



## PURCHASE REQUEST FORM TASK ORDER #23

**Date:** 2/21/2022  
**Agency:** CRA

<b>V</b>	<b>Name:</b> Terracon Consultants, Inc
<b>E</b>	<b>Address:</b> 5371 NW 33 Avenue – Suite 201
<b>N</b>	<b>City, State, and Zip:</b> Fort Lauderdale, FL 33309-6346
<b>D</b>	<b>Contact Name:</b> Steven A Harrison, Senior Associate
<b>O</b>	<b>Phone Number:</b> (954) 741-8282
<b>R</b>	<b>Fax Number:</b>

QTY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE	INDEX CODE/ SUBJECT
		Phase 1 ESA, Entire Site	\$12,815.00	\$12,815.00	20-101-1530-552-30-3199
		LSI Entire Site	\$171,352.00	\$171,352.00	20-101-1530-552-30-3199
		(Per Terracon Proposal No. P34227183 Revision 1 dated December 8, 2022 Attached)			

Check One:      **P-Card Purchase**       **RPA**       **Purchase Order**

**CONTRACT No.:** RFQ No 12355-106      **\*Shipping Estimate:** NA  
**Expiration Date:** 8/31/2023      **Total Cost:** \$184,167.00

**Justification:** Environmental assessments and site investigations are needed to determine the suitability of property for affordable housing.

**Requestor's Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
(please print & sign name)  
 Bob Wojcik

**CRA Manager Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
(please print & sign name)  
 Clarence Woods

**Business Manager Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
(please print & sign name)  
 Vanessa Martin

**Please note: All related to this purchase request e-mail requests, receipts, and pertinent documentation should be attached with this form.**

December 8, 2022

City of Fort Lauderdale  
914 NW Sixth Street, Suite 200  
Fort Lauderdale, FL 33311

Attn: Mr. Bob Wojcik  
Telephone: (954)828-4511  
E-mail: [bwojcik@fortlauderdale.gov](mailto:bwojcik@fortlauderdale.gov)

Re: Proposal for Phase I Environmental Site Assessment(s) and Limited Site Investigation  
Phase I-II ESA - Multiple Parcels  
In the Vicinity of NW 8 Street and NW 18 Ave, Durrs Neighborhood  
Fort Lauderdale, FL 33311  
Terracon Proposal No. P34227183 Revision 1

Dear Mr. Wojcik:

Terracon Consultants, Inc. (Terracon) appreciates the opportunity to submit this proposal to City of Fort Lauderdale FL (client) to conduct a Phase I Environmental Site Assessment and a Limited Site Investigation (LSI) for the above -referenced project site. The purpose of these Phase I ESAs/LSIs is to assess for the potential presence of impacted materials that may have resulted from recognized environmental conditions (RECs) and/or site concerns identified in previously prepared reports, as provided by the Client, as well as within the research to be conducted. The site is divided into 15 parcels, containing 16 folios, which are detailed within the body of the proposal. Redevelopment of the parcels is being considered to provide additional housing within the project area. This Revised proposal was prepared in response to the removal of four folios in portions of two parcels as provided within the initial proposal dated 10.18.22. The properties were removed as Habitat for Humanity is evaluating these parcels as part of their due diligence and assessed the soil and groundwater within these parcels as part of their due diligence.

The following table identifies the proposed Scope of Services for this project:

<p><b>Scope of Services</b> (see Section 2.0 of attached Proposal Detail)</p>	<p>Phase I ESA consistent with ASTM E1527-13</p> <ul style="list-style-type: none"><li>■ Chain of Title/Environmental Lien Search is not included in this fee.</li><li>■ Additional non-scope items:<ul style="list-style-type: none"><li>○ Radon Records Review (included, no fee)</li></ul></li></ul> <p>The Phase I ESA is offered to be provided in various formats including</p> <ul style="list-style-type: none"><li>■ One Report that includes the designated parcels,</li><li>■ One Report per parcel (15), or</li><li>■ Six Reports - Grouping of Parcels (based on parcel locations)</li></ul> <p>LSI to include the following:</p> <ul style="list-style-type: none"><li>■ Use of direct push drilling equipment for an estimated 6 days</li><li>■ Advancement of 46 soil borings</li><li>■ Installation of 15 monitoring wells</li></ul>
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**Proposal for Limited Site Investigation**

Phase I-II ESA - Multiple Parcels ■ Fort Lauderdale, Florida

December 8, 2022 ■ Terracon Proposal No. P34227183 Revision 1

	■ Collection and analysis of soil and groundwater samples.			
<b>Schedule</b> (see Section 3.0 of attached Proposal Detail)	Delivery of report within <b>45 business days</b> following receipt of authorization-to-proceed.			
<b>Compensation</b> (see Section 3.0 of attached Proposal Detail)		Lump Sum Fee	Authorized by Client	
			<b>Yes</b>	<b>No</b>
	Phase I ESA, entire site	\$ 12,815.00	<del>X</del>	<del>X</del>
	Phase I ESA, per parcel (15)	\$ 26,687.00		<del>X</del>
	Phase I ESA, per group (5)	\$ 18,435.00		<del>X</del>
LSI, entire site	\$ 171,352.00	<del>X</del>	<del>X</del>	

Note; The per parcel/ group Phase I ESA fee is contingent upon the reports for all of the parcels/ groups being conducted under one authorization. If parcels or groups are removed from the project, the per parcel/ group fees will be adjusted to account for the change in numbers of reports to be prepared.

The fees were developed utilizing rates from Terracon's Continuing Services Contract with the City of Fort Lauderdale and the breakdown of the fees are provided as Attachments 1A, 1B and 1C for the Phase I options and Attachment 2 for the LSI/ Phase 2 ESA.

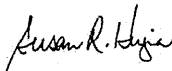
If this proposal meets with your approval, work may be initiated by returning the appropriate Task Order/Purchase Order authorization to proceed to our Fort Lauderdale office, in compliance with Terracon's Contract RFQ 12355-106 (Contract).

Project initiation may be expedited by emailing a copy of the authorization to Steven Harrison at [Steven.Harrison@terracon.com](mailto:Steven.Harrison@terracon.com). **Please provide site contact information with the signed agreement.** The terms, conditions, and limitations stated in the Contract and sections of this proposal incorporated therein, shall constitute the exclusive terms and conditions and services to be performed for this project.

If you should have any questions or comments regarding this proposal, please contact either of the undersigned at 954-741-8282.

Sincerely,

**Terracon**



Susan R. Kuzia  
Senior Staff Scientist



Steven A. Harrison  
Senior Associate / Environmental Services  
Department Manager

Attachments: Proposal Details  
Fee Estimates

Responsive ■ Resourceful ■ Reliable

**LIMITED SITE INVESTIGATION (LSI): PROPOSAL DETAIL**

Phase I-II ESA - Multiple Parcels ■ Fort Lauderdale, FL  
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**1.0 PROJECT INFORMATION**

The project area is referred to as the Durrs Neighborhood and the revised site consists of 15 parcels that include 16 folio numbers as identified by the Broward County Property Appraiser’s office. Proposed development of the sites requires that one has an understanding of environmental quality of the parcels. Terracon was provided a list of parcels along with a location map showing the locations of the parcels that are considered to be the site for this project. The parcels designation, Property Identification Number, and address of the parcels within the site and the parcels to be addressed has been revised to reflect the reduction in parcels which were addressed by Habitat for Humanity within the Phase II Environmental Site Assessment (ESA) (draft) dated August 18, 2022. The following table lists the parcels and those removed are shown as strikethroughs:

PARCEL	PROPERTY ID	ADDRESS	SF	USE	ZONING
1	5042 04 18 0520	747 NW 20 Ave	7,122	Vacant Land	B-3 Heavy Commercial
2	5042 04 18 0530	741 NW 20 Ave	5,000	Vacant Land	B-3 Heavy Commercial
3	5042 04 18 0320	NW 20 Ave	4,500	Vacant Land	RM-15 Residential Multifamily
4	5042 04 18 0330	704 NW 20 Ave	4,500	Vacant Land	RM-15 Residential Multifamily
5	5042 04 18 0340	708 NW 20 Ave	4,500	Vacant Land	RM-15 Residential Multifamily
6	5042 04 18 0350	NW 20 Ave	4,500	Vacant Land	RM-15 Residential Multifamily
7	5042 04 18 0180	NW 19 Terr	4,500	Vacant Land	RM-15 Residential Multifamily
8	5042 04 18 0210	NW 19 Terr	4,500	Vacant Land	RM-15 Residential Multifamily
9	5042 04 18 0220	NW 19 Terr	4,500	Vacant Land	RM-15 Residential Multifamily
10	5042 04 18 0230	720 NW 19 Terr	4,500	Vacant Land	RM-15 Residential Multifamily
<del>11</del>	<del>5042 04 19 0050</del>	<del>809 S. 815 NW 19 Terr</del>	<del>7,588</del>	<del>Vacant Land</del>	<del>RM-15 Residential Multifamily</del>
	<del>5042 04 19 0060</del>				
12	<del>5042 04 19 0060</del> , <del>5042 04 19 0090</del> & 5042 04 19 0100	<del>815, 821</del> & 827 NW 19 Terr	<del>9,975</del>	<del>Vacant Land</del>	RM-15 Residential Multifamily
13	5042 04 09 0070	1801 NW 8 St	7,500	Vacant Land	RD-15 Residential Multifamily
14	5042 04 09 0090	1805 NW 8 St	7,500	Vacant Land	RD-15 Residential Multifamily
15	5042 04 07 0040 & 5042 04 07 0050	1708 & 1710 NW 8 Ct	4,950	Vacant Land	RD-15 Residential Multifamily
16	5042 04 07 0020	1718 NW 8 Ct	4,950	Vacant Land	RD-15 Residential Multifamily

**2.0 SCOPE OF SERVICES**

At your request, the revised proposed scope of services has been prepared to assess for potential environmental impacts that may be present as a result of historical land uses in the area that included the operation of a City of Fort Lauderdale owned incinerator, to the south-southwest of the parcels included in the site. The revision includes the removal of a few folios from evaluation as indicated above. The incinerator was considered a recognized environmental condition (RECs) in work completed by others and, based on preliminary review of assessment information associated with the incinerator and properties within the area, impacts to the subsurface were identified. A Phase I ESA

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will be prepared for the site to develop an understanding of the presence of potential environmental concerns within the site and surrounding areas. As portions of the area’s history are known to have affected area of the site, a Limited Site Investigation (Phase II ESA) scope of work has been prepared to be conducted, overlapping with the Phase I ESA. If additional information is obtained, adjustments may be needed to the scope to address additional analyses or soil bring locations. The concerns addressed in the LSI scope are based on previous reports prepared by others for the Lincoln Park area.

REC/Site Concern	Description
Former City of Fort Lauderdale Incinerator	Analytical results of soil samples collected within the vicinity of the project area reported the presence of dioxins / furans, polynuclear aromatic hydrocarbons, and metals

The Limited Phase II ESA prepared by Universal Engineering on behalf of Habitat for Humanity, provided to Terracon, included the assessment of soil and groundwater samples from within parcels that were going to be assessed as part of this Phase II ESA. It is noted that the samples designated from soil borings SB-6, SB-7, SB-11, and monitoring well MW-11 did not report the presence of the tested parameters, however the samples were not analyzed for Dioxins/ Furans. Exceedances of dioxins/ furans were noted in other soil samples collected within their project area. A map, prepared by Universal, was also provided that appears to indicate the locations of additional samples that will be collected during their evaluation. No additional data was provided.

**2.1 Objectives**

**2.1.1 Base Phase I ESA Services**

The ESA will be performed consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process*. The purpose of this ESA is to assist the client in developing information to identify recognized environmental conditions (RECs - as defined below) in connection with the site as reflected by the scope of this proposal. The potential for vapor migration will be addressed as part of a Phase I ESA and will be considered by Terracon in evaluation of RECs associated with the site. If modifications to the scope of services are required, please contact us to discuss proposal revisions.

**REC Definition**

Recognized environmental conditions are defined by ASTM E1527-13 as “(1) the presence of *hazardous substances or petroleum products* in, on, or at the *subject property* due to a *release* to the *environment*; (2) the *likely* presence of *hazardous substances or petroleum products* in, on, or at the *subject property* due to a *release* or *likely release* to the *environment*; or (3) the presence of *hazardous substances or petroleum products* in, on, or at the *subject property* under conditions that pose a

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*material threat of a future release to the environment.” A de minimis condition is not a recognized environmental condition.*

### **Emerging Contaminants: Per- and Polyfluoroalkyl Substances (PFAS)**

There are emerging contaminants which are not identified as a CERCLA hazardous substance by U.S. EPA and therefore not included within the scope of E1527-13 or the developing E1527-21. One of these is a family of compounds known as per- and polyfluoroalkyl substances (PFAS) which are a significant contaminant of concern due to their mobility and longevity in the environment. PFAS have been used in many products, including fire-fighting foam, anti-stick coatings, stain and water-repellent coatings, electroplating and paper products, among others. Consequently, while not considered a federal hazardous substance, the U.S. EPA has developed a hazardous awareness level for selected PFAS. Also, certain states have identified selected PFAS as state-level hazardous substances (or equivalent) and have established regulatory limits. It is permissible under the pending E1527-21 to include assessment of these substances as a Non-Scope consideration, in the same manner as any other Non-Scope consideration. If and when such emerging contaminants are defined to be a hazardous substance under CERCLA, such substances will be evaluated within the scope of E1527-21. Accordingly, it is recommended the Client evaluate whether to include assessment PFAS as a Non-Scope consideration for this Phase I ESA.

### **Physical Setting**

The physical setting for the site will be described based on a review of the applicable USGS topographic quadrangle map, USDA soil survey, and selected geologic reference information.

### **Historical Use Information**

A review of historical resources, where reasonably ascertainable and readily available, will be conducted in an attempt to document obvious past land use of the site and adjoining properties back to 1940 or when the site was initially developed, whichever is earlier. The following minimum selected references will be obtained and reviewed for the site and adjoining properties, if available:

- Historical topographic maps
- Aerial photographs (approximate 10 to 15-year intervals)
- City directories (approximate 5-year intervals)
- Fire (Sanborn) insurance maps

The following additional historical resources will be reviewed for the site if determined by the Environmental Professional to be warranted, applicable and likely useful:

- Property tax file information
- Building department records

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- Zoning records
- Prior environmental reports, permits and registrations; or geotechnical report, if provided by the client.
- Site title search information
- Environmental liens

The client and the current owner or their representative will be interviewed to provide information regarding past uses of the site and information pertaining to the use of hazardous substances and petroleum products on the site. Additionally, a reasonable attempt will be made to interview past owners, operators, and occupants of the site to the extent that they are identified within the scope of the ESA and are likely to have material information that is not duplicative of information already obtained through the assessment process.

### Regulatory Records Review

Consistent with ASTM E1527-13, federal, state, and tribal databases, where applicable and within ASTM-defined minimum search distances from the nearest property boundary, will be reviewed for indications of RECs. A database firm will be subcontracted to access governmental records used in this portion of the assessment. Additional federal, state, and local databases may be reviewed if provided by the database firm. Determining the location of unmapped facilities is beyond the scope of this assessment.

In addition to the database review and if customary practice for the site location, an attempt will be made to review reasonably ascertainable and useful local lists or records such as Brownfield sites, landfill/solid waste disposal sites, registered storage tanks, land records, emergency release reports, and contaminated public wells. A reasonable attempt will also be made to interview at least one staff member of any one of the following types of local government agencies: fire department, health agency, planning department, building department, or environmental department. As an alternative, a written request for information may be submitted to the local agencies.

The scope of work proposed herein includes **up to 20 hours of regulatory agency file and/or records review, including client-provided reports and files**. If the results of this initial review appear to warrant a more extensive review of applicable regulatory agency files and/or records, a cost estimate will be provided to the client for pre-approval. Review of regulatory files and/or records, when authorized, will be for the purpose of identifying RECs. Please note that all requested files may not be available from regulatory agencies within the client's requested project schedule.

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### Site and Adjoining/Surrounding Property Reconnaissance

A site reconnaissance will be conducted to identify RECs. The reconnaissance will consist of visual observations of the site from the site boundaries and selected interior portions of the site. The site reconnaissance will include, where applicable, an interview with site personnel who the client has identified as having knowledge of the uses and physical characteristics of the site. Pertinent observations from the site reconnaissance will be documented including:

- Site description;
- General site operations;
- Features, activities, uses, and conditions of the site relevant to identifying RECs.

The adjoining property reconnaissance will consist of visual observations of the adjoining/surrounding properties from the site boundaries and accessible public rights-of-way.

### Report Preparation

A PDF-formatted copy of the final report will be submitted that presents the results of this assessment, based upon the scope of services and limitations described herein. The final report will be signed by an environmental professional responsible for the Phase I ESA, and the report will contain an environmental professional statement as required by 40 CFR 312.21(d).

Terracon is offering the report to be presented in three different ways, so that the City can select which method of presentation works best for this project. As indicated in the compensation section, the report can be prepared in one of three ways:

- One comprehensive report including the 16 parcels;
- Six reports that separate groupings of parcels located in proximity to each other, or
- Individual reports for each of the 16 parcels.

### Additional Services Beyond Base ESA

At the direction of the client, the following additional services beyond the scope of the base Phase I ESA have been included:

#### Radon Records Review

Terracon will review one of the following readily accessible reference materials as prepared by the U.S. Environmental Protection Agency (EPA), the U.S. Geological Survey (USGS), or state agency to identify the site location in terms of the potential for average indoor radon concentrations. Terracon will provide the client with information regarding the EPA and/or state designation for the site's county (e.g. EPA Zone 1, 2, or 3), and with the average radon concentration for the site's county identified during previous radon studies, where readily available.



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### Additional Services Not Included

The following services, although not specifically required by ASTM E1527-13/, may also be performed concurrently with ESAs and may be beneficial for the evaluation of environmental conditions and/or an evaluation of specific business environmental risks at the site. At your direction, these services have not been included as part of the scope of services for this ESA. Please note that this list is not all-inclusive. If you seek additional services, please contact us for a supplemental proposal and cost estimate.

- Visual Observations for Suspect Asbestos
- Limited Asbestos Sampling
- Asbestos Survey (prior to renovation/demolition)
- Visual Observations for Microbial Growth
- Short-Term Radon Testing
- Visual Observations for Suspect Lead-Based Paint
- Limited Lead-Based Paint Sampling
- Lead in Drinking Water Records Review
- Limited Lead in Drinking Water Sampling
- Wetland Records Review
- Threatened/Endangered Species Records Review
- Historic Properties/Archaeological Resources Review
- ASTM E 2600-15 Vapor Encroachment Screen

### 2.1.2 Limited Site Investigation Services

The objective of the proposed LSI is to assess for the presence of chemicals commonly associated with the identified RECs (former incinerator) and/or site concerns at concentrations above laboratory reporting limits in the on-site soil and/or groundwater.

#### **Commitment to Safety III**

Safety is a critical aspect of all projects and a safety plan will be prepared prior to commencement of on-site activities; an onsite meeting will be held to discuss health and safety needs for this specific project with onsite personnel. Fieldwork is to be performed using OSHA Level D work uniform consisting of hard hats, safety glasses, protective gloves, and steel-toed boots. Increased levels of protection will be utilized while sampling activities are being conducted, in the event that increased petroleum or chemical constituents are encountered in soils or groundwater that present an increased risk for personal exposure.

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**Utility Clearance/Ground Penetrating Radar**

No later than 72 hours prior to intrusive activities, the contractor will contact the public utility locator clearinghouse, Sunshine State One Call of Florida (SSOCOF); Sunshine 811, to arrange for underground utilities to be located within the project area, the above referenced site. It is the Client's responsibility to provide information regarding public, and or private utilities or improvements not included in the Sunshine 811 request. Terracon cannot be responsible or assume liability for utilities of which it is not aware.

Due to the unknown risk associated with area, Terracon will utilize a private locator to complement the public utilities location effort. The location efforts will include evaluation of the project area/ drilling locations with Ground Penetrating Radar (GPR) and Electromagnetic (EM) surveys to further assess for underground improvements, utilities and structures. The task is allocated at one day and one half day of GPR work

**2.1.2.1 Sampling and Laboratory Analytical Program****Soil Sampling**

A total of up to 47 soil borings will be advanced using the direct push drilling rig within the various parcels of the site, at a rate of approximately two soil borings per folio number, with additional soil borings being advanced within the few larger folios.

The locations of the parcels, some of which contain more than one folio number, are shown in the attached Exhibit 1, which was provided by City of Fort Lauderdale. It is noted that the map provide has parcel lines that are offset and verification of the parcel locations will be conducted at the outset of the assessment.

The soil borings will be spread across each folio and advanced to an anticipated depth of approximately 8 feet below ground surface (bgs), which is expected to be extend approximately 2-feet beneath the groundwater interface. The shallow soil borings provide for sampling throughout the entire column of unsaturated soil to develop a strong understanding of the lithology and to assess for the potential presence of buried materials of concern.

If obvious signs of impacts are observed, additional soil borings may be advanced within proximity to the suspect soil borings to collect additional samples in an attempt to better understand a potential localized area of impact. All non-dedicated sampling equipment and field instruments will be decontaminated after each sample is collected using a non-phosphate soap wash followed by a potable water rinse.

Soil samples will be collected in 2-foot (ft) intervals from the surface to the bottom of the shallow soil borings. Samples will be visually inspected and select samples will be screened for volatile organic vapors using a properly calibrated organic vapor analyzer (OVA) equipped with a Photo Ionization

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Detector (PID). The PID will allow for the assessment of organic vapor concentrations in soil samples. Observations of staining, odor, lithology, debris, ash and OVA readings from inspection of soil samples are to be presented on soil boring logs. If organic vapors are identified above 10 parts per million (ppm), the action level established by the FDEP, the data will be verified through laboratory analysis. Locations of soil borings will be documented using global positioning system (GPS) coordinates and are not anticipated to be surveyed unless requested by the client.

Four soil samples will be collected from each soil boring to assess for potential impacts within the upper portion of the soil column and to interpret the potential depth of vertical migration of the constituents of concern (COC). Information from field screening and observations will be utilized to support the sample selection. Soil samples will be collected for laboratory analysis of the COCs from the following intervals:

- 0 to 6 inch interval below ground surface (bgs);
- 6 to 24 inches;
- 24 to 48 inch interval;
- 4 to 6 foot interval.

The soil samples collected from the 4 to 6 foot interval bgs will be placed on hold; these samples will not be analyzed unless samples collected from the shallower intervals reports analytical results that require further assessment, and approval will be obtained prior to analysis of these additional samples and incurring additional fees.

While the majority of potential impacts at the site are likely to result from surficial influences; Terracon will include samples collected from the interval just above the groundwater interface, where appropriate, as this interval, referred to as the smear zone, commonly accumulates constituents of concern in response to groundwater fluctuations. It is noted that the Florida Department of Environmental Protection (FDEP) regulates unsaturated soils and impacts to soil within the saturated are not regulated when left in place as they are considered to be a portion of the groundwater. However, it is critical to note that saturated soils which are excavated and brought to the surface during site development may be placed in exposure pathways and become regulated, requiring proper protections, along with handling for reuse and/or disposal.

Soil samples collected will be placed into pre-cleaned, laboratory provided containers, stored in a chest with ice and delivered using chain-of-custody protocol to a Florida Department of Health (FDOH)-certified and National Environmental Laboratory Accreditation Program (NELAP)-compliant subcontracted laboratory for analysis of constituents of concern. Samples will be analyzed as provided below in the Laboratory Analytical Program section.

**Groundwater Sampling**

Monitoring wells will be installed by a Florida Licensed water well contractor using the direct push drill rig, to facilitate the collection of groundwater samples from 15 locations, one within each parcel of the site, to provide representative groundwater data quality. The monitoring wells will be constructed as follows:

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- Installation of 10-feet of 1-inch diameter, 0.010-inch machine slotted PVC well screen with a threaded bottom cap;
- Installation of 1-inch diameter, threaded, flush-joint PVC riser pipe to extend above surface grade;
- Addition of well graded 20/30 silica sand for annular sand pack from the bottom of the boring to a height of 1-2 feet above the screened interval;
- Placement of neat cement grout within the upper 1 – 2 feet of borehole to extend to 4 inches below the surface;
- Placement of a temporary concrete plug to seal the top of the borehole. The monitoring wells can also be completed with manholes, or protective risers to allow them to remain on sit safely, with reduced risk of tampering.

The monitoring wells will be purged for development, then shallow groundwater samples will be collected using the quiescent sampling method in accordance with Florida Department of Environmental Protection (DEP) / Standard Operating Procedures (SOP) 001/01, FS2200, where a peristaltic pump is utilized to draw groundwater to the surface for introduction into parameter specific samples provided by the laboratory. Stability data including pH, temperature, conductivity, dissolved oxygen, and turbidity will be collected to document connectivity with the surrounding aquifer and groundwater sampling logs will be prepared for each sampling location. All non-dedicated sampling equipment and field instruments will be decontaminated after each sample is collected using a non-phosphate soap wash followed by a potable water rinse. It is anticipated that up to 10 monitoring wells will be sampled for a second analysis to verify analytical results.

As metals are being analyzed in the samples collected, the potential for groundwater analytical results to be affected by turbidity in the groundwater samples collected exists. Groundwater samples will be field filtered with an inline 1-micron glass filter to assist in accounting for sediments that may be entrained in the samples as an artifact of the sampling method. It is noted that filtered samples are not allowed for submittal to regulatory agencies, however, the data is beneficial in understanding if the potential metal concentration is related to entrained fines or dissolved in the groundwater; resampling may be required to confirm data if these conditions exist.

Purge/development water will be allowed to infiltrate on unpaved areas or evaporate on paved areas in the vicinity of the groundwater sample locations, unless evidence of impacts are obvious. Boreholes will be backfilled to grade with a mixture of soil cuttings from the borehole and clean silica sand and finished with surfacing material to match the surrounding area. If indications of elevated concentrations of regulated constituents are obvious, the development water will be stored temporarily onsite in labeled 55-gallon drums pending the results of the laboratory analyses. The drum labels will identify the apparent contents of the drum and the initial accumulation date.

Samples will be placed into pre-cleaned, laboratory provided containers, stored in a chest with ice and delivered using chain-of-custody protocol to a FDOH-certified and NELAP-compliant subcontracted

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laboratory for analysis of constituents of concern. Details of the selected parameters are provided below in the Laboratory Analytical Program section.

**Laboratory Analytical Program**

Soil and groundwater samples collected during the investigation will be submitted to the analytical laboratory under standard chain-of-custody procedures for standard turnaround time of 10 business days (dioxins have a longer analysis period than the standard 5-7 business days). The sampling protocol includes varied sample counts based on the frequency of sampling within the parcels and includes the following:

**Soil**

1. Soil samples to be collected from at least two locations in each of 16 folios for analysis of PAH and RCRA metals at three discrete intervals.
2. Soil samples to be collected from at least two locations in each of 16 folios for analysis of Dioxins; a third sample to be collected from additional depth interval or location within several of the folios.
3. Soil samples to be collected from at least two locations in each of 16 folios for analysis of Phthalates; these compounds are plasticizers and commonly identified within incinerator waste/ash.
4. Soil samples to be collected from select locations for analysis of VOCs, if observations indicate the potential presence of these compounds.

**Groundwater**

1. Groundwater samples to be collected from one temporary monitoring well within each of 15 parcels for analysis of PAH and RCRA metals (total and dissolved).
2. Groundwater samples to be collected from one temporary monitoring well within each of nine parcels for analysis of dioxins, phthalates, and VOCs (only 8 VOCs). Dioxins and phthalates are not highly soluble and may not readily dissolve into the aquifer. VOCs are not highly suspect in this area; however, field indications may warrant assessment for this group of compounds.

Analysis*	Sample Type	No. of Samples	Method
<b>Soil Samples</b>			
VOCs*	Soil	21	EPA Method 8260
PAH*	Soil	141	EPA Method 8270
RCRA* Metals - Eight	Soil	141	EPA Method 6010/ 7470
Dioxins/ Furans	Soil	115	EPA Method 8290

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Phthalates	Soil	47	EPA Method 8061
<b>Groundwater Samples</b>			
VOCs	Groundwater	8	EPA Method 8260
PAH	Groundwater	15	EPA Method 8270
RCRA Metals, Total and Dissolved	Groundwater	15	Method 6010/7470
Dioxins/ Furans	Groundwater	9	EPA Method 8290
Phthalates	Groundwater	9	EPA Method 8061

\* Volatile organic compounds (VOC): Polynuclear Aromatic Hydrocarbons (PAH); Resource Conservation and Recovery Act (RCRA) Metals includes arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

**Investigative Derived Waste**

Soil cuttings will be containerized in 55-gallon drums to await proper disposal. Development / purge water from monitoring wells will be discharged to pervious soil within the area of the monitoring well, however, if evidence of suspect impacts is observed, the water will be containerized in 55-gallon drums to await proper disposal. Upon receipt of analytical results, a determination for proper handling will be made. If COCs are not reported at concentrations of concern, the drums will be emptied on site, however, if analytical results indicate that proper disposal is required, the wastes will be characterized through laboratory analysis and, upon receipt of approval from the disposal facility, the drums will be picked up and transported to a licensed facility for proper disposal. Terracon has included the fees for the purchase of five drums but has not included further analysis or disposal costs. Disposal fees, if required, could be on the order of \$3,000, however, as it is unknown if disposal is required, fees for this effort are not included in the budget proposal. It is unknown if the wastes will meet the criteria for hazardous or non-hazardous disposal.

Investigation and sample collection procedures will be conducted in accordance with local industry standard practices. Temporary investigation locations will be plugged and abandoned in accordance with applicable state requirements.

**2.1.2.2 Preparation of LSI Report**

Following site activities and receipt of the laboratory analytical results, a report will be prepared that will include the following:

- Documentation of field activities;
- Site plan showing pertinent site features;
- Soil boring/monitoring well logs;
- Analytical laboratory results;
- Data evaluation and presentation of findings; and,

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- Recommendations concerning further action, if necessary.

The final written report will reflect results, findings, and recommendations, and, as such, will take precedence over any verbal reports that Terracon personnel may have provided. The analysis, comments and recommendations presented in the final written report will be based on the information collected as discussed in this proposal.

### 3.0 SCHEDULE AND FEE

It is estimated that the Phase I ESA(s) and LSI reports will be submitted to client **within 45 business days** following receipt of authorization to proceed. The actual project schedule will be based on the availability of environmental drillers and other subcontractors. If schedule delays are anticipated based on subcontractor availability, weather, and/or encountered site conditions, the client will be contacted to discuss changes in the schedule. Standard analytical laboratory turnaround is estimated at 10 business days. If you would like expedited laboratory turnaround, contact us for the options and associated fees.

The Scope of Services outlined in this proposal will be conducted on a time and materials basis with an estimated fee of Time and Materials Fee. If, as a result of these services, additional services are required that are outside the scope of this proposal, you will be contacted to discuss associated costs. Client authorization will be obtained prior to commencement of additional services outside the scope of this proposal.

### 4.0 CONDITIONS

If soil, groundwater, or other environmental releases are discovered during the LSI, the owner, operator, or similar responsible party may have release reporting obligations under applicable state law or regulations.

The scope of services and estimated fee were based on the assumptions and limitations noted below.

#### Assumptions

- Client will provide to Terracon, prior to mobilization, legal right of entry to the site (and other areas if required) to conduct the scope of services.
- Client will notify Terracon, prior to mobilization, of any restrictions, special site access requirements, or known potentially hazardous conditions at the site (e.g., hazardous materials or processes, specialized protective equipment requirements, unsound structural conditions, etc.).
- Field services will be performed in Level D personal protective equipment (PPE). Client will be responsible for additional costs should an upgrade to PPE be required due to conditions encountered at site.

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- Public utilities will be located using applicable state, regional, and/or local utility locate services or one-call centers. Location of utilities on private land that are not located by these public services will be the responsibility of the client and/or property owner/operator.
- Services can be performed Monday through Friday, 7:00 am to 7:00 pm.
- Traffic control services are not required.
- The site is readily accessible by truck.

If any of these assumptions or conditions are not accurate or change during the project, the stated fee is subject to change.

### Site Access and Safety

Client shall secure all necessary site related approvals, permits, licenses, and consents necessary to commence and complete the Services and will execute any necessary site access agreement. Consultant will be responsible for supervision and site safety measures for its own employees but shall not be responsible for the supervision or health and safety precautions for any third parties, including Client's contractors, subcontractors, or other parties present at the site. In addition, Consultant retains the right to stop work without penalty at any time Consultant believes it is in the best interests of Consultant's employees or subcontractors to do so in order to reduce the risk of exposure to the coronavirus. Client agrees it will respond quickly to all requests for information made by Consultant related to Consultant's pre-task planning and risk assessment processes. Client acknowledges its responsibility for notifying Consultant of any circumstances that present a risk of exposure to the coronavirus or individuals who have tested positive for COVID-19 or are self-quarantining due to exhibiting symptoms associated with the coronavirus.

### Limitations

Terracon's services will be performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographic area during the same period. Terracon makes no warranties, express or implied, regarding its services, findings, conclusions or recommendations. Please note that Terracon does not warrant the services of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. The LSI services provided within this proposal will be performed in accordance with the scope of services agreed with you, our client, as set forth in this proposal and are not intended to be in strict conformance with ASTM E1903-19.

Certain indicators of subsurface impacts may be inaccessible, nondetectable, or not present during these services, and we cannot represent that the site contains no hazardous substances, petroleum products, or other latent conditions beyond those identified during this LSI. Subsurface conditions are subject to spatial and temporal variability. Our findings, conclusions, and recommendations will be based solely upon data obtained at the time and within the scope of these services.



**LIMITED SITE INVESTIGATION (LSI): PROPOSAL DETAIL**

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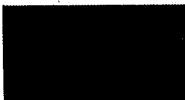
**Reliance**

The Phase I ESA and LSI reports will be prepared for the exclusive use and reliance of City of Fort Lauderdale FL (client). Reliance by any other party is prohibited without the written authorization of the client and Terracon. Reliance on the LSI by the client and all authorized parties will be subject to the terms, conditions, and limitations stated in the Agreement for Services, sections of this proposal incorporated therein, the Reliance Agreement, and the LSI report. The defined contractual limitation of liability is the aggregate limit of Terracon's liability to the client and all relying parties.

# Exhibit 1

## LOCATION MAP

X = Excluded from Phase II ESA



Parcels in Durrs Neighborhood – To be Tested for Suitability for Housing

**FEE ESTIMATE - ATTACHMENT 1A**

Environmental Services  
Phase I ESA - 16 Parcels, One Report  
Terracon Proposal #P34227183

TASK NUMBER	DESCRIPTION	RATE	QUANTITY	UNITS	REPORT	TOTAL QUANTITY	TOTAL
1	<b>Project Management</b>						
	Project Management - Open Project, Order EDR, Schedule Site Visits						
	Project Manager	\$ 120.00	2.00	hours	1	2.00	\$240.00
2	<b>Site Visit - Site Inspections, preparation of field notes &amp; photo logs</b>						
	Project Manager	\$ 120.00	3.00	hours	1	3.00	\$360.00
	Staff I Scientist	\$ 85.00	5.00	hours	1	5.00	\$425.00
	Staff I Scientist	\$ 85.00	5.00	hours	1	5.00	\$425.00
	<b>Sub Total</b>					<b>13.00</b>	<b>\$1,210.00</b>
3	<b>Regulatory File Review</b>						
	Project Manager	\$ 120.00	12.00	hours	1	12.00	\$1,440.00
	Staff I Scientist	\$ 85.00	8.00	hours	1	8.00	\$680.00
	Staff I Scientist	\$ 85.00	8.00	hours	1	8.00	\$680.00
	EDR Database Report	\$ 275.00	1.00	Lump sum	1	1.00	\$275.00
	<b>Sub Total</b>					<b>29.00</b>	<b>\$3,075.00</b>
4	<b>Historical Sources Review</b>						
	Project Manager	\$ 120.00	16.00	hours	1	16.00	\$1,920.00
	Staff I Scientist	\$ 85.00	9.00	hours	1	9.00	\$765.00
	Staff I Scientist	\$ 85.00	9.00	hours	1	9.00	\$765.00
	<b>Sub Total</b>					<b>34.00</b>	<b>\$3,450.00</b>
5	<b>Report Preparation</b>						
	Project Manager	\$ 120.00	25.00	hours	1	25.00	\$3,000.00
	CAD Operator	\$ 80.00	6.00	hours	1	6.00	\$480.00
	Environmental Director	\$ 170.00	8.00	hours	1	8.00	\$1,360.00
	<b>Sub Total</b>					<b>39.00</b>	<b>\$4,840.00</b>
	<b>Total</b>						<b>\$12,815.00</b>

**FEE ESTIMATE - ATTACHMENT 1B**

Environmental Services  
Phase I ESA - 6 Parcel Groupings  
Terracon Proposal #P34227183

TASK NUMBER	DESCRIPTION	RATE	QUANTITY	UNITS	REPORTS	TOTAL QUANTITY	TOTAL
1	<b>Project Management</b>						
	Project Management - Open Project, Order EDR, Schedule Site Visit						
	Project Manager	\$ 120.00	0.50	hours	6	3.00	\$360.00
2	<b>Site Visit - Site Inspections, preparation of filed notes &amp; photo logs</b>						
	Project Manager	\$ 120.00	2.00	hours	1	2.00	\$240.00
	Staff   Scientist	\$ 85.00	1.50	hours	6	9.00	\$765.00
	<b>Sub Total</b>					<b>11.00</b>	<b>\$1,005.00</b>
3	<b>Regulatory File Review</b>						
	Project Manager	\$ 120.00	3.00	hours	6	18.00	\$2,160.00
	EDR Database Report	\$ 275.00	1.00	Lump sum	6	6.00	\$1,650.00
	<b>Sub Total</b>					<b>24.00</b>	<b>\$3,810.00</b>
4	<b>Historical Sources Review</b>						
	Project Manager	\$ 120.00	1.00	hours	6	6.00	\$720.00
	Staff   Scientist	\$ 85.00	3.00	hours	6	6.00	\$1,530.00
	Staff   Scientist	\$ 85.00	3.00	hours	6	18.00	\$1,530.00
	<b>Sub Total</b>					<b>30.00</b>	<b>\$3,780.00</b>
5	<b>Report Preparation</b>						
	CAD Operator	\$ 80.00	2.00	hours	6	12.00	\$960.00
	Project Manager	\$ 120.00	9.00	hours	6	54.00	\$6,480.00
	Environmental Director	\$ 170.00	2.00	hours	6	12.00	\$2,040.00
	<b>Sub Total</b>					<b>78.00</b>	<b>\$9,480.00</b>
	<b>Total</b>						<b>\$18,435.00</b>

**FEE ESTIMATE - ATTACHMENT 1C**

Environmental Services  
Phase I ESA - 15 Parcels  
Terracon Proposal P34227183

TASK NUMBER	DESCRIPTION	RATE	QUANTITY	UNITS	REPORTS	TOTAL QUANTITY	TOTAL
1	<b>Project Management</b>						
	Project Management - Open Project, Order EDR, Schedule Site Visit						
	Project Manager	\$ 120.00	0.50	hours	15	7.50	\$900.00
2	<b>Site Visit - Site Inspections, preparation of field notes &amp; photo logs</b>						
	Project Manager	\$ 120.00	1.00	hours	15	15.00	\$1,800.00
	Staff I Scientist	\$ 85.00	0.50	hours	15	7.50	\$637.50
	<b>Sub Total</b>					<b>22.50</b>	<b>\$2,437.50</b>
3	<b>Regulatory File Review</b>						
	Project Manager	\$ 120.00	1.50	hours	15	22.50	\$2,700.00
	EDR Database Report*	\$ 275.00	1.00	Lump sum	8	8.00	\$2,200.00
	<b>Sub Total</b>					<b>30.50</b>	<b>\$4,900.00</b>
4	<b>Historical Sources Review</b>						
	Project Manager	\$ 120.00	1.00	hours	15	15.00	\$1,800.00
	Staff I Scientist	\$ 85.00	1.00	hours	15	15.00	\$1,275.00
	Staff I Scientist	\$ 85.00	1.00	hours	15	15.00	\$1,275.00
	<b>Sub Total</b>					<b>45.00</b>	<b>\$4,350.00</b>
5	<b>Report Preparation</b>						
	CAD Operator	\$ 80.00	1.50	hours	15	22.50	\$1,800.00
	Project Manager	\$ 120.00	4.00	hours	15	60.00	\$7,200.00
	Environmental Director	\$ 170.00	2.00	hours	15	30.00	\$5,100.00
	<b>Sub Total</b>					<b>112.50</b>	<b>\$14,100.00</b>
							<b>\$26,687.50</b>

\* Database reports will be ordered to include more than one parcel to control costs

## Attachment 2 - Fee Estimate

Limited Site Investigation  
Phase I-II ESA - Multiple Parcels  
Terracon Proposal No. P34227183 Rev 1  
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TASK NUMBER	DESCRIPTION	RATE	QUANTITY	UNITS	TOTAL
<b>1</b>	<b>Project Coordination/ Orchestration</b>				
	APR- Environmental Director	\$ 170.00	8.00	hours	\$1,360.00
	Project Manager	\$ 120.00	2.00	hours	\$240.00
	Sr. Project Manager	\$ 170.00	22.00	hours	\$3,740.00
	Project Manager	\$ 120.00	15.00	hours	\$1,800.00
	<b>Sub Total</b>				<b>\$7,140.00</b>
<b>2</b>	<b>Soil and Groundwater Investigation</b>				
	APR- Environmental Director	\$ 170.00	8.00	hours	\$1,360.00
	Sr. Project Manager	\$ 170.00	12.00	hours	\$2,040.00
	Project Manager	\$ 120.00	8.00	hours	\$960.00
	Staff II Geologist	\$ 95.00	78.00	hours	\$7,410.00
	Staff II Environmental Scientist	\$ 95.00	88.00	hours	\$8,360.00
	Low Level PAH's(SW 846 8270 SIM)	\$ 90.00	156.00	tests	\$14,040.00
	RCRA Metals (8)(SW 846 6010/7470/7471)	\$ 90.00	156.00	tests	\$14,040.00
	phthalates	\$ 98.00	56.00	tests	\$5,488.00
	dioxins	\$ 547.00	124.00	tests	\$67,828.00
	VOC's(8260)	\$ 90.00	29.00	tests	\$2,610.00
	Geoprobe Drill Rig	\$ 1,850.000	6.000	Days	\$11,100.000
	Geoprobe Drill Rig Mobilization	\$ 350.000	6.000	Days	\$2,100.000
	1-inch diameter monitoring well	\$ 450.000	15.000	Each	\$6,750.000
	Monitoring Well Permit	\$ 115.000	8.000	Each	\$920.000
	4 piece GW sampling Kit -	\$ 170.000	2.000	Days	\$340.000
	1.0 Micron Filters	\$ 25.000	15.000	Each	\$375.000
	Sampling supplies- tubing , decon liquid, etc	\$ 15.000	10.000	Each	\$150.000
	PPE (level D) \$20 Day/Man	\$ 20.000	10.000	Each	\$200.000
	Mileage	\$ 0.670	300.000	Miles	\$201.000
	Vehicle Usage for 2 weeks @ \$80/ day	\$ 400.000	2.000	Weeks	\$800.000
	Ground Penetrating Radar	\$ 2,500.000	1.000	Days	\$2,500.000
	Ground Penetrating Radar Survey with Repo	\$ 1,500.000	1.000	Days	\$1,500.000
	55- Gallon drums	\$ 80.000	5.000	Each	\$400.000
	<b>Sub Total</b>				<b>\$151,472.00</b>
<b>3</b>	<b>Report Preparation</b>				
	APR- Environmental Director	\$ 170.00	12.00	hours	\$2,040.00
	Project Manager	\$ 120.00	45.00	hours	\$5,400.00
	Sr. Project Manager	\$ 170.00	20.00	hours	\$3,400.00
	Staff II Environmental Scientist	\$ 95.00	20.00	hours	\$1,900.00
	<b>Sub Total</b>				<b>\$12,740.00</b>
	<b>Total</b>				<b>\$171,352.00</b>