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July 17, 2015

Mr. Mike Fowler, PE
Senior Water Resources Engineer
Wildlands Engineering, Inc.
9940 Main Street, Suite 202
Fairfax, VA 22031

Re: Additional Soil and Groundwater Assessment
Duke Diet and Fitness Center
808 West Trinity Avenue
Durham, North Carolina
F&R Project No.: 66S-0425-0001

Dear Mr. Fowler:

Froehling & Robertson, Inc., (F&R) is pleased to submit this Additional Soil and Groundwater Assessment report for the above referenced Property. The scope of services described within is based upon F&R Proposal Number 1666-00114.

PROJECT INFORMATION

The Property is known as the former Duke Diet and Fitness Center (DDFC), and consists of a 9.11 acre parcel located at 808 West Trinity Avenue. The southern portion of the Property is developed with asphalt paved parking areas, and a 19,796 square foot health club building that was constructed in approximately 1956. The northern portion of the Property was formerly developed with athletic fields; however, a deteriorated storm sewer pipe located on the eastern side of the parcel prompted the owners to fence off a portion of the field due to safety concerns. The northern portion of the site now consists of cleared and wooded land. South Ellerbe Creek is located along the western portion of the Property. Please reference Figure 1 for the site location.

Phase I ESA - Brown & Caldwell subcontracted a Phase I Environmental Site Assessment (EcoEngineering, August 26, 2011) at the DDFC in Durham, North Carolina for the City of Durham. During the course of the Phase I ESA, Recognized Environmental Conditions (RECs) were identified in association with an on-site debris pile containing asphaltic materials (located in the field north of the building), as well as several adjacent properties that had the potential

to impact the DDFC property. EcoEngineering recommended conducting a Phase II ESA to address the RECs.

Limited Phase II - Brown & Caldwell subsequently performed a Limited Phase II Investigation in December 2011 and September 2013 to evaluate the soil and groundwater impacts associated with the above RECs. Brown and Caldwell collected soil and groundwater samples from adjacent to the asphalt pile, and submitted the samples for laboratory analysis of Volatile Petroleum Hydrocarbons (VPH), Extractable Petroleum Hydrocarbons (EPH), Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs). Brown & Caldwell also subcontracted a surveyor to determine the size of the asphalt debris pile, which was determined to contain approximately 473 cubic yards. Based upon the results of the Limited Phase II Investigation, Semi-Volatile Organic Compounds (SVOCs) were identified at the following depths:

- 5 feet below ground surface (bgs) at TW-5, adjacent to the south side of the asphalt debris pile;
- 1-foot bgs at five sampling locations (TW-2 and TW-5 through TW-8) surrounding the asphalt debris pile; and
- 1-foot bgs at two step-out borings near TW-2, to the east-northeast of the asphalt debris pile.

In addition, EPH compounds were identified at a depth of 1-foot bgs at TW-2. With the exception of TW-5, SVOCs were not detected in the samples collected at 5-feet bgs at these locations. Brown and Caldwell therefore concluded that surface runoff from the asphalt debris pile had impacted shallow soils at least 40 feet north and east of the pile. Brown and Caldwell recommended further assessment to define the lateral extent of the SVOCs detected in the soil.

Limited Soil Assessment - Based on the results of the Brown & Caldwell Limited Phase II Investigation, Wildlands Engineering requested for F&R to further delineate the shallow soil contamination near the asphalt debris pile, and provide a cost estimate for remediation of the pile and surrounding impacted soils. F&R completed a Limited Soil Assessment in May 2015, which included the advancement of 27 soil borings around the asphalt debris pile, and in the field north of the existing site structure. F&R collected soil samples from these soil borings at varying depths (from existing ground surface up to 5 feet bgs), and field screened the samples using ultraviolet fluoroscopy (UVF) methods (QED hydrocarbon analyzer). In addition, F&R submitted a total of 21 soil samples for laboratory analysis of VOCs, SVOCs, EPH and VPH. Based upon the results of the laboratory analysis, several SVOCs were detected at concentrations

above IHSB Residential and/or protection of Groundwater PSRG standards. Several of these SVOCs were identified as Polycyclic Aromatic Hydrocarbons (PAHs) commonly associated with coal, coal tar, asphalt and as byproducts of incomplete combustion. Several of the PAHs commonly found in asphalt were detected at higher concentrations near the asphalt debris pile. Based upon observations made during the field investigation, as well as the results of the UVF field screening, F&R believed that the widespread detection of PAHs at lower concentrations may be from a different source than the asphalt pile. Possible sources may include previous placement of fill soils, atmospheric deposition of fly ash, or from a previously unknown or unreported fire that may have taken place on the Property.

In addition, F&R detected Diesel Range Organics (DRO) in Boring SB-4, advanced near a vent pipe adjacent to the existing site structure. F&R also detected Gasoline Range Organics (GRO) in Boring SB-29, advanced near the northeast corner of the building. The sources of these detections could not be readily determined; however, based upon the vent pipe observed, F&R suspected the DRO could be associated with a diesel underground storage tank (UST).

F&R also provided cost estimates to remediate the documented contamination at the Property.

See Figure 2 for Brown and Caldwell's and F&R's previous boring locations.

Based upon the findings of F&R's Limited Soil Assessment, Wildlands Engineering requested additional assessment at the Property, including further defining the extents of surficial PAH contamination, and additional investigation of the DRO and GRO detections.

SOIL ASSESSMENT ACTIVITIES

F&R visited the Property on June 29, 2015 to begin the Additional Soil and Groundwater Assessment. F&R proceeded with the assessment by advancing 12 soil borings (SB-30 through SB-41) via direct-push technology (GeoProbe) at the approximate locations shown in the attached Figure 3. F&R notes the boring numbering began with SB-30 as a continuation of F&R's previously submitted Limited Soil Assessment. The borings were typically advanced to groundwater at boring locations SB-30 through SB-35, and to a depth of 8 feet below ground surface (bgs) at boring locations SB-36 through SB-41. SB-42 was excavated by shovel in order to collect a surficial soil sample. Boring locations and depths were determined by F&R staff based on site features, topography, utility locations, former boring locations and the previously discussed concerns.

Soil sample cores from the borings were collected in disposable, 4-foot long acetate sleeves or by shovel. The soil samples were screened in the field using a photo-ionization detector (PID)

for evidence of volatile organic compounds (VOCs). Evaluation of VOC concentrations was performed using a MiniRae 2000 PID which produces results in parts per million (ppm). A representative soil sample was collected from one-foot sections of each sleeve or hand auger bucket and placed in a re-sealable plastic bag where the vapors were allowed to equilibrate in the headspace of the bag for approximately ten minutes prior to measurement with the PID. The measurements were collected by placing the probe tip into the headspace of the bag. Please reference Figures 1 through 10 for site location, boring locations and site photographs.

F&R also screened soil samples using ultra-violet fluorescence (UVF) methodology, with a QROS QED hydrocarbon analyzer. The QED is capable of identifying the type of hydrocarbon present in the sample, as well as measuring concentrations of GRO and DRO, Total Petroleum Hydrocarbons (TPH), BTEX (Benzene, Toluene, Ethylbenzene and Xylenes), Total Aromatics (C_{10}-C_{35}), the Sum of 16 EPA PAHs, and Benzo(a)pyrene. In an effort to vertically delineate the contamination, F&R typically screened samples with the QED in one to two foot sections, to the depths described above.

F&R selected a total of sixteen soil samples from a variety of locations and depths for laboratory analysis:

- Eleven soil samples were selected from seven borings on the southern portion of the Property to investigate the presence or absence of the Pyrogenic Hydrocarbons detected on the northern portion of the Property during the previous assessment (boring locations SB-34, and SB-36 through SB-41).
- Three soil samples were selected from the three borings advanced near the previous diesel fuel detection (boring locations SB-30 through SB-32).
- Two soil samples were collected from locations SB-35 and SB-42 to investigate the leachability of the contaminants detected on the Property and address questions associated with soil disposal procedures.

The soil samples collected from boring locations SB-30 through SB-34, and from SB-36 through SB-41 were submitted for analysis of VOCs by EPA Method 8260, SVOCs by EPA Method 8270, Extractable Petroleum Hydrocarbons by MADEP EPH, and Volatile Petroleum Hydrocarbons by MADEP VPH.

The soil samples collected from boring locations SB-35 and SB-42 were submitted for full laboratory analysis of Toxicity Characteristic Leachate Procedure (TCLP), including VOCs, SVOCs, Pesticides, Herbicides, Metals and Polychlorinated Biphenyls (PCBs).

The samples were collected in laboratory-supplied sample containers, placed in a cooler with ice, and delivered by courier to Prism Laboratories in Charlotte, North Carolina following standard chain-of-custody procedures.

RESULTS OF SOIL ASSESSMENT

Subsurface conditions from existing ground surface to boring termination primarily included various layers of dry to moist, gray to brown fine sandy silt (USCS – ML) from ground surface to an average depth of approximately 2.5 feet, and orange-brown sandy silty clay (USCS – CL) from 2.5 feet bgs to boring termination (8 to 10 feet bgs).

Petroleum odors were generally not observed during field screening or sample collection activities. However, strong petroleum odors were detected at Boring SB-31 from 5 to 6 feet bgs. PID readings on the samples collected during the field screening generally ranged from 0.2 ppm to 1.7 ppm, with no obvious odors noted. However, the PID reading at Boring SB-31 from 5-6 feet bgs was 2.5 ppm, with a petroleum odor noted. See the attached boring logs for a summary of soil descriptions and PID readings.

In 6 of the 37 samples analyzed during the UVF field screening activities, the QED identified Pyrogenic Hydrocarbons as the contaminant in the soil samples. Pyrogenic Hydrocarbons are generated during combustion of various materials, including wood, oil, coal, etc. TPH concentrations detected by the QED in these samples generally ranged from 0.14 to 58.5 mg/kg Diesel Range Organics (DRO).

Very Degraded Petroleum Hydrocarbons were identified in 23 of the 37 samples analyzed by the QED, with TPH concentrations ranging from < 0.53 to 44.5 mg/kg DRO.

Degraded Fuel was identified in 7 of the 37 samples (with TPH concentrations ranging from 3.1 to 128.5 mg/kg), with Petroleum Hydrocarbons Not Detected in one of the samples. See the attached Table 1 for a summary of the QED results, and the attached QED analytical data for the hydrocarbon fingerprint information.

The laboratory analytical results detected several SVOCs at concentrations above the laboratory method detection limit (MDL): Anthracene, Benzo(k)fluoranthene, m- and p-Cresol, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Phenanthrene and Pyrene. These compounds were identified in 10 of the 14 samples submitted.

The following PAHs were detected at concentrations above their respective Residential and/or Protection of Groundwater Preliminary Soil Remediation Goals (PSRGs) established by the Inactive Hazardous Sites Branch (IHSB) in March 2015: Benzo(a)anthracene, Benzo(a)pyrene,

Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene and Phenanthrene.

F&R notes that there are no current IHSB Residential or Industrial PSRG standards for Benzo(g,h,i)perylene and Phenanthrene. Therefore, any concentration of these compounds detected above their Method Detection Limit (MDL) is considered an exceedance of the standard. However, the concentrations of Benzo(g,h,i)perylene and Phenanthrene were detected below their IHSB Protection of Groundwater PSRGs.

In addition, Benzo(a)pyrene was detected above its IHSB Industrial PSRG in Sample SB-32 (2-3 feet bgs), SB-37 (0-2 feet bgs), SB-40 (0-2 feet bgs), and SB-41 (0-2 feet bgs).

Laboratory analysis also detected the presence of Acetone in several of the samples submitted. The concentrations of Acetone were detected at levels below its IHSB Residential and Protection of Groundwater PSRGs. Acetone is a common laboratory contaminant and is frequently detected in volatiles analysis due to its wide-spread use for sample extraction and equipment cleaning. No other VOCs were detected.

In addition, C_9-C_{18} Aliphatics, C_{19}-C_{36} Aliphatics and C_{11}-C_{22} Aromatics were detected above the laboratory MDL in several of the samples submitted. C_{19}-C_{36} Aromatics were detected at concentrations exceeding the IHSB Residential and Industrial PSRGs in eight of the samples submitted.

TCLP analysis did not detect VOCs, SVOCs, Metals, Pesticides, Herbicides or PCBs in the two samples submitted.

A summary of the soil laboratory analytical results are presented in Table 2. The laboratory analytical results and chain-of-custody form are also attached.

GROUNDWATER ASSESSMENT ACTIVITIES

Upon completion of soil assessment activities, F&R continued to advance five of the borings (SB-30 through SB-35) at the Site in order to obtain groundwater samples. In addition, F&R collected a groundwater sample from the existing monitoring well in the parking lot near the southeastern corner of the structure.

Groundwater samples were collected from boring locations SB-30 through SB-32 in an attempt to determine if the possible diesel release had impacted the groundwater at the Property. The groundwater sample collected from boring location SB-33 was intended to further assess the GRO detection near the northeastern corner of the building. Groundwater samples were collected from boring location SB-34 and the existing permanent monitoring well at the

southeastern corner of the Property to determine if off-site releases were impacting the groundwater at the Property. Finally, one groundwater sample was collected from boring location SB-35 to determine if the presumed asphalt contamination (SVOCs above Industrial PSRG standards) had affected groundwater quality.

The borings were advanced using direct-push techniques (GeoProbe) at the approximate locations shown in Figure 3, and generally to a depth of at least 2 feet below the observed groundwater table in order to provide an adequate volume of groundwater for sample collection. In order to sample the groundwater, a temporary monitoring well (TMW) was constructed at each location. Filter sand was placed in the annulus surrounding a 1-inch screened PVC pipe, followed by hydrated bentonite to ground surface, in order to seal the annulus of the boring.

On June 29, 2015, groundwater was recovered from boring locations SB-32 through SB-35 through the use of a peristaltic pump and polyethylene tubing. Prior to groundwater sample collection, three well volumes of water were purged in order to collect a fresh, representative groundwater sample.

F&R notes that dense Triassic soils were encountered at boring locations SB-30 and SB-31. The temporary monitoring wells at these locations were observed to be either dry or recharged slowly. Due to these conditions, the TMWs at SB-30 and SB-31 were removed, and were re-installed in offset borings advanced approximately 15 feet north of SB-30 and SB-31 in an effort to collect groundwater samples. These offset TMWs were allowed to recharge until July 1, 2015, when F&R returned to the site to obtain groundwater samples using clean bailers. F&R was able to obtain groundwater from the SB-31 offset; however, the recharge in the SB-30 offset remained slow.

After the groundwater samples were collected, the borings were backfilled with bentonite chips.

F&R submitted the groundwater samples for laboratory analysis of VOCs by EPA Method 8260, SVOCs by EPA Method 8270, and MADEP VPH and EPH. The groundwater samples were collected in laboratory-supplied containers, placed in a cooler with ice, and delivered by courier to Prism Laboratories in Charlotte, North Carolina following standard chain-of custody procedures. Due to the slow recharge at SB-30, the TMW only produced enough groundwater volume sufficient for VOC analysis (EPA 8260).

RESULTS OF GROUNDWATER ASSESSMENT

Groundwater was encountered at depths ranging from 6 to 10 feet bgs at SB-30, SB-31, SB-32, SB-33, SB-35 and SB-35.

The laboratory analysis detected chlorinated solvents in the samples collected from locations SB-32, SB-33 and the existing monitoring well (1,1-Dichloroethane (DCA), 1,1-Dichloroethylene (DCE), and Vinyl chloride). The concentration of DCA was above the laboratory MDL, but below its NCAC 2L Groundwater Quality Standards (GWQS). The concentrations of DCE and Vinyl chloride detected at SB-33 were above the 2L GWQS, but below the NCAC 2L Gross Contaminant Level (GCL). Acetone was also detected in several of the samples, but is likely an artifact of the laboratory analysis.

In addition, laboratory analysis detected several SVOCs above laboratory MDL, including Benzoic acid at SB-31, and Diethyl phthalate and Di-n-butyl phthalate at SB-34.

Concentrations of C_{19}-C_{36} Aromatics and C_9-C_{12} Aliphatics were detected in the groundwater samples collected from boring locations SB-33 and SB-34, respectively.

A summary of the groundwater laboratory analytical results are presented in Table 3. The laboratory analytical results and chain-of-custody form are also attached.

SUMMARY

F&R has completed an Additional Soil and Groundwater Assessment at the Duke Diet and Fitness Center. Based on the results of our field exploration and laboratory analytical results for the collected soil samples, several areas of contamination are apparent on the Property:

Asphalt Debris Pile and Associated Impacted Soils: F&R estimates that an area of approximately 10,300 square feet has been negatively impacted by the asphalt pile, inclusive of boring locations TW-2, SB-2, SB-14, SB-24, and TW-7. In this area, SVOCs (primarily PAHs) were detected at levels exceeding IHSB Industrial PSRGs. Based on the QED and laboratory results, asphalt-impacted soils generally appeared to exist within the top two feet of ground surface; however, a smaller quantity of impacted soils may be present to a depth of 4 feet bgs in the vicinity of SB-14. With an estimated area of approximately 10,300 square feet and a depth of 2 feet, an estimated 20,600 cubic feet (or 762 cubic yards) of asphalt-impacted soils may be present in the vicinity of the asphalt debris pile. Assuming 120 pounds per cubic foot, 1,250 tons of soil have been impacted by the asphalt pile. As previously mentioned, Brown and Caldwell reported the asphalt debris pile to contain approximately 473 cubic yards of material.

Site-wide PAH Contamination: PAHs commonly associated with combustion were detected on the southern portion of the Property (south of the building). In addition, the QED Hydrocarbon Analyzer identified Pyrogenic Hydrocarbons and Very Degraded Petroleum Hydrocarbons in the samples collected on the southern portion of the site. According to Mr. Colin Green of QROS, the manufacturer of the QED, hydrocarbons produced during combustion may be identified by the QED as Very Degraded Petroleum Hydrocarbons, and are typically encountered in urban areas.

Based upon this information, F&R believes the widespread detection of PAHs in the surficial soils across the site may be due to the location of the Property in a historically developed, urban area. Factors contributing to the Pyrogenic Hydrocarbons and PAHs on the northern portion of the Property may be a railroad track located east of the site, and an historic textile mill (Pearl Cotton Mill) located to the south beyond Trinity Avenue (that operated from 1892 until the 1950s). The Very Degraded Petroleum Hydrocarbons and the PAHs on the southern portion of the site may be attributable to vehicular emissions washing onto the Property from the atmosphere and/or the ground surface of the surrounding areas (such as the parking lot and/or West Trinity Avenue). At this time, the specific source of the PAHs detected throughout the Property cannot be determined; however, Mr. Green indicated that he has experienced similar results in other historically developed urban areas.

F&R estimates that approximately 170,000 square feet of the site may be impacted by the Pyrogenic Hydrocarbons and PAHs, with contaminated soils generally existing within the top two feet of ground surface (approximately 20,400 tons). In addition, it is apparent that several additional areas have been impacted to depths ranging from 2 to 5 feet bgs (approximately 2,120 tons). The northeastern portion and eastern edge of the Property do not appear to be impacted based upon data acquired from Borings SB-27, SB-28 and SB-34, which generally did not appear to contain PAHs or pyrogenic contamination.

Diesel Contamination and Potential UST: During the previous assessment, a vent pipe was observed adjacent to the northern elevation of the DDFC building, and a diesel release was detected at Boring SB-4 from 3-4 feet bgs. During the additional assessment, three borings (SB-30 through SB-32) were advanced north of the building in an effort to determine the extents of the diesel fuel release. Of these three additional borings, evidence of diesel was observed in SB-31, from 6-7 feet bgs. Laboratory analysis of groundwater samples obtained from these borings did not detect compounds associated with petroleum. Based on the laboratory analytical results and the field screening activities, F&R estimates approximately 2,500 SF of soil has been

impacted, to a depth of approximately 7 feet bgs, which equates to approximately 463 cubic yards, or 750 tons.

Gasoline (GRO) Detection: F&R did not detect additional evidence of GRO in the soil samples collected in SB-33 near the previously advanced SB-29 where GRO was encountered. However, Degraded Fuel was identified by the QED at this location at a concentration of 128.5 mg/kg from 0-2 feet bgs. It is possible that a historical surface release of petroleum has occurred in this area.

In addition, the laboratory analysis of the two TCLP samples (SB-35 and SB-42) did not detect VOCs, SVOCs, Metals, Pesticides, Herbicides or PCBs. These samples were collected from areas of previously documented contamination (SB-35 was collected from the asphalt-impacted soils where compounds were at concentrations exceeding Industrial PSRG levels, and SB-42 was collected from an area of pyrogenic contamination). Therefore, it is unlikely that contaminants are present in these areas at levels above the Maximum Concentrations of Contaminants for Toxicity Characteristics established by the EPA in their *Hazardous Waste Characteristics* document (October 2009).

F&R notes that chlorinated solvents were detected in the groundwater samples collected from locations SB-32, SB-33 and the existing monitoring well. Based on conversations with Mr. Craig MacIntosh of NCDENR, the Scott & Roberts Dry Cleaner is located approximately 500 feet east-southeast of the Property and has been the subject of an extensive investigation associated with the release of several products, including chlorinated solvents, petroleum solvents, and diesel fuel. It is likely that the chlorinated solvents detected in these samples are associated with the Scott & Roberts Dry Cleaner. The groundwater samples submitted did not detect other compounds associated with the contaminants discovered on the Property. Therefore, it does not appear the asphalt pile, the Pyrogenic Hydrocarbons, or the on-site diesel release have impacted the groundwater at the Property.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results obtained during this assessment and existing site conditions, F&R has determined that soil contamination exists at the Property above IHSB Residential and/or Protection of Groundwater PSRGs. ***F&R recommends this report be submitted to NCDENR IHSB for their review within 90 days (in accordance to North Carolina General Statute 130A-310.1 Paragraph B)***. Upon receipt, it is anticipated that NCDENR will issue a letter of acceptance for the reports, keep them on file and may require additional assessment or corrective action at the site in the vicinity of this investigation where exceedances for SVOCs and DRO were

observed. Corrective action may include the excavation and disposal of soils in accordance with state regulations.

At the request of Wildlands Engineering, F&R contacted remediation contractors (A&D, CCI) to estimate a cost to remove the asphalt pile, and excavate and dispose of the soils contaminated by the PAHs, the asphalt pile, and the diesel release. F&R estimates that the majority of the contaminated areas will be remedied by excavating the top two feet of surficial soils, followed by additional excavation in isolated areas to remove impacted soils at lower depths. According to the quotes provided by the remediation contractors, daily rates for excavating and loading soils ranged from $3,440 to $3,850 per day. The costs to transport and dispose of the soils ranged from $55.00 to $68.00 per ton ($74.52 to $110.16 per cubic yard, assuming the soil density is 120 pounds per cubic foot). Using these estimated figures (and assuming three weeks of excavation activities), total costs to dispose of the Pyrogenic and PAH contaminated soils could range from approximately $1.42 million to $1.75 million. Based on our conversations with the remediation contractors, it is anticipated that the PAH contaminated soils will require disposal at a Subtitle D landfill. F&R has also included an estimate to excavate and remove a 1,500-gallon UST, and includes the disposal of 1,500 gallons of liquids, 100 gallons of sludges, and F&R's consulting fees. However, F&R notes that it is unknown if a UST is present at the Property. The below table provides an opinion of probable cost to perform the above activities:

Opinion of Probable Cost for Disposal at Sub-Title D Landfill

Remedial Action	Quantity	Cost	Subtotal
Daily Equipment Fees	15 days	$3,440 to $3,850 /day	$51,600 to $57,750
Removal and Disposal of Asphalt Pile at a Sub-Title D Landfill	473 tons	$55 to $68.5 /ton	$26,015 to $35,238.50
Excavation and Disposal of Asphalt Debris, and Asphalt, Diesel and PAH Contaminated Soils at a Sub-Title D Landfill	23,270 tons	$55 to $68 /ton	$1,279,850 to $1,593,995
Excavation and Disposal of UST and Diesel Fluids (if any)	1,500-gallon UST (assumed)	$50,000	$50,000
F&R Consulting Fees and Oversight of Remedial Activities	200 to 250 hours	$75 to $90 /hour	$15,000 to $22,500
	Total		$1,422,465 to $1,759,483.50

F&R notes that other disposal options may be available following regulatory review of this information. However, based upon F&R's research, the PAH-impacted soils may not be disposed of at a landfarm (which are permitted for disposal of petroleum contaminated soils only), or at a construction and demolition landfill (which do not accept contaminated materials).

REPORT LIMITATIONS

These services have been performed, under authorization of Wildlands Engineering, for specific application on this project. These services have been performed in accordance with generally accepted environmental and hydrogeological practices. No other warranty, expressed or implied, is made. As with any subsurface investigation, actual conditions exist only at the precise locations from which samples were taken. Certain inferences are based on the results of sampling and related testing to form a professional opinion of conditions in areas beyond those from which samples were taken. Our conclusions and recommendations are based upon information provided to us by others, our sampling and testing results, and our site observations. We have not verified the completeness or accuracy of the information provided by others, unless otherwise noted. Our observations are based upon conditions readily visible at the site at the time of our site visits.

Froehling & Robertson, Inc. by virtue of providing the services described in this report, does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state or federal public agencies any conditions at the site that may present a potential danger to public health, safety or the environment. In areas that require notification of local, state, or federal public agencies as required by law, it is the Client's responsibility to so notify.

The opinions of probable costs presented herein have been prepared for the exclusive use of our Client and their authorized agents for use on this specific project. In addition, the opinions of probable cost are estimates for planning purposes only, and should only be construed as preliminary in nature; actual costs most probably will vary. This report has been prepared based upon our experience within the environmental industry with projects of a similar scope of service. No other warranty, expressed or implied, is made.

This report should not be used for bidding purposes, and is not intended to replace competitive bidding by contractors who are qualified to perform the actual services discussed herein. Contract documents, consisting of detailed plans and specifications, should be prepared by specialists in the appropriate disciplines, for use in the solicitation of competitive bids and the

formation of contract agreements to accomplish the improvements desired. Furthermore, F&R does not assume liability for the use of this report for purposes other than which it was intended as stated above.

If you have any questions/comments or require further information, please do not hesitate to contact the undersigned at (919) 828-3441.

Respectfully submitted,

FROEHLING & ROBERTSON, INC.

Benjamin A. Whitley, P.E.
Project Engineer

Michael S. Sabodish, Jr., Ph.D., P.E.
Engineering and Remediation Services Manager

Attachments: Figure 1 – Topographic Map
Figure 2 – Boring Location Plan
Figure 3 – Boring Location Plan and Soil Contamination To 2' bgs
Figure 4 – Boring Location Plan and Soil Contamination 2' bgs+
Figures 5 through 10 – Site Photographs
Table 1 – Summary of QED Results
Table 2 – Summary of Laboratory Analytical Results (Soil)
Table 3 – Summary of Laboratory Analytical Results (Groundwater)
Boring Logs
Laboratory Results and Chain of Custody
QED Analytical Results and Fingerprints