTH AMERICA INC. ("BP"), a Maryland corporation (formerly known as Amoco Oil Company), with an address of28100 Torch Parkway, 3'd Floor, Warrenville, Illinois 60555, and CHANNING ONE, LLC ("Channing ") and M STREET JOINT VENTURE ("MSJV"), holder of a security interest in the Property , both with an address of 5101 Wisconsin Avenue, NW Suite 200, Washington, DC 20016.

BACKGROUND

A. Channing owns real property located at and known as 330 M Street, N.E., Washington, DC 20002, containing approximately 16,218 square feet of land and designated as parts of Lot 1 and Lot 2, in Square 772, (the "Property").
B. Pursuant to a Lease executed in February 1984, BP used the Property to operate a retail petroleum filling and service station.
C. In January 1997 the District of Columbia Department of Energy and Environment ("DOEE") opened Leaking Underground Storage Tank ("LUST") case No. 97-030 at the Property.
D. In April 1997, BP gas station operations at the site ceased and thereafter four petroleum USTs and product delivery lines leading from the tank field to a four dispenser island were removed from the Property.
E. Soil samples collected from beneath the four USTs and the four dispensers revealed petroleum impacts to subsurface soil prompting initiation of groundwater monitoring and sampling.
F. A Comprehensive Site Assessment initiated in May 2003 and completed in September 2015 determined that residual petroleum impacts in the subsurface exceed DC acceptable soil quality standards and that dissolved petroleum hydrocarbons were present in the groundwater at levels that exceed DC acceptable groundwater quality standards.
G. BP has been provided post-Lease access to the Property to respond to the contamination pursuant to a Right of Access and Entry and Environmental Remediation Agreement ("Access/Remediation Agreement") executed by BP, Channing and MSJV on October 14, 2004.
H. The Access/Remediation Agreement requires BP to undertake Remedial Action with regard to "Contamination, [which] shall include petroleum hydrocarbon contamination of soil or groundwater on or migrating from the Property resulting from or during the use of the Property, as an… BP –branded service station."

I. Under the Access/Remediation Agreement, "BP indemnifies and holds [Channing] and MSJV …harmless from …any claim, damages or response costs arising from the Contamination. "

J. Channing and MSJV have a plan to redevelop the Property beginning in the fall of 2016 which will include construction of a building with multi-level residential units above commercial space on the first floor at the site of the former BP service station, and a multilevel parking garage on the western portion of the Property.

K. BP has prepared a Corrective Action Plan ("CAP"), which awaits approval by DOEE, to address residual petroleum impacts on subsurface soil and groundwater impacts and mitigate risk to the redevelopment of the property by achieving Tier 1 RBSLs as the cleanup levels.

L. To the extent required by DOEE, BP shall prepare prior to the implementation of the CAP a site-specific Quality Assurance/Quality Control (QA/QC) Plan for the activities to be carried out during implementation of the CAP.

M. The parties desire that any unexpected impacted soil and groundwater encountered during Channing and MSJV's redevelopment activities will be managed in a coordinated manner.

NOW, THEREFORE, in consideration of the promises and the mutual covenants contained herein and intending to be legally bound, the parties agree as follows:

1. Redevelopment Activities : In redeveloping the Property , Channing and MSJV intend to undertake the following activities that will significantly impact soil on the Property:
   - Excavation for footings of the slab-on- grade foundation for the residential building.
   - Deep drilling for helical pier supports for the slab-on- grade foundation.
   - Installation of a soil vapor barrier and passive depressurization system under the residential building slab.
   - Excavation and drilling for construction of a multi-level parking garage with one or more levels below ground surface.
   - Digging of utility trenches connecting utilities off-site to the garage and the building.
   - Grading.
   - Other soil disturbing activities associated with the redevelopment of the Property
2. Notice for Redevelopment Activities: Channing and MSJV shall provide BP with three (3) days' written notice prior to the commencement of any excavation, soil drilling, digging or grading on the Property. BP in its discretion may have its environmental consultant present while a redevelopment activity is carried out. BP shall provide Channing and MSJV with three (3) days'

written notice prior to the commencement of any activity that may interfere with the redevelopment activities of Channing and MSJV. Both the notice from Channing and MSJV and the notice from BP shall provide the following regarding the activity: the date and time it is to be undertaken, its location on the Property, and the nature and extent of the work. BP will also provide Channing and MSJV written notice within 24 hours of its completion of the excavation and soil backfilling undertaken pursuant to the CAP, in order to allow initiation of work on the foundation for the multi-level residential building.

3. Personal Protective Equipment: BP shall provide proper PPE at the site of a scheduled redevelopment activity, or it may request Channing and MSJV to provide the proper PPE with the costs thereof reimbursed by BP within 30 days of receipt of the invoice for the equipment.
4. Notice of Encounter with Contaminated Soil or Groundwater: Channing and MSJV shall instruct all workers carrying out a redevelopment activity to immediately notify the work supervisor if the worker discovers or suspects, visually or by odor, the presence of contaminated soil or groundwater. Upon receiving the notification, the work supervisor shall without delay field-screen using a PID the identified soil or groundwater. If the PID reading confirms the presence of contamination, the work supervisor shall immediately notify BP's environmental consultants. BP's environmental consultants may do their own field-screening to verify the presence of contamination and conduct further investigation. BP shall notify DOEE of the contamination encountered and the immediate protective actions being taken within 24 hours after receiving notice from Channing and MSJV's work supervisor.
5. Sampling: BP's environmental consultants shall collect samples of the contaminated soil or groundwater encountered and submit the samples for laboratory analysis for BTEX, MTBE, EDB, EDC, TBA and naphthalene using the same protocols and methods BP used to generate the contamination data for the CAP. Channing and MSJV shall not interfere with the sampling done by BP's environmental consultants.
6. Immediate Protective Action: Upon confirmation of the presence of contamination by PID, BP's environmental consultants and Channing's work supervisor shall confer and determine what immediate action should be taken to reduce the risk to workers of the contamination, including requiring the use of PPE, mitigating vapor hazards, and quarantining the contaminated portion of the worksite. Channing and MSJV shall contain the contamination if necessary to prevent its further release into the immediate surrounding environment. Channing and MSJV shall remove the contaminated soil if it can be quickly and easily segregated, collect and remove any

free product, vacuum extract contaminated groundwater if practicable, and load the material onto a dump or container truck and properly dispose the material off the Property at a facility approved by BP. All collecting, loading, transport and disposal of the contaminated material shall comply with all applicable provisions of District of Columbia laws and regulations, including regulations pertaining to the management of solid waste. The protective action or actions to be undertaken shall minimize to the extent feasible interference with Channing and MSJV redevelopment activities and with BP's actions or installations that implement the CAP.

7. Consultation with DOEE: After the laboratory analysis of the samples of the soil or groundwater collected by the environmental consultant is completed, BP shall notify Channing and MSJV and DOEE on whether the samples are contaminated by petroleum hydrocarbons having the same characteristics as the petroleum hydrocarbon contamination resulting from BP's use of the Property as a service station ("BP's contamination") or by a different product, and provide the concentration levels of the contamination present and a comparison with Tier 1 risk-based screening levels. BP and Channing and MSJV shall jointly request DOEE to provide direction as to the next steps that must be taken regarding the contamination, including any corrective actions. The parties acknowledge such steps may include further investigation and assessment of the contamination and development and implementation of a corrective action plan pursuant to UST Division protocols.
8. Corrective Action : If the contamination is the same as BP's contamination, then BP shall be solely responsible for ensuring the steps required by DOEE are carried out and for the related costs incurred. Channing and MSJV agree to cooperate with BP in its performance of the steps. If the contaminant is a different product, it shall be the sole responsibility of Channing and MSJV to carry out the steps required by DOEE and pay the related costs. BP agrees to not interfere with Channing and MSJV in its performance of the steps. In any case, if DOEE directs that the contaminated soil or groundwater be removed and disposed, then Channing and MSJV shall remove and dispose of the material. All disposal facilities shall be pre-approved by BP. If the contamination is the same as BP's contamination and DOEE requires remediation of contaminated groundwater, BP shall be solely responsible for carrying out the required groundwater remediation activities.
9. Reimbursement of Costs: If the contamination is the same as BP's contamination, BP agrees to reimburse Channing and MSJV for the incremental costs incurred by them in removing and disposing of the soil or groundwater which exceeds removal and disposal costs for

uncontaminated soil or groundwater, and for the costs it incurred in taking the immediate protective actions pursuant to paragraph 6. BP shall make payment/reimbursement within 30 days of receiving invoices for same.

10. Case Closure: If the contamination encountered during the redevelopment activity is the same as BP's contamination, BP and Channing and MSJV agree a request for no further action or case closure shall be submitted by BP only if the corrective action steps required by DOEE to address that contamination have been completed. In addition, BP and Channing and MSJV agree the request must require DOEE to make determination that the corrective action steps are achieving adequate protection of human health and the environment. Upon receiving notice from the DOEE that the no further action or the case closure requirements have been met, BP shall remove all equipment, and ensure that all wells are properly abandoned.
11. The Agreement: The recitals set forth at the beginning of this Agreement are hereby incorporated into and made a part of this Agreement. The provisions of this Agreement shall inure to the benefit of and bind the parties hereto, and their respective grantees, lessees, heirs, personal representatives, members, successors, and assigns. The parties agree and acknowledge that they have consulted with attorneys concerning various provisions in this Agreement and that they have knowingly entered into this Agreement. The individuals signing below represent and warrant that they have the authority to execute this Agreement on behalf of Channing and MSJV and BP, as the case may be.

IN WITNESS WHEREOF, Channing and MSJV and BP have caused this Agreement to be executed the day and year first above written.

EXHIBIT F TO AFFIDAVIT

SOIL EXCAVATION SUMMARY REPORT OF OBSERVATIONS

330 M STREET NE, WASHINGTON DC

MARCH 18, 2017

This Report has been prepared by Stephen Saul, PG, at the request of Mr. Berk Shervin of the Wilkes Company the owner/developer of the property. The excavation activities were implemented by BP per a Corrective Action Plan previously approved by the District Department of Energy and Environment. The excavation area is located in the southeast portion of the property.

The excavation activities took place from March 6 through March 10, 2017.

I was present on the site at the following times;

March 6, 9:20 am to 11:30am

March 7, 7:40 am to 9:10 am

March 8, 9:20 am to 2:45 pm

March 9, 8:20 am to 10:15 am

Mr. Shervin was present at the site on the morning of March 6.

Antea Group, the environmental consultant engaged by BP, represented by Andrew Myers who was present on site for the duration of the field activities. Mr. Myers directed the activities of CVCC Clean Venture (CVCC), the subcontractor engaged by Antes. Mr. Myers performed on site PID readings, sample collection and documentation.

CVCC conducted the excavation, backfilling and coordinated hauling as a subcontractor to Antea Group.

Nick Onufrak representing BP was present at the site on the morning of March 8.

I notified Brian Barone of DOEE on the morning of March 7 to advise him that the excavation work was in progress. To my knowledge, Mr. Baron did not visit the site during the work period.

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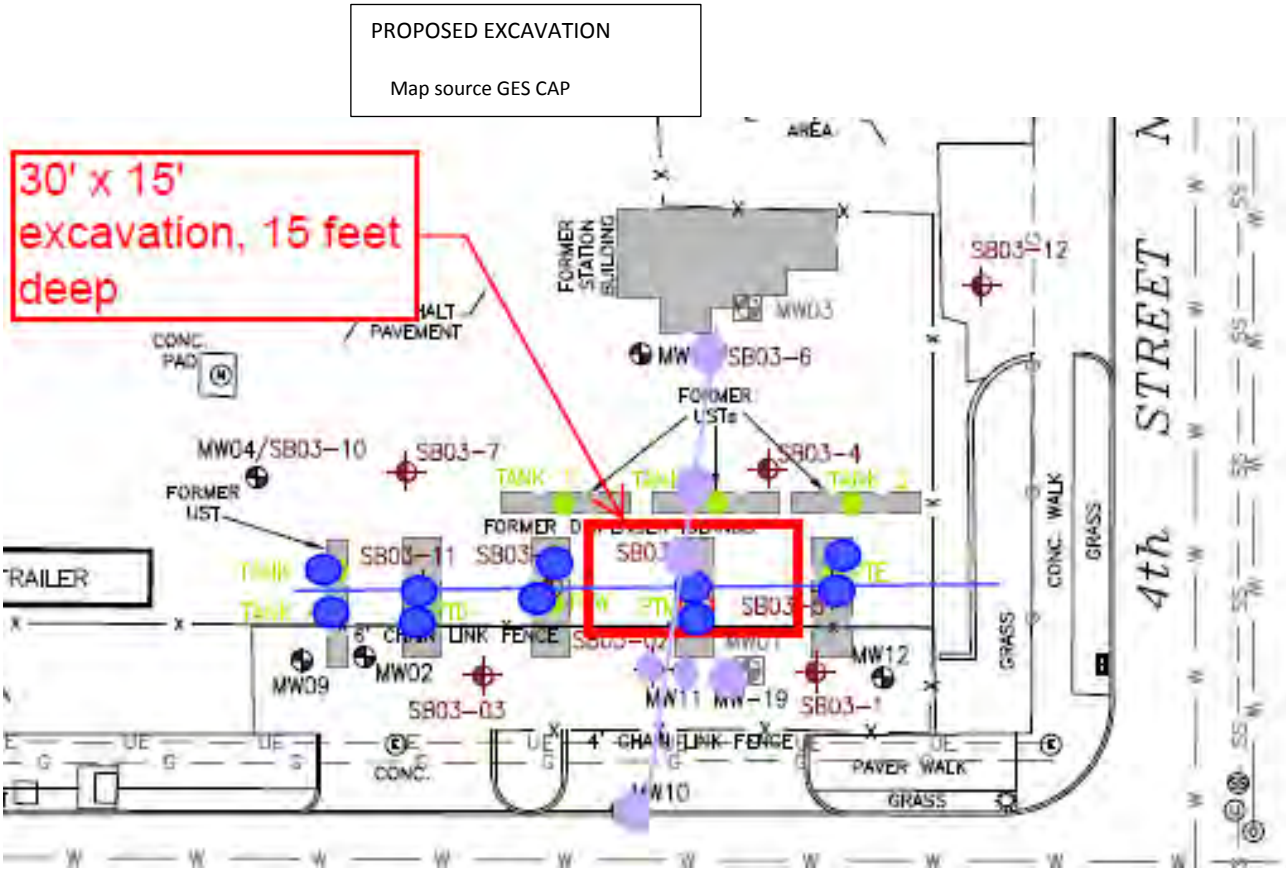
The proposed excavation plan was 30’ long x 15’wide x 15 feet deep.



The finished excavation area was 34’ long by 16 feet wide, The finished depth was 15 feet with the exception of the eastern 10 foot wide section which was completed to a depth of only 8 feet based on minimal field evidence of petroleum impact to the soil in that area. The western boundary of the excavation was extended 4 feet to remove soils that had exhibited field evidence of contamination in the planned western section of the excavation.

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The above aerial photo base was selected as it shows areas of disturbed pavement coinciding with previously removed USTs.

General Methodology

The excavation was made in three 10 ft wide sections working east to west. Trench boxes were used to stabilize the side walls. Excavated soil was loaded directly onto trucks (not stockpiled). It is my understanding all of the removed soil was transported to the Soil Safe facility in Brandywine, Maryland.

The excavation was backfilled to within 3 feet of the surface with structural fill (silty sand) that was compacted in 2 foot lifts with the bucket of the excavator. Prior to placement of the backfill, powdered gypsum was spread on the base and sidewalls of the excavation. The upper 3 feet was backfilled with compacted stone.

Throughout the process, Antea collected soil samples directly from the bucket of the excavator for PID screening and confirmation laboratory analysis. These samples were collected on an ongoing basis from the base and sidewalls as the excavation progressed.

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Structural backfill material stockpile

Gypsum backfill liner

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Schedule/Sequence/Observation of Activities

Monday March 6

Mobilization and delivery of equipment to the site

Cut and remove pavement

Tuesday March 7

Started and completed excavation in the eastern 10ft section. Moderate field evidence of impact was observed in the shallow soils near the western portion of this section. The eastern portion showed little to no impact. Grey silty sand was encountered throughout this section from 6 to 8 feet and exhibited

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little evidence of impact. The excavation in the eastern section was terminated at a depth of 8 feet. It is my understanding that a sample below this was collected at a depth of 10 feet and indicated little or no evidence of impact. The eastern, northern and southern sidewalls showed minimal evidence of impact.

Excavation then commenced in the center 10 ft wide section. Based on field observation, levels of impact generally increased in the northerly and westerly directions in this section. Elevated levels of impact were also observed at greater depth than the previous easterly section. The entire area of this center section was excavated to a depth of 15 feet. Dense clay was observed throughout bottom beginning at depths of 12 to 13 feet and continued to the bottom of the excavation to 15 feet. Significantly lower PID readings and odors were reported from within the underlying clay. The highest levels of impact within the center section occurred in the northern portion corresponding with the proximity to former dispensers and USTs. No groundwater was observed to enter the excavation.

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Wednesday March 8

Excavation focused on the western 10 ft wide section. As in the center section, the highest evidence of petroleum impact occurred in the northern portion corresponding with the proximity to the former dispensers and USTs. In particular, a lense of dark grey sand with petroleum odors and staining was observed in the northwest corner of this section. This material was removed and subsequent “scraping” of the northern sidewall indicated that for the most part the heavily stained so had been removed.

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As in the mid-section, dense clay was observed at the base of the western section and exhibited significantly reduced field evidence of impact. No groundwater was observed.

An additional 4 ft wide cut made to remove observed impacted soils along the western sidewall. This cut was made to the full depth of 15 feet and exhibited significantly reduced evidence of impact.

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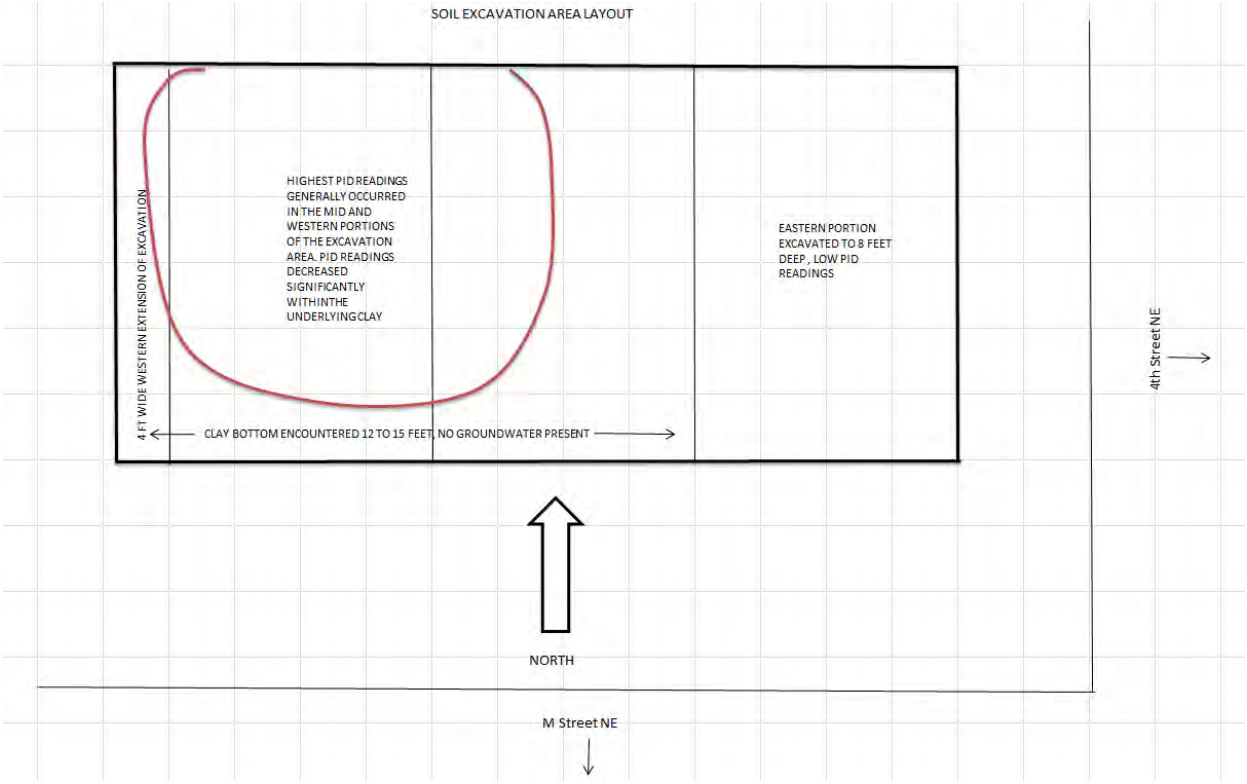
Thursday Mach 9

Backfilling was conducted.

Summary

The greatest impact was observed to occur in the northwestern portion of the excavation area which corresponds to the location of former fuel dispensers and USTs. The excavation appears to have been successful in removing the most significantly impacted soils. The bottom extent of contamination appears to have largely been addressed based on reduced evidence of impact within the underlying clay layer.

Based on field observations, the petroleum impact was minimal in the eastern portion of the excavation. The observed petroleum impact generally decreased in the southerly directions. Based on PID readings some evidence of soil contamination remains along southern sidewall (property boundary) in the 8 to 12 feet depth range, but appears to have decreased in the underlying clay.



Generally evidence of shallow impact was limited to the northern portion of the excavation adjacent to the former fuel dispensers. Much of this contaminated soil appears to have been removed; however there remains a possibility that future excavation in the area north of the excavation may encounter pockets of impacted soils associated with former fuel facilities and operations.

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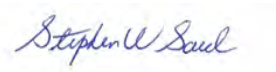
Recommendations

A review of Antea's PID screening results and laboratory analytical results should be conducted to compare the results to DC regulatory standard. Mr. Shervin has requested that I review the screening and laboratory results when they are available.

During future construction activities, PID monitoring of the soils should be conducted to the north and west of the excavation area to determine if additional soil removal and appropriate disposal may be warranted.

Prepared by:

Stephen W. Saul



March 18, 201

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Additional Photos

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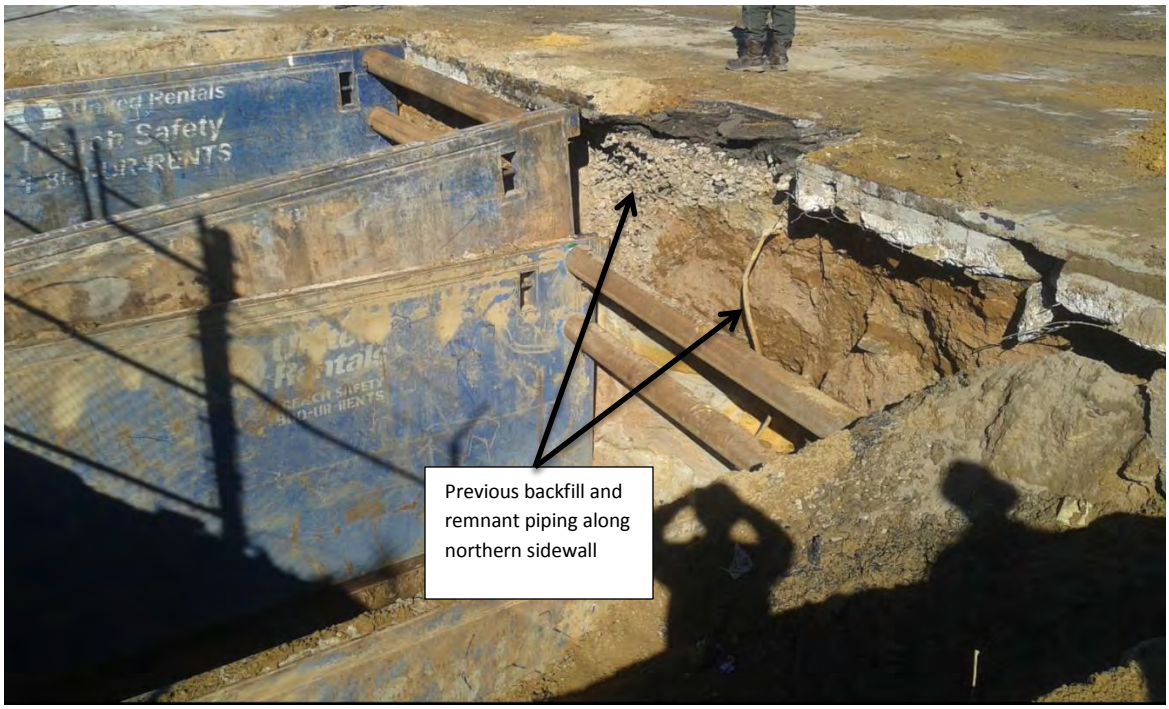

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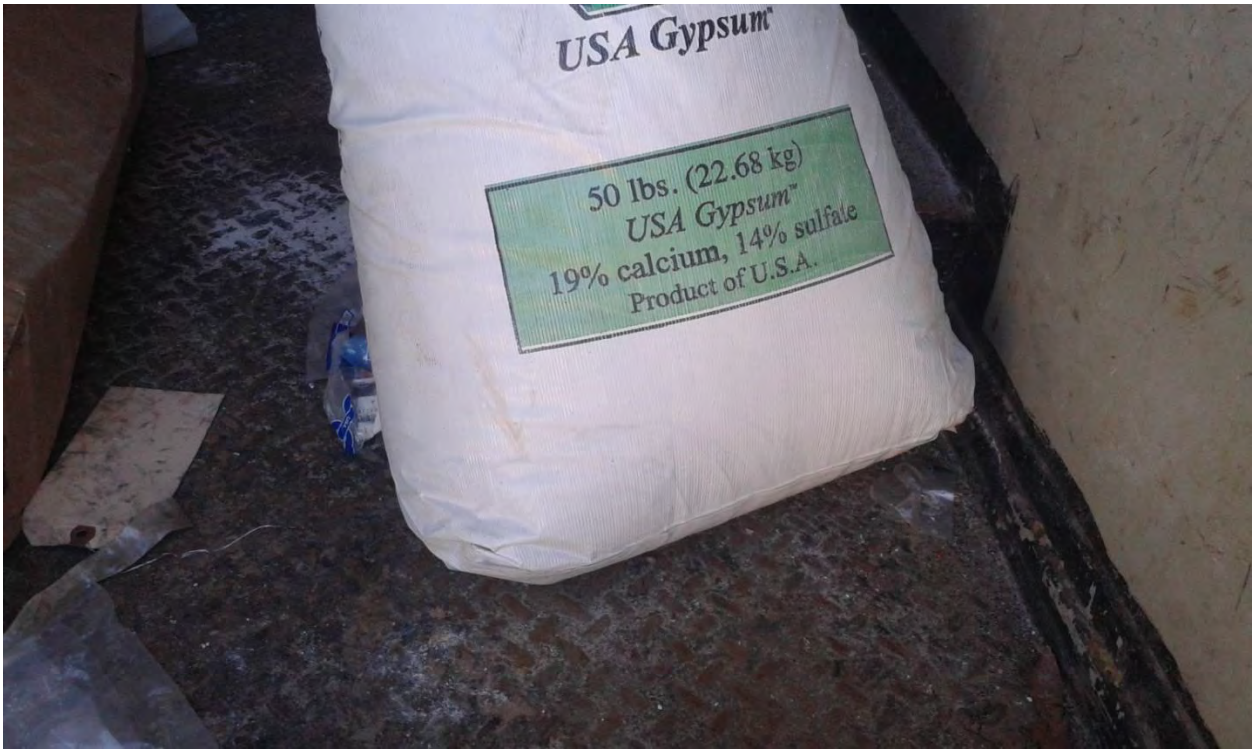
Gypsum as spread on the base and sidewalls prior to backfilling



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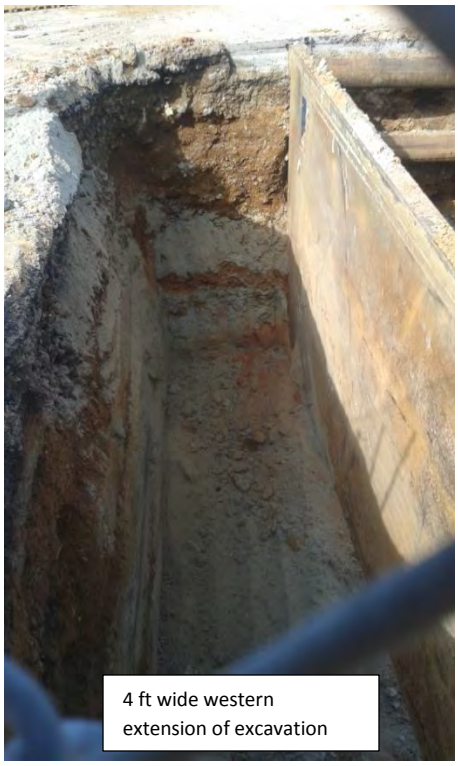

4 ft wide western extension of excavation

Backfilling

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EXHIBIT G TO AFFIDAVIT

ICOR LTD

June 6, 2018

The Wilkes Company
5101 Wisconsin Avenue, NW
Suite 200
Washington, DC 20016

Attention: Ms. Sara Grant, Project Manager

Subject: **Sub-Slab Venting and Barrier System Design**, Proposed 300 M Street, NE, Building (Slab-On-Grade Portion Only), Washington, DC

Reference: ICOR Project No. 18-TWC.005

Dear Ms. Grant:

ICOR, Ltd. (ICOR) is pleased to provide this sub-slab venting and barrier system design for the Proposed 300 M Street, NE building (slab-on-grade portion only) to be constructed in Washington, DC. The system was designed by a Certified Professional Geologist (CPG) with extensive experience designing and installing similar-type systems. The vapor mitigation system was designed based on project information provided by The Wilkes Company (TWC). Project information included the following:

- Corrective Action Plan (CAP), BP Site #84664, 330 M Street, NE, Washington, DC, prepared by Groundwater & Environmental Services, Inc., dated December 22, 2016.
- Architectural and Structural Drawings, Proposed 300 M Street, NE building, prepared by WDG Architecture, PLLC and Hickok Cole Architects, dated 2016.

ICOR understands that a vapor venting and barrier system was required for the slab-on-grade portion of the proposed building (eastern portion) because this portion of the building overlies the footprint of a former gasoline filling station (Amoco Station) with documented releases of petroleum to the subsurface. The releases resulted in impact to soil and groundwater underlying the property. The bulk of the impacted soil will be addressed during new building construction via excavation and removal. The project background and proposed design are discussed below.

BACKGROUND

Based on information provided by TWC, the former filling station occupied the eastern portion of the property (address 330 M Street, NE) and utilized several gasoline underground storage tanks (USTs) and pump islands for the distribution of gasoline. The USTs, fuel distribution piping, and fuel dispensers and approximately 430 tons of associated petroleum-impacted soil were removed in 1997. Following the removal, numerous assessment, monitoring, and corrective action activities were conducted between 2003 and 2015. The assessments were conducted to assess the degree and extent of petroleum impacts to soil and groundwater and the corrective actions were conducted to mitigate impacts to these media. Based on the findings of

several Comprehensive Site Assessments (CSAs) and the success of interim corrective actions, a CAP was developed. The CAP proposed to address the remaining impacts to soil and groundwater in conjunction with future development of the property. Recommended corrective actions included excavation and removal of the bulk of impacted soil to a depth of 15 feet below grade (and any impacted groundwater that entered the resulting excavation) and incorporation of engineering controls (vapor mitigation system) into future building designs overlying the footprint of the former gasoline station. The impacted soil excavation will be backfilled with clean fill. The CAP was reportedly submitted to and approved for implementation by the District of Columbia Department of Energy and the Environment.

Based on the recommendations provided in the CAP, ICOR was contracted to design a vapor mitigation system and oversee and document its installation. Excavation and removal of impacted soil will be conducted by others.

300 M STREET, NE BUILDING

The proposed 300 M Street, NE building will be an approximately 67,000 square feet, multi-story, steel, brick, glass, and concrete structure, with 3 levels of below-grade parking and a paved and landscaped common area. The below-grade parking will underlie the western portion of the building and the eastern portion of the building will be slab-on-grade. The building will be constructed on a concrete-poured foundation, resting on poured concrete footers and piers. Based on groundwater measurement data obtained from the property, the slab-on-grade portion of the building will be constructed at depths well above the soil/groundwater interface (water table, situated at depths ranging from 8 to greater than 30 feet below grade). The below grade parking levels will extend below the water table.

SUB-SLAB VENTING AND BARRIER SYSTEM DESIGN

To minimize the potential for petroleum vapors associated with impacted soil and groundwater left in place to migrate into the new building, ICOR recommended that a passive, sub-slab depressurization system and vapor barrier durable and resistant to petroleum constituents be incorporated into the slab-on-grade portion of the building design. The recommended type vapor barrier system is EPRO Services, Inc. (EPRO) E. Proformance Underslab assembly which consists of a polymer modified asphaltic (PMA) membrane sandwiched between two high density polyethylene (HDPE) membranes thermally bonded to a geotextile fabric. General EPRO system and product information is included as Attachment 1.

The sub-slab depressurization system will consist of a series of horizontal vent piping (1-inch tall by 12-inch wide recommended) placed within the gravel sub-base (minimum of 4-inch thickness) underlying the building slab. The proposed vent piping layout is depicted on the design drawings included as Attachment 2. The vent piping will be connected to three 4-inch diameter vertical vent stacks leading to the roof of the building. The vent stack locations were selected by TWC. The vent stacks will extend to a minimum height of 3 feet above the roof

surface and will be fitted with 10-inch diameter, galvanized or stainless steel, wind-powered turbine fans. The stack will be located at least 15 feet away from any fresh air intakes and potential obstructions (e.g., parapet walls). The stacks will be comprised of Schedule 40 polyvinyl chloride (PVC) assuming they will be located within a wall or be protected from potential damage. If the stack will be located within an open area where they could get easily damaged, they will be constructed of cast iron or steel. The vent stack piping will be clearly labelled as follows "Vapor Mitigation Piping – Do Not Disturb or Damage" to indicate it is vapor piping. All connections between the vent stacks and exhaust fans will be hard-piped. Material specifications recommended are detailed below:

- **Vent Piping** – EPRO E. Drain, 1-inch by 12-inch or comparable (see product data sheets included as Attachment 2).
- **Vent Stack to Roof** – Schedule 40 PVC or cast iron or steel if warranted.
- **10-Inch Wind-Driven Turbine Exhaust Fan** – McMaster-Carr, Item No. 199247, Type 304, stainless steel, 305 cubic feet per minute (CFM) or comparable.

It should be noted that the recommended system design can easily and readily be converted into an active system should it be warranted in the future. Conversion into an active system would entail the addition of an electric-powered, explosion-proof, continuously operating exhaust fan(s).

The vapor barrier will consist of an EPRO E. Proformance vapor barrier. This barrier is comprised of a water-based PMA membrane sandwiched between two HDPE membranes thermally bonded to a geotextile fabric. The PMA is spray-applied. The system components include:

- **E. Base 205** – base layer comprised of HDPE film laminated with a nonwoven polypropylene fabric geo-membrane.
- **E. Spray** – spray-applied PMA measuring a minimum of 60 mil in thickness. The PMA is sprayed along with a mixture of water and calcium chloride. The PMA cures upon contact with the water and calcium chloride mixture.
- **E. Shield 205** – top layer same as E. Base 205 with the addition of micro-perforations.

The barrier has excellent strength and durability, has exceptional chemical resistance, is seamless with all penetrations and overlaps sealed (by the PMA), and fully bonds to the overlying slab (geotextile surface of barrier mechanically interlocks with concrete slab). EPRO E. Proformance system and product information is included as Attachment 1. Product Data Sheets, Safety Data Sheets, and Installation Specifications are included as Attachments 3, 4, and 5, respectively.

It should be noted that field adjustments to the vent piping configuration are often required to accommodate sub-slab utility lines and foundation features. All adjustments will be approved by the designing CPG.

CERTIFICATION

Proper installation of the vapor venting and barrier system will be confirmed through visual observations, measurement of the spray-on barrier layer (E. Spray) thickness, and smoke testing witnessed by the designing CPG or another qualified environmental professional certified by EPRO to perform inspections and to certify proper installation. Measurement of the spray-on barrier layer thickness will be confirmed at minimum through the collection of a sample every 1,000 square feet applied. Smoke testing will be conducted at minimum every 5,000 square feet applied. The E. Shield 205 top layer will not be installed until spray-on layer thickness has been confirmed and smoke testing indicates the barrier is airtight. Any noted deficiencies or leaks will be corrected during measurement and testing.

REPORTING

Upon successful installation of the vapor venting and barrier system, a Close-Out Report will be prepared by the designing CPG that verifies successful installation and provides operation and maintenance recommendations for the system. The report will also include an As-Built drawing of the installed system.

It was a pleasure assisting TWC on this project. If you have any questions, please do not hesitate to contact me at (703) 608-5969.

Sincerely,

Michael A. Bruzzesi, CPG
Project Manager

Enclosures

Attachment 1. EPRO System and Product Information
Attachment 2. Vapor Mitigation System Design
Attachment 3. Product Data Sheets
Attachment 4. Safety Data Sheets
Attachment 5. Installation Specifications

EXHIBIT H TO AFFIDAVIT

Department of Consumer and Regulatory Affairs
Permit Operations Division
1100 4th Street SW
Washington DC 20024
Tel. (202) 442 - 4589 Fax (202) 442 - 4862

WE ARE WASHINGTON DC

R

RAZE PERMIT

THIS PERMIT MUST ALWAYS BE CONSPICUOUSLY DISPLAYED AT THE ADDRESS OF WORK
UNTIL WORK IS COMPLETED AND APPROVED

PERMIT NO. R1500176

Date: 07/18/2016

Address of Project:	Zone:	Ward:	Square:	Suffix:	Lot:
1215 3RD ST NE	C-M-1	6	0772		0006

Description of Work:	Bldg Vacant:	No. of Bldg(s)	Raze entire Bldg.:
TWO STORY OFFICE / WAREHOUSE	No	1	Yes

Permission Is Hereby Granted To	Owner Address:	Length:	Width:	Height:	Vol of Bldg.:	PERMIT FEE:
Square 772 Development Group Ltd Ptr	WILKES CO 5101 WISCONSIN AVE NW STE 200 WASHINGTON, DC 20016-4136	150 FT	120 FT	20 FT	360000 CU.FT	$7,956.30

Building Material:	Party Wall:	Existing Use:	Insurance Co	Insurance Policy No.:	Existing Units:
Brick	No				

Raze Contractor:	Address:	Tel No.:	Lic No.:
Hitt Contacting Inc.	2900 Fairview Park Drive Falls Church, VA 22042		

Conditions/ Restrictions:

Inspections Administration to be notified 24-hours before raze operation. Tel: (202) 442-4641.

CONDITIONS: As a condition precedent to the issuance of this permit, the owner agrees to conform with all conditions set forth herein, and to perform the work authorized hereby in accordance with the approved application and plans on file with the District Government and in accordance with all applicable laws and regulations of the District of Columbia. The District of Columbia has the right to enter upon the property and to inspect all work authorized by this permit and to require any change in construction which may be necessary to ensure compliance with the permit and with all the applicable regulations of the District of Columbia. Work authorized under the Permit must start within one(1) year of the data appearing on this permit or the permit is automatically void. If work is started, any application

Disturbing Paint in Pre-1978 Residential Properties or in Child-Occupied Facilities
If work related to this Permit will disturb more than 2 square feet of paint, the permit holder must abide by all applicable requirements in the District's "Lead Hazard Prevention and Elimination Act, as amended" (for more info, see www.ddoe.dc.gov, Lead and Healthy Housing Division), and must also abide by any applicable requirements of EPA's "Renovation, Repair and Painting Rule" (for more info, see www.epa.gov/lead, Renovation, Repair and Painting).

Director:	Permit Clerk:	Expiration Date:
Melinda Bolling	Tiffiny Carrington	07/18/2017

TO REPORT WASTE, FRAUD OR ABUSE BY ANY DC GOVERNMENT OFFICIAL, CALL THE DC INSPECTOR GENERAL AT 1-800-521-1639
FOR CONSTRUCTION INSPECTION INQUIRIES CALL (202) 442-4460; TO SCHEDULE INSPECTIONS PLEASE CALL (202) 442 9557

RECEIPT

DCRA
DCRA
1100 4TH ST SW
Melinda Bolling
DIRECTOR - DCRA

Application: R1500176
Application Type: Building/Construction/Raze/NA
Address: 1215 3RD ST NE, WASHINGTON, DC 20002
Owner Name: SQUARE 772 DEVELOPMENT GROUP LTD PTR
Owner Address: WILKES CO 5101 WISCONSIN AVE NW STE 200 WASHINGTON,DC 20016-4136
Application Name:

Receipt No. 506498

Payment Method	Ref Number	Amount Paid	Payment Date	Cash Drawer ID	Received	Comments
Cash	02017709	$7,923.30	07/18/2016			

Owner Info.: SQUARE 772 DEVELOPMENT GROUP LTD PTR
WILKES CO
WASHINGTON, DC 20016-4136

Work Description: TWO STORY OFFICE / WAREHOUSE

EXHIBIT I TO AFFIDAVIT

Department of Consumer and Regulatory Affairs
Permit Operations Division
1100 4th Street SW
Washington DC 20024
Tel. (202) 442 - 4589 Fax (202) 442 - 4862

Sh

Sheeting Permit

THIS PERMIT MUST ALWAYS BE CONSPICUOUSLY DISPLAYED AT THE ADDRESS OF WORK
UNTIL WORK IS COMPLETED AND APPROVED

PERMIT NO. SH1600013

Date: **10/17/2017**

Address of Project:	Zone:	Ward:	Square:	Suffix:	Lot:
300 - 320 M ST NE		**6**	**0772**		**0019**

Description Of Work:

Sheeting and shoring with related excavation under this submission.

Approved Uses:	Previous Uses:	Floors:
Mixed Use (provide description)	**Mixed Use (provide description)**	

Permission Is Hereby Granted To:	Trading As:	PERMIT FEE:
M Street Development Group, Llc		**$715.00**

Exsiting No Dwelling Units	Existing No Stories:	Proposed No Dwelling Units:	Proposed No Stories:

Conditions/ Restrictions:

**DOEE INSPECTION MUST BE SCHEDULED PRIOR TO START OF WORK:
(202) 535-2977or IEB.SCHEDULING@DC.GOV**

This permit expires if no construction is started within 1 year or if the last inspection is over 1

All construction done according to the current construction codes and zoning regulations;

As a condition precedent to the issuance of this permit, the owner agrees to conform with all conditions set forth herein, and to perform the work authorized hereby in accordance with the approved application and plans on file with the District Government and in accordance with all applicable laws and regulations of the District of Columbia. The District of Columbia has the right to enter upon the property and to inspect all work authorized by this permit and to require any change in construction which may be necessary to ensure compliance with the permit and with all the applicable regulations of the District of Columbia. Work authorized under this Permit must start within one(1) year of the date appearing on this permit or the permit is automatically void. If work is started, any application for partial refund must be made within six months of the date appearing on this permit.

Director:	Permit Clerk:	Expiration Date:
Melinda Bolling *Melinda Bolling*	**Antonio Jones**	**10/17/2018**

TO REPORT WASTE, FRAUD OR ABUSE BY ANY DC GOVERNMENT OFFICIAL, CALL THE DC INSPECTOR GENERAL AT 1-800-521-1639
FOR CONSTRUCTION INSPECTION INQUIRIES CALL (202) 442-9557
TO SCHEDULE INSPECTIONS PLEASE CALL (202) 442 9557

Department of Consumer and Regulatory Affairs

Permit Operations Division
1100 4th Street SW
Washington DC 20024
Tel. (202) 442 - 4589 Fax (202) 442 - 4862

Sh

Sheeting Permit

THIS PERMIT MUST ALWAYS BE CONSPICUOUSLY DISPLAYED AT THE ADDRESS OF WORK
UNTIL WORK IS COMPLETED AND APPROVED

dcra

PERMIT NO. SH1800083

Date: **09/25/2018**

Address of Project:	Zone:	Ward:	Square:	Suffix:	Lot:
300 - 320 M ST NE		**6**	**0772**		**4**

Description Of Work:

First Extension to SH1600013, to expiration on 04/17/2019.

Original Scope: Sheeting and shoring with related excavation under this submission.

Approved Uses:	Previous Uses:	Floors:
Mixed Use (Specify)	**Mixed Use (Specify)**	

Permission Is Hereby Granted To:	Trading As:	PERMIT FEE:
M Street Development Group		**$36.30**

Exsiting No Dwelling Units	Existing No Stories:	Proposed No Dwelling Units:	Proposed No Stories:
0	**0**	**0**	**0**

Conditions/ Restrictions:

This permit expires if no construction is started within 1 year or if the last inspection is over 1

All construction done according to the current construction codes and zoning regulations;

As a condition precedent to the issuance of this permit, the owner agrees to conform with all conditions set forth herein, and to perform the work authorized hereby in accordance with the approved application and plans on file with the District Government and in accordance with all applicable laws and regulations of the District of Columbia. The District of Columbia has the right to enter upon the property and to inspect all work authorized by this permit and to require any change in construction which may be necessary to ensure compliance with the permit and with all the applicable regulations of the District of Columbia. Work authorized under this Permit must start within one(1) year of the date appearing on this permit or the permit is automatically void. If work is started, any application for partial refund must be made within six months of the date appearing on this permit.

Director:	Permit Clerk:	Expiration Date:
Melinda Bolling *Melinda Bolling*	**Brenda Quinn** *Brenda Quinn*	**04/17/2019**

TO REPORT WASTE, FRAUD OR ABUSE BY ANY DC GOVERNMENT OFFICIAL, CALL THE DC INSPECTOR GENERAL AT 1-800-521-1639
FOR CONSTRUCTION INSPECTION INQUIRIES CALL (202) 442-9557
TO SCHEDULE INSPECTIONS PLEASE CALL (202) 442 9557

EXHIBIT J TO AFFIDAVIT

Fd

Department of Consumer and Regulatory Affairs
Permit Operations Division
1100 4th Street SW
Washington DC 20024
Tel. (202) 442 - 4589 Fax (202) 442 - 4862

WE ARE WASHINGTON DC

Foundation Permit

THIS PERMIT MUST ALWAYS BE CONSPICUOUSLY DISPLAYED AT THE ADDRESS OF WORK
UNTIL WORK IS COMPLETED AND APPROVED

PERMIT NO. FD1600109

Date: **07/18/2017**

Address of Project:	Zone:	Ward:	Square:	Suffix:	Lot:
300 M ST NE		**6**	**0772**		**0019**

Description Of Work:
Foundation to grade with related excavation under this permit.

Approved Uses:	Previous Uses:	Floors:
Mixed Use (provide description)	**Mixed Use (provide description)**	

Permission Is Hereby Granted To:	Owner Address:	PERMIT FEE:
M Street Development Group Llc	**5101 WISCONSIN AVE NE STE 200 WASH DC 20016**	**$715.00**

Exsiting No Dwelling Units	Existing No Stories:	Proposed No Dwelling Units:	Proposed No Stories:
0	**0**	**0**	**0**

Conditions/ Restrictions:

This permit expires if no construction is started within 1 year or if the last inspection is over 1 year old.

All construction done according to the current construction codes and zoning regulations;

As a condition precedent to the issuance of this permit, the owner agrees to conform with all conditions set forth herein, and to perform the work authorized hereby in accordance with the approved application and plans on file with the District Government and in accordance with all applicable laws and regulations of the District of Columbia. The District of Columbia has the right to enter upon the property and to inspect all work authorized by this permit and to require any change in construction which may be necessary to ensure compliance with the permit and with all the applicable regulations of the District of Columbia. Work authorized under this Permit must start within one(1) year of the date appearing on this permit or the permit is automatically void. If work is started, any application for partial refund must be made within six months of the date appearing on this permit.

Director:	Permit Clerk:	Expiration Date:
Melinda Bolling *Melinda Bolling*	**Antonio Jones**	**07/18/2018**

TO REPORT WASTE, FRAUD OR ABUSE BY ANY DC GOVERNMENT OFFICIAL, CALL THE DC INSPECTOR GENERAL AT 1-800-521-1639
FOR CONSTRUCTION INSPECTION INQUIRIES CALL (202) 442-9557
TO SCHEDULE INSPECTIONS PLEASE CALL (202) 442 9557

Department of Consumer and Regulatory Affairs
Permit Operations Division
1100 4th Street SW
Washington DC 20024
Tel. (202) 442 - 4589 Fax (202) 442 - 4862

B

BUILDING PERMIT

THIS PERMIT MUST ALWAYS BE CONSPICUOUSLY DISPLAYED AT THE ADDRESS OF WORK UNTIL WORK IS COMPLETED AND APPROVED

Issue Date: 06/19/2018

PERMIT NO. B1810550

Expiration Date: 06/19/2019

Address of Project:	Zone:	Ward:	Square	Suffix:	Lot:
300 M ST NE		6	0542		0872

Description Of Work:
First six month extension to FD1602109. New expiration date January 19, 2019.

Permission is Hereby Granted To:	Owner Address:	PERMIT FEE:
M Street Development Group	SQUARE 772 DEVELOPMENT GROUP LP 5101 WISCONSIN AVE NW STE 200 WASHINGTON, DC 20016	$36.30

Permit Type:	Existing Use:	Proposed Use:	Building Construction Type	Plans:
Alteration and Repair	Mixed Use (Specify)	Mixed Use (Specify)	TYPE II - Non-Combustible Construction	

Agent Name:	Agent Address:	Existing Dwell Units:	Proposed Dwell Units:	No. of Stories:	Floor(s) Involved:
Phillip R. Pittinger-dunham	490 M St SW W103 Washington, DC 200242836	0	0	0	1

Conditions/ Restrictions:

This Permit Expires If no Construction is Started Within 1 Year or if the Inspection is Over 1 Year.

All Construction Done According To The Current Building Codes And Zoning Regulations;

As a condition precedent to the issuance of this permit, the owner agrees to conform with all conditions set forth herein, and to perform the work authorized hereby in accordance with the approved application and plans on file with the District Government and in accordance with all applicable laws and regulations of the District of Columbia. The District of Columbia has the right to enter upon the property and to inspect all work authorized by this permit and to require any change in construction which may be necessary to ensure compliance with the permit and with all the applicable regulations of the District of Columbia. Work authorized under this Permit must start within one(1) year of the date appearing on this permit or the permit is automatically void. If work is started, any application for partial refund must be made within six months of the date appearing on this permit.

Lead Paint Abatement
Whenever any such work related to this Permit could result in the disturbance of lead based paint,the permit holder shall abide by all applicable paint activities provisions of the 'Lead Hazard Prevention and Elimination Act of 2008' and the EPA 'Lead Renovation, Repair and Painting rule' regarding lead-based include adherence to lead-safe work practices. For more information, go to http://ddoe.dc.gov, Lead and Healthy Housing.

Director:	Permit Clerk
Melinda Bolling	Tiffiny Carrington

TO REPORT WASTE, FRAUD OR ABUSE BY ANY DC GOVERNMENT OFFICIAL, CALL THE DC INSPECTOR GENERAL AT 1-800-521-1639
FOR CONSTRUCTION INSPECTION INQUIRIES CALL (202) 442-9557
TO SCHEDULE INSPECTIONS PLEASE CALL (202) 442-9557.

EXHIBIT K TO AFFIDAVIT

Government of the District of Columbia
FIRST SOURCE EMPLOYMENT AGREEMENT

Contract Number: Zoning Commission Case No. 14-19

Employer Name: M Street Development Group, LLC (or its affiliates/agents)

Project Contract Amount: N/A

Employer Contract Award: N/A

Project Name: 300 M Apartments

Project Address: 300 M Street, N.E. Ward: 6

Nonprofit Organization with 50 Employees or Less: ☐ Yes ■ No

This First Source Employment Agreement, in accordance with The First Source Employment Agreement Act of 1984 (codified in D.C. Official Code §§ 2-219.01 – 2.219.05), The Apprenticeship Requirements Amendment Act of 2004 (Codified in D.C. Official Code §§ 2-219.03 and 32-1431) for recruitment, referral, and placement of District of Columbia residents, is between the District of Columbia Department of Employment Services, hereinafter referred to as "DOES", and M Street Development Group, LLC (or its affiliates/agents), hereinafter, referred to as EMPLOYER. Under this Employment Agreement, the EMPLOYER will use DOES as its first source for recruitment, referral, and placement of new hires or employees for all new jobs created by the Project. The Employer will hire 51% District of Columbia residents for all new jobs created by the Project, and 35 % of all apprenticeship hours be worked by DC residents employed by EMPLOYER in connection with the Project shall be District residents registered in programs approved by the District of Columbia Apprenticeship Council.

I. GENERAL TERMS

A. Subject to the terms and conditions set forth herein, the EMPLOYER will use DOES as its first source for the recruitment, referral and placement for jobs created by the Project.

B. The EMPLOYER will require all Project contractors with contracts totaling $100,000 or more, and Project subcontractors with subcontracts totaling $100,000 or more, to enter into a First Source Employment Agreement with DOES.

C. DOES will provide recruitment, referral and placement services to the EMPLOYER, which are subject to the limitations set out in this Agreement.

D. The participation of DOES in this Agreement will be carried out by the Office of Employer Services, which is responsible for referral and placement of employees, or such other offices or divisions designated by the Office of the Director, of DOES.

E. This Agreement will take effect when signed by the parties below and will be fully effective for the duration of the Project contract and any extensions or modification to the Project contract.

F. This Agreement will not be construed as an approval of the EMPLOYER'S bid package, bond application, lease agreement, zoning application, loan, or contract/subcontract for the Project.

G. DOES and the EMPLOYER agree that, for purposes of this Agreement, new hires and jobs created for the Project (both union and nonunion) include all EMPLOYER'S job openings and vacancies in the Washington Standard Metropolitan Statistical Area created for the Project as a result of internal promotions, terminations, and expansions of the EMPLOYER'S workforce, as a result of this project, including loans, lease agreements, zoning applications, bonds, bids, and contracts.

H. This Agreement includes apprentices as defined and as amended, in D.C. Law 2-156. D.C. Official Code §§ 32-1401- 1431.

I. The EMPLOYER, prime subcontractors and subcontractors who contract with the District of Columbia government to perform construction, renovation work, or information technology work with a single contract, or cumulative contracts, of at least $500,000, let within a 12-month period will be required to register an apprenticeship program with the District of Columbia Apprenticeship Council; and this includes but is not limited to, any construction or renovation contract or subcontract signed as the result of, a loan, bond, grant, Exclusive Right Agreement, street or alley closing, or a leasing agreement of real property for one (1) year or more. In furtherance of the foregoing, the EMPLOYER shall enter into an agreement with its contractors, including the general contractor, that requires that such contractors and subcontractors for the Project participate, in apprenticeship programs for the Project that: (i) meet the standards set forth in Chapter 11 of Title 7 of the District of Columbia Municipal Regulations, and (ii) have an apprenticeship program registered with the District of Columbia's Apprenticeship Council.

II. RECRUITMENT

A. The EMPLOYER will complete the attached Employment Plan, which will indicate the number of new jobs projected to be created on the Project, salary range, hiring dates, residency status, ward information, new hire justification and union requirements.

B. The Employer will post all job vacancies in the DOES' Virtual One-Stop (VOS) at **www.jobs.dc.gov** within five (5) days of executing the Agreement. Should you need assistance posting job vacancies, please contact Job Bank at (202) 698-6001.

C. The EMPLOYER will notify DOES, by way of the First Source Office of its Specific Need for new employees for the Project, within at least five (5) business days (Monday - Friday) upon Employers identification of the Specific Need. This must be done before using any other referral source. Specific Needs shall include, at a minimum, the number of employees needed by job title, qualifications, hiring date, rate of pay, hours of work, duration of employment, and work to be performed.

D. Job openings to be filled by internal promotion from the EMPLOYER'S current workforce do not need to be referred to DOES for placement and referral. However, EMPLOYER shall notify DOES of such promotions.

E. The EMPLOYER will submit to DOES, prior to commencing work on the Project, the names, residency status and ward information of all current employees, including apprentices, trainees, and laid-off workers who will be employed on the Project.

III. REFERRAL

A. DOES will screen applicants and provide the EMPLOYER with a list of applicants according to the Notification of Specific Needs supplied by the EMPLOYER as set forth in Section II (B).

B. DOES will notify the EMPLOYER, prior to the anticipated hiring dates, of the number of applicants DOES will refer.

IV. PLACEMENT

A. The EMPLOYER will make all decisions on hiring new employees but will, in good faith, use reasonable efforts to select its new hires or employees from among the qualified persons referred by DOES.

B. In the event that DOES is unable to refer qualified personnel meeting the Employer's established qualifications, within five (5) business days (Monday - Friday) from the date of notification, from the EMPLOYER , the EMPLOYER will be free to directly fill remaining positions for which no qualified applicants have been referred. Notwithstanding, the EMPLOYER will still be required to hire 51% District residents for all new jobs created by the Project.

C. After the EMPLOYER has selected its employees, DOES will not be responsible for the employees' actions and the EMPLOYER hereby releases DOES, and the Government of the District of Columbia, the District of Columbia Municipal Corporation, and the officers and employees of the District of Columbia from any liability for employees' actions.

V. TRAINING

A. DOES and the EMPLOYER may agree to develop skills training and on-the-job training programs; the training specifications and cost for such training will be mutually agreed upon by the EMPLOYER and DOES and will be set forth in a separate Training Agreement.

VI. CONTROLLING REGULATIONS AND LAWS

A. To the extent that this Agreement is in conflict with any federal labor laws or governmental regulations, the federal laws or regulations shall prevail.

B. DOES will make every effort to work within the terms of all collective bargaining agreements to which the EMPLOYER is a party.

C. The EMPLOYER will provide DOES with written documentation that the EMPLOYER has provided the representative of any collective bargaining unit involved

with this Project a copy of this Agreement and has requested comments or objections. If the representative has any comments or objections, the EMPLOYER will promptly provide them to DOES.

VII. EXEMPTIONS

A. All contracts, subcontracts or other forms of government-assistance less than $100,000.

B. Employment openings the contractor will fill with individuals already employed by the company.

C. Job openings to be filled by laid-off workers according to formally established recall procedures and rosters.

D. Construction or renovation contracts or subcontracts in the District of Columbia totaling less than $500,000 are exempt from the requirements of Section I(H) and I(I) of the General Terms hereof.

E. Non-profit organization with 50 or less employees are exempt from the requirements.

VIII. AGREEMENT MODIFICATIONS, RENEWAL, MONITORING, AND PENALTIES

A. If, during the term of this Agreement, the EMPLOYER should transfer possession of all or a portion of its business concerns affected by this Agreement to any other party by lease, sale, assignment, merger, or otherwise this First Source Agreement shall remain in full force and effect and transferee shall remain subject to all provisions herein. In addition, the EMPLOYER as a condition of transfer shall:

1. Notify the party taking possession of the existence of this EMPLOYER'S First Source Employment Agreement.

2. Notify DOES within seven (7) business days of the transfer. This advice will include the name of the party taking possession and the name and telephone of that party's representative.

B. DOES will monitor EMPLOYER'S performance under this Agreement. The EMPLOYER will cooperate with the DOES monitoring and will submit a Contract Compliance Form to DOES monthly.

C. To assist DOES in the conduct of the monitoring review, the EMPLOYER will make available to DOES, upon request, payroll and employment records for the review period indicated for the Project.

D. The Employer will provide DOES additional information upon request.

E. With the submission of the final request for payment from the District, the EMPLOYER shall:

1. Document in a report to DOES its compliance with the requirement that 51% of the new employees hired by the EMPLOYER for the Project be District residents; or

2. Submit to DOES a request for a waiver of compliance of the requirement that 51% of the new employees hired by the EMPLOYER the Project be District residents which will include the following documentation:
   a. Documentation supporting EMPLOYERS good faith effort to comply;
   b. Referrals provided by DOES and other referral sources; and
   c. Advertisement of job openings listed with DOES and other referral sources.

F. The DOES may waive the requirement that 51% of the new employees hired by the EMPLOYER for the Project be District residents, if DOES finds that:

1. A good faith effort to comply is demonstrated by the EMPLOYER; or

2. The EMPLOYER is located outside the Washington Standard Metropolitan Statistical Area and none of the contract work is performed inside the Washington Standard Metropolitan Statistical Area:

   The Washington Standard Metropolitan Statistical Area includes the District of Columbia, the Virginia Cities of Alexandria, Falls Church, Manasas, Manasas Park, Fairfax, and Fredericksburg; the Virginia Counties of Fairfax, Arlington, Prince William, Loundon, Stafford, Clarke, Warren, Fauquier, Culpeper, Spotsylvania, and King George; the Maryland Counties of Montgomery, Prince Georges, Charles, Frederick, and Calvert; and the West Virginia Counties of Berkeley and Jefferson.

3. The EMPLOYER enters into a special workforce development training or placement arrangement with DOES; or

4. DOES certifies that there are insufficient numbers of District residents in the labor market possessing the skills required by the EMPLOYER for the positions created as a result of the Project. No failure by Employer to request a waiver under any other provision hereunder shall be considered relevant to a requested waiver under this Subsection.

G. Willful breach of the First Source Employment Agreement by the EMPLOYER, failure to submit the Contract Compliance Report, or deliberate submission of falsified data, may be enforced by the DOES through imposition of penalties, including monetary fines of 5% of the total amount of the direct and indirect labor costs of the contract for the positions created by EMPLOYER.

H. The parties acknowledge that the provisions of E and F of Article VIII apply only to First Source hiring.

I. Nonprofit organizations with 50 or less employees are exempt from the requirement that 51% of the new employees hired by the EMPLOYER on the Project be District residents.

J. The EMPLOYER and DOES, or such other agent as DOES may designate, may mutually agree to modify this Agreement.

K. The EMPLOYER's noncompliance with the provisions of this Agreement may result in termination.

IX. LOCAL, SMALL, DISADVANTAGES USINESS ENTERPRISE

A. Is your firm a certified Local, Small, Disadvantaged Business Enterprise (LSDBE)? ☐ YES ☒ NO

If yes, certification number:_____

X. APPRENTICESHIP PROGRAM

A. Do you have a registered Apprenticeship program with the D.C. Apprenticeship Council? ☐ YES ☒ NO

If yes, D.C. Apprenticeship Council Registration Number: _____

XI. SUBCONTRACTOR

A. Is your firm a subcontractor on this project? ☐ YES ☒ NO
If yes, name of prime contractor: _____

Dated this 30th day of August 20 16

_____
Signature Dept. of Employment Services

Signature of Employer
Berkeley M. Shervin, Managing Member
M Street Development Group, LLC
Name of Company
5101 Wisconsin Avenue, NW, Suite 200
Washington, DC 20016
Address
202-882-1100
Telephone
bshervin@thewilkescompany.com
E-mail

EMPLOYMENT PLAN

NAME OF EMPLOYER: M Street Development Group, LLC

ADDRESS OF EMPLOYER: 5101 Wisconsin Ave., NW, Suite 200, Washington, DC 20016

TELEPHONE NUMBER: 202-882-1100 FEDERAL IDENTIFICATION NO.: 52-1245326

CONTACT PERSON: Berkeley M. Shervin TITLE: Managing Member

E-MAIL: bshervin@thewilkescompany.com TYPE OF BUSINESS: Real Estate - Developer / Owner

DISTRICT CONTRACTING AGENCY: District of Columbia Zoning Commission

CONTRACTING OFFICER: _____ TELEPHONE NUMBER: 202-727-6311

TYPE OF PROJECT: Planned Unit Development CONTRACT AMOUNT: N/A

EMPLOYER CONTRACT AMOUNT: N/A

PROJECT START DATE: October/November 2016 PROJECT END DATE: 28 Months

EMPLOYER START DATE: October/November 2016 EMPLOYER END DATE: 28 Months

NEW JOB CREATION PROJECTIONS: Please indicate ALL new position(s) your firm will create as a result of the Project. If the firm WILL NOT be creating any new employment opportunities, please complete the attached justification sheet with an explanation. Attach additional sheets as needed.

JOB TITLE		# OF JOBS F/T P/T	SALARY RANGE	UNION MEMBERSHIP REQUIRED NAME LOCAL#	PROJECTED HIRE DATE
A	n/a - see justification sheet				
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					

CURRENT EMPLOYEES: Please list the names, residency status and ward information of all current employees, including apprentices, trainees, and transfers from other projects, who will be employed on the Project. Attach additional sheets as needed.

NAME OF EMPLOYEE	CURRENT DISTRICT RESIDENT √Please Check	WARD
n/a	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
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	☐	

JUSTIFICATION SHEET: Please provide a detailed explanation of why the Employer will not have any new hires on the Project.

There will be no new jobs created by EMPLOYER through the construction of this Project. The EMPLOYER has no employees and will engage a general contractor to provide all labor required to construct the project. The general contractor will be subject to this First Source Employment Agreement.

EXHIBIT L TO AFFIDAVIT

PC PROFESSIONAL CONSULTING CORPORATION
www.professionalconsulting.com

August 19, 2016

Mr. Berkeley M. Shervin
The Wilkes Company
5101 Wisconsin Avenue NW, Suite 200
Washington, DC 20016

Subject: **Geotechnical Engineering Services**
Square 772, M Street NE from 3rd to 4th Streets NE
Washington, DC, PCC # 140202G

Gentlemen:

Our report is submitted herewith.

SCOPE OF SERVICES

The following services have been completed:

a) Seven new test borings with Standard Penetration Testing and sampling to depths of 50 to 100 feet.

b) Temporary PVC standpipe in selected test borings to obtain additional groundwater level data.

c) Laboratory testing, which includes; Visual Soil Descriptions, Natural Moisture Content, Pocket Penetrometer, Gradation, Atterberg (Liquid and Plastic) Limits, Density, and Unconfined Compressive Strength.

d) Review of data developed by us from our previous work and incorporation of relevant data into this report.

e) This geotechnical report which includes: (1) test boring logs with results of Standard Penetration Tests, Visual Soil Descriptions, groundwater observations and stratification, (2) results of soil laboratory testing, (3) our interpretation of subsurface conditions illustrated on color Geologic Cross Sections, (4) geotechnical conclusions and recommendations including; (a) IBC site class (b) groundwater considerations, (c) design of shallow and/or deep foundations, (d) soil supported floor slabs, (e) foundation walls with unbalanced loads, (e) subdrains, (f) shoring and underpinning, (g) earthwork and (h) other geotechnical aspects.

Services with respect to environmental issues, groundwater quality and quantity, stormwater control, wetlands, forestry, erosion control, structural design, cost or quantity estimates, construction plans, surveying, and testing or services not specifically outlined were not included.

PROPOSED CONSTRUCTION

The proposed project includes two multistory buildings, a fitness center and an open courtyard. The retail building will be located along the 3rd Street NE side of the development. This building will have 11 stories above grade and three levels of parking below grade. The P3 floor level will be about EL 26.2 along M Street NE and ramps up to the P2 level at about EL 35.7. The residential building along 4th Street NE will have about 8 stories above grade and no below grade parking. The floor will be about EL 62.8. The open courtyard between the buildings will vary from about EL 58.

Civil engineering plans indicate about 35 feet of excavation will be necessary to reach the bottom of proposed a mat foundation under the P3 level and about 6 to 10 feet to reach the bottom of footings under the residential building. The courtyard will be about 10 to 12 feet below the adjacent alley and 4th Street NE.

There is an existing two story building on lot 16 which borders the north side of the proposed courtyard and residential building. The first floor of the building is about EL 68. Test pits excavated adjacent to the building indicate it is supported on spread footings. The existing building on 3rd Street NE will be razed.

The structural engineer, Tadjer Cohen Edelson Associates, Inc. indicate the maximum column loads will be about 1500 kips at the P3 level, 1400 kips at the P2 level and 1000 kips in the residential building. Wall loads will be less than 3500 pounds per lineal foot.

SUBSURFACE EXPLORATION

The approximate subsurface exploration locations are shown on Enclosure (1). Test borings B-1 through B-4 were drilled in 2003 and borings B-5 through B-11 in 2014. Our interpretation of the subsurface data is illustrated on the geologic cross sections in Enclosure (2). A summary of water level observations is shown in Enclosure (3). The test boring logs are included in Enclosure (4).

Stratification

The subsurface exploration indicates the following general strata underlie the site at the locations and to the depths explored. This stratification and the proposed lower level floor elevations are illustrated on the geologic cross sections in Enclosure (2).

Stratum F	FILL, contains; heterogeneous mixture of soil, building and organic materials
Stratum A Below F	medium dense granular soils and stiff consistency cohesive soils N = 8 to 29
Stratum B Below A	dense to very dense granular soils and hard consistency cohesive soils N = 30+
Stratum C Below B in EL	medium dense granular soils and very stiff consistency cohesive soils N = 20 to 35
Stratum D Below C at B-5	CLAYEY SAND (SC), very dense N = 50 to 50/4"

The letters in parentheses refer to the estimated Unified Soil Classification System (USCS) group symbols per ASTM D-2488.

The "N" values represent the Standard Penetration Test (SPT) resistance as defined by ASTM D-1586. These values are shown to the left of the boring log column on the geologic cross sections in Enclosure (2) and graphed on the test boring logs in Enclosure (4). Some tests were driven 24 inches to provide additional information all other tests were driven the normal 18 inches. The numbers shown in the “Blow Count” column of the test boring logs represent the number of blows for each 6 inch interval using a 140 pound automatic trip hammer falling 30 inches. The "N" value is the sum of the second and third intervals. Since these tests were performed with automatic trip hammers they should be interpreted as approximately representing N_{90} vales. Corrections to “N” values shown on the logs are appropriate for correlation with various data bases and interpretations. Additional details are defined in the ASTM Standard and numerous other references.

The Pocket Penetrometer (PP) values shown on the test boring logs represent the estimated unconfined compressive strength in tons per square foot (tsf). However, these tests were performed on disturbed SPT samples and are considered to indicate changes in consistency only. “N/A" shown on the logs means the test is not applicable and "d" means the sample was too disturbed to test.

The "MC" values indicated on the test boring logs are the results of laboratory natural Moisture Content (MC) tests per ASTM D-2216. These will vary with time.

Groundwater Observations

Water observations were made in the test borings during drilling, before augers were pulled, after augers were pulled and in temporary monitoring pipe after completion. The table in Enclosure (3) is a summary of water level observations.

We interpret the data to indicate that there are two groundwater levels on this site. The upper one is about EL 45 and the deeper one is about EL 35. Perched water, trapped above low permeable layers, may be present at higher elevations, especially after precipitation events and/or wet seasons of the year. To account for some potential rise in groundwater, we recommend considering hydrostatic groundwater to be EL 47.

Groundwater levels and patterns fluctuate due to changes in precipitation, seasons of the year, construction activity, groundwater pumping, and other factors. Long term observations in monitoring wells would be necessary to provide information with respect to groundwater fluctuations.

Laboratory Testing

Laboratory testing was performed on samples obtained from Standard Penetration Tests (SPT) performed in the test borings. Testing included; Visual Description per ASTM D-2488, estimated Group Classification per AASHTO M-145, Pocket Penetrometer, Natural Moisture Content per ASTM D-2216, Gradation per ASTM D-1140 and D-422, Atterberg (Liquid and Plastic) Limits per ASTM D-4318, Density and Unconfined Compressive Strength per ASTM D-2166. Test results are shown on the test boring logs and the laboratory data in Enclosures (4) and (5), respectfully.

Laboratory testing indicates that stratum A includes clayey sand, lean clay and fat clay classified SC, CL and CH per ASTM D-2487. Laboratory testing indicates that stratum B includes silty sand, poorly graded sand, lean clay and silty clay classified SM, SP, CL and CL-ML per ASTM D-2487. Additional tests performed on two SPT liner samples from stratum B indicate wet densities of about 125 to 130 pcf and unconfined compressive strength of about 2000 and 2700 psf. These samples had SPT N_{90} values of 45 and 32 and 42% and 36% sand.

GEOTECHNICAL RECOMMENDATIONS

Based on our interpretation of available data, we have developed the following conclusions and recommendations.

Subsurface Conditions

Our interpretation of subsurface conditions is illustrated on the geologic cross sections in Enclosure (2) and described in the stratification section of this report. The existing fill, designated stratum F, is probably related to pervious site development. This is a heterogeneous mixture of materials and is not considered suitable for structural support.

The natural subsurface materials of stratum A are believed to be terrace deposits of Pleistocene geologic age. This stratum consists of interbedded discontinuous layers of medium dense granular soils and stiff cohesive soils. This material is suitable for support of structures with normal spread footings or mat foundations but higher soil bearing pressures are available on the underlying stratum B.

Strata B, C, and D are believed to be older Potomac Group materials of Cretaceous geologic age. These deposits are stronger and less compressible than the overlying terrace materials. This deposit consists of interbedded and discontinuous layers of granular and cohesive soils. In this report, we have distinguished between strata B, C and D based on relative density and stiffness.

Site Class

The International Building Code (IBC), Table 1615.1.1, contains site class definitions based on averaged soil properties in the top 100 feet. Our interpretation of the code and available subsurface data indicates site class D.

Temporary Dewatering

Groundwater is anticipated below EL 45±. Elevated groundwater levels and/or perched groundwater may be encountered at higher elevations during construction. Temporary dewatering during construction will be necessary. We recommend using deep dewatering wells or well points set deep enough to draw groundwater levels down at least 2 feet below the bottom of mat, footing and floor subgrades and bottom of utility excavations. Pumping from sumps with electric pumps set inside and below the bottom of excavations may also be necessary or desirable in some areas.

If groundwater is encountered, excavation should stop and dewatering pumps set deeper so that excavations are made above the drawn-down groundwater elevations. Excessive subgrade disturbance, sand boils, uplift of structures and/or other damage may occur if dewatering is not effectively installed and maintained. To prevent uplift of the proposed mat foundation, dewatering must continue until the project structural engineer has determined that temporary dewatering can be discontinued. Backup power sources and emergency alarms are recommended. Dewatering should be included as part of the contractor(s) ways and means of construction.

Problems with fouling of pumping systems due to iron ochre, which is created by iron reducing bacteria, have been reported in NE Washington DC. It is possible to test groundwater and/or soil samples for the presence of iron, iron reducing bacteria and other substances and may assist in design of pumping and treatment systems but to our knowledge there is no reliable method of predicting performance. Additional comments are included in the “subdrain” section of this report.

Support of Excavation (SOE) and Underpinning

Sheeting, shoring, and underpinning should be designed and constructed by a specialty contractor with local experience. Lateral support will be needed, where inadequate space is available to slope the excavation back to a stable configuration. We anticipate conventional steel piles with timber lagging, tiebacks and/or braces is feasible.

Shoring and underpinning will be needed adjacent the existing building on lot 16. We recommend using at rest earth pressures plus surcharge loads due to building floor and foundation loads. These earth pressures are higher than active loads but are recommended to minimize movements. Detailed SOE recommendations, such as earth pressure diagrams, tieback parameters and other details are not included in the scope of this report but can be provided by us if requested.

Retail Building Foundations

A mat foundation has been selected for support of the retail building. The mat will typically be 3 feet thick and will be folded down at elevation changes. The mat and foundation walls will be waterproofed and designed for hydrostatic pressure. We recommend the mat be designed to prevent uplift assuming hydrostatic head at EL 47. An emergency pressure relief system could be installed below the mat if the structural engineer determines it is necessary.

Based on preliminary information provided by the project structural engineer, the average soil bearing pressure at the bottom of the proposed mat varies from about 1400 to 3500 psf. The existing overburden pressure is about 2700 psf, therefore, average stress increase will be about 1200 psf. We estimate total settlement as a result of this increased pressure will be about 1½ inches which is normally considered adequate for a mat foundation. Differential settlement is a function of soil variability and will likely be less than 25% of the total settlement.

Preliminary information also indicates edge stresses will typically be less than 5600 psf with a maximum of 7000 psf. The subgrade soils are considered suitable for this bearing pressure. It is less than the allowable 9000 psf soil bearing we previously recommended for individual spread footings with a factor of safety of 3 against shear.

We estimate the modulus of subgrade reaction (Ks) for a one foot by one foot ridged increment is approximately 200 pounds per cubic inch at the P2 and P3 mat elevations. This value can be used for design of the mat foundation.

The mat subgrade is expected to consist of stratum B natural soils with SPT N_{90} values in the range of 37 to 50/4". Most of the soils are expected to be very dense clayey sand and silty sand with occasional layers of very stiff clay or elastic silt.

Heavy equipment may cause unsuitable disturbance to subgrade materials. Therefore, we recommend that mass excavation stop about 1.5 feet above subgrade. Final excavation to subgrade should be performed with equipment working from outside of the excavation. An excavator with a smooth bucket is suggested. Subgrades should be free of water and all disturbed material should be removed. Mat subgrades should be observed by the geotechnical engineer’s representative as they are excavated. To prevent soil disturbance during placement of the reinforcing, a 3 inch minimum thickness work mat of concrete should be placed as soon as the subgrades are approved.

The onsite geotechnical observation and monitoring services should be provided under the supervision of a registered Professional Engineer practicing geotechnical engineering in the local geologic conditions.

Localized undercuts of unsuitable material can be replaced with approved compacted structural fill, #57 size aggregate or concrete. If material significantly different from or looser than the materials anticipated in this report is encountered, test pits and/or test borings should be performed to obtain additional information. The geotechnical engineer that provides onsite observations and testing should also provide engineering recommendations as necessary based on actual site conditions.

Residential Building Foundations and Floor Support

Unsuitable existing fill is present below the proposed residential building with lower level floor at about EL 62.4. Along the M Street NE side of the building test borings B-6 and B-7 indicate the existing fill extends to about EL 51 to EL 54. Test boring B-3 was drilled in the courtyard and indicated the existing fill extends to about EL 58.

The courtyard is proposed to be about EL 58 and the rear wall of the residential building along column lines J and 12 will be stepped down to below the courtyard. We anticipate natural soils of stratum A will be encountered in these footings. The other footings in the residential building will be in existing fill of stratum F.

We recommend the residential building, be supported on rammed aggregate piers (Geopier Foundations). This type of system is being installed by specialty design-build contractors to improve and reinforce the existing soils. The piers usually consist of 24 to 30 inch diameter drilled or driven holes which are then filled with highly compacted well-graded aggregate. The piers are located along the center line of each bearing wall and in groups under the columns. Normal spread footings may then be constructed on top of the piers.

We estimate the footings could be designed for up to about 7000 psf and supported on the Geopiers, however, the final bearing pressure should be provided as part of the contractors shop drawings and calculations. We would like the opportunity to review and provide comments regarding the contractors design submittals.

We recommend the floor slab be structurally supported on the footings. Additional Geopiers could be added between foundations to reduce structural spans if desired.

The specialty contractor should be required to provide quality control (QC) testing. QC should including load testing and interpretation of at least one pier. The owner's geotechnical consultant should provide quality assurance (QA) monitoring of the QC program.

Alternate for Residential Building Column Lines J and 12

As an alternative to rammed aggregate piers, as described above, the footings on column lines J and 12, which are steeped down along the courtyard, could be supported on natural soils of stratum A. These footings could be designed for a maximum allowable net soil bearing pressure of 5000 psf. Using a column load of about 500 kips and footing depth of at least 2.5 feet below the courtyard, we estimate total settlement would be about ½ inch and the factor of safety against shear at least 3. Differential settlement between these footings and the footings supported on rammed aggregate piers will depend on the design of the piers, variation in loading, soil conditions and workmanship during construction but we anticipate it could be controlled to about ½ inch.

Foundation Walls

The below grade foundation walls will be subjected to unbalanced loads. The walls of the retail building, which extend down to the P2 and P3 levels, will be waterproofed and designed for hydrostatic pressure in addition to earth pressure and surcharge loads. The walls of the residential building will be designed with behind wall drainage to prevent development of hydrostatic pressures.

Because of the variable nature of the subsurface conditions, lateral loads will vary depending on location and depth around the perimeter of the site. However, to simplify design, we recommend the following.

1. Above EL 47, we recommend using an equivalent fluid pressure of 60 pcf plus surcharge loads due to adjacent structures (including footing or floor loads), traffic, slopes, construction equipment and other sources.

2. Below EL 47, we recommend using a lateral pressure of 30 pcf plus hydrostatic pressure of 62.4 pcf plus surcharge loads.

Footings adjacent basement walls should be stepped down at about 1H:1V or flatter, otherwise the wall should be designed for the footing surcharge. Surcharge loads may be estimated as 0.5 times the adjacent area surcharge load in pounds per square foot.

Column footings 85, 108, 122 and 134 in the residential building are within the influence distance of the below grade wall on column line 7.5. The estimated lateral surcharge loads imposed on the wall by these footings is shown in Enclosure (7). These are static loads and assume that the Rammed Aggregate Piers will be installed after the temporary shoring and before the concrete wall is constructed. The pier designer should be consulted for additional details, scheduling and construction considerations.

Subdrains

The floor of the residential building is below exterior grade in most areas, therefore, we recommend a subdrain system be installed to reduce the potential for perched water seepage into the residential building. There will be retaining walls in the courtyard and subdrains will be needed to prevent hydrostatic pressure on these walls.

The “Typical Exterior Subdrain” sketch is Enclosure (6) illustrates our recommendations for an exterior system where access to the outside of the wall is available. This section may be feasible along M Street NE and some of 4th Street NE.

The "Single Face Wall Drainage" sketch in Enclosure (6) illustrates our recommendations for a typical subdrain system in areas where sheeting and shoring will prevent access to the back of the below grade walls. This type of system is appropriate for the proposed one-face foundation wall design along the north side of the courtyard and some of the residential building.

Locations of subdrains, cleanouts and sump pumps will need to be co-ordinated with structural, utility, civil and other plans. We can assist in plan development and review the proposed subdrain plans when they become available.

As previously discussed in the “Temporary Dewatering” section of this report, problems with dewatering due to iron ochre, have been reported in NE Washington DC. The potential problem for this project is limited because the mat and walls below the retail building are being designed for hydrostatic pressure and subdrains will not be necessary. The subdrain recommended for the residential building and retaining walls in the courtyard is a precautionary measure and no significant water flow is anticipated. However, we do recommend good quality workmanship to avoid negative slopes. We also recommend the system be throughly cleaned and all mechanical equipment be checked for proper operation within a few months of installation.

Courtyard

Plans for the courtyard indicate it will be about 10 to 12 feet below the adjacent alley and building. A permanent cantilever steel beam retaining wall with reinforced concrete facing and bracket piles is proposed along the north side of the courtyard. The wall has been designed by us using at rest earth pressures to limit wall deflections.

The courtyard will also include landscaping, hardscape, walkways and possibly other amenities.

Subsurface data indicates natural soil, designated stratum A, is anticipated at subgrade in the courtyard along section B-B in Enclosure (2). Stratum A is suitable for support of light structures except that it may contain potentially expansive fat clay layers and possibly existing fill in some areas.

We anticipate the light weight amenities in the courtyard can be supported on a combination of natural soils and compacted structural fill. If existing fill, high plasticity potentially expansive soil or other deleterious materials are encountered, they should be undercut prior to placing structural fill. Structural fill should be constructed as outlined in the “Earthwork” section of this report.

Earthwork

We anticipate earthwork will mainly consist of backfill in undercut areas, in utility trenches, around footings, strap beams and other below grade structures. We recommend structural fill or backfill placed below the floor slab or other soil supported structures and backfill placed against walls that resist unbalanced loads generally consist of soils classified SC, SM, SP, SW, GC, GM, GW or GP with Liquid Limit and Plasticity Index less than 45 and 20, respectively, and a maximum particle size of about 3 inches. Some of the on-site soils are anticipated to meet these recommendations. Crushed stone (CR-6), crushed concrete (RC-6) and # 57 size open graded aggregate are also considered suitable material.

Structural fill below soil supported structures should be compacted to at least 95% of the maximum dry density determined by the Standard Proctor, ASTM D-698 or AASHTO T-99 at a moisture content not more than about 3% above Standard Proctor optimum at the time of compaction. Earthwork should be performed during normally warm dry seasons of the year.

If open graded # 57 size aggregate is used as structural fill, only minimal compaction is anticipated to be necessary and the moisture content of the material is not relevant.

Additional Geotechnical Engineering Services

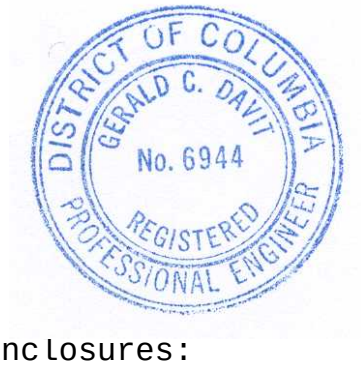
If requested, we can provide review and consultation regarding construction drawings, specifications, shop drawings and contractor submittals.

During construction, footing, floor slab and fill subgrades should be observed, probed and approved by the geotechnical engineer's representative prior to placing concrete. The placement of concrete reinforcing should be observed and concrete should be tested to verify if construction is in accordance with approved contract drawings.

LIMITATIONS

Our services have been provided in accordance with generally accepted geotechnical engineering practice based on available information. No warranties or guarantees are made.

If additional services or clarification of any aspect of this report are desired please contact the undersigned.



Very truly yours,
PROFESSIONAL CONSULTING CORPORATION

Gerald C. Davit, P.E.

Enclosures:
1) Boring Location Plan (1 sheet)
2) Geologic Cross Sections (4 sheets)
3) Summary of Water Level Observations (1 sheet)
4) Test Boring Logs (22 sheets)
5) Laboratory Testing (13 sheets)
6) Subdrain Sections (2 sheets)
7) Lateral surcharge loads (3 sheets)

EXHIBIT M TO AFFIDAVIT

Washington Gas

Service/Information Request

Company Requesting Information	Company: M Street Development Group, LLC c/o The Wilkes Company		Phone No.: (202) 882-1100
	Contact Person Berkeley Shervin		Phone No.: (202) 882-1100
	Address: 5101 Wisconsin Avenue NW		
	City: Washington	State: DC	Zip Code: 20016
Project	Project Name: 300 M Street NE – Square 772		
	Address: 300 M Street NE	Closest Intersection: 3rd and M St, NE	
	City: Washington	State: DC	Zip Code: 20003

Information Required

☒ Request for gas service ☐ Gas Pricing Information ☐ Preliminary inquiry of gas availability ☐ Inquiry of rebate availability

☐ Other (explain): _____

☐ If existing customer, please give Washington Gas Account # _____

Please provide much of the following information as is available when filing out this request.

Residential: ☐ Single Family ☐ Townhouse ☐ Garden Apartments ☒ High Rise Apartments

Commercial: ☐ Office Building ☐ Dry Cleaners ☐ Industrial Processing ☐ Restaurant ☐ Food Stores ☐ Motels/Hotels ☐ Religious Building ☐ Warehouse/Light Industry ☐ Medical Building ☐ School ☐ Retail ☐ Other _____ ☐ Conversion ☒ New Construction

List proposed equipment by type and BTUH input rating. Indicate the operating schedule of any process applications. List boilers by BTUH input rating and indicate if boilers are dual-fueled. List make-up air units by BTUH input rating and CFM supplied. List absorption air conditioning by BTUH input and tonnage supplied. List existing equipment that will continue to be utilized in the left columns. List new/added equipment in the right columns.

		BTUH Input			BTUH Input
QTY.	**New Equipment Description**	Rating	**QTY.**	**New Equipment Description**	Rating
1	Space Heating Boiler, HWB-1	3,000,000	1	Domestic Hot Water Boiler, DHWB-3	2,600,000
1	Space Heating Boiler, HWB-2	3,000,000			
1	Space Heating Boiler, HWB-3	3,000,000			
1	Domestic Hot Water Boiler, DHWB-1	2,600,000			
1	Domestic Hot Water Boiler, DHWB-2	2,600,000			
	Total BTUH Input (All Equipment-New and Existing): Total BTUH				16,800,000

Type of Gas Service Requested: ☒ Firm ☐ Interruptible ☐ If interruptible, alternate fuel _____		Gas Pressure Requested at Meter Outlet: ☐ Standard low pressure (6" w.c.) ☒ 2 psig ☐ Other _____psig (specify reason if greater than 2)	
Local Contact: Berkeley Shervin	Phone No.: 202-882-1100	General Contractor: TBD	Phone No.: TBD
Architect: WGD Architecture, PLLC	Phone No.: 202-857-8300	Developer: The Wilkes Company	Phone No.: (202) 882-1100
Engineer: Dewberry / Jeff Knighton	Phone No.: 703 698 9440	Owner: The Wilkes Company	Phone No.: (202) 882-1100

Important: ***Please include AutoCAD file of site plan and AutoCAD file of mechanical drawings showing location of water, sewer, and other underground utilities, and desired location of gas service line and meters. If meter(s) are located in underground parking garage or meter room, submit AutoCAD files that show dimensions of area.***

Today's Date: **04-01-2016**
Date Information Needed: **ASAP**
Date Gas Piping Installation Required:
Signature: Jeff Knighton
E-mail address: jknighton@dewberry.com

- ***ALONG WITH THIS COMPLETED SUBMITTAL, SEND AutoCAD ELECTRONIC FILE OF SCALED SITE PLAN, A SCALED METER LOCATION PLAN, AND INCLUDE CONSTRUCTION SITE AVAILABLE DATE AND METER INSTALLATION DATE.***

Send Request to:

Robert Postell
Engineered Sales, Specialist
6801 Industrial Road
Springfield, Virginia 22151
Rpostell@washgas.com

(703) 750-4880
(703) 750-5533 (FAX)

EXHIBIT N TO AFFIDAVIT

pepco
A PHI Company

APPLICATION FOR ELECTRIC SERVICE

To expedite your service request, please fill out the application online at: **https://webapps.pepco.com/newservices**

To help avoid delays in processing your application, you ***must*** also submit a site plan or sketch showing all facilities and obstructions. Incomplete information on the paper application may result in a delay in processing your request for service.

The company reserves the right to cancel this request if no further communication is received from the customer ***within 90 days*** of Pepco response date.

APPLICANT INFORMATION

Name: M STREET DEVELOPMENT GROUP, LLC C/O THE WILKES COMPANY; ATTN: BERKELEY SHERVIN

Owner ☐ Electrician ☐ Builder ☐ Developer ☒ Other ☐

Mailing Address: 5101 WISCONSIN AVENUE, NW SUITE 200

City: WASHINGTON State: DC Zip: 20016

Phone: 202-464-1288 Alt. Phone: _____

Fax: _____ E-mail: BSHERVIN@THEWILKESCOMPANY.COM

ADDRESS OF PROPERTY TO BE SERVED

Project Name (if applicable): 300 M

Street Address: 300 - 320 M STREET NE

Apt. No.: _____ City: Washington

State: DC Zip: 20002 Lot and Block No.: _____

Owner's Name: THE WILKES COMPANY

Existing Account No.: None

TYPE OF REQUEST

New Service ☒ Temporary ☐ Lighting ☐ Facility Relocation ☐

Upgrade/Heavy-Up ☐ Other ☐ _____

Proposed In-Service Date: 06 / 01 / 2017

☐ Net Energy Metering
(Apply separately at **http://www.pepco.com/home/choice/**)

BILLING ADDRESS (if different from above)

Street Address: _____

Apt. No.: _____

City: _____ State: _____ Zip: _____

TYPE OF SERVICE

Overhead ☐ Underground ☒

Other: _____

VOLTAGE

120/208 single phase, three wire ☐
120/240 single phase, three wire ☐
120/208 three phase, four wire ☒
265/460 three phase, four wire ☒
Primary Voltage ☐

SERVICE TERMINATIONS

(If you are installing more than one piece of service termination equipment, please submit a breakdown of the connected load behind each switchboard.)

Service	Service Equipment Type*	Capacity (amps)	Service	Service Equipment Type*	Capacity (amps)
Existing Service			New Service #4	Switchboard MS4 (120/208)	2500
New Service #1	Switchboard MS1 (265/460)	2500	New Service #5	Retail Gutter (265/460)	1200
New Service #2	Switchboard MS2 (120/208)	4000	New Service #6		
New Service #3	Switchboard MS3 (120/208)	3000			

** May include Switchboards w/BIC, Mainline Switches, CT Cabinets, Transockets or Meter Sockets.*

PRIMARY SITE USE

RESIDENTIAL ☐

Single House ☐ Apartment ☐
Duplex ☐ Mobile ☐
Townhouse ☐ Condo ☐

Other: _____

No. of Units: _____

Conditioned Square Footage/Unit: _____ sq. ft.

SUBDIVISION ☐

No. of Single Family Homes: _____
No. of Townhomes: _____
No. of Apartments/Condos: _____
No. of Other Units: _____
Total Units/Lots: _____

COMMERCIAL ☒

Store	☒	Total Conditioned sq. ft. 9,613	No. of units: _____
Restaurant	☐	Total Conditioned sq. ft. _____	No. of units: _____
Office	☐	Total Conditioned sq. ft. _____	No. of units: _____
Warehouse	☐	Total Conditioned sq. ft. _____	No. of units: _____
Condo	☐	Total Conditioned sq. ft. _____	No. of units: _____
Apartment	☒	Total Conditioned sq. ft. 297,499	No. of units: 401
Other	☒	Amenities: 63,265 SF; Parking: 101,283 SF	
		Total Conditioned sq. ft. 370,377	No. of units: _____

Over

pepco
A PHI Company

APPLICATION FOR ELECTRIC SERVICE

(page 2)

PRIMARY SITE USE *(continued)*

INDUSTRIAL ☐ (Please provide a description of your project.)

LOAD INFORMATION

Lighting	1,042 kW	Water Heating	2,062 kW	Largest Motor	150 hp
Air Conditioning	50 tons	Elevators	224 kW	Misc. Power	150 kW
Electric Heat Pump	1050 tons	Number of elevators	7		
Electric Resistance Heating	330 kW	Total hp Motors	680 hp		

Additional information for design consideration (Special site considerations, additional load info, etc.):

Total HP Motors includes all scheduled fans, pumps, etc. but does not include elevators or OAHU compressors. Electric heat pump is the total tonnage of the OAHU compressors, SCUs, and dwelling unit heat pumps. Miscellaneous loads include amenities services and car charging stations (6 stations).

Return completed application to Pepco at:

District of Columbia
Pepco
3400 Benning Rd., N.E.
Mailstop: 2B59FF
Washington, D.C. 20019
Phone: (202) 331-6237
Fax: (202) 388-2721

Maryland – Montgomery County
Pepco
Rockville Service Center
201 West Gude Drive
Mailstop: 2RCK22
Rockville, MD 20850
Phone: (301) 670-8700
Fax: (301) 670-8718

Maryland – Prince George's County
Pepco
Forestville Service Center
8300 Old Marlboro Pike
Mailstop: 2FVC67
Forestville, MD 20772
Phone: (301) 967-5800
Fax: (301) 967-5820

For Office Use Only159-04-12

BERKELEY SHERVIN
Applicant's Name

November 24, 2014
Date

Signature

THE WILKES COMPANY
Company Name

EXHIBIT O TO AFFIDAVIT

THIS CHECK IS VOID WITHOUT A BLUE & GREEN BACKGROUND AND AN ARTIFICIAL WATERMARK ON THE BACK - HOLD AT ANGLE TO VIEW

UNITED BANK
68-444-560

013124

M STREET DEV. GROUP, LLC
5101 WISCONSIN AVE NW, STE.200
WASHINGTON, DC 20016
202-882-1100

8/18/2016

Pay to the Order of DC Water

$344,640 .00

Three Hundred Forty-Four Thousand Six Hundred Forty and 00/100**********DOLLARS

DC Water & Sewer Authority (Permits)
1100 4th Street, SW, Suite 310
Washington, DC 20024

DC - WATER Water & Sewer Deposit Against

SIGNATURE HAS A COLORED BACKGROUND - BORDER CONTAINS MICROPRINTING

⑈013124⑈ ⑆056004445⑆ 00432663960⑈

M STREET DEV. GROUP, LLC 013124

DC Water		8/18/2016	
12500 · Accounts Receivable - Oth	DC - WATER Water & Sewer Deposit Against		344,640.00

United Bank - Chec	DC - WATER Water & Sewer Deposit Again	344,640.00

THIS CHECK IS VOID WITHOUT A BLUE & GREEN BACKGROUND AND AN ARTIFICIAL WATERMARK ON THE BACK - HOLD AT ANGLE TO VIEW

UNITED BANK
68-444-560

013123

M STREET DEV. GROUP, LLC
5101 WISCONSIN AVE NW, STE.200
WASHINGTON, DC 20016
202-882-1100

8/18/2016

Pay to the Order of DC Water

$5,690 .00

Five Thousand Six Hundred Ninety and 00/100**********DOLLARS

DC Water & Sewer Authority (Permits)
1100 4th Street, SW, Suite 310
Washington, DC 20024

DC - WATER Inspection Fees

SIGNATURE HAS A COLORED BACKGROUND - BORDER CONTAINS MICROPRINTING

⑈013123⑈ ⑆056004445⑆ 00432663960⑈

M STREET DEV. GROUP, LLC
DC Water
60873 · Consultant

DC - WATER Inspection Fees	8/18/2016	5,690.00	013123

United Bank - Chec DC - WATER Inspection Fees 5,690.00

Sheeting & Shoring
Estimate for Deposit Against Damages Calculator
DC Water Permit Operations Department
1100 4th St. SW Suite 310 Washington, D.C. 20024 (202) 646-8600

Date	21-Dec-15	Square #	772	Check #
Project Address	300 M St NE	Lot #	19	Invoice #
Project Name	300 M St NE	Tracking #	16-97370	
Payer's Name		Payer's Phone #		
Payer's Address		Payer's Email		

Estimated Public Water Pipe Replacement Cost

Water Pipe Size	Location	Linear Feet	Unit Cost	Total
66-inch	3rd St NE	302	$4,000.00	$1,208,000.00
66-inch	M St NE	184	$4,000.00	$736,000.00
				$0.00
				$0.00
		Sub Total (if amount exceeds $625k, see note #8) =		$1,944,000.00

Estimated Public Sewer Pipe Replacement Cost

Sewer Pipe Size	Location	Linear Feet	Unit Cost	Total
10-inch	M St NE	190	$260.00	$49,400.00
12-inch	3rd St NE	270	$280.00	$75,600.00
18-inch	M St NE	248	$450.00	$111,600.00
				$0.00
		Sub Total (if amount exceeds $625k, see note #8) =		$236,600.00
		Total estimated cost for utility replacement =		$2,180,600.00

Deposit Against Damages Amount (Fully-reimbursable note #1)

Water deposit at 40% of replacement cost up to $250,000 =	$250,000.00
Sewer deposit at 40% of replacement cost up to $250,000 =	$94,640.00
Total water & sewer deposit against damages =	$344,640.00

Inspection Fee Amount (Partially-reimbursable note #2)

Water pipe inspection = total of 484 linear feet of 66" water main in 3rd st & M St NE.	$2,500.00
Sewer pipe note #3 inspection = 12" sewer in 3rd St NE and a 10" and 18" sewer main in M St NE.	$3,190.00
Total inspection costs =	$5,690.00

Abandonment Fee Amount (Non-reimbursable note #4)

Water service abandonment inspection =	$0.00
Sewer service abandonment inspection =	$0.00
Total abandonment costs =	$0.00

Total Costs

Deposit Against Damages (check or letter of credit note #7) =	**$344,640.00**
Inspection and Abandonment Fees (check or credit card) =	**$5,690.00**
Amount of Insurance Coverage note #8 =	**$2,180,600.00**

Prepared by	**David R. Paige**	Date	**December 21, 2015**
Received by		Date	

Sheeting & Shoring Notes
DC Water Permit Operations Department
1100 4th St. SW Suite 310 Washington, D.C. 20024
Phone 202-646-8600

1. Fully reimbursable: The deposit at 40% of the replacement cost is fully refunded to the applicant if no damage is incurred to the public water or sewer infrastructure due to this construction activity. This money will be held until the six month settlement period has expired, the DC Water Construction Inspection Section reviews and approves the post-construction CCTV inspection, and final site inspection is complete, and as-built drawings that meet DC Water's requirements are received.

2. Partially-reimbursable: An inspection fee is an estimate of the cost to cover the time that a DC Water inspector will spend to inspect and document the public infrastructure before and after construction. That time is recorded and charged against the inspection fee. At the end of the job, the difference between the estimated fee and the actual cost is either billed or refunded to the applicant.

3. Sewer Inspection: To assess the condition of sewers and any resulting damage from the proposed work, a closed-circuit television (CCTV) inspection or a walk through (if the sewer is large enough) must be performed pre and post-construction for all sewers within the zone of influence of the excavation. The owner is responsible for performing both CCTV inspections and providing the films to DC Water for review.

4. Non-reimbursable: A lump sum fees paid to DC Water for removing an existing water or sewer lateral connected to the public main. No amount will be refunded to the applicant.

5. Deposit against damages charges may be paid to DC Water via check (made payable to DC Water) or letter of credit (see note #7). Neither bonds nor cash are accepted.

6. Inspection and abandonment fees may be paid to DC Water via check (made payable to DC Water) or credit card. Cash, bonds and letters of credit (see note #7) are not accepted.

7. A letter of credit is a document issued by a financial institution assuring payment to DC Water. In the event of utility damage, DC Water then seeks reimbursement from the owner's bank. The document serves as a guarantee to DC Water that it will be paid by the issuer of the letter of credit regardless of whether the owner ultimately fails to pay. The risk that the owner will fail to pay is transferred from the owner to the letter of credit's issuer.

8. In the event that the replacement cost of the existing utilities exceeds $625k for water and/or $625k for sewer, DC Water requires the applicant to provide proof of insurance coverage in the amount equal to (or in excess of) the estimated full replacement cost of both water and sewer pipes. DC Water shall be named as other insured on the umbrella general liability insurance. The insurance coverage is required in addition to the letter of credit amount due.

9. In some cases, the cost of replacement of a water or sewer main cannot be determined based on linear feet and size of the utility (i.e. construction activity adjacent to a 66" water main or a 17'x15' combined sewer main). The cost for replacement of these types of assets will be reviewed and approved by the Permit Operations Director on a case-by-case scenario.

10. Payment should be made at 1100 4th St. SW Suite 310 only. Payment at other DC Water locations will not be accepted. Please do NOT mail payments to 5000 Overlook Ave. SW or 810 1st St. NE.

11. The zone of influence is defined as the area above a 45-degree plane that starts at the bottom outside corner of the proposed excavation and terminates at the surface. It is assumed that any public water/sewer main in the zone of influence of the excavation can settle or become damaged during construction and a deposit against damages is required.

12. If a water or sewer pipe is damaged during the sheeting and shoring operation please call the DC Water emergency line at 202-612-3400.