



Environmental Restoration Specialists

February 5, 2024

via e-mail to: [Maxwell.George@viwapa](mailto:Maxwell.George@viwapa)

Mr. Maxwell A. George  
Environmental Manager  
Virgin Islands Water and Power Authority  
P.O. Box 1450  
St. Thomas, VI 00804

**Subject: Drilling, Monitoring Wells Installation, Observation Wells  
Investigation, Groundwater Sampling for Plume Analysis  
Tank 11 Fuel Spill Mitigation at Randolph E. Harley Facility,  
Virgin Islands Water & Power Authority, St. Thomas, VI**

Dear Mr. George:

ON-SITE ENVIRONMENTAL, INC. (OSE) is pleased to submit as per your request, for your evaluation and acceptance, our technical and economic proposal to perform drilling, monitoring wells installation, observation wells investigation and groundwater sampling for Plume Analysis's Tank 11 fuel spill mitigation at Randolph E. Harley Facility, Virgin Islands Water & Power Authority (VIWAPA), St. Thomas, Virgin Islands.

It is intended to conduct a Plume Analysis as part of the mitigation activities required by the US Coast Guard, US EPA, as per Virgin Islands Department of Planning and Natural Resources (DPNR Department of Environmental Protection (DEP) (DPNR-DEP) and USEPA regulations.

### **SCOPE OF WORK**

**Provide all the necessary trained labor as per OSHA's 29CFR 1910.1028, materials, equipment, supervision, and insurances to perform drilling, monitoring wells installation, observation wells investigation, groundwater sampling for plume analysis Tank 11 fuel spill mitigation at Randolph E. Harley Facility, Virgin Islands Water & Power Authority (VIWAPA), St. Thomas, Virgin Islands, as per the following tasks:**

1. Obtain all necessary well installation permits from appropriate agencies and provide copies to VI WAPA.
2. Investigate the condition of existing observation wells located towards Lindbergh Bay and Krum Bay downhill from the oil spill discharge location to conduct sampling, capture/remove free-phase product and define PHC's impacted groundwater.
  - a. If necessary, clean each well with a drilling rig and air compressor and pump the well with submersible pump.

3. Conduct a subsurface utility clearance of all well locations utilizing ground penetrating radar or similar technologies to determine the soil borings and monitoring well's locations are free from underground electrical, water, sewer, or sanitary pipes.
4. Drilling, installation and development of ten (10) new 4-inch monitoring wells nearby what appears to be the field defined locations (where oil is seeping through) to capture/remove free-phase product, define PHC's impacted soil, and groundwater near the Tank 11 spill area along the hill towards Krum Bay and Lindbergh Bay sides within bedrock using air rotary drilling and steel casing driving technique up to 100 feet bgs. (See Figures 1 and 2 attached)
  - a. 6-inch outer casing from top of rock
    - Maximum depth is 100 feet for each borehole for casing.
  - b. 4-inch open borehole in rock
    - Open borehole is for 40 feet.
  - c. 4-inch Monitoring Well in rock
    - 10 feet of screen, filter sand pack to 2 feet above screen interval, 2 feet of bentonite seal, cement grouted to surface, 2 feet x 2 feet concrete pad and 10-inch diameter bolt down steel manhole.
5. Collect groundwater samples from newly installed monitoring wells and analyze for Total Petroleum Hydrocarbon Diesel and Oil Range Organics to confirm or discard groundwater contamination.
6. Prepare a Plume Analysis to determine the extension of free-phase product and PHC's impacted groundwater (if any)

## APPROXIMATE COSTS

Description	Costs
Mobilization, and Insurances	\$18,000.00
Obtain all necessary well installation permits	\$2,500.00
Investigate the condition of existing observation wells located towards Lindbergh Bay and Krum Bay (Video Logging)	\$5,000.00
If necessary, clean with a drill rig, air compressor and pump the well with submersible pump.	\$21,140.00
Conduct a subsurface utility clearance of all well locations	\$18,000.00
Drilling, installation and development of ten (10) new 4-inch monitoring wells	\$391,300.00
Collect Groundwater sampling in all newly installed monitoring wells (TPH-DRO & ORO)	\$16,250.00
Prepare a Plume Analysis to determine the extension of free-phase product and PHC's impacted groundwater	\$15,000.00
Travel, transportation, lodging and meals (crew of four)(30 days)	\$21,000.00
Project Quality Control (Geologist-Engineer Supervision)	\$45,000.00
<b>Total Costs</b>	<b>\$553,190.00</b>

### Notes:

1. VI WAPA will make the necessary arrangements for access to the work area.
2. The expected duration is approximately thirty (30) working days for the fieldwork and 30 days for the reports.
3. The total amount of this project is for a "lump sum" of **\$ 553,190.00** and to make payments on account thereof as follows:
  - 20% of the contracted amount – prior mobilization

- 60% of the contracted amount – after wells installation
- 20% of the contracted amount - At the delivery of report

If this proposal meets with your approval, please sign below and return, accepting this proposal as your authorization to proceed.

ON-SITE ENVIRONMENTAL, INC., appreciates the opportunity that you have given us to be at the service of **VI WAPA** in this project.

If you have any questions, please let us know at your earliest convenience.

Cordially yours,

ON-SITE ENVIRONMENTAL, INC.



Ricardo Alvarez, PE, REM  
Principal  
On-Site Environmental, Inc.

Accepted by:

---

Signature

---

Name and Title  
VI WAPA

Enclosures