VILLAGE OF ROYAL PALM BEACH, FLORIDA

PROJECT NAME: **Canal System Dredging & Dry Detention Pond**
PROJECT NUMBER: **SW1901 / EN1904**

ADDENDUM NUMBER: THREE

DATE OF ISSUANCE: July 27, 2022

TO: Prospective Bidders

THIS ADDENDUM NO. **Three** INCLUDES THE FOLLOWING:

Bid Documents
The following pages have been modified:

- I-2: Various page number updates
- I-3: Various page number updates; Added listings for Section 3.2.3 and Appendix A
- BP-18 – 21: Bid Proposal clarifications
- RT-135 – 136: Removed Article 110-10.3 regarding tree modifications
- RT-141 – 142: Modified sections 3.01, 3.02, and 3.03

The following Pages have been added:

- BP-21a: Additional Bid Proposal Form page
- RT-143 – 146: Added Section 3.2.3 regarding South Florida Water Management District classifying dredging as maintenance.
- RT-147 – 179: Added Appendix A: Pilot Canal Dredging Project Environmental Testing Report

Plans
The following sheets have been modified:

- 03: Removed orange safety fence; Added Muck Staging Notes
- 04: Removed Access Point south of Santiago Street; Expanded Phasing Notes

APPROVED BY: Christopher A. Marsh, P.E., Village Engineer

ACKNOWLEDGMENT OF RECEIPT: _____
Bidder

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BID PROPOSAL FORM

FOR PROJECT NO.: SW1901 / EN1904

PROJECT NAME*: Canal System Dredging & Dry Detention Pond*

BASE BID: Canal Dredging Stations 1+00 – 51+24; Dry Detention Pond 2

Item No.	Description	Unit	Quantity	Unit Price	Cost
101-1	Mobilization	LS	1		
101-1-RPB-1	Pre-Construction Subaqueous Cross Section Survey of Muck Layer and Sand Bottom; NAVD Elevations; Taken Every 100’	EA	51		
101-1-RPB-2	Post-Construction Subaqueous Cross Section Survey of Muck Layer and Sand Bottom; NAVD Elevations; Taken Every 100’	EA	51		
101-1-RPB-3	Arsenic Testing (*)	LS	1		
102-1	Maintenance of Traffic	LS	1		
104-18-RPB-1	Inlet Protection, Turbidity Barriers, and Staked Silt Fence	LS	1		
110-8-RPB-1	Muck Removal; Average thickness 12" (**)	SY	22375		
110-8-RPB-2	Remove 2' of Sand below Bridges	SY	464		
110-8-RPB-3	Disposal of Dredged Materials (***)	CY	7460		
120-RPB-1	Earthwork	LS	1		
334-1-RPB-1	Open-cut Roadway for Dredge Pipe	LS	1		
334-1-RPB-2	Grout Dredge Pipe	LS	1		
425-1521	Ditch Bottom Inlet; Type C; <10'	EA	1		
425-2-41	4' Diameter Manhole	EA	1		
430-17-4130-1	30" Round CMP	LF	20		
430-17-4130-2	30" Round RCP	LF	153		

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570-1-RPB-1	Restore All Grass Disturbed at Canal Access Points; Match Existing Grass	LS	1		
570-1104	Sod Pond Banks; Bahia	LS	1		
570-1113	Seed & Mulch Pond Bottom and Disturbed Area Around Pond; Bahia	LS	1		
591-RPB-1	Residential Notifications (Door Hangers); Furnish & Install	EA	114		
591-RPB-2	Residential Irrigation Intake Removals and Removal Notifications (Door Hangers)	EA	23		

Footnotes:

(*) Arsenic testing shall be performed prior to relocating dredged materials off site.

(**) The goal is to remove the muck layer, rather than increasing the depth of the canal. The contractor shall remove the muck layer while removing as little of the sand bottom as possible, within a +/- 6" dredging tolerance.

(***) This quantity assumes an average of 1' of muck removed. The muck will be dried for a period of 90 days, and then a survey of the dredged materials will be used to determine the volume used as the basis of payment.

TOTAL BASE BID: $_____

_____ Dollars

(Amount written in words has precedence)

BID DAYS

A) ADMINISTRATIVE PROCEDURES: ____30____Days

B) DREDGING OPERATION DAYS: _____Days

_____ Days

C) DREDGED MATERIAL DRYING DAYS: ____90____Days

D) POND 2 CONSTRUCTION DAYS: _____Days

_____ Days

TOTAL BID DAYS = A + B + C + D = _____Days

_____ Days

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ADD / ALT 1: Canal Dredging Stations 100+00 – 140+50, 151+00 – 160+00

Item No.	Description	Unit	Quantity	Unit Price	Cost
AA1-101-1	Mobilization	LS	1		
AA1-101-1-RPB-1	Pre-Construction Subaqueous Cross Section Survey of Muck Layer and Sand Bottom; NAVD Elevations; Taken Every 100’	EA	49		
AA1-101-1-RPB-2	Post-Construction Subaqueous Cross Section Survey of Muck Layer and Sand Bottom; NAVD Elevations; Taken Every 100’	EA	49		
AA2-101-1-RPB-3	Arsenic Testing (*)	LS	1		
AA1-102-1	Maintenance of Traffic	LS	1		
AA1-110-8-RPB-1	Muck Removal; Average thickness 12" (**)	SY	21140		
AA1-110-8-RPB-2	Remove 2' of Sand below Bridges	SY	1067		
AA1-110-8-RPB-3	Disposal of Dredged Materials (***)	CY	7050		
AA1-570-1-RPB-1	Restore All Grass Disturbed at Canal Access Points; Match Existing Grass	LS	1		
AA1-591-RPB-1	Residential Notifications (Door Hangers); Furnish & Install	EA	111		
AA1-591-RPB-2	Residential Irrigation Intake Removals and Removal Notifications (Door Hangers)	EA	22		

Footnotes:

(*) Arsenic testing shall be performed prior to relocating dredged materials off site.

(**) The goal is to remove the muck layer, rather than increasing the depth of the canal. The contractor shall remove the muck layer while removing as little of the sand bottom as possible, within a +/- 6” dredging tolerance.

(***) This quantity assumes an average of 1’ of muck removed. The muck will be dried for a period of 90 days, and then a survey of the dredged materials will be used to determine the volume used as the basis of payment.

TOTAL ADD/ALT 1: $_____

_____ Dollars

(Amount written in words has precedence)

ADD/ALT 1 NUMBER OF DAYS: _____Days

_____ Days

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ADD / ALT 2: Disposing Dredged Materials at an approved Landfill

Note: This is for the price *increase above the Base Bid disposal and Add/Alt 1 items* for disposing of dredged materials in an approved landfill, due to arsenic testing showing that the material may not be relocated to a commercial or industrial site. This would not replace the original items, but rather add to them.

Item No.	Description	Unit	Quantity	Unit Price	Cost
AA2-110-8-RPB-3-1	Additional cost above Base Bid item 110-8-RPB-3 for disposal at an approved landfill.	CY	7460		
AA2-110-8-RPB-3-2	Additional cost above Add/Alt 1 item AA1-110-8-RPB-3 for disposal at an approved landfill.	CY	7050		

TOTAL ADD/ALT 2: $_____

_____ Dollars

(Amount written in words has precedence)

The contractor's signature below provides assurance that Addenda #1 through ____ have been received and are included in the estimate in the above bid.

CONTRACTOR: _____

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ADD / ALT 3: Dry Detention Pond 1

Item No.	Description	Unit	Quantity	Unit Price	Cost
AA2-101-1	Mobilization	LS	1		
AA2-102-1	Maintenance of Traffic	LS	1		
AA2-104-18-RPB-1	Inlet Protection, Turbidity Barriers, and Staked Silt Fence	LS	1		
AA2-120-RPB-1	Earthwork	LS	1		
AA2-425-1541	Ditch Bottom Inlet; Type D; <10'	EA	2		
AA2-430-17-4136	36" Round RCP	LF	16		
AA2-570-1104	Sod Pond Banks; Bahia	LS	1		
AA2-570-1113	Seed & Mulch Pond Bottom and Disturbed Area Around Pond; Bahia	LS	1		

TOTAL ADD/ALT 3: $_____

_____ Dollars

(Amount written in words has precedence)

ADD/ALT 3 NUMBER OF DAYS: _____Days

_____ Days

Date: _____

The contractor's signature below provides assurance that Addenda #1 through ____ have been received and are included in the estimate in the above bid.

CONTRACTOR: _____

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SECTION 110

CLEARING AND GRUBBING

PART 1 GENERAL

1.01 SUMMARY

It is the intent of these specifications that Division I, II and III of the Florida Department of Transportation "Standard Specifications for Roads and Bridge Construction" dated 2022 be used as the basis for the work as amended by the General Conditions, and the following Supplemental Technical Specification which pertains to the pertinent items of construction.

1.02 SUPPLEMENTAL TECHNICAL SPECIFICATION

Article 110-2.1 Work Included – Add the following items to the end of the last sentence in the first paragraph:

Existing sidewalk, curb and gutter, existing asphalt and lime rock base, concrete and flexible pavement/surface etc.

Article 110-12.1 Lump Sum Payment – Delete this section and substitute the following:

When clearing and grubbing is specified to be paid for at a lump sum price, such lump sum price and payment shall be full compensation for all clearing and grubbing required for the roadway right of way, lateral ditches, channel changes or other outfall areas, areas required for restoration of adjacent properties, and any other clearing and grubbing indicated or required for the construction of the entire project, except for any areas designated to be paid for separately or to be specifically included in the cost of other work items.

Restoration of adjacent properties and the limits of clearing and grubbing for these areas are dependent upon the final construction requirements, no adjustment will be made in the lump sum price and payment for Clearing and Grubbing, either over or under.

Article 110-12.7 Payment Items: Payment will be made under:

Item No. 110-8-RPB-1 Muck Removal – Lump Sum
Item No. 110-8-RPB-2 Sand Removal – Lump Sum
Item No. 110-8-RPB-3 Disposal of Dredged Materials – Lump Sum

PART 2 MATERIALS

Materials shall be per the previously referenced FDOT "Standard Specifications for Roads and Bridge Construction".

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PART 3 EXECUTION

Execution shall be per the previously referenced FDOT “Standard Specifications for Roads and Bridge Construction”.

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3.01 TURBIDITY CONTROL CURTAIN INSTALLATION

A. Turbidity control curtains shall be installed prior to commencing any dredging work. Turbidity curtains shall be used during the entire dredging operation to minimize increases in turbidity outside the area of dredging.

B. Contractor shall dredge in 500' increments with turbidity screens on both sides of the dredging operation in order to minimize negative impacts to canal ecosystem. After completing the 500' section, the contractor shall install a third turbidity barrier 500' forward of the section and leave the previous section to settle until the turbidity is measured to be less than 25 NTUs. Once that criteria is met, immediately remove the tail end turbidity barrier. If production exceeds 500' in 14 days, the contractor may request to expand the increment size to match 14 day production. Both the request and approval shall be made in writing.

C. All turbidity control curtains shall extend the full depth of the Canal and their depth adjusted as required to match new bottom contours as the dredging work progresses.

D. The turbidity control curtains shall be maintained in good operating condition during the entire period of dredging work.

3.02 DREDGING

The excavation work in Village of Royal Palm Beach shall proceed in accordance with the Order of Conditions appended to this Section and the Contractor's approved work plan. The excavation work shall consist of the removal of materials below the water level.

A. Excavation of material below the water surface shall be defined as dredging work and shall be by hydraulic dredging. Draglines, rigidly fixed to land, will not be allowed. Material removed by hydraulic dredging shall be piped directly to drying/containment area.

B. Dredging of Village of Royal Palm Beach shall remove all muck from specified canal sections and sand from beneath bridges in the project area. Dredging shall begin approximately 10 feet in from the water control line, where the depth is 1.5-2 feet. Care shall be exercised so as not to undercut or otherwise disturb the existing bank areas, except those areas specifically being removed. (until after material has dried)

C. Access to Village of Royal Palm Beach for dredging work shall be limited to those areas as shown on the Drawings. All bank and wetland areas disturbed by the dredging operations shall be restored to their original condition.

3.03 DEWATERING/DRYING OF DREDGED MATERIALS

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A. Temporary drying/containment area shall be constructed in location as shown on the Drawings. They shall be made fully operational prior to any dredging work.

B. The drying/containment areas shall consist of earth embankments constructed of impervious material. The moisture content of the impervious material being compacted shall be maintained within the range of 2 percent below to 3 percent above the optimum moisture content as determined by ASTM D1557, Method D. Material, which is too wet shall be spread and permitted to dry, assisted by harrowing if necessary, until the moisture content is reduced to a workable level. If the moisture content of the material is too low, water shall be applied by sprinkler systems.

C. Adjustable decanting devices shall be installed in the drying/ containment areas to allow for the removal of supernatant from the dredged material being dewatered/dried. All supernatant shall be discharged to the dredged canal at the locations shown on the Drawings. Facilities for treatment of the supernatant shall be provided and maintained. Such facilities shall be adequate to assure that turbidity in the receiving water will not be increased by more than 25 nephelometric turbidity units (NTU), as measured by the Engineer. Turbidity measurements of the canal and discharges to the canal will be made by the Engineer on a daily basis.

D. The dredged material shall be dewatered/dried for 90 days.

3.04 REUSE/DISPOSAL OF EXCAVATED MATERIALS

A. Excavated material shall become the property of the Contractor and shall be removed and disposed of by him/her off the site.

B. Excavated material shall only be reused for embankment where directed by the Engineer in writing.

3.05 FINAL ACCEPTANCE OF DREDGING WORK

A. The Contractor shall submit contour section drawings at 100 foot intervals. Drawings shall be signed and sealed by a Professional Surveyor.

B. The drying/containment area and the permanent turbidity control curtains shall not be removed until Village of Royal Palm Beach has been surveyed and the final dredged contours accepted by the Engineer. The Engineer reserves the right to require additional dredging work if Engineer determines that the amount of muck left in the canal does not meet acceptable tolerances.

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3.2.3 Maintenance Dredging and Maintenance of Insect Control Systems

Exemptions for certain maintenance activities are provided in Section 403.813(1)(f) and (g), F.S., and are described in detail below. The exemption in Section 403.813(1)(f), F.S., authorizes maintenance dredging of existing manmade canals and channels, including navigation basins and ship's berths; intake and discharge structures; and previously dredged portions of natural water bodies within recorded drainage rights-of-way or drainage easements. The exemption in Section 403.813(1)(g), F.S., addresses the maintenance of existing insect control structures, dikes, and irrigation and drainage ditches. A number of limitations and conditions apply to these exemptions, as summarized below.

(a) Original design specifications/configurations.

1. Section 403.813(1)(f), F.S., requires that no more dredging be performed than is necessary to restore the canals, channels, intake and discharge structures and previously dredged portions of natural water bodies, to original design specifications or configurations. Section 403.813(1)(g), F.S., requires that no more dredging be performed than is necessary to restore the dike or irrigation or drainage ditch to its original design specifications.

2. The entity claiming the maintenance exemption bears the burden of establishing that its activity qualifies for the exemption, including that the maintenance will not extend a system beyond its original design specifications or configuration. However, there is no requirement for the maintenance entity to provide advance notice to the Agency that they are planning on performing maintenance that qualifies for the exemptions in Sections 403.813(1)(f) or (g), F.S., except for the 30-day notice required for the maintenance dredging of previously dredged portions of natural water bodies within recorded drainage rights-of-way or drainage easements.

   Maintenance entities are encouraged to notify the Agency of proposed maintenance and to discuss its planned scope and extent with the Agency. Maintenance entities may also request confirmation from the Agency that they qualify for an exemption. In the event that the planned activity does not qualify for an exemption, such consultation should help to avoid enforcement action by the Agency.

3. Direct evidence of original design can include: plans; historical aerial photographs; surveyed cross sections; soil boring reports, if such borings can distinguish between the original soils and the sediment deposited in a system; and other historical documents. Where such documentation does not clearly establish the original design, eyewitness accounts can be submitted to provide further evidence of the original design specifications or configuration. In addition, indirect evidence can be used. Indirect evidence is evidence from which the original design specifications or configuration can be scientifically deduced. Examples of such indirect evidence include historic information of land uses enabled by the system, and the sizes and capacities of associated systems, such as culverts or weirs. If the maintenance entity cannot reasonably establish the original design of a system, the maintenance exemptions in Sections 403.813(1)(f) and (g), F.S., are not applicable.

(b) The following limitations, conditions, and definitions also apply to the exemption in Section 403.813(1)(f), F.S., for maintenance dredging of existing: canals and channels, including navigation basins and ship's berths; intake and discharge structures; and previously dredged portions of natural water bodies within recorded drainage rights-of-way or drainage easements:

1. Spoil material must be deposited in a self-contained, upland spoil disposal site that will prevent the escape of spoil material into the waters of the state. For the purposes of the exemptions in Sections 403.813(1)(f) and (g), F.S., a self-contained, upland disposal site is a disposal site located entirely in uplands which is designed to prevent the spoil material from reentering waters of the state as defined in Section 403.031(13), F.S. Some examples of self-contained upland spoil disposal sites are:

    a. An upland area separated from waters of the state by a berm, such that the spoil material cannot reenter waters of the state;

    b. In a system that has an outer berm or dike, placing the spoil on the inner banks of the dike where it could potentially reenter those interior canals which are not waters of the state, and where the spoil material is prevented from being discharged to waters of the state through the operation of a pump or other type of water control structure; and

    c. In a system involving a road with roadside ditches that are waters of the state, placing spoil in a "V" shaped notch in the center of the road such that it could not be discharged to waters of the state.

    Additionally, use of dredged materials to conduct exempt or permitted maintenance of a dike or road shall not be considered spoil disposal, so long as the dredged materials are only used to restore the dike or road to original design specifications and the dredged material is not deposited into wetlands or other surface waters outside of the original dike or road cross section.

2. Best management practices for erosion and sediment control must be used at the dredge site to prevent bank erosion and scouring and to prevent turbidity, dredged material, and toxic or deleterious substances from discharging into adjacent waters during maintenance dredging. This does not prevent the discharge of water during dredging or from the disposal site, as long as water quality standards are not violated in the receiving waters.

3. The maintenance dredging shall not cause significant impacts to previously undisturbed natural areas.

4. Maintenance work must be conducted in accordance with Section 379.2431(2)(d), F.S., which provides that, except as authorized by a permit issued under Section 379.2431(2)(c), F.S., or by the terms of a valid federal permit, the maintenance entity shall not at any time, by any means or in any manner intentionally or negligently:
    a. Annoy, molest, harass, or disturb or attempt to molest, harass, or disturb any manatee;

    b. Injure or harm or attempt to injure or harm any manatee;

c. Capture or collect or attempt to capture or collect any manatee;

d. Pursue, hunt, wound, or kill or attempt to pursue, hunt, wound, or kill any manatee; or

e. Possess, literally or constructively, any manatee or any part of any manatee.

5. For canals and previously dredged portions of natural water bodies, the exemption only applies to such systems constructed prior to April 3, 1970, or constructed on or after April 3, 1970, pursuant to all necessary state permits.

6. The exemption does not apply to the removal of any natural or manmade barrier separating a canal or canal system from adjacent waters.

7. Maintenance dredging shall be limited to a depth of no more than five feet below mean low water for existing manmade canals or intake or discharge structures that have not been previously permitted for construction or maintenance dredging in accordance with necessary state permits or permits issued by the U.S. Army Corps of Engineers (USACE) between April 4, 1970, and October 26, 1975, or when such permits were required, by DEP, the WMD, or the USACE after October 26, 1975.

   For canals dredged prior to 1975, where evidence indicates that the canals were dredged to depths deeper than five feet, and no subsequent enforcement action was taken, the maintenance entity is encouraged to notify the Agency at least 30 days prior to dredging, and provide documentation of original design specifications or configurations where such exist so that the Agency can have an opportunity to verify that the exempt conditions apply.

8. For maintenance dredging of a previously dredged portion of a natural water body, the maintenance entity must notify DEP at least 30 days prior to dredging, and provide documentation of original design specifications or configurations where such exist.

9. 9. The term “natural water bodies” as used in paragraph 403.813(1)(f), F.S., means those surface water bodies extending waterward from the boundary established pursuant to the methodology in Chapter 62-340, F.A.C., except for those waters that were created solely due to human activity, such as borrow pits, ditches, canals, and artificial impoundments located in areas that were uplands prior to construction. As stated above, the maintenance entity is required to notify the Agency at least 30 days prior to dredging and provide documentation of original design specifications or configurations where such exist for maintenance dredging of previously dredged portions of natural water bodies within recorded drainage rights-of-way or drainage easements. The terms “previously dredged” and “within recorded drainage rights-of-way” are interpreted to apply to dredging originally performed within a right-of-way recorded prior to when these provisions became effective (October 1, 1997, per Chapter 97-22, Laws of Florida).

(c) The following limitations or conditions also apply to the exemption in Section 403.813(1)(g), F.S., for the maintenance of existing insect control structures, dikes, and irrigation and drainage ditches:

1. Spoil material must be deposited on a self-contained, upland spoil site that will prevent the escape of spoil material into waters of the state (see paragraph 3.2.3(b)1, above, for further explanation of self-contained, upland spoil site);

2. For insect control structures, if the Department of Health determines that the cost of new spoil disposal is so excessive that it will inhibit proposed insect control, then existing spoil sites or dikes may be used upon notification to DEP. In such cases, turbidity control devices shall be used when the receiving water body is a potable water supply, is designated as shellfish harvesting waters, or functions as a habitat for commercially or recreationally important shellfish or finfish.

END OF SECTION

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Limited Canal Bottom Sampling & Analysis

Canal Dredging Pilot

West of Granada Street

Royal Palm Beach, Palm Beach County, Florida

September 29, 2015

Terracon Project No. HD157038

Prepared for:
Village or Royal Palm Beach
Royal Palm Beach, Florida

Prepared by:
Terracon Consultants, Inc.
West Palm Beach, Florida

September 29, 2015

Village of Royal Palm Beach
1050 Royal Palm Beach Boulevard
Royal Palm Beach, Florida 33411

Attn: Mr. Chris Marsh, P.E., Village Engineer
P: (561) 790-5161
E: cmarsh@royalpalmbeach.com

Re: Limited Canal Bottom Sampling & Analysis
Canal Dredging Pilot
West of Granada Street
Royal Palm Beach, Florida 33411
Terracon Project No. HD157038

Dear Mr. Marsh:

Terracon Consultants, Inc. (Terracon) is pleased to submit our summary report of Limited Canal Bottom Sampling & Analysis activities completed at the site referenced above. The report presents data from recent field activities that included the collection of canal bottom (sediment) samples and analysis of collected sediment samples for constituents of concern. Terracon conducted the environmental work in accordance with our proposal dated August 21, 2015 and Village of Royal Palm Beach consultant services authorization No. 3.

Terracon appreciates this opportunity to provide environmental engineering services to the Village of Royal Palm Beach. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

Andrew Petric, P.G.
Project Manager
Florida License No. PG2788

ANDREW PETRIC LICENSE No. PG2788 STATE OF FLORIDA PROFESSIONAL GEOLOGIST
9/29/2015

/FOR
Eric Krebill, P.G.
Sr. Project Manager

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LIMITED CANAL BOTTOM SAMPLING & ANALYSIS
CANAL DREDGING PILOT
WEST OF GRANADA STREET
ROYAL PALM BEACH, PALM BEACH COUNTY, FLORIDA
Terracon Project No. HD157038
September 29, 2015

1.0 PROJECT INFORMATION

We understand that the Village of Royal Palm Beach is considering dredging portions of the Village's canal system in the near future. Prior to canal improvements, the Village wishes to preliminarily evaluate the chemical quality of the bottom material (i.e. muck/sediment) within a select section of the canal system to better understand potential re-use and/or disposal options of dredged material. The area of pilot study is an approximately 3,500 lineal feet segment of the canal system located to the west of Granada Street in a primarily residential setting. The canal is approximately 60 to 80 feet wide with a larger open portion near the center of the canal segment. A Topographic Vicinity Map showing the site location is included as Exhibit 1. The plan provided as Exhibit 2 shows the layout of the pilot study site.

2.0 SCOPE OF SERVICES

Based on the above, the limited canal bottom sampling and analysis was conducted to evaluate the potential presence and concentration of select constituents of concern in the canal bottom sediments to be dredged. The scope of services performed included the following:

- Collection of four composite sediment samples from the proposed dredging area with each sample consisting of three proximal sub-samples.
- Laboratory analysis of the collected samples for select constituents of concern.
- Review of the analytical data and comparison with soil cleanup target levels (SCTLs) prescribed in Chapter 62-777 of the Florida Administrative Code (FAC) to evaluate potential re-use and/or disposal options for the dredged material.

2.1 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal.

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2.2 Additional Scope Limitations

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this study. Subsurface conditions may vary from those encountered at specific sampling locations or during other surveys, tests, assessments, investigations, or exploratory services. The limited sampling and analysis does not include assessment of physical characteristics of the soil-sediment for evaluation of engineering suitability for material re-use. The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

2.3 Reliance

This report has been prepared for the exclusive use of the Village of Royal Palm Beach. Any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of the Village of Royal Palm Beach and Terracon. Any unauthorized distribution or reuse is at the Village of Royal Palm Beach's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, Limited Canal Bottom Sampling & Analysis report, and Terracon's Agreement with the Village of Royal Palm Beach. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to the Village of Royal Palm Beach unless otherwise agreed in writing.

3.0 FIELD SAMPLING

Terracon is committed to the safety of all its employees. As such, and in accordance with our *Incident and Injury Free*® safety culture, a site safety pre-task plan was developed to identify potential safety concerns and prepare our personnel to handle conditions during field services. Prior to commencement of on-site activities, Terracon held a meeting with assigned staff to review the proposed work sequence and evaluate work practices for safe completion of the project. Fieldwork was conducted by environmental staff with United States Occupational Safety and Health Administration (OSHA) 1910.120 training. Sediment sampling activities were conducted in general accordance with standard operating procedures (SOP) established by the Florida Department of Environmental Protection (DEP), DEP-SOP-001/01, FS 4000.

On September 12, 2015, a Terracon representative collected four composite samples (S-1, S-2, S-3 and S-4) from the canal dredging pilot section identified by the Village of Royal Palm Beach.

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Each composite sample consisted of three sub-samples collected at proximal locations within the canal section. The composite sub-sample locations are shown in Exhibit 2. The sampling was accomplished from a small boat with an electric motor.

The sediment samples were collected using a pre-cleaned 1-inch diameter by 5-foot long polyvinyl chloride (PVC) sludge sampler fitted with an acetate liner. 1-inch diameter by 5-foot long PVC risers were connected to the sampler section and used to advance the sampler to the canal bottom which was approximately 8 feet below the canal water surface. Each composite subample was collected from the sediment-water interface to a depth of approximately 1.5 feet into the sediment. The sampling equipment was decontaminated using an Alconox® detergent wash and potable water rinse prior to the beginning of the project and before collecting each composite sample.

The sediment samples collected were inspected to document physical characteristics and observed color, staining, and odor. The sediment samples generally consisted of gray fine-grained silty sand and organics. No indications of unusual color, staining, or odors were observed.

Equal aliquots of the subsamples were placed directly in the laboratory provided sample containers with no pre-mixing. The samples containers were labeled and placed in an ice-filled cooler. The samples and completed chain-of-custody (COC) record were transported to Palm Beach Environmental Laboratories (PBEL) in West Palm Beach, Florida, a Florida Department of Health (FDOH) certified and National Environmental Laboratory Accreditation Conference (NELAC)-accredited laboratory for analysis of the following parameters:

- Semi-Volatile Organic Compounds (SVOC) by EPA Method 8270C.
- Total Recoverable Petroleum Hydrocarbons (TRPH) using the FL-PRO Method.
- Organochorine Pesticides by EPA Method 8081A.
- Eight Resource Conservation and Recovery Act (RCRA 8 Metals) including Arsenic. Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver by EPA Method 6010, 6020B or 7471.

4.0 ANALYTICAL RESULTS

The laboratory analytical report and COC record are included in the Appendix. A summary of the sediment analytical results which were reported in excess of the laboratory method detection limits (MDLs) is provided in Table 1. Analytical results were compared with FDEP's SCTLs established in Chapter 62-777, FAC. A summary of analytical data showing parameters which exceed the SCTLs is provided hereafter.

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Sample S-1

- Arsenic was reported at a concentration of 2.28 milligrams per kilogram (mg/kg), which exceeds the residential direct-exposure SCTL of 2.1 mg/kg. The concertation is below the commercial/industrial direct-exposure SCTL of 12 mg/kg.

Sample S-3

- Arsenic was reported at a concentration of 3.98 mg/kg, which exceeds the residential direct-exposure SCTL of 2.1 mg/kg.

Sample S-4

- Arsenic was reported at a concentration of 3.18 mg/kg, which exceeds the residential direct-exposure SCTL of 2.1 mg/kg.

5.0 FINDINGS AND CONCLUSIONS

Based on the scope of services described in this report and subject to the limitations described herein, Terracon concludes the following:

- The upper 1.5 feet of the bottom sediments in the canal section investigated consists of gray fine-grained silty sand and organics. No indications of unusual color, staining, or odors were observed in the samples collected.
- Laboratory analysis of four composite sediment samples collected from the canal did not identify SVOC, TRPH, or RCRA 8 Metals concentrations in excess of their respective SCTLs, except for arsenic in three of the four sediment samples. The concentrations of arsenic in the three samples ranged from 2.28 to 3.98 mg/kg, which exceeds the residential direct-exposure SCTL for arsenic of 2.1 mg/kg.
- Based on the limited analytical data from the canal bottom/sediment sampling and analysis, there will be restrictions of re-use of the material to be dredged since canal bottom sediments contain concentrations of arsenic in excess of the residential direct-exposure SCTL. The dredge material will require management for off-site placement or disposal.

6.0 RECOMMENDATIONS

Based on the results of the limited canal bottom sampling and analysis, the material to be dredged had been identified to contain concentrations of arsenic in excess of the residential direct-exposure SCTL. The dredge material should be disposed of at a licensed disposal facility such as a Class I landfill. However, given that this may be cost prohibitive, we recommend that other soil-sediment management and disposal options be explored. An alternative option includes re-use of material at a commercial/industrial site or Village property. This may require

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obtaining a deed restriction on the property receiving the dredge material. Another management option would be to modify (mix) the dredge material to reduce arsenic concentrations; however, this may be impracticable due to limited work area along the canal banks. These alternative soil-sediment management/disposal options should be discussed and approved by the FDEP prior to the canal dredging work.

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EXHIBITS

Exhibit 1 - Topographic Vicinity Map
Exhibit 2 - Site Diagram

Addendum 3
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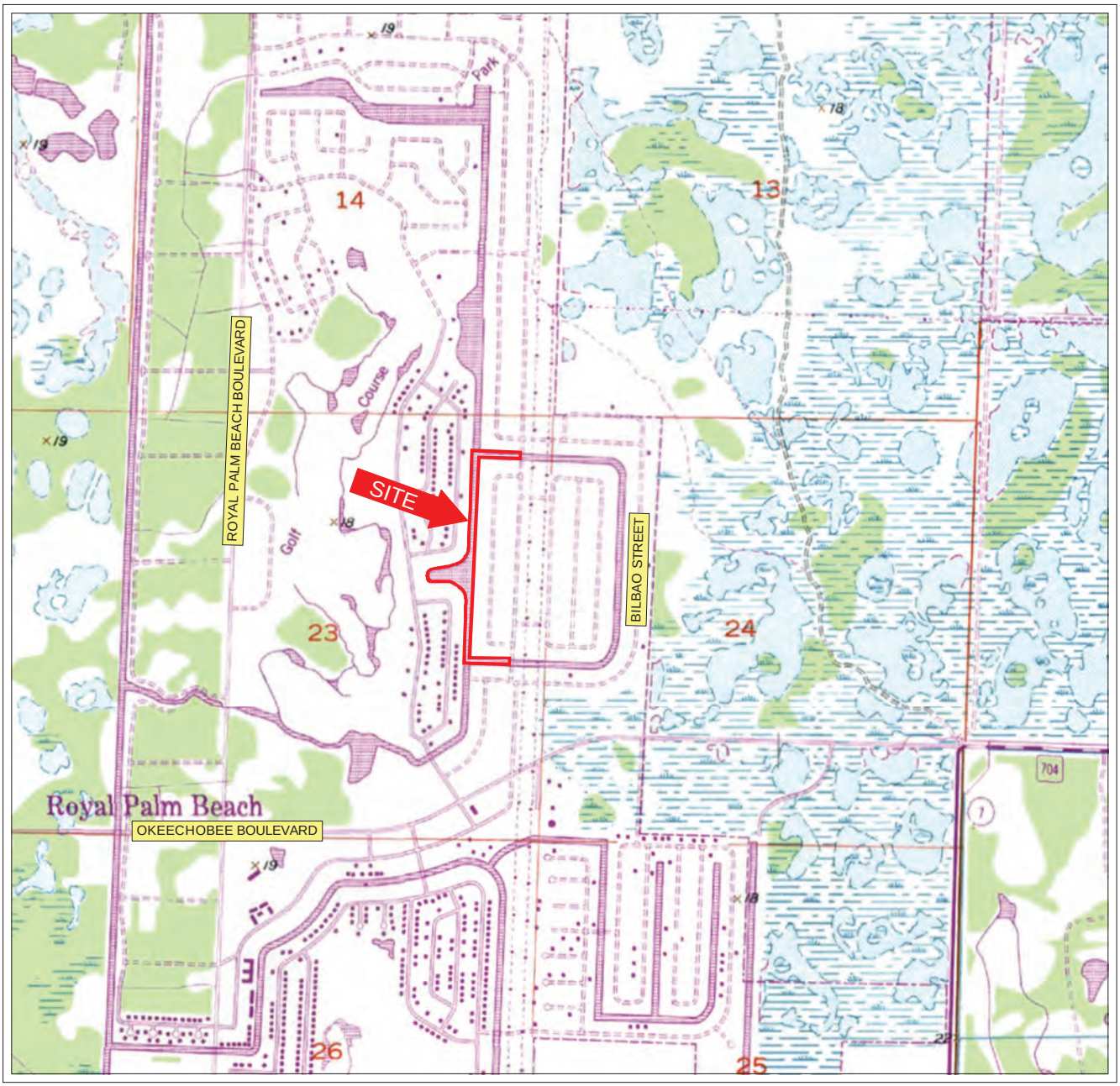
UNITED STATES – DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY



SCALE 1:24 000

1 .5 0 KILOMETERS 1 2

1000 0 1000 2000

MILES

1 .5 0 1

FEET

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 5 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929

N

SECTION: 23
TOWNSHIP: 43 SOUTH
RANGE: 41 EAST

PALM BEACH FARMS, FLORIDA
1946; PHOTOREVISED 1983
7.5 MINUTE SERIES (QUADRANGLE)

Addendum 3
7/27/2022

N:\Projects–Other Offices\West Palm Beach\2015\HD157038\Cad\HD157038–Exhibit–1.dwg

Project Mngr:	AP
Drawn By:	MG
Checked By:	AP
Approved By:	KA

Project No.	HD157038
Scale:	AS SHOWN
File No.	HD157038
Date:	9-24-15

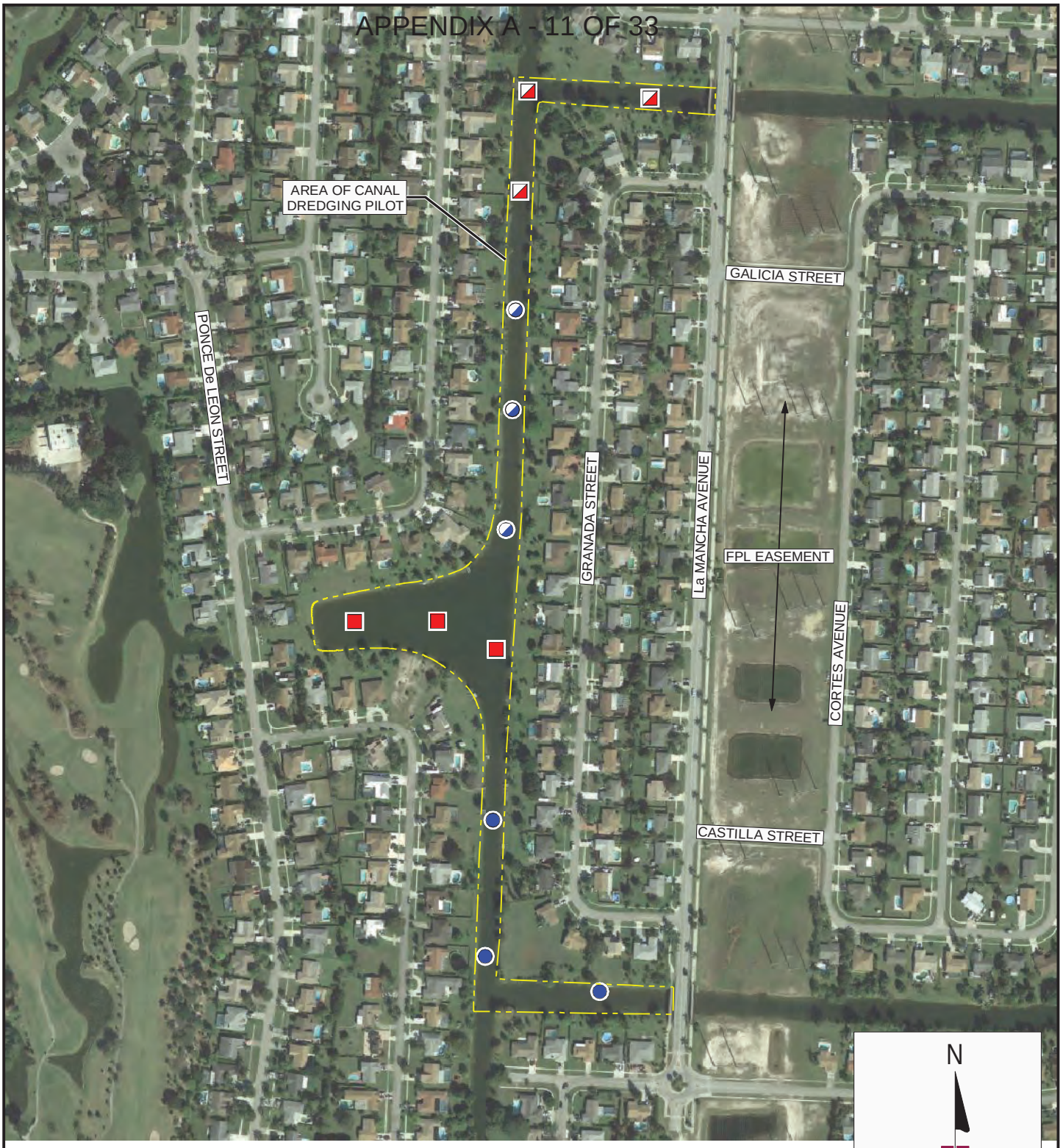
Terracon
Consulting Engineers and Scientists
1225 OMAR ROAD
WEST PALM BEACH, FLORIDA 33405
PH. (561) 689-4299 FAX. (561) 689-5955

TOPOGRAPHIC VICINITY MAP

LIMITED CANAL BOTTOM SAMPLING & ANALYSIS
CANAL DREDGING PILOT

WEST OF GRANADA STREET
ROYAL PALM BEACH, PALM BEACH COUNTY, FLORIDA

EXHIBIT 1



LEGEND

- COMPOSITE SAMPLE S-1
- COMPOSITE SAMPLE S-2
- COMPOSITE SAMPLE S-3
- COMPOSITE SAMPLE S-4

N

SCALE IN FEET

0 200 400

Addendum 3
7/27/2022

N:\Projects-Other Offices\West Palm Beach\2015\HD157038\Cad\HD157038-Exhibit-2.dwg

Project Mngr:	AP
Drawn By:	MG
Checked By:	AP
Approved By:	KA

Project No.	HD157038
Scale:	AS SHOWN
File No.	HD157038
Date:	9-24-15

Terracon
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SEDIMENT SAMPLING LOCATION PLAN

LIMITED CANAL BOTTOM SAMPLING & ANALYSIS
CANAL DREDGING PILOT
WEST OF GRANADA STREET
ROYAL PALM BEACH, PALM BEACH COUNTY, FLORIDA

EXHIBIT

2

TABLE

Table 1 – Summary of Sediment Analytical Results

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7/27/2022

TABLE 1: SEDIMENT ANALYTICAL SUMMARY - Pesticides, TRPH and Metals

Project Name: Canal Dredging Pilot, Royal Palm Beach, Florida **Terracon Project No. HD157038**

Sample			Laboratory Analyses											
Sample No.	Date Collected	Sample Interval below mud-line (ft)	Total Chlordane (µg/kg)	4,4-DDE (µg/kg)	TRPH (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Comments
S-1	9/12/2015	0 - 1.5	0.1	0.04 U	28.0	**2.28**	23.9	0.006 U	9.80	6.54	0.054 U	0.7	0.01 U	
S-2	9/12/2015	0 - 1.5	0.4	0.1	16.9	1.97	28.2	0.004 U	12.1	8.0	0.072 I	0.9	0.009 U	
S-3	9/12/2015	0 - 1.5	0.2	0.04 U	38.5	**3.98**	101	0.01 I	24.0	18.1	0.093 I	1.6	0.01 U	
S-4	9/12/2015	0 - 1.5	0.4	0.1	12.8	**3.18**	54.6	0.005 U	16.2	11.1	0.062 I	0.7	0.01 U	
Leachability SCTL (mg/kg)			9,600	18,000	340	*	1600	7.5	38	*	2.1	5.2	17	
Direct Exposure Residential SCTL (mg/kg)			2,800	2,900	460	2.1	120	82	210	400	3	440	410	
Direct Exposure Commercial/Industrial SCT			14,000	15,000	2,700	12	130,000	1,700	470	1,400	17	11,000	8,200	

Notes: mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram
ft = feet below canal bottom mud-line
SCTL = soil cleanup target level per Chapter 62-777, FAC
Bold results exceed Residential Direct-Exposure SCTL
U indicates that concentration is below the laboratory method detection limit (MDL) for that parameter
The value preceding the U is the method detection limit for that compound
I indicates the concetration is between the laboratory MDL and practical quantitation limit (PQL)

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APPENDIX

Sediment Analytical Reports

Addendum 3
7/27/2022

Palm Beach Environmental
Laboratories Inc.

Andrew Petric
Terracon WPB
West Palm Beach, FL 33405
(561) 689-4299
LOG #: 0013809

September 23, 2015

Enclosed is the laboratory report for your project. All results meet the requirements of the NELAC standards.

Please note the following:

(1) The samples were received as stated on the chain of custody, correctly labeled and at the proper temperature unless otherwise noted. The results contained in this report relate only to the items tested or to the samples as received by the laboratory.

(2) This report may not be reproduced except in full, without the written approval of the laboratory. Any anomalies are noted in the case narrative.

(3) Results for all solid matrices are reported in dry weight unless otherwise noted.

(4) Results for all liquid matrices are analyzed as received in the laboratory unless otherwise noted.

(5) Samples are disposed of within 30 days of their receipt by the laboratory.

(6) A statement of Qualifiers is available upon request.

(7) Certain analyses are subcontracted to outside NELAC certified laboratories and are designated on your report.

(8) Precision & Accuracy will be provided when clients require a measure of estimated uncertainty.

(9) The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report Preliminary Data should not be used for regular purposes. Authorized signature(s) is provided on final report only

Please contact me if you have any questions or concerns regarding this report.

Sincerely,

Pamela Shore
QA Officer

Addendum 3
7/27/2022

Palm Beach Environmental Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405
ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-4 **Lab ID:** 0013809-01 **Sampled:** 09/12/15 10:10
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8081A

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
319-84-6	alpha-BHC	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
58-89-9	gamma-BHC (Lindane)	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
76-44-8	Heptachlor	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
309-00-2	Aldrin	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
319-85-7	beta-BHC	0.05	U	ug/kg	EPA 3545 / 8081A	1	0.05	0.1	09/16/15	09/17/15	DD
319-86-8	delta-BHC	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
1024-57-3	Heptachlor epoxide	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
959-98-8	Endosulfan I	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
5566-34-7	**gamma-Chlordane**	**0.1**		ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
5103-71-9	**alpha-Chlordane**	**0.3**		ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
72-55-9	**4,4-DDE**	**0.1**		ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
60-57-1	Dieldrin	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
72-20-8	Endrin	0.01	U	ug/kg	EPA 3545 / 8081A	1	0.01	0.1	09/16/15	09/17/15	DD
33213-65-9	Endosulfan II	0.05	U	ug/kg	EPA 3545 / 8081A	1	0.05	0.1	09/16/15	09/17/15	DD
72-54-8	4,4-DDD	0.07	U	ug/kg	EPA 3545 / 8081A	1	0.07	0.1	09/16/15	09/17/15	DD
50-29-3	4,4-DDT	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
7421-93-4	Endrin aldehyde	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
1031-07-8	Endosulfan sulfate	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
72-43-5	Methoxychlor	0.1	U	ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	DD
53494-70-5	Endrin Ketone	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
NA	**Total Chlordane**	**0.4**		ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	DD
8001-35-2	Toxaphene	0.1	U	ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	DD

		% Recovery	Q	% Recovery Limits
2051-24-3	Surrogate: Decachlorobiphenyl	97.6 %		Limit 41-170
877-09-8	Surrogate: Tetrachloro-m-xylene	99.4 %		Limit 40-175

Palm Beach Environmental Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405
ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-4 **Lab ID:** 0013809-01 **Sampled:** 09/12/15 10:10
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
83-32-9	Acenaphthene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/17/15	PLS
208-96-8	Acenaphthylene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
62-53-3	Aniline	0.004	U	mg/kg	EPA 3545 / 8270C	1	0.004	0.004	09/16/15	09/17/15	PLS
120-12-7	Anthracene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
56-55-3	Benzo[a]anthracene	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.06	09/16/15	09/17/15	PLS
50-32-8	Benzo[a]pyrene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/17/15	PLS
205-99-2	Benzo[b]fluoranthene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.02	09/16/15	09/17/15	PLS
191-24-2	Benzo[g,h,i]perylene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.1	09/16/15	09/17/15	PLS
207-08-9	Benzo[k]fluoranthene	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.007	09/16/15	09/17/15	PLS
111-91-1	bis(2-Chloroethoxy)methane	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/17/15	PLS
39638-32-9	bis(2-chloroisopropyl)ether	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.3	09/16/15	09/17/15	PLS
117-81-7	bis(2-Ethylhexyl)phthalate	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/17/15	PLS
NA	bis(Chloroethyl)ether	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/17/15	PLS
101-55-3	4-Bromophenyl-phenylether	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
85-68-7	Butylbenzylphthalate	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/17/15	PLS
59-50-7	4-Chloro-3-methylphenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/17/15	PLS
91-58-7	2-Chloronaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
95-57-8	2-Chlorophenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/17/15	PLS
7005-72-3	4-Chlorophenyl-phenylether	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
218-01-9	Chrysene	0.005	U	mg/kg	EPA 3545 / 8270C	1	0.005	0.02	09/16/15	09/17/15	PLS
132-64-9	Dibenzofuran	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.05	U	mg/kg	EPA 3545 / 8270C	1	0.05	0.05	09/16/15	09/17/15	PLS
95-50-1	1,2-Dichlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/17/15	PLS
541-73-1	1,3-Dichlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/17/15	PLS
106-46-7	1,4-Dichlorobenzene	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/17/15	PLS
120-83-2	2,4-Dichlorophenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/17/15	PLS
87-65-0	2,6-Dichlorophenol	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/17/15	PLS
84-66-2	Diethylphthalate	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
105-67-9	2,4-Dimethylphenol	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/17/15	PLS
131-11-3	Dimethylphthalate	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
84-74-2	Di-n-butylphthalate	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/17/15	PLS
99-65-0	1,3-Dinitrobenzene	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/17/15	PLS
534-52-1	4,6-Dinitro-2-methylphenol	0.2	U	mg/kg	EPA 3545 / 8270C	1	0.2	0.3	09/16/15	09/17/15	PLS
51-28-5	2,4-Dinitrophenol	0.09	U	mg/kg	EPA 3545 / 8270C	1	0.09	0.3	09/16/15	09/17/15	PLS
121-14-2	2,4-Dinitrotoluene	0.009	U	mg/kg	EPA 3545 / 8270C	1	0.009	0.009	09/16/15	09/17/15	PLS
606-20-2	2,6-Dinitrotoluene	0.006	U	mg/kg	EPA 3545 / 8270C	1	0.006	0.006	09/16/15	09/17/15	PLS

Addendum 3
7/27/2022

Palm Beach Environmental Laboratories Inc.

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Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405
ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013809
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REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
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Description: S-4 **Lab ID:** 0013809-01 **Sampled:** 09/12/15 10:10
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
117-84-0	Di-n-octylphthalate	0.05	U	mg/kg	EPA 3545 / 8270C	1	0.05	0.3	09/16/15	09/17/15	PLS
206-44-0	Fluoranthene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/17/15	PLS
86-73-7	Fluorene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/17/15	PLS
87-68-3	Hexachlorobutadiene	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/17/15	PLS
77-47-4	Hexachlorocyclopentadiene	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/17/15	PLS
67-72-1	Hexachloroethane	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.01	09/16/15	09/17/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	0.2	U	mg/kg	EPA 3545 / 8270C	1	0.2	0.2	09/16/15	09/17/15	PLS
78-59-1	Isophorone	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
95-48-7	2-Methylphenol	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/17/15	PLS
108-39-4	3-Methylphenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/17/15	PLS
106-44-5	4-Methylphenol	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
90-12-0	1-Methylnaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
91-57-6	2-Methylnaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
99-09-2	3-Nitroaniline	0.006	U	mg/kg	EPA 3545 / 8270C	1	0.006	0.006	09/16/15	09/17/15	PLS
621-64-7	N-Nitroso-di-n-propylamine	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/17/15	PLS
91-20-3	Naphthalene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/17/15	PLS
88-74-4	2-Nitroaniline	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.007	09/16/15	09/17/15	PLS
100-01-6	4-Nitroaniline	0.008	U	mg/kg	EPA 3545 / 8270C	1	0.008	0.008	09/16/15	09/17/15	PLS
98-95-3	Nitrobenzene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/17/15	PLS
88-75-5	2-Nitrophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/17/15	PLS
100-02-7	4-Nitrophenol	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/17/15	PLS
608-93-5	Pentachlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/17/15	PLS
87-86-5	Pentachlorophenol	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.1	09/16/15	09/17/15	PLS
85-01-8	Phenanthrene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/17/15	PLS
108-95-2	Phenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/17/15	PLS
129-00-0	Pyrene	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/17/15	PLS
95-94-3	1,2,4,5-Tetrachlorobenzene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
58-90-2	2,3,4,6-Tetrachlorophenol	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.01	09/16/15	09/17/15	PLS
120-82-1	1,2,4-Trichlorobenzene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/17/15	PLS
95-95-4	2,4,5-Trichlorophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/17/15	PLS
88-06-2	2,4,6-Trichlorophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.06	09/16/15	09/17/15	PLS

		% Recovery	Q	% Recovery Limits
367-12-4	Surrogate: 2-Fluorophenol			Limit 42-146
NA	Surrogate: Phenol-d5			Limit 43-148
NA	Surrogate: Nitrobenzene-d5	70.1 %		Limit 35-139

Addendum 3
7/27/2022

Palm Beach Environmental Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
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PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-4 **Lab ID:** 0013809-01 **Sampled:** 09/12/15 10:10
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
321-60-8	Surrogate: 2-Fluorobiphenyl	116 %			Limit 37-141						
118-79-6	Surrogate: 2,4,6-Tribromophenol				Limit 45-142						
NA	Surrogate: p-Terphenyl-d14	108 %			Limit 40-135						

FLPRO

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
NA	**FLPRO Total**	**12.8**		mg/kg	EPA 3545 /RO	1	0.0800	0.240	09/16/15	09/17/15	PLS

		% Recovery	Q	% Recovery Limits
84-15-1	Surrogate: o-Terphenyl	107 %		Limit 70-130
7194-86-7	Surrogate: Nonatriacontane	92.3 %		Limit 42-193

Metals by EPA 6000/7000 Series Methods

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
7440-38-2	**Arsenic**	**3.18**		mg/kg dry	EPA 6020B	1	0.005	0.370	09/16/15	09/23/15	DD
7440-39-3	**Barium**	**54.6**		mg/kg dry	EPA 6020B	1	0.005	4.6	09/16/15	09/23/15	DD
7440-43-9	Cadmium	0.005	U	mg/kg dry	EPA 6020B	1	0.005	0.741	09/16/15	09/23/15	DD
7440-47-3	**Chromium**	**16.2**		mg/kg dry	EPA 6020B	1	0.005	0.07	09/16/15	09/23/15	DD
7439-92-1	**Lead**	**11.1**		mg/kg dry	EPA 6020B	1	0.012	0.370	09/16/15	09/23/15	DD
7439-97-6	**Mercury**	**0.062**	JEE, I	mg/kg dry	EPA 7471	1	0.050	0.150	09/16/15	09/16/15	SL
7782-49-2	**Selenium**	**0.7**	JEE	mg/kg dry	EPA 6010	1	0.2	0.6	09/15/15	09/15/15	SL
7440-22-4	Silver	0.01	JEE, U	mg/kg dry	EPA 6010	1	0.01	0.03	09/15/15	09/15/15	SL

Percent Dry Weight

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
NA	**% Solids**	**54.0**		%	Calculation	1	1.0	1.0	09/14/15	09/23/15	DD

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LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-3 **Lab ID:** 0013809-02 **Sampled:** 09/12/15 10:35
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8081A

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
319-84-6	alpha-BHC	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
58-89-9	gamma-BHC (Lindane)	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
76-44-8	Heptachlor	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
309-00-2	Aldrin	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
319-85-7	beta-BHC	0.05	U	ug/kg	EPA 3545 / 8081A	1	0.05	0.1	09/16/15	09/17/15	DD
319-86-8	delta-BHC	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
1024-57-3	Heptachlor epoxide	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
959-98-8	Endosulfan I	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
5566-34-7	**gamma-Chlordane**	**0.07**	I	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
5103-71-9	**alpha-Chlordane**	**0.08**	I	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
72-55-9	4,4-DDE	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
60-57-1	Dieldrin	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
72-20-8	Endrin	0.01	U	ug/kg	EPA 3545 / 8081A	1	0.01	0.1	09/16/15	09/17/15	DD
33213-65-9	Endosulfan II	0.05	U	ug/kg	EPA 3545 / 8081A	1	0.05	0.1	09/16/15	09/17/15	DD
72-54-8	4,4-DDD	0.07	U	ug/kg	EPA 3545 / 8081A	1	0.07	0.1	09/16/15	09/17/15	DD
50-29-3	4,4-DDT	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
7421-93-4	Endrin aldehyde	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
1031-07-8	Endosulfan sulfate	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
72-43-5	Methoxychlor	0.1	U	ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	DD
53494-70-5	Endrin Ketone	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
NA	**Total Chlordane**	**0.2**		ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	DD
8001-35-2	Toxaphene	0.1	U	ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	DD

		% Recovery	Q	% Recovery Limits
2051-24-3	Surrogate: Decachlorobiphenyl	111 %		Limit 41-170
877-09-8	Surrogate: Tetrachloro-m-xylene	110 %		Limit 40-175

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LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-3 **Lab ID:** 0013809-02 **Sampled:** 09/12/15 10:35
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
83-32-9	Acenaphthene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
208-96-8	Acenaphthylene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
62-53-3	Aniline	0.004	U	mg/kg	EPA 3545 / 8270C	1	0.004	0.004	09/16/15	09/16/15	PLS
120-12-7	Anthracene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
56-55-3	Benzo[a]anthracene	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.06	09/16/15	09/16/15	PLS
50-32-8	Benzo[a]pyrene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/16/15	PLS
205-99-2	Benzo[b]fluoranthene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.02	09/16/15	09/16/15	PLS
191-24-2	Benzo[g,h,i]perylene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.1	09/16/15	09/16/15	PLS
207-08-9	Benzo[k]fluoranthene	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.007	09/16/15	09/16/15	PLS
111-91-1	bis(2-Chloroethoxy)methane	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
39638-32-9	bis(2-chloroisopropyl)ether	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.3	09/16/15	09/16/15	PLS
117-81-7	bis(2-Ethylhexyl)phthalate	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
NA	bis(Chloroethyl)ether	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
101-55-3	4-Bromophenyl-phenylether	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
85-68-7	Butylbenzylphthalate	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
59-50-7	4-Chloro-3-methylphenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
91-58-7	2-Chloronaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
95-57-8	2-Chlorophenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
7005-72-3	4-Chlorophenyl-phenylether	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
218-01-9	Chrysene	0.005	U	mg/kg	EPA 3545 / 8270C	1	0.005	0.02	09/16/15	09/16/15	PLS
132-64-9	Dibenzofuran	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.05	U	mg/kg	EPA 3545 / 8270C	1	0.05	0.05	09/16/15	09/16/15	PLS
95-50-1	1,2-Dichlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
541-73-1	1,3-Dichlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
106-46-7	1,4-Dichlorobenzene	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
120-83-2	2,4-Dichlorophenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/16/15	PLS
87-65-0	2,6-Dichlorophenol	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
84-66-2	Diethylphthalate	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
105-67-9	2,4-Dimethylphenol	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
131-11-3	Dimethylphthalate	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
84-74-2	Di-n-butylphthalate	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
99-65-0	1,3-Dinitrobenzene	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
534-52-1	4,6-Dinitro-2-methylphenol	0.2	U	mg/kg	EPA 3545 / 8270C	1	0.2	0.3	09/16/15	09/16/15	PLS
51-28-5	2,4-Dinitrophenol	0.09	U	mg/kg	EPA 3545 / 8270C	1	0.09	0.3	09/16/15	09/16/15	PLS
121-14-2	2,4-Dinitrotoluene	0.009	U	mg/kg	EPA 3545 / 8270C	1	0.009	0.009	09/16/15	09/16/15	PLS
606-20-2	2,6-Dinitrotoluene	0.006	U	mg/kg	EPA 3545 / 8270C	1	0.006	0.006	09/16/15	09/16/15	PLS

Addendum 3
7/27/2022

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1225 Omar Road
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PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-3 **Lab ID:** 0013809-02 **Sampled:** 09/12/15 10:35
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
117-84-0	Di-n-octylphthalate	0.05	U	mg/kg	EPA 3545 / 8270C	1	0.05	0.3	09/16/15	09/16/15	PLS
206-44-0	Fluoranthene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
86-73-7	Fluorene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
87-68-3	Hexachlorobutadiene	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
77-47-4	Hexachlorocyclopentadiene	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
67-72-1	Hexachloroethane	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.01	09/16/15	09/16/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	0.2	U	mg/kg	EPA 3545 / 8270C	1	0.2	0.2	09/16/15	09/16/15	PLS
78-59-1	Isophorone	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
95-48-7	2-Methylphenol	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
108-39-4	3-Methylphenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
106-44-5	4-Methylphenol	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
90-12-0	1-Methylnaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
91-57-6	2-Methylnaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
99-09-2	3-Nitroaniline	0.006	U	mg/kg	EPA 3545 / 8270C	1	0.006	0.006	09/16/15	09/16/15	PLS
621-64-7	N-Nitroso-di-n-propylamine	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
91-20-3	Naphthalene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
88-74-4	2-Nitroaniline	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.007	09/16/15	09/16/15	PLS
100-01-6	4-Nitroaniline	0.008	U	mg/kg	EPA 3545 / 8270C	1	0.008	0.008	09/16/15	09/16/15	PLS
98-95-3	Nitrobenzene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
88-75-5	2-Nitrophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
100-02-7	4-Nitrophenol	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
608-93-5	Pentachlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
87-86-5	Pentachlorophenol	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.1	09/16/15	09/16/15	PLS
85-01-8	Phenanthrene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
108-95-2	Phenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/16/15	PLS
129-00-0	Pyrene	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
95-94-3	1,2,4,5-Tetrachlorobenzene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
58-90-2	2,3,4,6-Tetrachlorophenol	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.01	09/16/15	09/16/15	PLS
120-82-1	1,2,4-Trichlorobenzene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
95-95-4	2,4,5-Trichlorophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
88-06-2	2,4,6-Trichlorophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.06	09/16/15	09/16/15	PLS

		% Recovery	Q	% Recovery Limits
367-12-4	Surrogate: 2-Fluorophenol			Limit 42-146
NA	Surrogate: Phenol-d5			Limit 43-148
NA	Surrogate: Nitrobenzene-d5	95.2 %		Limit 35-139

Addendum 3
7/27/2022

Palm Beach Environmental Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405
ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-3 **Lab ID:** 0013809-02 **Sampled:** 09/12/15 10:35
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
321-60-8	Surrogate: 2-Fluorobiphenyl	119 %			Limit 37-141						
118-79-6	Surrogate: 2,4,6-Tribromophenol				Limit 45-142						
NA	Surrogate: p-Terphenyl-d14	101 %			Limit 40-135						

FLPRO

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
NA	**FLPRO Total**	**38.5**		mg/kg	EPA 3545 /RO	1	0.0800	0.240	09/16/15	09/17/15	PLS

		% Recovery	Q	% Recovery Limits
84-15-1	Surrogate: o-Terphenyl	83.8 %		Limit 70-130
7194-86-7	Surrogate: Nonatriacontane	93.5 %		Limit 42-193

Metals by EPA 6000/7000 Series Methods

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
7440-38-2	**Arsenic**	**3.98**		mg/kg dry	EPA 6020B	1	0.006	0.455	09/16/15	09/23/15	DD
7440-39-3	**Barium**	**101**		mg/kg dry	EPA 6020B	1	0.006	5.7	09/16/15	09/23/15	DD
7440-43-9	**Cadmium**	**0.010**	I	mg/kg dry	EPA 6020B	1	0.006	0.909	09/16/15	09/23/15	DD
7440-47-3	**Chromium**	**24.0**		mg/kg dry	EPA 6020B	1	0.006	0.09	09/16/15	09/23/15	DD
7439-92-1	**Lead**	**18.1**		mg/kg dry	EPA 6020B	1	0.015	0.455	09/16/15	09/23/15	DD
7439-97-6	**Mercury**	**0.093**	JEE, I	mg/kg dry	EPA 7471	1	0.061	0.184	09/16/15	09/16/15	SL
7782-49-2	**Selenium**	**1.6**	JEE	mg/kg dry	EPA 6010	1	0.2	0.7	09/15/15	09/15/15	SL
7440-22-4	Silver	0.01	JEE, U	mg/kg dry	EPA 6010	1	0.01	0.04	09/15/15	09/15/15	SL

Percent Dry Weight

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
NA	**% Solids**	**44.0**		%	Calculation	1	1.0	1.0	09/14/15	09/23/15	DD

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LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-2 **Lab ID:** 0013809-03 **Sampled:** 09/12/15 11:05
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8081A

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
319-84-6	alpha-BHC	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	PLS
58-89-9	gamma-BHC (Lindane)	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	PLS
76-44-8	Heptachlor	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	PLS
309-00-2	Aldrin	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	PLS
319-85-7	beta-BHC	0.05	U	ug/kg	EPA 3545 / 8081A	1	0.05	0.1	09/16/15	09/17/15	PLS
319-86-8	delta-BHC	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	PLS
1024-57-3	Heptachlor epoxide	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	PLS
959-98-8	Endosulfan I	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	PLS
5566-34-7	**gamma-Chlordane**	**0.2**		ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	PLS
5103-71-9	**alpha-Chlordane**	**0.3**		ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	PLS
72-55-9	**4,4-DDE**	**0.1**		ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	PLS
60-57-1	Dieldrin	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	PLS
72-20-8	Endrin	0.01	U	ug/kg	EPA 3545 / 8081A	1	0.01	0.1	09/16/15	09/17/15	PLS
33213-65-9	Endosulfan II	0.05	U	ug/kg	EPA 3545 / 8081A	1	0.05	0.1	09/16/15	09/17/15	PLS
72-54-8	4,4-DDD	0.07	U	ug/kg	EPA 3545 / 8081A	1	0.07	0.1	09/16/15	09/17/15	PLS
50-29-3	4,4-DDT	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	PLS
7421-93-4	Endrin aldehyde	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	PLS
1031-07-8	Endosulfan sulfate	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	PLS
72-43-5	Methoxychlor	0.1	U	ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	PLS
53494-70-5	Endrin Ketone	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	PLS
NA	**Total Chlordane**	**0.4**		ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	PLS
8001-35-2	Toxaphene	0.1	U	ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	PLS

		% Recovery	Q	% Recovery Limits
2051-24-3	Surrogate: Decachlorobiphenyl	86.8 %		Limit 41-170
877-09-8	Surrogate: Tetrachloro-m-xylene	70.1 %		Limit 40-175

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LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-2 **Lab ID:** 0013809-03 **Sampled:** 09/12/15 11:05
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
83-32-9	Acenaphthene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
208-96-8	Acenaphthylene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
62-53-3	Aniline	0.004	U	mg/kg	EPA 3545 / 8270C	1	0.004	0.004	09/16/15	09/16/15	PLS
120-12-7	Anthracene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
56-55-3	Benzo[a]anthracene	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.06	09/16/15	09/16/15	PLS
50-32-8	Benzo[a]pyrene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/16/15	PLS
205-99-2	Benzo[b]fluoranthene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.02	09/16/15	09/16/15	PLS
191-24-2	Benzo[g,h,i]perylene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.1	09/16/15	09/16/15	PLS
207-08-9	Benzo[k]fluoranthene	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.007	09/16/15	09/16/15	PLS
111-91-1	bis(2-Chloroethoxy)methane	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
39638-32-9	bis(2-chloroisopropyl)ether	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.3	09/16/15	09/16/15	PLS
117-81-7	bis(2-Ethylhexyl)phthalate	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
NA	bis(Chloroethyl)ether	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
101-55-3	4-Bromophenyl-phenylether	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
85-68-7	Butylbenzylphthalate	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
59-50-7	4-Chloro-3-methylphenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
91-58-7	2-Chloronaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
95-57-8	2-Chlorophenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
7005-72-3	4-Chlorophenyl-phenylether	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
218-01-9	Chrysene	0.005	U	mg/kg	EPA 3545 / 8270C	1	0.005	0.02	09/16/15	09/16/15	PLS
132-64-9	Dibenzofuran	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.05	U	mg/kg	EPA 3545 / 8270C	1	0.05	0.05	09/16/15	09/16/15	PLS
95-50-1	1,2-Dichlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
541-73-1	1,3-Dichlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
106-46-7	1,4-Dichlorobenzene	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
120-83-2	2,4-Dichlorophenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/16/15	PLS
87-65-0	2,6-Dichlorophenol	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
84-66-2	Diethylphthalate	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
105-67-9	2,4-Dimethylphenol	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
131-11-3	Dimethylphthalate	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
84-74-2	Di-n-butylphthalate	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
99-65-0	1,3-Dinitrobenzene	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
534-52-1	4,6-Dinitro-2-methylphenol	0.2	U	mg/kg	EPA 3545 / 8270C	1	0.2	0.3	09/16/15	09/16/15	PLS
51-28-5	2,4-Dinitrophenol	0.09	U	mg/kg	EPA 3545 / 8270C	1	0.09	0.3	09/16/15	09/16/15	PLS
121-14-2	2,4-Dinitrotoluene	0.009	U	mg/kg	EPA 3545 / 8270C	1	0.009	0.009	09/16/15	09/16/15	PLS
606-20-2	2,6-Dinitrotoluene	0.006	U	mg/kg	EPA 3545 / 8270C	1	0.006	0.006	09/16/15	09/16/15	PLS

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LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-2 **Lab ID:** 0013809-03 **Sampled:** 09/12/15 11:05
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
117-84-0	Di-n-octylphthalate	0.05	U	mg/kg	EPA 3545 / 8270C	1	0.05	0.3	09/16/15	09/16/15	PLS
206-44-0	Fluoranthene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
86-73-7	Fluorene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
87-68-3	Hexachlorobutadiene	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
77-47-4	Hexachlorocyclopentadiene	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
67-72-1	Hexachloroethane	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.01	09/16/15	09/16/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	0.2	U	mg/kg	EPA 3545 / 8270C	1	0.2	0.2	09/16/15	09/16/15	PLS
78-59-1	Isophorone	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
95-48-7	2-Methylphenol	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
108-39-4	3-Methylphenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
106-44-5	4-Methylphenol	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
90-12-0	1-Methylnaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
91-57-6	2-Methylnaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
99-09-2	3-Nitroaniline	0.006	U	mg/kg	EPA 3545 / 8270C	1	0.006	0.006	09/16/15	09/16/15	PLS
621-64-7	N-Nitroso-di-n-propylamine	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
91-20-3	Naphthalene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
88-74-4	2-Nitroaniline	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.007	09/16/15	09/16/15	PLS
100-01-6	4-Nitroaniline	0.008	U	mg/kg	EPA 3545 / 8270C	1	0.008	0.008	09/16/15	09/16/15	PLS
98-95-3	Nitrobenzene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
88-75-5	2-Nitrophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
100-02-7	4-Nitrophenol	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
608-93-5	Pentachlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
87-86-5	Pentachlorophenol	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.1	09/16/15	09/16/15	PLS
85-01-8	Phenanthrene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
108-95-2	Phenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/16/15	PLS
129-00-0	Pyrene	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
95-94-3	1,2,4,5-Tetrachlorobenzene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
58-90-2	2,3,4,6-Tetrachlorophenol	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.01	09/16/15	09/16/15	PLS
120-82-1	1,2,4-Trichlorobenzene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
95-95-4	2,4,5-Trichlorophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
88-06-2	2,4,6-Trichlorophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.06	09/16/15	09/16/15	PLS

		% Recovery	Q	% Recovery Limits
367-12-4	Surrogate: 2-Fluorophenol			Limit 42-146
NA	Surrogate: Phenol-d5			Limit 43-148
NA	Surrogate: Nitrobenzene-d5	97.4 %		Limit 35-139

Addendum 3
7/27/2022

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LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-2 **Lab ID:** 0013809-03 **Sampled:** 09/12/15 11:05
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
321-60-8	Surrogate: 2-Fluorobiphenyl	111 %			Limit 37-141						
118-79-6	Surrogate: 2,4,6-Tribromophenol				Limit 45-142						
NA	Surrogate: p-Terphenyl-d14	105 %			Limit 40-135						

FLPRO

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
NA	**FLPRO Total**	**16.9**		mg/kg	EPA 3545 /RO	1	0.0800	0.240	09/16/15	09/17/15	PLS

		% Recovery	Q	% Recovery Limits
84-15-1	Surrogate: o-Terphenyl	97.2 %		Limit 70-130
7194-86-7	Surrogate: Nonatriacontane	103 %		Limit 42-193

Metals by EPA 6000/7000 Series Methods

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
7440-38-2	**Arsenic**	**1.97**		mg/kg dry	EPA 6020B	1	0.004	0.317	09/16/15	09/23/15	DD
7440-39-3	**Barium**	**28.2**		mg/kg dry	EPA 6020B	1	0.004	4.0	09/16/15	09/23/15	DD
7440-43-9	Cadmium	0.004	U	mg/kg dry	EPA 6020B	1	0.004	0.635	09/16/15	09/23/15	DD
7440-47-3	**Chromium**	**12.1**		mg/kg dry	EPA 6020B	1	0.004	0.06	09/16/15	09/23/15	DD
7439-92-1	**Lead**	**8.00**		mg/kg dry	EPA 6020B	1	0.010	0.317	09/16/15	09/23/15	DD
7439-97-6	**Mercury**	**0.072**	JEE, I	mg/kg dry	EPA 7471	1	0.043	0.129	09/16/15	09/16/15	SL
7782-49-2	**Selenium**	**0.9**	JEE	mg/kg dry	EPA 6010	1	0.2	0.5	09/15/15	09/15/15	SL
7440-22-4	Silver	0.009	JEE, U	mg/kg dry	EPA 6010	1	0.009	0.03	09/15/15	09/15/15	SL

Percent Dry Weight

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
NA	**% Solids**	**63.0**		%	Calculation	1	1.0	1.0	09/14/15	09/23/15	DD

Palm Beach Environmental Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405
ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-1 **Lab ID:** 0013809-04 **Sampled:** 09/12/15 11:35
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8081A

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
319-84-6	alpha-BHC	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
58-89-9	gamma-BHC (Lindane)	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
76-44-8	Heptachlor	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
309-00-2	Aldrin	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
319-85-7	beta-BHC	0.05	U	ug/kg	EPA 3545 / 8081A	1	0.05	0.1	09/16/15	09/17/15	DD
319-86-8	delta-BHC	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
1024-57-3	Heptachlor epoxide	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
959-98-8	Endosulfan I	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
5566-34-7	**gamma-Chlordane**	**0.1**		ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
5103-71-9	alpha-Chlordane	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
72-55-9	4,4-DDE	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
60-57-1	Dieldrin	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
72-20-8	Endrin	0.01	U	ug/kg	EPA 3545 / 8081A	1	0.01	0.1	09/16/15	09/17/15	DD
33213-65-9	Endosulfan II	0.05	U	ug/kg	EPA 3545 / 8081A	1	0.05	0.1	09/16/15	09/17/15	DD
72-54-8	4,4-DDD	0.07	U	ug/kg	EPA 3545 / 8081A	1	0.07	0.1	09/16/15	09/17/15	DD
50-29-3	4,4-DDT	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
7421-93-4	Endrin aldehyde	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
1031-07-8	Endosulfan sulfate	0.04	U	ug/kg	EPA 3545 / 8081A	1	0.04	0.1	09/16/15	09/17/15	DD
72-43-5	Methoxychlor	0.1	U	ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	DD
53494-70-5	Endrin Ketone	0.03	U	ug/kg	EPA 3545 / 8081A	1	0.03	0.1	09/16/15	09/17/15	DD
NA	**Total Chlordane**	**0.1**		ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	DD
8001-35-2	Toxaphene	0.1	U	ug/kg	EPA 3545 / 8081A	1	0.1	0.1	09/16/15	09/17/15	DD

		% Recovery	Q	% Recovery Limits
2051-24-3	Surrogate: Decachlorobiphenyl	98.9 %		Limit 41-170
877-09-8	Surrogate: Tetrachloro-m-xylene	117 %		Limit 40-175

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LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-1 **Lab ID:** 0013809-04 **Sampled:** 09/12/15 11:35
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
83-32-9	Acenaphthene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
208-96-8	Acenaphthylene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
62-53-3	Aniline	0.004	U	mg/kg	EPA 3545 / 8270C	1	0.004	0.004	09/16/15	09/16/15	PLS
120-12-7	Anthracene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
56-55-3	Benzo[a]anthracene	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.06	09/16/15	09/16/15	PLS
50-32-8	Benzo[a]pyrene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/16/15	PLS
205-99-2	Benzo[b]fluoranthene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.02	09/16/15	09/16/15	PLS
191-24-2	Benzo[g,h,i]perylene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.1	09/16/15	09/16/15	PLS
207-08-9	Benzo[k]fluoranthene	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.007	09/16/15	09/16/15	PLS
111-91-1	bis(2-Chloroethoxy)methane	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
39638-32-9	bis(2-chloroisopropyl)ether	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.3	09/16/15	09/16/15	PLS
117-81-7	bis(2-Ethylhexyl)phthalate	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
NA	bis(Chloroethyl)ether	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
101-55-3	4-Bromophenyl-phenylether	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
85-68-7	Butylbenzylphthalate	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
59-50-7	4-Chloro-3-methylphenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
91-58-7	2-Chloronaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
95-57-8	2-Chlorophenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
7005-72-3	4-Chlorophenyl-phenylether	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
218-01-9	Chrysene	0.005	U	mg/kg	EPA 3545 / 8270C	1	0.005	0.02	09/16/15	09/16/15	PLS
132-64-9	Dibenzofuran	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.05	U	mg/kg	EPA 3545 / 8270C	1	0.05	0.05	09/16/15	09/16/15	PLS
95-50-1	1,2-Dichlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
541-73-1	1,3-Dichlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
106-46-7	1,4-Dichlorobenzene	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
120-83-2	2,4-Dichlorophenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/16/15	PLS
87-65-0	2,6-Dichlorophenol	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
84-66-2	Diethylphthalate	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
105-67-9	2,4-Dimethylphenol	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
131-11-3	Dimethylphthalate	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
84-74-2	Di-n-butylphthalate	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
99-65-0	1,3-Dinitrobenzene	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
534-52-1	4,6-Dinitro-2-methylphenol	0.2	U	mg/kg	EPA 3545 / 8270C	1	0.2	0.3	09/16/15	09/16/15	PLS
51-28-5	2,4-Dinitrophenol	0.09	U	mg/kg	EPA 3545 / 8270C	1	0.09	0.3	09/16/15	09/16/15	PLS
121-14-2	2,4-Dinitrotoluene	0.009	U	mg/kg	EPA 3545 / 8270C	1	0.009	0.009	09/16/15	09/16/15	PLS
606-20-2	2,6-Dinitrotoluene	0.006	U	mg/kg	EPA 3545 / 8270C	1	0.006	0.006	09/16/15	09/16/15	PLS

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LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-1 **Lab ID:** 0013809-04 **Sampled:** 09/12/15 11:35
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
117-84-0	Di-n-octylphthalate	0.05	U	mg/kg	EPA 3545 / 8270C	1	0.05	0.3	09/16/15	09/16/15	PLS
206-44-0	Fluoranthene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
86-73-7	Fluorene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
87-68-3	Hexachlorobutadiene	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
77-47-4	Hexachlorocyclopentadiene	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
67-72-1	Hexachloroethane	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.01	09/16/15	09/16/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	0.2	U	mg/kg	EPA 3545 / 8270C	1	0.2	0.2	09/16/15	09/16/15	PLS
78-59-1	Isophorone	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
95-48-7	2-Methylphenol	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
108-39-4	3-Methylphenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
106-44-5	4-Methylphenol	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
90-12-0	1-Methylnaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
91-57-6	2-Methylnaphthalene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
99-09-2	3-Nitroaniline	0.006	U	mg/kg	EPA 3545 / 8270C	1	0.006	0.006	09/16/15	09/16/15	PLS
621-64-7	N-Nitroso-di-n-propylamine	0.002	U	mg/kg	EPA 3545 / 8270C	1	0.002	0.002	09/16/15	09/16/15	PLS
91-20-3	Naphthalene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
88-74-4	2-Nitroaniline	0.007	U	mg/kg	EPA 3545 / 8270C	1	0.007	0.007	09/16/15	09/16/15	PLS
100-01-6	4-Nitroaniline	0.008	U	mg/kg	EPA 3545 / 8270C	1	0.008	0.008	09/16/15	09/16/15	PLS
98-95-3	Nitrobenzene	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.3	09/16/15	09/16/15	PLS
88-75-5	2-Nitrophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
100-02-7	4-Nitrophenol	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.3	09/16/15	09/16/15	PLS
608-93-5	Pentachlorobenzene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
87-86-5	Pentachlorophenol	0.1	U	mg/kg	EPA 3545 / 8270C	1	0.1	0.1	09/16/15	09/16/15	PLS
85-01-8	Phenanthrene	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.3	09/16/15	09/16/15	PLS
108-95-2	Phenol	0.03	U	mg/kg	EPA 3545 / 8270C	1	0.03	0.03	09/16/15	09/16/15	PLS
129-00-0	Pyrene	0.04	U	mg/kg	EPA 3545 / 8270C	1	0.04	0.3	09/16/15	09/16/15	PLS
95-94-3	1,2,4,5-Tetrachlorobenzene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
58-90-2	2,3,4,6-Tetrachlorophenol	0.01	U	mg/kg	EPA 3545 / 8270C	1	0.01	0.01	09/16/15	09/16/15	PLS
120-82-1	1,2,4-Trichlorobenzene	0.02	U	mg/kg	EPA 3545 / 8270C	1	0.02	0.3	09/16/15	09/16/15	PLS
95-95-4	2,4,5-Trichlorophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.3	09/16/15	09/16/15	PLS
88-06-2	2,4,6-Trichlorophenol	0.06	U	mg/kg	EPA 3545 / 8270C	1	0.06	0.06	09/16/15	09/16/15	PLS

		% Recovery	Q	% Recovery Limits
367-12-4	Surrogate: 2-Fluorophenol			Limit 42-146
NA	Surrogate: Phenol-d5			Limit 43-148
NA	Surrogate: Nitrobenzene-d5	90.8 %		Limit 35-139

Addendum 3
7/27/2022

Palm Beach Environmental Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
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PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013809
COC#: 12825
REPORTED: 9/23/2015 5:01:49PM
PROJECT #: HD157036
PROJECT: Canal Dredging Test Pilot

Description: S-1 **Lab ID:** 0013809-04 **Sampled:** 09/12/15 11:35
Matrix: Soil **Sampled By:** Randall Murphy **Received:** 09/14/15 12:35

EPA Method 8270C in Soil

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
321-60-8	Surrogate: 2-Fluorobiphenyl	117 %			Limit 37-141						
118-79-6	Surrogate: 2,4,6-Tribromophenol				Limit 45-142						
NA	Surrogate: p-Terphenyl-d14	118 %			Limit 40-135						

FLPRO

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
NA	**FLPRO Total**	**28.0**		mg/kg	EPA 3545 /RO	1	0.0800	0.240	09/16/15	09/17/15	PLS

		% Recovery	Q	% Recovery Limits
84-15-1	Surrogate: o-Terphenyl	118 %		Limit 70-130
7194-86-7	Surrogate: Nonatriacontane	102 %		Limit 42-193

Metals by EPA 6000/7000 Series Methods

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
7440-38-2	**Arsenic**	**2.28**		mg/kg dry	EPA 6020B	1	0.006	0.400	09/16/15	09/23/15	DD
7440-39-3	**Barium**	**23.9**		mg/kg dry	EPA 6020B	1	0.006	5.0	09/16/15	09/23/15	DD
7440-43-9	Cadmium	0.006	U	mg/kg dry	EPA 6020B	1	0.006	0.800	09/16/15	09/23/15	DD
7440-47-3	**Chromium**	**9.8**		mg/kg dry	EPA 6020B	1	0.006	0.08	09/16/15	09/23/15	DD
7439-92-1	**Lead**	**6.54**		mg/kg dry	EPA 6020B	1	0.013	0.400	09/16/15	09/23/15	DD
7439-97-6	Mercury	0.054	JEE, U	mg/kg dry	EPA 7471	1	0.054	0.162	09/16/15	09/16/15	SL
7782-49-2	**Selenium**	**0.7**	JEE	mg/kg dry	EPA 6010	1	0.2	0.6	09/15/15	09/15/15	SL
7440-22-4	Silver	0.01	JEE, U	mg/kg dry	EPA 6010	1	0.01	0.03	09/15/15	09/15/15	SL

Percent Dry Weight

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction Date	Analysis Date	Analyst
NA	**% Solids**	**50.0**		%	Calculation	1	1.0	1.0	09/14/15	09/23/15	DD

Palm Beach Environmental
Laboratories Inc.

Notes and Definitions

U	Analyte included in the analysis, but not detected
I	The reported value is between the laboratory Method Detection Limit & the laboratory Practical Quantitation Limit
JEE	Analysis performed by Florida Environmental Cert#E86006

Addendum 3
7/27/2022

Palm Beach Environmental Laboratories, Inc.

PBEL

CHAIN OF CUSTODY RECORD

Log #: 13809
PO #:
Quote #:
FDEP :

Company Name: Terracon
Address: 1225 Omar Road
City: WPB State: FL Zip: 33405
Attn: Andrew Petric Phone#: 561 689 4299
email: Andrew.Petric@terracon.com Fax#: 5616895955
Project Name: Canal Dredging Test Pilot Proj#: HD157038
Sampler Signature / Name: [signature] / Randall Murphy

LAB ANALYSIS

#	Sample Label (Client ID)	Collect Date	Collect Time	Matrix	Field Filtered	Integrity OK	Total # of containers	SVOC by EPA 8270 (I)	TRPH by FLPRO (I)	Organochlorine Pesticides by EPA 8081 (I)	8 RCRA As, Ba, Cd, Cr, Pb, Hg, Se, Ag 6020 (I)					
1	S-4	9/14/15	1010	SD	–		2	✓	✓	✓	✓					
2	S-3	⏐	1035	⏐	–		2	✓	✓	✓	✓					
3	S-2	⏐	1105	⏐	–		2	✓	✓	✓	✓					
4	S-1	⏐	1135	⏐	–		2	✓	✓	✓	✓					
5																
6																
7																
8																
9																
0																

pH:
PRES CODE: I, I, I, I

Matrix Codes

SD	Solid Waste	OL	Oil
GW	Ground Water	SL	Sludge
EFF	Effluent	SO	Soil Sediment
AFW	Analyte Free H2O	AQ	Aqueous
WW	Waste Water	NA	Nonaqueous
DW	Drinking Water		
SW	Surface Water	O	Other (Please Specify)

Press Codes

A. None	E. HCL	O. Other
B. HNO3	F. MeOH	
C. H2SO4	G. Na2S2O3	
D. NaOH	I. Ice	

T.A.T. Request: Standard (Y)/N; RUSH: 24 Hour __ 48 Hour __ Date Due:

QA/QC Report Level: None__ 1__ 2__ 3__ Other__

COC OK: (Y) N — Initials: DM

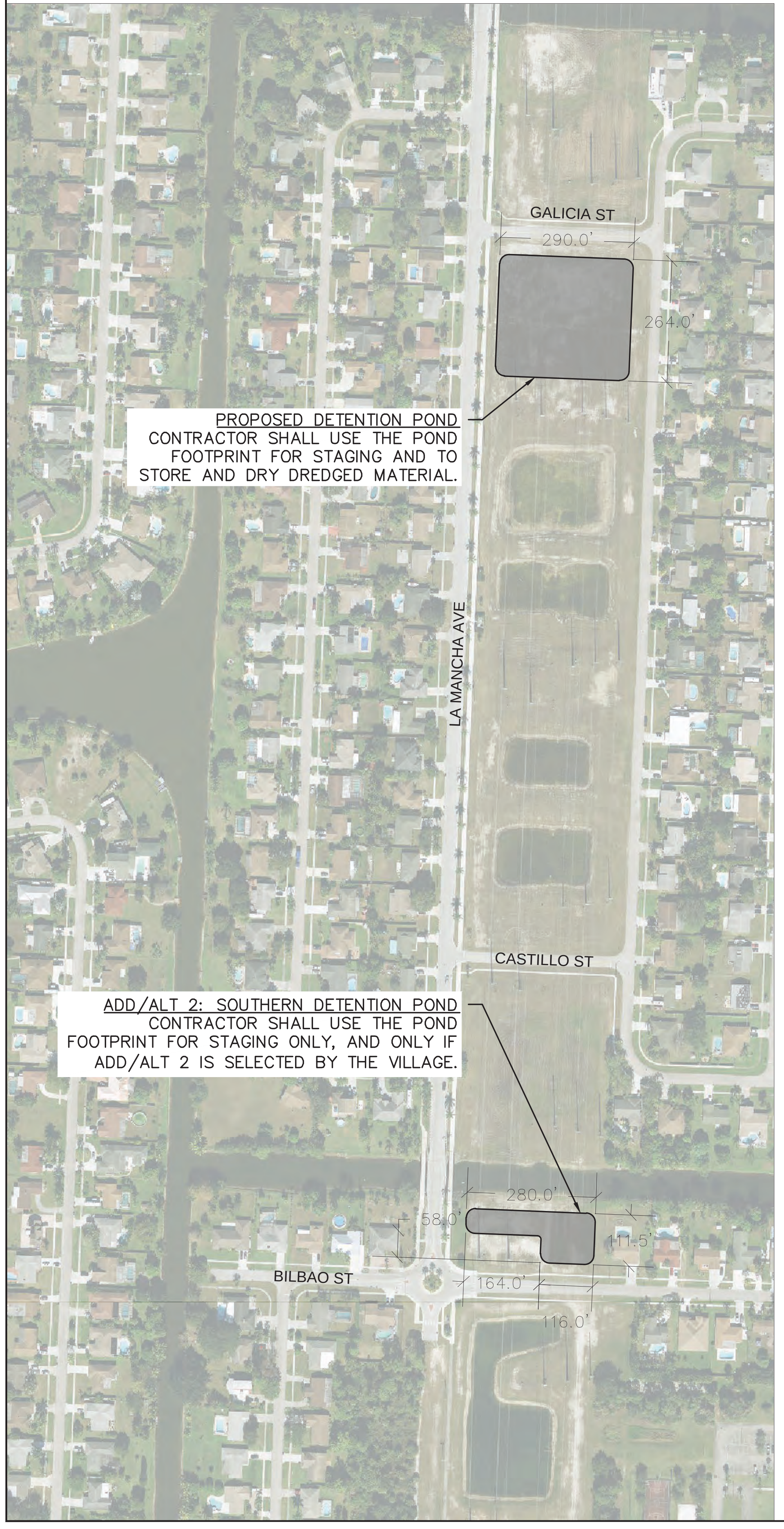
Item	Relinquished by	Affiliation	Date	Time	Received By	Affiliation	Date	Time
All	[signature]	Terracon	9/12/15	1300	[signature]	Terracon	9/14/15	6:00
All	[signature]	Terracon	9/14/15	12:35	[signature]	PBEL	9/14/15	12:35

Lab Use Only

	Yes	No	N/A
Sample INTACT upon arrival?	✓		
Received on Wet Ice? Temp. 3 °C	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals intact?	✓		
Volatile rec'd without headspace?			✓
Proper Containers Used?	✓		

COC# - 12825

STAGING AREAS
ROYAL PALM BEACH, FL 33411



GENERAL NOTES:

1. THE CONTRACTOR SHALL CREATE A CONTINUOUS VIDEO RECORD OF STAGING AREA CONDITIONS BOTH BEFORE AND AFTER CONSTRUCTION, IN ACCORDANCE WITH TECHNICAL SPECIFICATION 101: MOBILIZATION.
2. CONTRACTOR IS RESPONSIBLE FOR RESTORING STAGING AREA TO PRE-CONSTRUCTION CONDITION.
3. CONTRACTOR SHALL SURROUND THE ENTIRE STAGING AREA WITH SILT SCREEN FENCE, PER MANUFACTURERS INSTRUCTIONS.
4. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN A SECURELY COVERED METAL DUMPSTER PROVIDED BY WASTE PRO. THE DUMPSTER SHALL MEET ALL PALM BEACH COUNTY AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER SHALL BE EMPTIED AS NEEDED SO THERE IS NO OVERFLOW. TRASH SHALL BE HAULED TO AN AUTHORIZED/PERMITTED LANDFILL FACILITY. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE OF WASTE DISPOSAL.
5. ALL HAZARDOUS WASTE MATERIAL SHALL BE DISPOSED OF IN A MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES.
6. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF TWICE PER WEEK BY THE LICENSED SANITARY COMPANY, AS REQUIRED BY LOCAL REGULATIONS.
7. ALL ON-SITE VEHICLES AND TANKS SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS, WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ON-SITE SHALL BE APPLIED ACCORDINGLY TO THE MANUFACTURER'S RECOMMENDATIONS. ALL ABOVE GROUND TANKS FOR FUELING SHALL BE SECONDARILY CONTAINED.
8. ANY PESTICIDE AND HERBICIDE USAGE SHALL BE BY STATE LICENSED APPLICATORS.
9. FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNT RECOMMENDED BY THE MANUFACTURER. IF STORED ON-SITE, COVERED STORAGE SHALL BE PROVIDED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZERS SHALL BE TRANSFERRED TO A SEALABLE CONTAINER TO AVOID SPILLS.
10. ALL PAINT CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT SHALL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE OR LOCAL REGULATIONS.
11. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE SHALL BE COVERED WITH A TARPAULIN, AS REQUIRED BY STATE LAW.
12. WHEN ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE ACCUMULATED SEDIMENT SHALL BE REMOVED FROM IN AND AROUND ALL INLETS AND CATCH BASINS.
13. NON-STORMWATER DISCHARGES SHALL NOT CAUSE EROSION OR CREATE TURBIDITY WITHIN THE RECEIVING BODY AND SHALL BE IN COMPLIANCE WITH REGULATORY REQUIREMENTS. THESE DISCHARGES MAY INCLUDE WATER LINE FLUSHING, FIRE FIGHTING ACTIVITIES, FIRE HYDRANT FLUSHING, DUST CONTROL, IRRIGATION DRAINAGE AND AIR CONDITIONING CONDENSATE AND WATER USED TO SPRAY OFF LOOSE SOLIDS FROM VEHICLES (WASTEWATER FROM A MORE THOROUGH CLEANING, INCLUDING THE USE OF DETERGENTS OR OTHER CLEANERS IS NOT PERMITTED)
14. ALL EXISTING TREES AND LANDSCAPING SHALL BE PROTECTED.
15. ALL ACTIVITIES WITHIN THE STAGING AREA ARE REQUIRED TO COMPLY WITH NPDES REQUIREMENTS.

MUCK STAGING NOTES

1. IT IS ASSUMED THAT LOW LEVELS OF ARSENIC ARE WITHIN THE CANAL BOTTOM SOILS (SEE APPENDIX A OF THE CONTRACT FOR PREVIOUS TEST RESULTS).
2. THE BASE BID ASSUMES THE DREDGED MATERIAL CAN BE MOVED TO A COMMERCIAL OR INDUSTRIAL SITE.
3. THE ADD/ALTERNATE WILL BE USED IF THE DREDGED MATERIALS ARE REQUIRED TO BE MOVED TO AN APPROVED LANDFILL.
   3.1. CHAIN OF CUSTODY DOCUMENTATION SHALL BE REQUIRED.
4. THE MUCK WILL BE DRIED FOR A PERIOD OF 90 DAYS, AND THEN A SURVEY OF THE DREDGED MATERIALS PILE WILL BE USED TO DETERMINE THE VOLUME.
   4.1. THIS SURVEY WILL SERVE AS THE BASIS OF PAYMENT FOR MATERIAL DISPOSAL.

RESTORATION NOTES:

1. AFTER PONDS HAVE BEEN BROUGHT TO PLAN GRADE AND EQUIPMENT HAS BEEN REMOVED FROM THE STAGING AREAS, RESTORE GRASS USING:
   1.1. BAHIA SEED & MULCH FOR POND BOTTOMS
   1.2. BAHIA SOD FOR POND SLOPES AND ANY SURROUNDING, DISTURBED AREAS

Addendum 3
7/27/2022

DATE: JULY 2022
SHEET: 03 OF 12

DESIGNED BY: AD
DRAWN BY: AD
REVIEWED BY: CM

By	Date	Revision Description

CANAL SYSTEM DREDGING & FPL PATHWAY DD PONDS
SW1901 EN1904
STAGING AREA

Village of Royal Palm Beach
Planning & Engineering

SEAL

PHASING
1. CONTRACTOR SHALL DREDGE IN 500' INCREMENTS WITH TURBIDITY SCREENS ON BOTH SIDES OF THE DREDGING OPERATION IN ORDER TO MINIMIZE NEGATIVE IMPACTS TO CANAL ECOSYSTEM.
2. AFTER COMPLETING THE 500' SECTION, THE CONTRACTOR SHALL INSTALL A THIRD TURBIDITY BARRIER 500' FORWARD OF THE SECTION AND LEAVE THE PREVIOUS SECTION TO SETTLE UNTIL THE TURBIDITY IS MEASURED TO BE LESS THAN 25 NTUs.
   2.1. ONCE THAT CRITERIA IS MET, IMMEDIATELY REMOVE THE TAIL END TURBIDITY BARRIER.
3. IF PRODUCTION EXCEEDS 500' IN 14 DAYS, THE CONTRACTOR MAY REQUEST TO EXPAND THE INCREMENT SIZE TO MATCH 14 DAY PRODUCTION.
   3.1. BOTH THE REQUEST AND APPROVAL SHALL BE MADE IN WRITING.

BEFORE BEGINNING DREDGING OPERATIONS:
1. OUTFALL PIPES SHALL BE MARKED WITH AN ORANGE STAKE ON THE CANAL BANK.
2. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE (VIA DOOR HANGER) OF DREDGING ACTIVITIES TO RESIDENTS ADJACENT TO THE PROJECT 14 DAYS BEFORE DREDGING BEGINS IN THEIR PHASE.
   2.1. THE CONTRACTOR SHALL MAKE A REASONABLE EFFORT TO WORK AROUND IRRIGATION INTAKES
   2.2. IN THE EVENT INTAKES MUST BE REMOVED FROM THE WATERWAY THE CONTRACTOR SHALL NOTIFY (VIA DOOR HANGER) THE HOMEOWNER TO REMOVE THE INTAKE 14 DAYS PRIOR TO DREDGING IN THE HOMEOWNER'S PHASE.
   2.3. IN THE EVENT THE HOME OWNER FAILS TO REMOVE THE IRRIGATION SUCTION PIPE, THE CONTRACTOR SHALL CUT PIPES AT WATER SURFACE LEVEL AND PLACE ON THE BANK.

LIMITS OF MAIN CONTRACT DREDGING (SOUTH OF EXISTING DOCK)

STA 51+24 STA 51+00 STA 50+00 STA 49+00 STA 48+00 STA 47+00 STA 46+00 STA 45+00 STA 44+00 STA 43+00 STA 42+00 STA 41+00 STA 40+00 STA 39+00 STA 38+00 STA 37+00 STA 36+00 STA 35+00 STA 34+00 STA 33+00 STA 32+00 STA 31+00 STA 30+00 STA 29+00 STA 28+00 STA 27+00 STA 26+00 STA 25+00 STA 24+00 STA 23+00 STA 22+00 STA 21+00 STA 20+00 STA 19+00 STA 18+00 STA 17+00 STA 16+00 STA 15+00 STA 14+00 STA 13+00 STA 12+00 STA 11+00 STA 10+00 STA 9+00 STA 8+00 STA 7+00

STA 160+00 STA 159+00 STA 158+00 STA 157+00 STA 156+00 STA 155+00 STA 154+00 STA 153+00 STA 152+00 STA 151+00 STA 150+00 STA 149+00 STA 148+00 STA 147+00 STA 146+00 STA 145+00 STA 144+00 STA 143+00 STA 142+00 STA 141+00 STA 140+00 STA 139+00 STA 138+00 STA 137+00 STA 136+00 STA 135+00 STA 134+00 STA 133+00 STA 132+00 STA 131+00 STA 130+00 STA 129+00 STA 128+00 STA 127+00 STA 126+00 STA 125+00 STA 124+00 STA 123+00 STA 122+00 STA 121+00 STA 120+00 STA 119+00 STA 118+00 STA 117+00 STA 116+00 STA 115+00 STA 114+00 STA 113+00 STA 112+00 STA 111+00 STA 110+00 STA 109+00 STA 108+00 STA 107+00 STA 106+00 STA 105+00 STA 104+00 STA 103+00 STA 102+00 STA 101+00 STA 100+00 STA 5+00 STA 4+00 STA 3+00 STA 2+00 STA 1+00 STA 0+00

LIMITS OF ADD/ALT DREDGING (HEADING EAST)

ACCESS POINT (TYP)

ACCESS POINT (TYP)

LIMITS OF ADD/ALT DREDGING (HEADING EAST)

LIMITS OF MAIN CONTRACT DREDGING (20' SW OF BRIDGE)

ALCAZAR ST
LAS PALMAS ST
CORDOBA CIR
GALICIA ST
LA MANCHA AVE
SANTIAGO ST
GRANADA ST
CASTILLO ST
PONCE DE LEON ST
BARCELONA ST
GALIANO ST
BILBAO ST
OKEECHOBEE BLVD

SHEET 09
SHEET 08
SHEET 12
SHEET 07
SHEET 11
SHEET 06
SHEET 10
SHEET 05

PROPOSED DETENTION POND
CONTRACTOR SHALL USE THE POND FOOTPRINT FOR STAGING AND TO STORE AND DRY DREDGED MATERIAL.

NOTE:
THIS 1050'-LONG SECTION OF THE CANAL HAS ALREADY BEEN DREDGED AS PART OF A TEST PROJECT, AND IS NOT PART OF THIS PROJECT.

EXISTING SUBMERGED PIPES
DRAINAGE AND IRRIGATION INTAKE PIPES ARE KNOWN TO BE WITHIN THE WATERWAYS. CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING PIPES.

EXISTING TRASH, DEBRIS, AND VEGETATION
CONTRACTOR SHALL REMOVE ALL EXISTING TREE LIMBS, TRASH, AND DEBRIS FROM CANAL BANK (EL. 13.00) TO CANAL BANK (EL. 13.00).

Addendum 3
7/27/2022

SEAL	Village of Royal Palm Beach Planning & Engineering Christopher A. Marsh, P.E., 62560 1050 Royal Palm Beach Boulevard Royal Palm Beach, FL 33411 Phone (561) 790-5131 Fax (561) 791-7095	CANAL SYSTEM DREDGING & FPL PATHWAY DD PONDS SW1901 EN1904 CANAL DREDGING OVERVIEW	By	Date	Revision Description	DESIGNED BY: AD DRAWN BY: AD REVIEWED BY: CM	0 20 40 Feet DATE: JULY 2022 SHEET: 04 OF 12

X:\CAPITAL PROJECTS\SW1901_EN1904_CANALSYSTEMDREDGE&DRYDETENTION\PRE-BID DOCUMENTS\BID PACKAGE\2) DRAWINGS\09_PAV&DRNG-P_SW1901 EN1904.DWG 7/27/2022

FORMATTED FOR 12" x 18"