

**PHASE II
ENVIRONMENTAL SITE ASSESSMENT
ORLANDO DOWNTOWN RECREATION COMPLEX
AND TENNIS CENTRE PARCEL
649 BENTLEY STREET
ORLANDO, ORANGE COUNTY, FLORIDA**

Prepared for:



**The City of Orlando
Economic Development Department
400 S. Orange Avenue
Orlando, Florida, 32802-4990
EPA Brownfield Cooperative Agreement BF-95498212**

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1.0 SUMMARY

Environmental Consulting & Technology, Inc. (ECT) has completed this Phase II Environmental Site Assessment (ESA) for the Orlando Downtown Recreation Complex and Tennis Centre Parcel, located at 649 Bentley Street, Orlando, Orange County, Florida, located at the northeast corner of the intersection of North Parramore Avenue and West Livingston Street, Orlando, Florida (Site). The Site's physical address is 649 Bentley Street, Orlando, Florida 32801. The Site consists of a main building with annex and several outbuildings that collectively comprise the multipurpose Orlando Downtown Recreation Complex, and one building with a detached maintenance building and 16 tennis courts that collectively comprise the Orlando Tennis Centre.

This Phase II ESA was conducted in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E1903-11 for Phase II ESAs. The objective of this Phase II ESA was to determine the presence, magnitude, and distribution of, soil and groundwater impacts associated with the recognized environmental conditions (RECs) identified during previous investigations.

The Site has been developed since 1919, based on review of available Sanborn maps. Past uses of the Site have included: 1) Armory and Naval Training Center; 2) Orange County and Orlando Fair Grounds/Exposition Center; 3) a horse racing track and stables; 4) ball fields and various athletic fields; 5) residential (northern portion of the property); 6) United States Department of Agriculture (USDA) Bureau of Entomology and USDA Essential Oils Branch; 7) Orlando Police Training facility; and 8) refrigeration sales.

This assessment investigated the soil and groundwater impacts associated with the former USDA entomology laboratory and the former underground storage tank (UST), which were identified as RECs in a Phase I ESA report issued by ECT in November 2013.

To address the former USDA entomology laboratory, 81 soil borings were advanced, and soil samples were collected and analyzed to determine soil quality. Arsenic soil cleanup target level (SCTL) exceedances were present in the 1-3 feet below land surface (ft bls) samples collected at borings SB-9, SB-9S(2), SB-20, SB-20E, SB-20N, SB-21, SB-21E, SB-21N, SB-21W, SB-21W(2), SB27, SB-27E, SB-27N, SB-32, SB-32S, SB-40, SB-43, SB-44, SB-47, SB-50 and SB-51. In the soil samples analyzed from the 3-5 ft bls interval, exceedances of the arsenic SCTL were detected at borings SB-9N, SB-9S(2), SB-9W, SB-21N, SB-21W, SB-21W(2), SB-40, SB-48, and SB-49. In the soil samples analyzed from the 5-7 ft bls interval, arsenic exceedances of the SCTL were present at borings SB-9N, SB-9W, SB-21N, SB-21W, and SB-21W(2). Dieldrin was not detected in any soil sample above the residential SCTL.

Exceedance of the dieldrin groundwater cleanup target levels (GCTLs) were detected in the groundwater samples from wells MW-1, MW-10 and MW-11.

To address the former UST, five soil borings were performed, and 35 soil samples were screened for organic vapors. No detectable organic vapors were recorded. Five soil

samples were collected and analyzed to characterize soil quality. One monitoring well was installed and a groundwater sample was collected for laboratory analyses for petroleum target analytes. No petroleum constituents were detected above the laboratory method detection limits in the soil and groundwater samples.

The conceptual site model targeted specific areas of the site identified as RECs in the Phase I ESA. The current investigation consisted of soil screening, soil sampling, monitoring well installation, groundwater sampling, laboratory analyses and data evaluation to determine soil and groundwater quality at the site. The data set compiled was adequate to determine the presence or absence of soil and/or groundwater impacts associated with the two RECs identified in the Phase I ESA.

ECT recommends that an ABCA be prepared for the Orlando Downtown Recreation Complex and Tennis Centre Parcel, located at 649 Bentley Street, Orlando, Orange County, Florida. The ABCA will involve using the assessment information, reviewing remedial options, considerations for road improvements affecting the Site, and estimating cleanup costs based on specific or various redevelopment scenarios for the site. The ABCA will be an important document to assist the FDEP and the City of Orlando with an evaluation of cleanup alternatives and an estimation of cleanup costs.

2.0 INTRODUCTION

ECT has conducted a Phase II ESA for the Orlando Downtown Recreation Complex facility, located at the northeast corner of the intersection of North Parramore Avenue and West Livingston Street, Orlando, Florida (Site). The Site's physical address is 649 Bentley Street, Orlando, Florida 32801. This Phase II ESA was conducted in conformance with the scope and limitations of the ASTM Practice E1903-11 for Phase II ESAs.

The Site consists of a main building with annex and several outbuildings that collectively comprise the multipurpose Orlando Downtown Recreation Complex, and one building with a detached maintenance building and 16 tennis courts that collectively comprise the Orlando Tennis Centre. A Location Map is provided as **Figure 1**. A USGS Topographic Map, 1998, West Orlando, which includes the Site and the surrounding area, is provided as **Figure 2**. A Site Plan is provided as **Figure 3**.

ECT recommended a Phase II ESA be completed based on the opinions presented in the Phase I ESA. The objective of this Phase II ESA was to determine the presence, magnitude, and distribution of soil and groundwater impacts, associated with the recognized environmental conditions (RECs) identified during the previous investigations. If present, these impacts could pose an unacceptable risk to human health and the environment.

A Phase II Site Eligibility Determination Outline was approved by the EPA Region 4 Project Manager for this Brownfield grant. A copy of this approved Site Eligibility Determination Outline is provided in **Appendix A**.

Prior to performing Phase II ESA on-site activities, a Site Specific Quality Assurance Project Plan (SSQAPP) was prepared in accordance with the requirements of EPA Region 4 Brownfields Program. The SSQAPP documented the necessary quality assurance (QA) and quality control (QC) criteria, and other technical activities that were implemented to ensure that the results of the Phase II ESA would satisfy the required performance criteria.

A copy of the approved SSQAPP is provided in **Appendix B**.

This Phase II ESA was conducted in conformance with the scope and limitations of ASTM Practice E1903-11 for Phase II ESAs. Sample collection and related field methodologies were conducted in accordance with the Florida Department of Environmental Protection (FDEP) Standard Operating Procedures documents (DEP-SOP-001/01). Prior to collecting groundwater samples, field parameters (pH, conductivity, temperature, dissolved oxygen and turbidity) were measured using a multi-sensor probe and the values were recorded on sampling logs. After collection, soil and groundwater samples were placed on wet ice and transported to a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory with appropriate chain of custody documentation for analyses. Field activities were conducted under modified safety level D personal protective equipment (PPE) by environmental personnel trained in OSHA 1910.120.

The results of these field activities and laboratory analytical results are presented within this report.

2.1 Detailed Scope of Services

The Phase II ESA activities completed by ECT included, but was not limited to, the following services:

- Installation of 81 soil borings to determine soil quality;
- Installation of 17 groundwater monitoring wells to determine groundwater quality and flow direction;
- Coordination and scheduling of investigative derived waste (IDW) removal and disposal;
- Preparation of a written report documenting our activities and recommendations.

2.2 Limitations and Exceptions

The opinions presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by ECT and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, expressed or implied, is intended or given. To the extent that ECT relied upon information prepared by other parties not under contract to ECT, ECT makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared, and for a particular purpose.

Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

The findings presented in this report apply solely to the Site conditions existing at the time when the field activities were performed. Conditions in other parts of the Site may vary from those at the locations where data were collected. ECT's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. ECT does not provide any guarantees, certifications, or warranties that a property is free from environmental contamination. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

2.3 User Reliance

This Phase II ESA Report was conducted for the use and reliance of the City of Orlando. No use of the information contained in this report by others is permissible without receiving prior written authorization to do so from ECT. ECT is not responsible for independent conclusions, opinions, or recommendations made by others or otherwise based on the findings presented in this report.

3.0 SITE DESCRIPTION

This section presents a general overview of the Site, onsite improvements, and surrounding properties.

3.1 Site Description and Features

The Site consists of three adjoining separate parcels totaling approximately 26.81 acres. The Site is bounded by West Amelia Street to the north, North Parramore Avenue to the west, West Livingston/Bentley Street to the south, and vacant property (former Amway Center Parking lots) to the east.

The Site consists of a main building with annex and several outbuildings that collectively comprise the multipurpose Orlando Downtown Recreation Complex, and one building with a detached maintenance building and 16 tennis courts that collectively comprise the Orlando Tennis Centre.

3.2 Physical Setting

The Site consists of one parcel of property within Section 26 of Township 22 South, and Range 29 East in Orlando, Orange County, Florida. The Orange County Property Appraiser's Office information identifies the Site under the following parcel identification number, address, name, and legal description:

Parcel ID No.	Address	Owner	Acres
26-22-29-0000-00-007	649 Bentley Street	City of Orlando	26.18

3.3 Site History and Land Use

Site history and land use was reported in the Phase I ESA prepared by ECT in November 2013 and summarized below:

1919 – Sanborn Fire Insurance Map - coverage is provided for portions of the southwest and northeast sectors of the Site. The southernmost portion of the coverage area is shown as Orange County Fair Grounds with a half-mile horse track and stables. To the north of the fairgrounds (275 ft north per a notation on the figure), the USDA Essential Oils Branch complex including a laboratory, greenhouse and several outbuildings. A USDA Bureau of Entomology Laboratory is located at the southeast corner of Amelia and Putnam in the northeast portion of the Site.

1925 – Sanborn Fire Insurance Map - the USDA Essential Oils facility is now identified as the USDA Bureau of Entomology facility. The former location of the USDA Entomology facility (Amelia at Putnam) is unlabeled. The majority of the Site's southern and eastern sections are identified as the City of Orlando Exposition Park with a half-mile horse track and stables. Residential structures are located along Amelia in the northernmost portion of the Site.

1947 – Aerial Photograph - residential structures are located to the west and north of the facility. The area to the south appears to be primarily industrial, and two large aboveground storage tanks (ASTs) (associated with the former coal gasification facility) are present. Recreational facilities are located to the east.

1950 – Sanborn Fire Insurance Map - West Livingston Avenue has been constructed and forms the southern boundary of the Site. In the southwestern portion of the Site, the Armory (also labeled Naval Reserve Training Centre). The complex consists of a main building housing the armory, a machine shop, a fuel oil tank north of the armory building's NE corner, and several outbuildings (one of which is labeled fireproof concrete). A grand stand associated with a ball field is to the east of the armory. To the north of the armory, the USDA Bureau of Entomology facility shows a main building with attached laboratory, detached shop and laboratory, along with a number of new structures. The Orlando Tennis Club facility is located to the east of the USDA complex.

1956 – Sanborn Fire Insurance Map - the southern portion of the Site is unchanged. The USDA facility is now the Orlando Police Training School. A building labeled Orlando Boys Club is located east of the Tennis Club. A building labeled Whol. Refrigeration Sales is located north of the Police facility.

1964 – Aerial Photograph - several commercial structures are located along the west side of North Parramore Avenue and at the intersection of West Amelia Street and Parramore Avenue. The two large ASTs are no longer evident at the manufactured gas plant.

1984 – Aerial Photograph - the property across West Livingston from the southwest portion of the Site has been developed as a parking lot. Of the recreational/athletic fields to the east, only the single ball field with grandstand remains; the remainder of the property has been developed as parking lots.

1994 – Aerial Photograph - considerable redevelopment has taken place Site-wide, and the overall site configuration is for the most part consistent with the current layout. The tennis facility has expanded to its current configuration of 16 courts, and occupies the central portion of the Site. The northern portion of the site has been razed and is a parking area. To the east, the TD Waterhouse facility has been constructed.

2012 – Aerial Photograph – the TD Waterhouse has been demolished. The current use of the Site is for recreational and multi-purpose neighborhood activities. The complex houses a gymnasium, weight room, ceramics/pottery studio with multiple kilns, occupying several rooms and outbuildings, and 16 tennis courts.

3.4 Adjacent Property Land Use

The Site is located in a developed area of Orlando, the Parramore Heritage District. Vacant land and parking areas are located to the east. Nap Ford Charter School is located to the south. Mixed commercial, residential and vacant properties are to the west (including a coin operated laundry, Hope of Salvation Church and a convenience store). Parking areas are to the north.

3.5 Summary of Previous Assessment

A Phase II ESA was conducted by Professional Services Industries, Inc. (PSI) and the results of the investigation are described in a report dated November 23, 2006. The assessment identified benzo(a)pyrene in the soil exceeding SCTLs near the former UST, arsenic in the soil above SCTLs at three locations across the site, and dieldrin above GCTLs in the groundwater in one temporary monitoring well. Tables and figures prepared by PSI and presented in the Phase II ESA dated November 23, 2006 are provided in **Appendix C**. ECT conducted a Phase I ESA in November 2013.

4.0 WORK PERFORMED AND RATIONALE

This Phase II ESA consisted of the completion and approval of a SSQAPP, a HASP, field activities consisting of soil borings and sampling, groundwater monitoring well installation and sampling, and the preparation of this Report.

The rationale for performing this Phase II ESA was threefold:

1. To investigate the RECs identified in the Phase I ESA issued by ECT in November 2013;
2. To expand the soil and groundwater sampling plan completed by PSI in 2006, and;
3. To better define the soil and/or groundwater cleanup target areas for the preparation of an ABCA to be used for the Brownfield Cleanup Grant obtained by the City of Orlando for this Site in 2013.

4.1 Scope of Assessment

The scope of the Phase II ESA assessment included activities to evaluate the soil and groundwater conditions associated with the previous activities at the Site regarding the two RECs identified in the Phase I ESA; 1) the former USDA entomology laboratory, and 2) and the former UST.

4.1.1 Former USDA Entomology Laboratory

Phase II ESA assessment activities (performed from January 16-28, 2014) consisted of 33 soil borings (SBs) on 80' centers across the current Orlando Recreation and Tennis Centre site. The 33 SBs were completed to a depth of 5 ft bls. The surface (asphalt/concrete/soil) to 1 ft bls was not sampled. One soil sample was obtained from a depth of 1-3 ft bls and analyzed according to EPA Method 6010C for arsenic. One soil sample was also obtained from a depth of 3-5 ft bls and analyzed according to EPA Method 6010C for arsenic only if the soil sample from 1-3 ft bls exceeded the residential SCTL. Upon completion of the SBs, the extracted soil was placed back into the borehole and surface finished to match original conditions.

ECT also installed 11 monitoring wells (MWs) to a depth of 20 ft bls. Monitoring wells were constructed of 2-inch diameter polyvinyl chloride (PVC), screened from 10 to 20 ft bls using 0.006-inch slotted screen, with a 30/45 sand pack, and installed to 20 feet bls. The MWs are flush mounted with a 2' x 2' concrete pad.

Supplemental Phase II ESA assessment activities (performed between May 20-July 21, 2014) consisted of 48 SBs. The objective of the supplemental sampling was to expand the spatial coverage, and collect and analyze additional soil samples, to address the horizontal and vertical extent of the identified arsenic impacts. Dieldrin soil samples were also obtained at various depths proximal to MWs exhibiting dieldrin groundwater impacts above GCTLs. The sampling plan expanded the coverage at SB-9, SB-20, SB-21, SB-27 and SB-32, and to the north (within the current tennis courts), extending the sampling network to encompass the entire footprint of the former USDA entomology laboratory. The sampling strategy includes the same rationale employed in the initial assessment, that is, collection of multiple-depth samples (1-3 ft bls and 3-5 ft bls). The laboratory was instructed to analyze the 1-3 ft bls samples and hold the 3-5 ft bls samples pending completion of the 1-3 ft bls sample analysis. If SCTLs were exceeded in a 1-3 ft bls sample, the 3-5 ft bls sample was analyzed.

ECT also installed 6 additional MWs to a depth of 20 ft bls. Monitoring wells were constructed of either 1-inch or 2-inch diameter polyvinyl chloride (PVC), screened from 10 to 20 ft bls using 0.006-inch slotted screen, with a 30/45 sand pack, and installed to 20 feet bls. The MWs are either flush mounted with a concrete pad (2' x 2') or stick-up approximately 0.5-1 ft aboveground surface (ags), depending upon location and pedestrian traffic.

4.2 Exploration, Sampling, and Analytical Test Methods

4.2.1 Former USDA Entomology Laboratory

ECT completed 81 SBs to determine the soil quality. SBs were completed using a combination of direct-push technology (DPT) and/or hand-auger (HA) techniques. Soil samples were obtained for arsenic analysis from 1-3 ft bls from 81 SBs, from 3-5 ft bls from 51 SBs, and from 5-7 ft bls from 6 SBs. The surficial materials (asphalt/concrete/fill materials) to 1 ft bls were not sampled. Soil samples were also obtained for dieldrin analysis from 1-3 ft bls from 31 SBs and from 3-5 ft bls from 11 SBs.

Sixteen MWs (designated MW-1 through MW-3 and MW-5 through MW-17) were completed using a combination of hollow-stem auger (HSA) and DPT techniques. Investigative derived wastes (IDWs) were generated during the course of the field investigation and consisted of drill cuttings and development water. The IDW was containerized in 55-gallon drums for disposal at a later date.

Groundwater samples were collected using a peristaltic pump. Prior to sampling, field parameters (pH, conductivity, temperature, dissolved oxygen and turbidity) were measured using a multi-sensor probe and the values were recorded on sampling logs. After collection, the groundwater samples were placed on wetted ice and transported to a Accutest Laboratories, Southeast (Accutest), a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory with appropriate chain of custody documentation for analyses.

Soil and groundwater sampling activities were completed and documented in accordance with Chapter 62-160, Florida Administrative Code (F.A.C.) and FDEP standard operating procedures (DEP-SOP-001/01). Field activities were conducted under modified safety level D personal protective equipment (PPE) by environmental personnel trained in OSHA 1910.120.

4.2.2 Former UST

ECT completed five SBs on 10 ft centers near the former UST to assist in the delineation of petroleum-impacted soils. The SBs were designated SB-10 through SB-14, and were advanced to a depth of 14 ft bls. Soil samples were collected at 2 ft intervals and field-screened with an organic vapor analyzer with a flame ionization detector (OVA/FID). Five soil samples were collected for laboratory analyses from a depth of 4 ft bls. Upon completion of the SBs, the extracted soil was placed back into the borehole and surface finished to match original conditions.

MW-4 was installed adjacent to the former UST. This MW was constructed of 2-inch diameter polyvinyl chloride (PVC), screened from 10 to 20 ft bls using 0.006-inch slotted screen, with a 30/45 sand pack, and installed to 20 feet bls. The well was completed flush to the ground surface with a concrete pad, was developed by pumping using a peristaltic pump, and the well development data were recorded on the field logs. Investigative derived wastes (IDWs) were generated during the course of the field investigation and consisted of drill cuttings and development water. The IDW was containerized in 55-gallon drums for disposal at a later date.

Groundwater samples were collected using a peristaltic pump. Prior to sampling, field parameters (pH, conductivity, temperature, dissolved oxygen and turbidity) were measured using a multi-sensor probe and the values were recorded on sampling logs. After collection, the groundwater samples were placed on wetted ice and transported to a Accutest with appropriate chain of custody documentation for analyses.

Soil and groundwater sampling activities were completed and documented in accordance with Chapter 62-160, Florida Administrative Code (F.A.C.) and FDEP standard operating procedures (DEP-SOP-001/01, DEP-SOP-002/01 and DEP-QA-001/01). Field activities were conducted under modified safety level D personal protective equipment (PPE) by environmental personnel trained in OSHA 1910.120. Soil boring and groundwater sampling logs are provided in **Appendix D**.

4.3 Chemical Analytical Methods

4.3.1 Former USDA Entomology Laboratory

Soil samples were analyzed for total arsenic using EPA Method SW846 6010C and for dieldrin using EPA Method SW846 8081B.

The groundwater samples from MW-1 through MW-11 were analyzed for chlorinated pesticides using EPA Method SW846 8151A, organophosphorous compounds using Method SW846 8141A, organochlorine pesticides using Method SW846 8081, and the metals arsenic, barium, cadmium, chromium, lead, selenium and silver using EPA Method SW846 6010C, and mercury using EPA Method SW846 7470A. The groundwater samples from MW-12 through MW-17 were analyzed for dieldrin using EPA Method SW846 8151A and arsenic using EPA Method SW846 6010C.

4.3.2 Former UST

Five soil samples were analyzed for volatile organic aromatics using EPA Method SW846 8260, polycyclic aromatic hydrocarbons using EPA Method SW846 8270, and total recoverable petroleum hydrocarbons using EPA Method FL-PRO.

One groundwater sample was analyzed for volatile organic compounds using EPA Method SW846 8260, polycyclic aromatic hydrocarbons using EPA Method SW846 8270, 1,2-

dibromoethane (EDB) using EPA Method 504.1, lead using EPA Method SW846 6010C, and total recoverable petroleum hydrocarbons using EPA Method FL-PRO.

4.4 Investigative Derived Waste

Investigative derived wastes (IDWs) were generated during the course of the field investigation and consisted of drill cuttings and well development/purging/sampling water. The IDW was containerized in a total of 22 55-gallon drums for disposal. Copies of the waste disposal manifests are provided in **Appendix E**.

4.5 Field investigation Chronology

The following field investigation activities were conducted from January 16, 2014 through June 6, 2014:

- Soil borings and soil sampling – January 16 through January 20, 2014
- Monitoring well installation – January 20 through January 22, 2014
- Groundwater sampling – January 27 through January 28, 2014
- Monitoring well top of casing survey – February 24, 2014
- Depth-to-water measurements – February 26, 2014
- Soil borings and soil sampling – May 20 through May 21, 2014
- Soil borings, soil sampling and monitoring well installation – June 2 through June 3, 2014
- Soil borings, soil sampling and groundwater sampling – June 6, 2014.
- Top of casing (TOC) measurements – July 11, 2014.
- Depth-to-water measurements – July 21, 2014.

5.0 PRESENTATION AND EVALUATION OF RESULTS

5.1 Tables

Tables 1-8 present and summarize the laboratory analytical reports and field data obtained during this Phase II ESA. Soil laboratory reports are provided in **Appendix F** and groundwater laboratory reports are provided in **Appendix G**.

5.2 Figures

Figures 5-11 depict the results of the soil and groundwater testing and field data obtained during this Phase II ESA.

5.3 Soil Quality

For the former USDA entomology laboratory, 81 soil borings were advanced, and soil samples were collected and analyzed, to determine soil quality. Arsenic soil cleanup target

level (SCTL) exceedances were present in the 1-3 ft bls samples collected at borings SB-9, SB-9S(2), SB-20, SB-20E, SB-20N, SB-21, SB-21E, SB-21N, SB-21W, SB-21W(2), SB27, SB-27E, SB-27N, SB-32, SB-32S, SB-40, SB-43, SB-44, SB-47, SB-50 and SB-51. In the soil samples analyzed from the 3-5 ft bls interval, exceedances of the arsenic SCTL were detected at borings SB-9N, SB-9S(2), SB-9W, SB-21N, SB-21W, SB-21W(2), SB-40, SB-48, and SB-49. In the soil samples analyzed from the 5-7 ft bls interval, arsenic exceedances of the SCTL were present at borings SB-9N, SB-9W, SB-21N, SB-21W, and SB-21W(2). Dieldrin was not detected in any soil sample above the residential SCTL.

For the former UST, five soil borings were performed, and 35 soil samples were screened for organic vapors. No detectable organic vapors were recorded. Five soil samples were collected and analyzed to characterize soil quality. No petroleum constituents were detected above the laboratory method detection limits in the soil samples.

5.4 Groundwater Quality

For the former USDA entomology laboratory, exceedances of the dieldrin groundwater cleanup target level (GCTL) were observed in the groundwater samples from wells MW-1, MW-10 and MW-11.

For the former UST, no petroleum constituents were detected above the laboratory method detection limits in the groundwater samples.

5.5 Groundwater Flow Direction

Groundwater elevations were recorded on January 27, February 26, June 6, and July 21, 2014. Groundwater appears to be in a northeasterly direction, which is consistent with the PSI investigation completed November 23, 2006.

6.0 INTERPRETATION AND CONCLUSIONS

6.1 Recognized Environmental Condition / Potential Release Area

This Phase II ESA investigated the RECs identified in the Phase I ESA report issued by ECT in November 2013. Specifically, the assessment addressed the soil and groundwater impacts associated with the former USDA entomology laboratory and the former UST.

6.2 Conceptual Model Validation / Adequacy of Investigations

The conceptual model targeted specific areas of the site identified as RECs in the Phase I ESA. The current investigation consisted of soil screening, soil sampling, monitoring well installation, groundwater sampling, laboratory analyses and data evaluation to determine soil and groundwater quality at the site. For the former USDA entomology laboratory, 81 soil borings were advanced and soil samples were collected and analyzed to determine soil quality. In addition, 16 monitoring wells were installed and groundwater samples were

analyzed to characterize groundwater quality. For the former UST, five soil borings were advanced, 35 soil samples were screened for organic vapors, and five soil samples were collected and analyzed to characterize soil quality.

The data set compiled was adequate to determine the presence or absence of soil and/or groundwater impacts associated with the two RECs identified in the Phase I ESA.

6.3 Absence, Presence, Degree, Extent of Target Analytes

Target analytes were selected for each REC and the types of regulated materials typically associated with those operations. At the former USDA entomology laboratory, dieldrin and arsenic were the target analytes. At the former UST location, petroleum constituents were the target analytes. At both RECs, soil and groundwater samples were analyzed to determine the presence or absence of the target analytes. The observed target analyte concentrations were compared to applicable FDEP SCTLs and GCTLs. A summary of the results are provided in the following sections.

6.3.1 Former USDA Entomology Laboratory

Arsenic soil cleanup target level (SCTL) exceedances were present in the 1-3 ft bls samples collected at borings SB-9, SB-9S(2), SB-20, SB-20E, SB-20N, SB-21, SB-21E, SB-21N, SB-21W, SB-21W(2), SB27, SB-27E, SB-27N, SB-32, SB-32S, SB-40, SB-43, SB-44, SB-47, SB-50 and SB-51. In the soil samples analyzed from the 3-5 ft bls interval, exceedances of the arsenic SCTL were detected at borings SB-9N, SB-9S(2), SB-9W, SB-21N, SB-21W, SB-21W(2), SB-40, SB-48, and SB-49. In the soil samples analyzed from the 5-7 ft bls interval, arsenic exceedances of the SCTL were present at borings SB-9N, SB-9W, SB-21N, SB-21W, and SB-21W(2). Dieldrin was not detected in any soil sample above the residential SCTL.

Two plant samples were obtained for arsenic analysis from the picnic area. The plants had a green bean appearance, and appeared to be native plants, and not planted for cultivation or harvesting. The plant samples were identified as “beans @ SW picnic” and “beans at SB21”. The laboratory analysis indicates that arsenic was below laboratory detection limits for both samples.

Exceedance of the dieldrin groundwater cleanup target levels (GCTLs) were detected in the groundwater samples from wells MW-1, MW-10 and MW-11.

6.3.2 Former UST

Five soil borings were performed, and 35 soil samples were screened for organic vapors. No detectable organic vapors were recorded. Five soil samples were collected and analyzed to characterize soil quality. One monitoring well was installed and a groundwater sample was collected for laboratory analyses for petroleum target analytes. No petroleum constituents were detected above the laboratory method detection limits in the soil and groundwater samples.

6.4 Conclusions / Objectives Met

The overall goal of this Phase II ESA was to investigate the RECs identified in the Phase I ESA issued by ECT in November 2013. Specifically, the assessment addressed the presence or absence of soil and groundwater impacts associated with the former USDA entomology laboratory and the former UST.

The data set compiled was adequate to meet the objective of the Phase II investigation, i.e., to determine the presence or absence of soil and/or groundwater impacts associated with the two RECs identified in the Phase I ESA.

7.0 RECOMMENDATIONS

7.1 Soil Impacts

The following actions are recommended, or should be considered, in response to the SCTL exceedances detected at the following locations:

SB-9: The arsenic soil impacts near SB-9 appear to be relatively isolated with the highest concentrations in the 1-3 ft bls stratum. Arsenic concentrations above SCTLs were also detected in the 3-5 ft bls stratum, although significantly lower than the 1-3 ft bls stratum. Additional vertical soil sampling should occur (from the 5-7 ft bls range) prior to initiating a remedy. This area could be excavated relatively easily, followed by backfill and compaction. Undermining of the pottery storage building should be considered during excavation activities. This area of the site is not regularly traversed by pedestrians, and poses no immediate threat to human health or safety, but should be addressed through the EPA Brownfield Cleanup grant. This location is within or under the planned expansion of West Livingston Street.

SB-20: The arsenic soil impacts near SB-20 appear to be isolated to the 1-3 ft bls strata. This area could be excavated relatively easily, followed by backfill and compaction. This area of the site is somewhat regularly traversed by pedestrian traffic, but would not appear to be an immediate threat to human health or safety, but should be addressed through the EPA Brownfield Cleanup grant.

SB-21: The arsenic soil impacts near SB-21 exceed SCTLs in the 1-3, 3-5, and 5-7 ft bls stratum. Additional horizontal and vertical soil sampling should occur prior to initiating a remedy. This area could be excavated with small excavation equipment and or hand-shoveling, due to the proximity of trees, tree roots, and brick surface cover. This area of the site is regularly used by the Recreation Centre since it is within the designated picnic area, however, the brick surface cover prevents direct exposure to the soils from 1-3 ft bls. If the brick surface cover remains in-place, there would not appear to be an immediate threat to human health or safety. This area should be the first area addressed with the EPA

Brownfield Cleanup grant. This location is within or under the planned expansion of West Livingston Street.

SB-27 and SB-32: SB-20: The arsenic soil impacts near SB-27 and SB-32 may be connected or associated, but in both areas, appear to be isolated to the 1-3 ft bls strata. This area could be excavated relatively easily, followed by backfill and compaction. This area is not regularly traversed by pedestrian traffic, and would not appear to be an immediate threat to human health or safety. The area between SB-27 and SB-32 is under the access road to the Tennis Centre and acts as an engineering control. This area can be addressed through the EPA Brownfield Cleanup grant either through excavation, in-situ treatment, or through the implementation of an institutional and/or engineering control. This location is within or under the planned expansion of West Livingston Street.

SB-40, SB-43, 50, and SB-51: The arsenic impacts detected at these locations are within the tennis courts, which acts as an engineering control preventing direct exposure to the soil. No further assessment or remedial activities are recommended within the tennis court area at this time. If at a future date the tennis courts are removed, or this area is repurposed for greenspace, additional assessment and/or remedial activities may be required.

SB-44: The arsenic soil impacts near SB-44 appear to be isolated to the 1-3 ft bls strata. This area could be excavated relatively easily, followed by backfill and compaction. This area of the site is not regularly traversed by pedestrian traffic, and would not appear to be an immediate threat to human health or safety, but should be addressed through the EPA Brownfield Cleanup grant.

SB-47: The arsenic soil impacts near SB-47 were detected in the 1-3 ft bls strata, and sample retrieval from 3-5 ft bls could not be obtained due to underground obstructions and the proximity of overhead power lines. This area would be difficult to excavate and backfill due to physical constraints. This area of the site is not regularly traversed by pedestrian traffic, and would not appear to be an immediate threat to human health or safety, but should be addressed through the EPA Brownfield Cleanup grant.

7.2 Groundwater Impacts

MW-1, MW-10 and MW-11: Exceedance of the dieldrin groundwater cleanup target level (GCTL) was detected at these locations. The future W. Livingston Street extension is proposed for this area. Groundwater treatment through dewatering or in-situ treatment, followed by natural attenuation may be a cost-effective and practical solution to address the groundwater exceedances of dieldrin.

Off-site monitoring wells MW-2, MW-3, MW-4, and MW-5 – refer to **Figure 13**. CardnoTBE installed monitoring wells MW-2 through MW-5 on parcel of property adjacent to property adjacent to 401 W. Livingston Street. These wells were sampled for arsenic and dieldrin on April 4, 2013. An exceedance of the GCTL for dieldrin was reported from MW-3. Additional assessment in this area may be required to satisfy the

conditions of the future Brownfield Site Rehabilitation Agreement (BSRA) proposed by the City of Orlando.

7.3 Future Road Realignments

Figure 13 also depicts two proposed roads; N. Terry Avenue and W. Livingston Street. Remedial options that can occur preceding or during road installation activities will be evaluated in the ABCA or Remedial Action Plan (RAP).

7.4 Summary Recommendations

Additional horizontal and vertical delineation of the soil is required in select areas. This additional assessment activity will be completed prior to finalizing the remedial strategy for the Site.

ECT recommends that an ABCA be prepared for the Orlando Downtown Recreation Complex and Tennis Centre Parcel, located at 649 Bentley Street, Orlando, Orange County, Florida. The ABCA will involve using the assessment information, reviewing remedial options, and estimating cleanup costs based on specific or various redevelopment scenarios for the site. The ABCA will be an important document to assist the FDEP and the City of Orlando with an evaluation of cleanup alternatives and an estimation of cleanup costs. The ABCA will be signed and sealed by a Florida registered Professional Engineer.

8.0 REFERENCES

Professional Services Industries, Inc., Phase II Environmental Site Assessment Report: Centroplex Site, November 22, 2006.

Cardno TBE, Draft Analysis of Brownfield Alternatives: Former Orlando Centroplex Site, November 4, 2011.

Environmental Consulting & Technology, Inc., Phase I Environmental Site Assessment: Orlando Recreation Complex and Tennis Centre Parcel, November 2013.

Cardno TBE, Figures from Parramore BRT: provided by City of Orlando, June 2014.

Google Maps, 2012 Aerial photography review.

Orange County Property Appraisers Website.

9.0 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

ECT has completed this Phase II ESA for the Orlando Recreation Complex and Tennis Centre Parcel, located at 649 Bentley Street, Orlando, Orange County, Florida, 32801. This Phase II ESA was conducted in conformance with the scope and limitations of American Society for Testing and Materials (ASTM) Practice E1903-11, and in accordance with the Terms and Conditions of Services Authorizations #IV and #VIII.

The objective of this Phase II ESA was to determine the presence, magnitude, and distribution of soil and groundwater impacts, associated with the recognized environmental conditions (RECs) identified during the previous investigations. If present, these impacts could pose an unacceptable risk to human health and the environment.

Report Prepared By:



A handwritten signature in blue ink, appearing to read "Jeff Peters", written over a horizontal line.

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Report Reviewed By:

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Geology Business Authorization No. 42

TABLES

TABLE 1: MONITORING WELL CONSTRUCTION DETAILS

Facility Name: Orlando Recreation Complex and Tennis Centre

WELL NO.	DATE INSTALLED	INSTALLATION METHOD	TOP OF CASING ELEVATION*	SURFACE FINISH	TOTAL WELL DEPTH (FEET)	SCREENED INTERVAL (FTBLS)	WELL DIAMETER (IN.)
MW-1	1/17/2014	Hollow Stem Auger	97.19	Below Grade	20	10-20	2
MW-2	1/17/2014	Hollow Stem Auger	97.22	Below Grade	20	10-20	2
MW-3	1/17/2014	Hollow Stem Auger	96.44	Below Grade	20	10-20	2
MW-4	1/20/2014	Hollow Stem Auger	98.74	Below Grade	20	10-20	2
MW-5	1/20/2014	Hollow Stem Auger	96.63	Below Grade	20	10-20	2
MW-6	1/21/2014	Hollow Stem Auger	95.89	Below Grade	20	10-20	2
MW-7	1/21/2014	Hollow Stem Auger	95.98	Below Grade	20	10-20	2
MW-8	1/21/2014	Hollow Stem Auger	97.32	Below Grade	20	10-20	2
MW-9	1/22/2014	Hollow Stem Auger	97.53	Below Grade	20	10-20	2
MW-10	1/22/2014	Hollow Stem Auger	97.42	Below Grade	20	10-20	2
MW-11	1/22/2014	Hollow Stem Auger	97.08	Below Grade	20	10-20	2
MW-12	6/3/2014	Direct Push	97.70	Above Grade	20	10-20	1
MW-13	6/3/2014	Direct Push	98.14	Above Grade	20	10-20	1
MW-14	6/2/2014	Hollow Stem Auger	96.08	Below Grade	20	10-20	2
MW-15	6/3/2014	Direct Push	98.48	Above Grade	20	10-20	1
MW-16	6/3/2014	Direct Push	98.55	Above Grade	20	10-20	1
MW-17	6/2/2014	Hollow Stem Auger	97.43	Below Grade	20	10-20	2

Notes:

- * = feet above mean sea level
- FTBLS = feet below land surface
- IN = inch

TABLE 2: SOIL OVA RESPONSES

Facility Name: Orlando Recreation Complex and Tennis Centre

Sample			OVA Screening Results			Comments
Boring Number	Date	Sample Depth (ft bls)	Total Reading (ppm)	Carbon Filtered (ppm)	Net Reading (ppm)	
SB-1	01/20/14	2	0	--	--	
		4	0	--	--	Sample Collected
		6	0	--	--	SS-02-012612 from
		8	0	--	--	2-4 feet bls
		10	0	--	--	
		12	0	--	--	
SB-2	01/20/14	2	0	--	--	
		4	0	--	--	Sample Collected
		6	0	--	--	SS-02-012612 from
		8	0	--	--	2-4 feet bls
		10	0	--	--	
		12	0	--	--	
SB-3	01/20/14	2	0	--	--	
		4	0	--	--	Sample Collected
		6	0	--	--	SS-02-012612 from
		8	0	--	--	2-4 feet bls
		10	0	--	--	
		12	0	--	--	
SB-4	01/20/14	2	0	--	--	
		4	0	--	--	Sample Collected
		6	0	--	--	SS-02-012612 from
		8	0	--	--	2-4 feet bls
		10	0	--	--	
		12	0	--	--	
SB-5	01/20/14	2	0	--	--	
		4	0	--	--	Sample Collected
		6	0	--	--	SS-02-012612 from
		8	0	--	--	2-4 feet bls
		10	0	--	--	
		12	0	--	--	

Notes:

ppm = parts per million

ft bls = feet below land surface

OVA = Organic Vapor Analyzer

TABLE 3: SOIL ANALYTICAL RESULTS - 1-3 FT BLS

Site Name: Orlando Recreation Complex and Tennis Centre

Sample ID	Sample Location	Sample Depth (ftbls)	Date	Arsenic	Dieldrin
Direct Exposure Residential (mg/kg)				2	60
Direct Exposure Commercial/Industrial (mg/kg)				12	300
Leachability Based on GW Criteria				***	2
SB1 1-3 1/16/14	SB-1	1-3	01/16/14	0.27I	
SB1-2 1-3 5/20/2014	SB-1(2)	1-3	05/20/14		0.41U
SB2 1-3 1/16/14	SB-2	1-3	01/16/14	0.23I	
SB3 1-3 1/16/14	SB-3	1-3	01/16/14	0.20I	
SB4 1-3 1/16/14	SB-4	1-3	01/16/14	0.31I	
SB4-2 1-3 5/21/2014	SB-4(2)	1-3	05/21/14		0.41U
SB5 1-3 1/16/14	SB-5	1-3	01/16/14	0.19I	
SB6 1-3 1/16/14	SB-6	1-3	01/16/14	0.31I	
SB7 1-3 1/16/14	SB-7	1-3	01/16/14	1.5	
SB8 1-3 1/16/14	SB-8	1-3	01/16/14	0.18I	
SB9 1-3 1/16/14	SB-9	1-3	01/16/14	6.9	
SB9-2 1-3 5/20/2014	SB-9(2)	1-3	05/20/14		0.42U
SB9-E 1-3 5/20/2014	SB-9E	1-3	05/20/14	0.41U	0.8
SB9-N 1-3 5/20/2014	SB-9N	1-3	05/20/14	0.43U	53.3
SB9-S 1-3 5/20/2014	SB-9S	1-3	05/20/14	0.42U	13.6
SB9-S2 6/6/14 1-3'	SB-9S(2)	1-3	06/06/14	115	
SB9-W 1-3 5/20/2014	SB-9W	1-3	05/20/14	0.43U	18.3
SB9-W2 6/6/14 1-3'	SB-9W(2)	1-3	06/06/14	1.0	
SB15 1-3 1/16/14	SB-15	1-3	01/16/14	0.10I	
SB16 1-3 1/16/14	SB-16	1-3	01/16/14	0.46	
SB17 1-3 1/16/14	SB-17	1-3	01/16/14	0.22I	
SB18 1-3 1/16/14	SB-18	1-3	01/17/14	0.6	
SB18-E 1-3 5/20/2014	SB-18E	1-3	05/20/14		0.42U
SB18-N 1-3 5/20/2014	SB-18N	1-3	05/20/14		0.41U
SB18-S 1-3 5/20/2014	SB-18S	1-3	05/20/14		0.40U
SB18-W 1-3 5/20/2014	SB-18W	1-3	05/20/14		0.40U
SB19 1-3 1/16/14	SB-19	1-3	01/16/14	0.97	
SB20 1-3 1/16/14	SB-20	1-3	01/16/14	3.6	
SB20-E 1-3 5/20/2014	SB-20E	1-3	05/20/14	3.8	
SB20-E2 6/6/14 1-3'	SB-20E(2)	1-3	06/06/14	0.84	
SB20-N 1-3 5/20/2014	SB-20N	1-3	05/20/14	3.7	
SB20-N2 6/6/14 1-3'	SB-20N(2)	1-3	06/06/14	0.80	
SB20-S 1-3 5/20/2014	SB-20S	1-3	05/20/14	0.82	
SB20-W 1-3 5/20/2014	SB-20W	1-3	05/20/14	1.1	

TABLE 3: SOIL ANALYTICAL RESULTS - 1-3 FT BLS

Site Name: Orlando Recreation Complex and Tennis Centre

Sample ID	Sample Location	Sample Depth (ftbls)	Date	Arsenic	Dieldrin
Direct Exposure Residential (mg/kg)				2	60
Direct Exposure Commercial/Industrial (mg/kg)				12	300
Leachability Based on GW Criteria				***	2
SB21 1-3 1/16/14	SB-21	1-3	01/16/14	49.7	
SB21-2 1-3 5/20/2014	SB-21(2)	1-3	05/21/14		0.43U
SB21-E 1-3 5/20/2014	SB-21E	1-3	05/21/14	51.8	0.42U
SB21-N 1-3 5/20/2014	SB-21N	1-3	05/21/14	111	0.43U
SB21-S 1-3 5/20/2014	SB-21S	1-3	05/21/14	1.4	0.41U
S21-W 1-3 5/20/2014	SB-21W	1-3	05/21/14	83.0	0.42U
SB21-W2 6/6/14 1-3'	SB-21W(2)	1-3	06/06/14	110	
SB22 1-3 1/16/14	SB-22	1-3	01/16/14	0.49I	
SB23 1-3 1/16/14	SB-23	1-3	01/16/14	0.31I	
SB24 1-3 1/16/14	SB-24	1-3	01/16/14	1.5	
SB25 1-3 1/16/14	SB-25	1-3	01/16/14	0.48	
SB26 1-3 1/16/14	SB-26	1-3	01/16/14	1.1	
SB27 1-3 1/16/14	SB-27	1-3	01/16/14	2.5	
SB27-E 1-3 5/20/2014	SB-27E	1-3	05/20/14	3.1	
SB27-N 1-3 5/20/2014	SB-27N	1-3	05/20/14	2.4	
SB27-S 1-3 5/20/2014	SB-27S	1-3	05/20/14	1.4	
SB27-W 1-3 5/20/2014	SB-27W	1-3	05/20/14	1.2	
SB28 1-3 1/16/14	SB-28	1-3	01/16/14	0.9	
SB29 1-3 1/16/14	SB-29	1-3	01/16/14	1.4	
SB30 1-3 1/16/14	SB-30	1-3	01/16/14	1.5	
SB31 1-3 1/16/14	SB-31	1-3	01/16/14	1.4	
SB32 1-3 1/16/14	SB-32	1-3	01/16/14	40.7	
SB32-E 1-3 6/2/2014	SB-32E	1-3	06/02/14	1.1	
SB32-N 1-3 6/2/2014	SB-32N	1-3	06/02/14	0.7	
SB32-S 1-3 6/2/2014	SB-32S	1-3	06/02/14	5.6	
SB32-W 1-3 6/2/2014	SB-32W	1-3	06/02/14	0.98	
SB33 1-3 1/16/14	SB-33	1-3	01/16/14	0.44I	
SB34 1-3 1/16/14	SB-34	1-3	01/16/14	0.6	
SB35 1-3 1/16/14	SB-35	1-3	01/16/14	1,1	
SB36 1-3 1/16/14	SB-36	1-3	01/16/14	0.15I	
SB37 1-3 1/16/14	SB-37	1-3	01/16/14	0.44I	

TABLE 3: SOIL ANALYTICAL RESULTS - 1-3 FT BLS

Site Name: Orlando Recreation Complex and Tennis Centre

Sample ID	Sample Location	Sample Depth (ftbls)	Date	Arsenic	Dieldrin
Direct Exposure Residential (mg/kg)				2	60
Direct Exposure Commercial/Industrial (mg/kg)				12	300
Leachability Based on GW Criteria				***	2
SB38 1-3 1/16/14	SB-38	1-3	01/16/14	1.9	
SB39 1-3 6/3/14	SB-39	1-3	06/03/14	1.8	12.5
SB40 1-3 6/3/14	SB-40	1-3	06/03/14	3.0	5.7
SB42 1-3 6/3/14	SB-42	1-3	06/03/14	1.5	0.44U
SB43 1-3 6/3/14	SB-43	1-3	06/03/14	10.4	0.43U
SB44 1-3 6/3/14	SB-44	1-3	06/03/14	3.5	0.82
SB45 1-3 6/3/14	SB-45	1-3	06/03/14	1.7	0.50U
SB46 1-3 6/3/14	SB-46	1-3	06/03/14	2.1	0.46U
SB47 1-2.5 5/20/14	SB-47	1-2.5	05/20/14	2.6	0.45U
SB48 1-3 6/3/14	SB-48	1-3	06/03/14	1.2	3.1
SB49 1-3 6/3/14	SB-49	1-3	06/03/14	1.2	0.42U
SB50 1-3 6/3/14	SB-50	1-3	06/03/14	5.1	0.42U
SB51 1-3 6/3/14	SB-51	1-3	06/03/14	2.2	0.42U
SB52 1-3 6/3/14	SB-52	1-3	06/03/14	0.87	0.42U
SB53 1-2.5 5/20/14	SB-53	1-2.5	05/20/14	1.3	0.45U
SB54 1-3 5/20/14	SB-54	1-3	05/20/14	0.87	0.42U
BEANS @ SW PICNIC	PICNIC	BEANS	06/06/14	0.29U	
BEANS @ SB21	SB-21	BEANS	06/06/14	0.68U	

Notes:

Bold = Exceedance of SCTLs

SCTL = Soil Cleanup Target Levels as provided in Table II of Chapter 62-777, F.A.C.

mg/kg = Milligrams Per Kilogram

Analytical Results = mg/kg

I = The reported value is between the laboratory Method Detection Limit & the laboratory Practical Quantitation Limit

U = Analyte included in the analysis, but not detected

ftbls = feet below land surface

*** = Leachability value may be derived using the SPLP Test to calculate site-specific SCTL's

TABLE 4: SOIL ANALYTICAL RESULTS - 3-5 FT BLS

Site Name: Orlando Recreation Complex and Tennis Centre

Sample ID	Sample Location	Sample Depth (ftbls)	Date	Arsenic	Dealdrin
Direct Exposure Residential (mg/kg)				2	60
Direct Exposure Commercial/Industrial (mg/kg)				12	300
Leachability Based on GW Criteria				***	2
SB1-2 3-5 5/21/14	SB-1(2)	3-5	05/21/14		0.41U
SB9 3-5 1/16/14	SB-9	3-5	01/16/14	1.3	--
SB9-2 3-5 1/16/14	SB-9(2)	3-5	05/20/14		0.43U
SB9-E 3-5 5/20/2014	SB-9E	3-5	05/20/14	0.51	0.42U
SB9-N 3-5 5/20/2014	SB-9N	3-5	05/20/14	11.6	0.41U
SB9-S 3-5 5/20/2014	SB-9S	3-5	05/20/14	1.1	0.41U
SB9-S2 6/6/14 3-5'	SB-9S(2)	3-5	06/06/14	3.9	
SB9-W 3-5 5/20/2014	SB-9W	3-5	05/20/14	3.6	0.41U
SB9-W2 6/6/14 3-5'	SB-9W(2)	3-5	06/06/14	0.49	
SB18-2 3-5 5/20/2014	SB-18(2)	3-5	05/20/14		0.40U
SB18-E 3-5 5/20/2014	SB-18E	3-5	05/20/14		0.41U
SB18-N 3-5 5/20/2014	SB-18N	3-5	05/20/14		0.41U
SB18-S 3-5 5/20/2014	SB-18S	3-5	05/20/14		0.40U
SB18-W 3-5 5/20/2014	SB-18W	3-5	05/20/14		0.40U
SB20 3-5 1/16/14	SB-20	3-5	01/16/14	0.44I	--
SB20-E 3-5 5/20/2014	SB-20E	3-5	05/20/14	0.40I	
SB20-E2 6/6/14 3-5'	SB-20-E(2)	5-Mar	06/06/14	0.35I	
SB20-N 3-5 5/20/2014	SB-20N	3-5	05/20/14	0.38I	
SB20-N2 6/6/14 3-5'	SB-20N(2)	3-5	06/06/14	0.43I	
SB20-S 3-5 5/20/2014	SB-20S	3-5	05/20/14	0.32I	
SB20-W 3-5 5/20/2014	SB-20W	3-5	05/20/14	0.39I	
SB21 3-5 1/16/14	SB-21	3-5	01/16/14	1.1	--
SB21-2 3-5 5/20/2014	SB-21(2)	3-5	05/20/14		0.41U
SB21-E 3-5 5/20/2014	SB-21E	3-5	05/20/14	1.7	0.41U
SB21-N 3-5 5/20/2014	SB-21N	3-5	05/20/14	69.2	0.41U
SB21-S 3-5 5/20/2014	SB-21S	3-5	05/20/14	0.78	0.41U
SB21-W 3-5 5/20/2014	SB-21W	3-5	05/20/14	9.4	0.42U
SB21-W2 6/6/14 3-5'	SB-21W(2)	3-5	06/06/14	32.2	
SB27 3-5 1/16/14	SB-27	3-5	01/16/14	0.54	--
SB27-E 3-5 5/20/2014	SB-27E	3-5	05/20/14	0.52	
SB27-N 3-5 5/20/2014	SB-27N	3-5	05/20/14	0.55	
SB27-S 3-5 5/20/2014	SB-27S	3-5	05/20/14	0.52	
SB27-W 3-5 5/20/2014	SB-27W	3-5	05/20/14	0.40I	
SB32 3-5 1/16/14	SB-32	3-5	01/16/14	1.1	--
SB32-E 3-5 5/20/2014	SB-32E	3-5	05/20/14	0.22I	
SB32-N 3-5 5/20/2014	SB-32N	3-5	05/20/14	0.41I	
SB32S 3-5 5/20/2014	SB-32S	3-5	05/20/14	0.31I	
SB32-W 3-5 5/20/2014	SB-32W	3-5	05/20/14	0.48	
SB39 3-5 6/3/14	SB-39	3-5	06/03/14	0.85	0.50I
SB40 3-5 6/3/14	SB-40	3-5	06/03/14	3.6	0.44U

TABLE 4: SOIL ANALYTICAL RESULTS - 3-5 FT BLS

Site Name: Orlando Recreation Complex and Tennis Centre

Sample ID	Sample Location	Sample Depth (ftbls)	Date	Arsenic	Dealdrin
Direct Exposure Residential (mg/kg)				2	60
Direct Exposure Commercial/Industrial (mg/kg)				12	300
Leachability Based on GW Criteria				***	2
SB42 3-5 6/3/14	SB-42	3-5	06/03/14	0.99	0.41U
SB43 3-5 6/3/14	SB-43	3-5	06/03/14	1.70	0.41U
SB44 3-5 6/3/14	SB-44	3-5	06/03/14	0.68	0.40U
SB45 3-5 6/3/14	SB-45	3-5	06/03/14	0.68	0.40U
SB46 3-5 6/3/14	SB-46	3-5	06/03/14	1.90	0.46U
SB48 3-5 6/3/14	SB-48	3-5	06/03/14	4.3	2.8I
SB49 3-5 6/3/14	SB-49	3-5	06/03/14	2.5	2.8
SB50 3-5 6/3/14	SB-50	3-5	06/03/14	1.3	0.40U
SB51 3-5 6/3/14	SB-51	3-5	06/03/14	0.99	0.43U
SB52 3-5 6/3/14	SB-52	3-5	06/03/14	0.54	0.41U
SB54 3-4 5/20/2014	SB-54	3-4	05/20/14	2.1	0.44U

Notes:

Bold = Exceedance of SCTLs

SCTL = Soil Cleanup Target Levels as provided in Table II of Chapter 62-777, F.A.C.

mg/kg = Milligrams Per Kilogram

Analytical Results = mg/kg

I = The reported value is between the laboratory Method Detection Limit & the laboratory Practical Quantitation Limit

U = Analyte included in the analysis, but not detected

ftbls = feet below land surface

*** = Leachability value may be derived using the SPLP Test to calculate site-specific SCTL's

TABLE 6: SOIL ANALYTICAL RESULTS - VOC'S/NAPHTHALENES/TRPH

Site Name: Orlando Recreation Complex and Tennis Centre

Sample ID	Sample Location	Date	Benzene	Ethyl Benzene	Toluene	Total Xylenes	MTBE	Naphthalene	1-Methyl Naphthalene	2-Methyl Naphthalene	Benzo(a) Pyrene	BAP Equivalents	TRPH
Direct Exposure Residential (mg/kg)			1.2	1,500	7,500	130	4,400	55	200	210	0.1		460
Direct Exposure Commercial/Industrial (mg/kg)			1.7	9,200	60,000	700	24,000	300	1800	2100	0.7		2,700
Leachability Based on GW Criteria			0.007	0.6	0.5	0.2	0.09	1.2	3.1	8.5	8		340
SB10 4' 1/20/2014	SB-10	01/20/14	0.0014U	0.0014U	0.0014U	0.0038U	0.0014U	0.0058U	0.0058U	0.0058U	0.0073U	0.0084	5.3U
SB11 4' 1/20/2014	SB-11	01/20/14	0.0077U	0.0077U	0.0077U	0.0020U	0.0077U	0.0056U	0.0056U	0.0056U	0.0070U	0.0081	5.3U
SB12 4' 1/20/2014	SB-12	01/20/14	0.0081U	0.0081U	0.0081U	0.022U	0.0081U	0.0057U	0.0057U	0.0057U	0.0071U	0.0082	5.3U
SB13 4' 1/20/2014	SB-13	01/20/14	0.0084U	0.0084U	0.0084U	0.0022U	0.0084U	0.0056U	0.0056U	0.0056U	0.007U	0.0085	5.3U
SB14 4' 1/20/2014	SB-14	01/20/14	0.0088U	0.0088U	0.0088U	0.0023U	0.0088U	0.0057U	0.0057U	0.0057U	0.0071U	0.0082	5.3U

Notes:
 SCTL = Soil Cleanup Target Levels as provided in Table II of Chapter 62-777, F.A.C.
 mg/kg = Milligrams Per Kilogram
 Analytical Results = mg/kg
 I = The reported value is between the laboratory Method Detection Limit & the laboratory Practical Quantitation Limit
 U = Analyte included in the analysis, but not detected
 BAP - Benzo(a)pyrene

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: Orlando Rec Center
 Location: Orlando, Florida
 Facility/Site ID No.: _____
 Soil Sample No. SB10 4'
 Sample Date 1/20/2014
 Location: SB10
 Depth (ft): 4'

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.0037	1.0	0.0037
Benzo(a)anthracene	0.0037	0.1	0.0004
Benzo(b)fluoranthene	0.0037	0.1	0.0004
Benzo(k)fluoranthene	0.0037	0.01	0.0000
Chrysene	0.0037	0.001	0.0000
Dibenz(a,h)anthracene	0.0037	1.0	0.0037
Indeno(1,2,3-cd)pyrene	0.0037	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0084

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	Concentration Reported	Data Qualifier	Enter
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: Orlando Rec Center
 Location: Orlando, Florida
 Facility/Site ID No.: _____

 Soil Sample No. SB11 4'
 Sample Date 1/20/2014
 Location: SB11
 Depth (ft): 4'

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.0035	1.0	0.0035
Benzo(a)anthracene	0.0035	0.1	0.0004
Benzo(b)fluoranthene	0.0035	0.1	0.0004
Benzo(k)fluoranthene	0.0035	0.01	0.0000
Chrysene	0.0035	0.001	0.0000
Dibenz(a,h)anthracene	0.0035	1.0	0.0035
Indeno(1,2,3-cd)pyrene	0.0035	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0081

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	Concentration Reported	Data Qualifier	Enter
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: Orlando Rec Center
 Location: Orlando, Florida
 Facility/Site ID No.: _____

 Soil Sample No. SB12 4'
 Sample Date 1/20/2014
 Location: SB12
 Depth (ft): 4'

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a “J”, “T” or “I” qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the “J” qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the “U” qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the “T” qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the “I” qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the “M” qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.0036	1.0	0.0036
Benzo(a)anthracene	0.0036	0.1	0.0004
Benzo(b)fluoranthene	0.0036	0.1	0.0004
Benzo(k)fluoranthene	0.0036	0.01	0.0000
Chrysene	0.0036	0.001	0.0000
Dibenz(a,h)anthracene	0.0036	1.0	0.0036
Indeno(1,2,3-cd)pyrene	0.0036	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0082

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	Concentration Reported	Data Qualifier	Enter
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: Orlando Rec Center
 Location: Orlando, Florida
 Facility/Site ID No.: _____
 Soil Sample No. SB13 4'
 Sample Date 1/20/2014
 Location: SB13
 Depth (ft): 4'

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.0035	1.0	0.0035
Benzo(a)anthracene	0.0073	0.1	0.0007
Benzo(b)fluoranthene	0.0035	0.1	0.0004
Benzo(k)fluoranthene	0.0035	0.01	0.0000
Chrysene	0.0035	0.001	0.0000
Dibenz(a,h)anthracene	0.0035	1.0	0.0035
Indeno(1,2,3-cd)pyrene	0.0035	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0085

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	Concentration Reported	Data Qualifier	Enter
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: Orlando Rec Center
 Location: Orlando, Florida
 Facility/Site ID No.: _____

 Soil Sample No. SB14 4'
 Sample Date 1/20/2014
 Location: SB14
 Depth (ft): 4'

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.0036	1.0	0.0036
Benzo(a)anthracene	0.0036	0.1	0.0004
Benzo(b)fluoranthene	0.0036	0.1	0.0004
Benzo(k)fluoranthene	0.0036	0.01	0.0000
Chrysene	0.0036	0.001	0.0000
Dibenz(a,h)anthracene	0.0036	1.0	0.0036
Indeno(1,2,3-cd)pyrene	0.0036	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = 0.0082

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	Concentration Reported	Data Qualifier	Enter
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	1/2 reported value

TABLE 7A: GROUNDWATER ANALYTICAL RESULTS

Site Name: Orlando Recreation Complex and Tennis Centre

Sample ID	Sample Location	Date	EPA 8151	2,4,5-T	EPA 8081	Dieldrin	Endrin	Endrin Ketone	Beta-BHC	Gamma-BHC	EPA 8141B	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
	GCTL			70		0.002	2		0.02	0.02		10	200	5	100	15	2	50	100
	NADC			700		0.2	20		2	2		100	2,000	50	1,000	150	20	500	1000
MW-1	1/27/14	01/27/14	ND		ND	7.9b	0.411	0.0111			ND	2.4U	9.4I	0.50U	2.0U	1.1U	0.038I	2.3U	0.77U
MW-2	1/27/14	01/27/14	ND		ND	0.013I	0.0094U	0.0094U			ND	2.4U	8.1I	0.50U	2.0U	1.1U	0.030U	2.3U	0.77U
MW-3	1/27/14	01/27/14	ND		ND	0.0047U	0.0094U	0.0094U			ND	2.4U	25.3I	0.50U	2.0U	1.1U	0.030U	2.3U	0.77U
MW-5	1/27/14	01/27/14	ND		ND	0.0047U	0.0094U	0.0094U	0.0047U	0.0047U	ND	2.4U	17.9I	0.50U	2.0U	1.1U	0.030U	2.3U	0.80I
MW-6	1/27/14	01/27/14	ND		ND	0.0047	0.0094	0.0094	0.0047	0.0059	ND	2.4U	12.8I	0.50U	2.0U	1.1U	0.030U	2.3U	0.90I
MW-7	1/27/14	01/27/14	ND		ND	0.0047U	0.0094U	0.0094U	0.0088	0.0049	ND	2.4U	14.4I	0.50U	2.0U	1.1U	0.030U	2.3U	0.77U
MW-8	1/27/14	01/27/14	ND	0.048	ND	0.0047U	0.0094U	0.0094U	0.0047U	0.0047U	ND	2.4U	9.2I	0.50U	2.0U	1.1U	0.030U	2.3U	0.77U
MW-9-012814		01/28/14	ND		ND	0.019I	0.0096U	0.0096U	0.0071	0.0048U	ND	2.4U	7.9I	0.050I	2.0U	1.1U	0.030U	2.3U	0.77U
MW-10-012814		01/28/14	ND		ND	2.0b	0.0095U	0.093	0.0048U	0.0048U	ND	2.4U	2.5I	0.50U	2.0U	1.1U	0.030U	2.3U	0.77U
MW-11-012814		01/28/14	ND		ND	3.9b	0.0095U	0.13	0.0048U	0.0048U	ND	2.4U	4.1I	0.50U	2.0U	1.1U	0.030U	2.3U	0.77U
DUPLICATE		01/28/14	ND		ND	1.6b	0.0095U	0.081	0.0048U	0.0048U	ND	2.4U	2.5I	0.50U	2.0U	1.1U	0.030U	2.3U	0.77U
MW-12 6/6/14		06/06/14				0.067U						2.4U							
MW-12 6/6/14 DUP		06/06/14				0.067U						4.4I							
MW-13 6/6/14		06/06/14				0.0067U						2.4U							
MW-14 6/6/14		06/06/14				0.0067U						2.4U							
MW-15 6/6/14		06/06/14				0.0067U						2.4U							
MW-16 6/6/14		06/06/14				0.0067U						2.4U							
MW-17 6/6/14		06/06/14				0.0070U						2.4U							

Notes:
 GCTL = Groundwater Cleanup Target Levels as provided in Chapter 62-777, F.A.C.
 NADC = Natural Attenuation Default Concentrations as provided in Chapter 62-777, F.A.C.
 Bold = Exceedance of GCTLs
 Maximum Contaminant Levels and Secondary Drinking Water Standards as provided in Chapter 62-556, F.A.C.
 b = result from Run #2
 Analytical Results = ug/l
 I = The reported value is between the laboratory Method Detection Limit & the laboratory Practical Quantitation Limit
 U = Analyte included in the analysis, but not detected
 * = primary drinking water standard
 ** = secondary drinking water standard

TABLE 7B: GROUNDWATER ANALYTICAL RESULTS

Site Name: Orlando Recreation Complex and Tennis Centre														
Sample ID	Sample Location	Date	Benzene	Ethyl Benzene	Toluene	Total Xylenes	MTBE	Naphthalene	1-Methyl Naphthalene	2-Methyl Naphthalene	TRPH	Vinyl Chloride	Methylene Chloride	TCE
Groundwater Cleanup Target Levels			1	40	30	20	20	20	14	28	5000	1	5	3
Natural Attenuation Default Concentration			100	400	300	200	200	200	140	280	50000	10	50	30
MW-4-012814	MW-4	01/28/14	0.6U	0.7U	0.7U	0.9U	0.5U	0.1U	0.3U	0.3U	119I	0.8U	1.0U	0.7U

Notes:

- Bold** = Exceedance of GCTLs
- Groundwater Cleanup Target Levels as provided in Table II of Chapter 62-777, F.A.C.
- ug/l = Micrograms Per Liter
- Analytical Results = ug/l
- I = The reported value is between the laboratory Method Detection Limit & the laboratory Practical Quantitation Limit
- U = Analyte included in the analysis, but not detected
- NA - not analyzed

FIGURES

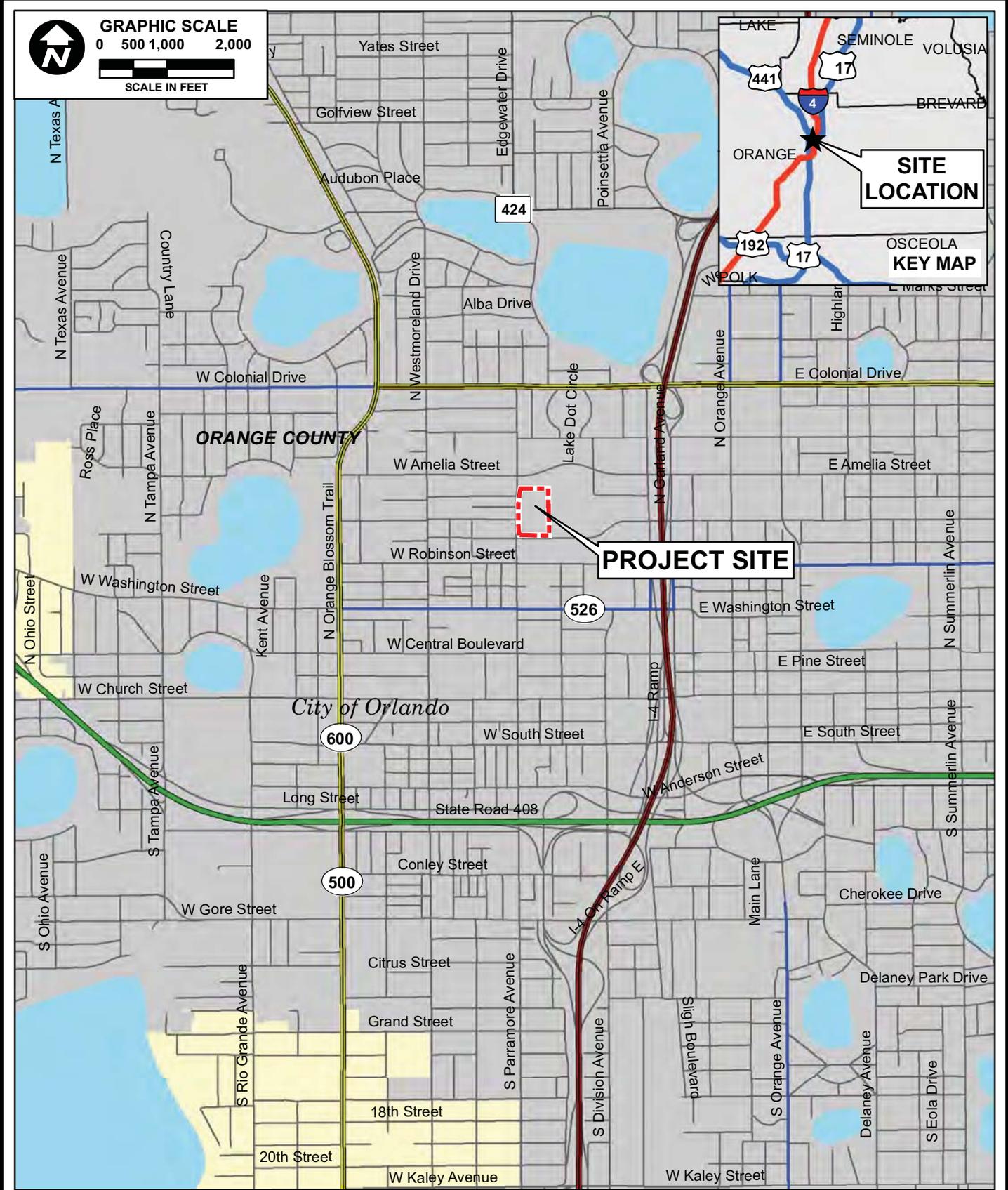


FIGURE 1.
LOCATION MAP
ORLANDO DOWNTOWN RECREATION COMPLEX & TENNIS CENTRE
CITY OF ORLANDO, ORANGE COUNTY, FLORIDA
SECTION 26, TOWNSHIP 22S, RANGE 29E
 SOURCE: VARIOUS FGDL SOURCES; ECT, 2014.



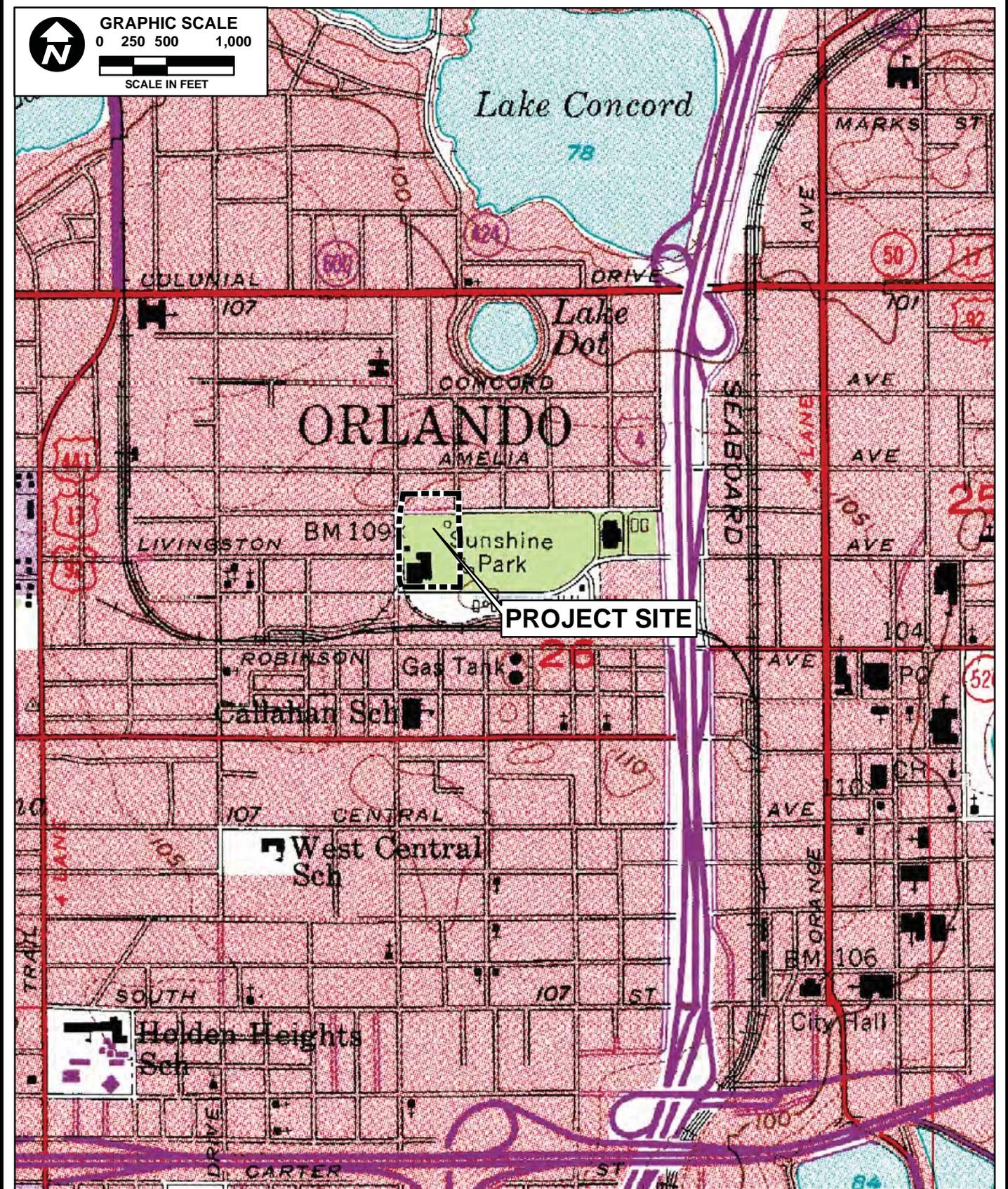
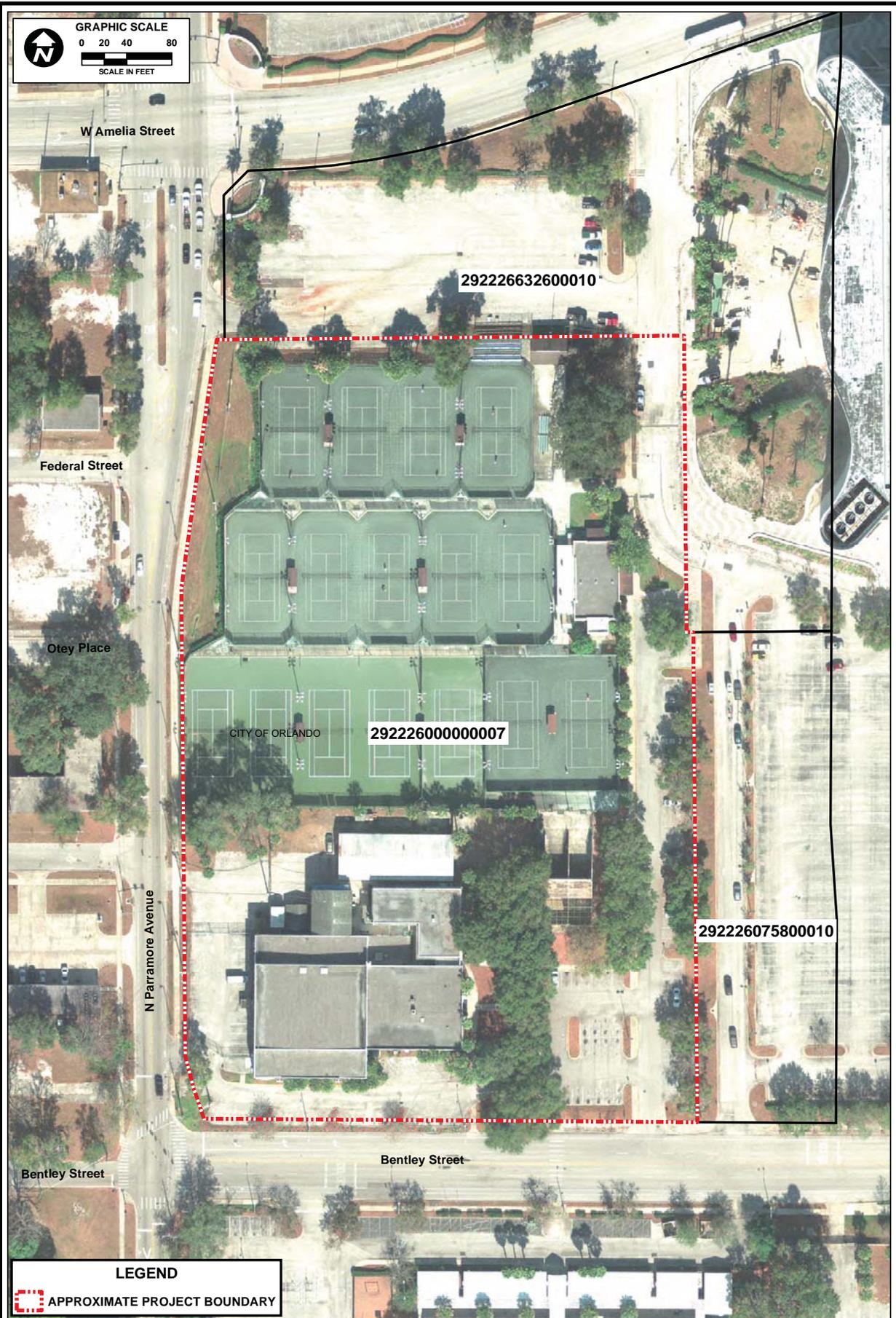


FIGURE 2.
USGS TOPOGRAPHIC MAP
ORLANDO DOWNTOWN RECREATION COMPLEX & TENNIS CENTRE
CITY OF ORLANDO, ORANGE COUNTY, FLORIDA
SECTION 26, TOWNSHIP 22S, RANGE 29E
SOURCE: USGS QUAD ORLANDO WEST, 3712 1980; ECT, 2014.



GRAPHIC SCALE
 0 20 40 80
 SCALE IN FEET

W Amelia Street

292226632600010

Federal Street

Otey Place

CITY OF ORLANDO

292226000000007

N Parramore Avenue

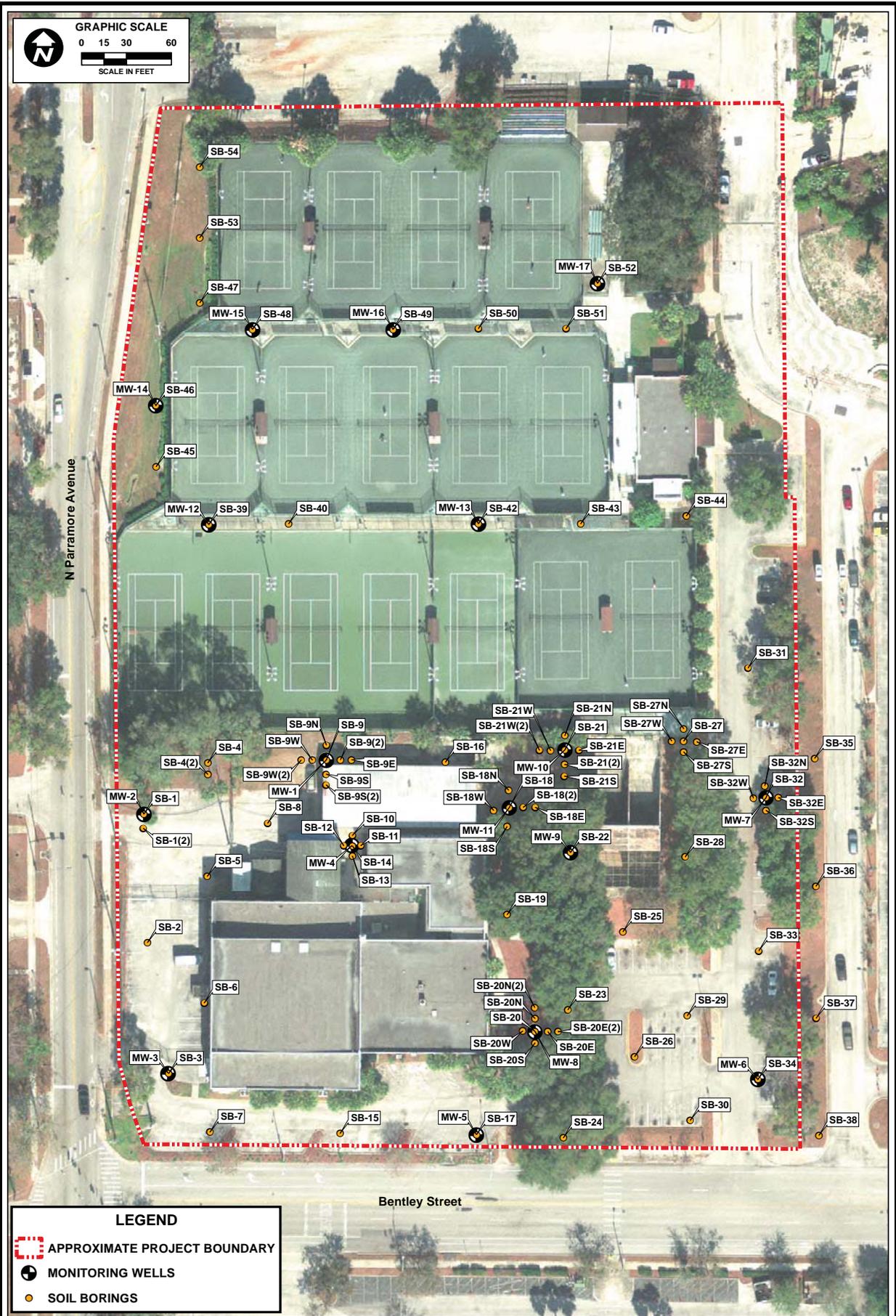
292226075800010

Bentley Street

Bentley Street

LEGEND
 APPROXIMATE PROJECT BOUNDARY

FIGURE 3.
 SITE PLAN
 ORLANDO DOWNTOWN RECREATION COMPLEX & TENNIS CENTRE
 CITY OF ORLANDO, ORANGE COUNTY, FLORIDA
 SECTION 26, TOWNSHIP 22S, RANGE 29E
 SOURCE: FDOT Aerial, 2012; ECT, 2012.



LEGEND

- APPROXIMATE PROJECT BOUNDARY
- MONITORING WELLS
- SOIL BORINGS

FIGURE 4.
 SOIL BORING AND MONITORING WELL LOCATIONS
 ORLANDO DOWNTOWN RECREATION COMPLEX & TENNIS CENTRE
 CITY OF ORLANDO, ORANGE COUNTY, FLORIDA
 SECTION 26, TOWNSHIP 22S, RANGE 29E
 SOURCE: FDOT Aerial, 2012; ECT, 2012.





FIGURE 5.
ARSENIC 1-3 FT BLS
ORLANDO DOWNTOWN RECREATION COMPLEX & TENNIS CENTRE
CITY OF ORLANDO, ORANGE COUNTY, FLORIDA
SECTION 26, TOWNSHIP 22S, RANGE 29E
SOURCE: FDOT Aerial, 2012; ECT, 2012.

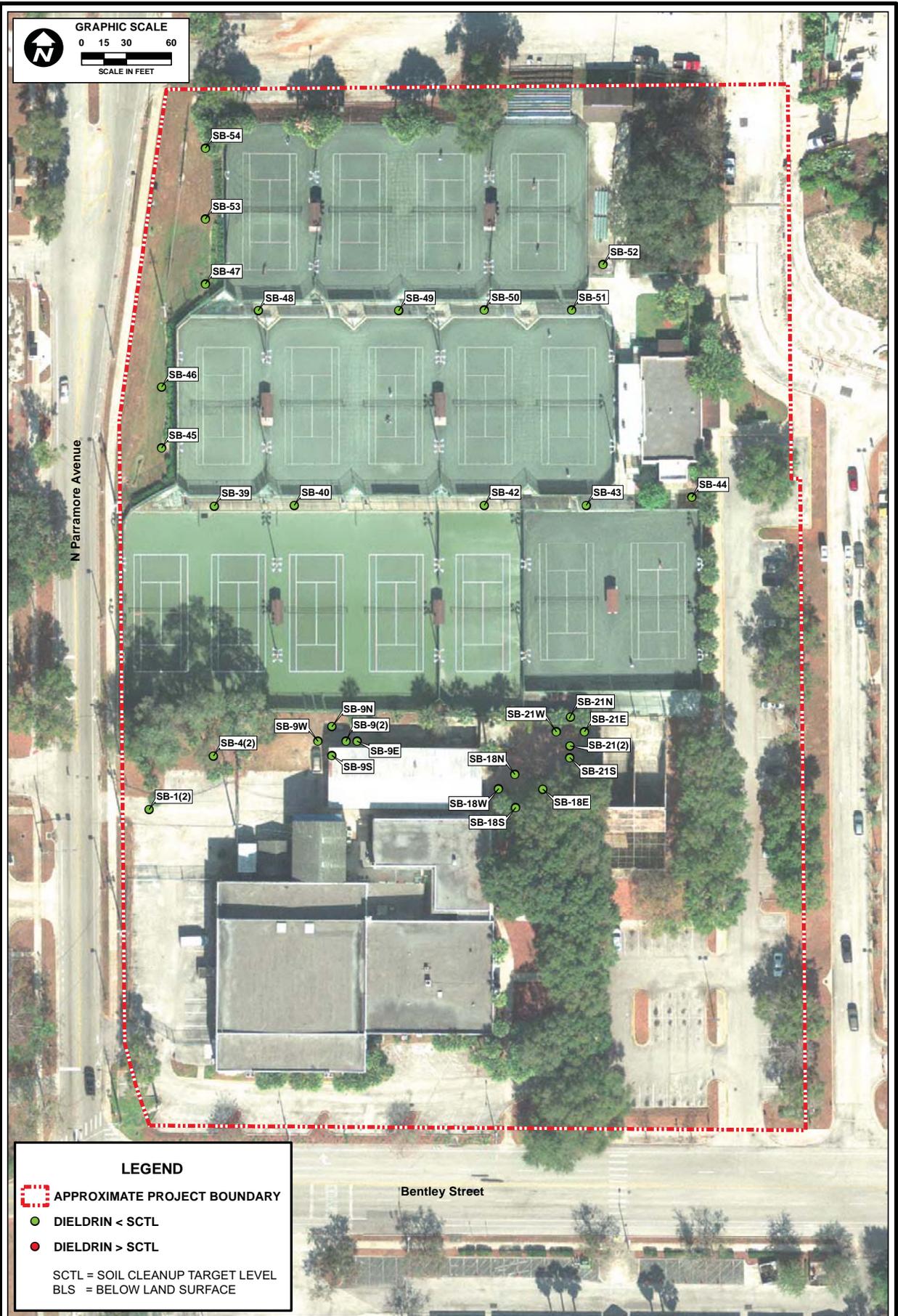
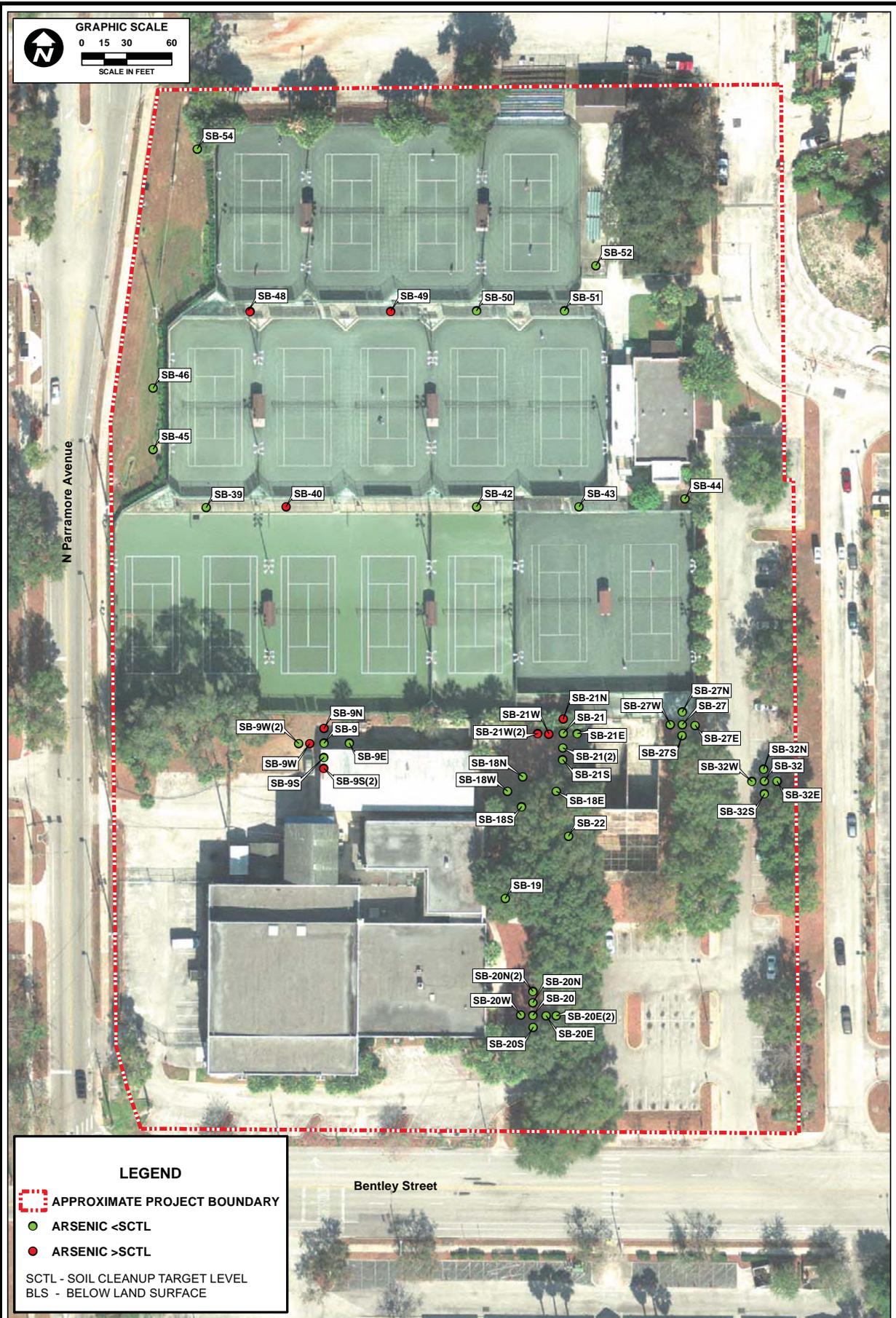


FIGURE 6.
DIELDRIN 1-3 FT BLS
ORLANDO DOWNTOWN RECREATION COMPLEX & TENNIS CENTRE
CITY OF ORLANDO, ORANGE COUNTY, FLORIDA
SECTION 26, TOWNSHIP 22S, RANGE 29E
SOURCE: FDOT Aerial, 2012; ECT, 2012.



LEGEND

APPROXIMATE PROJECT BOUNDARY

ARSENIC <SCTL

ARSENIC >SCTL

SCTL - SOIL CLEANUP TARGET LEVEL
BLS - BELOW LAND SURFACE

FIGURE 7.
ARSENIC 3-5 FT BLS
ORLANDO DOWNTOWN RECREATION COMPLEX & TENNIS CENTRE
CITY OF ORLANDO, ORANGE COUNTY, FLORIDA
SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: FDOT Aerial, 2012; ECT, 2012.



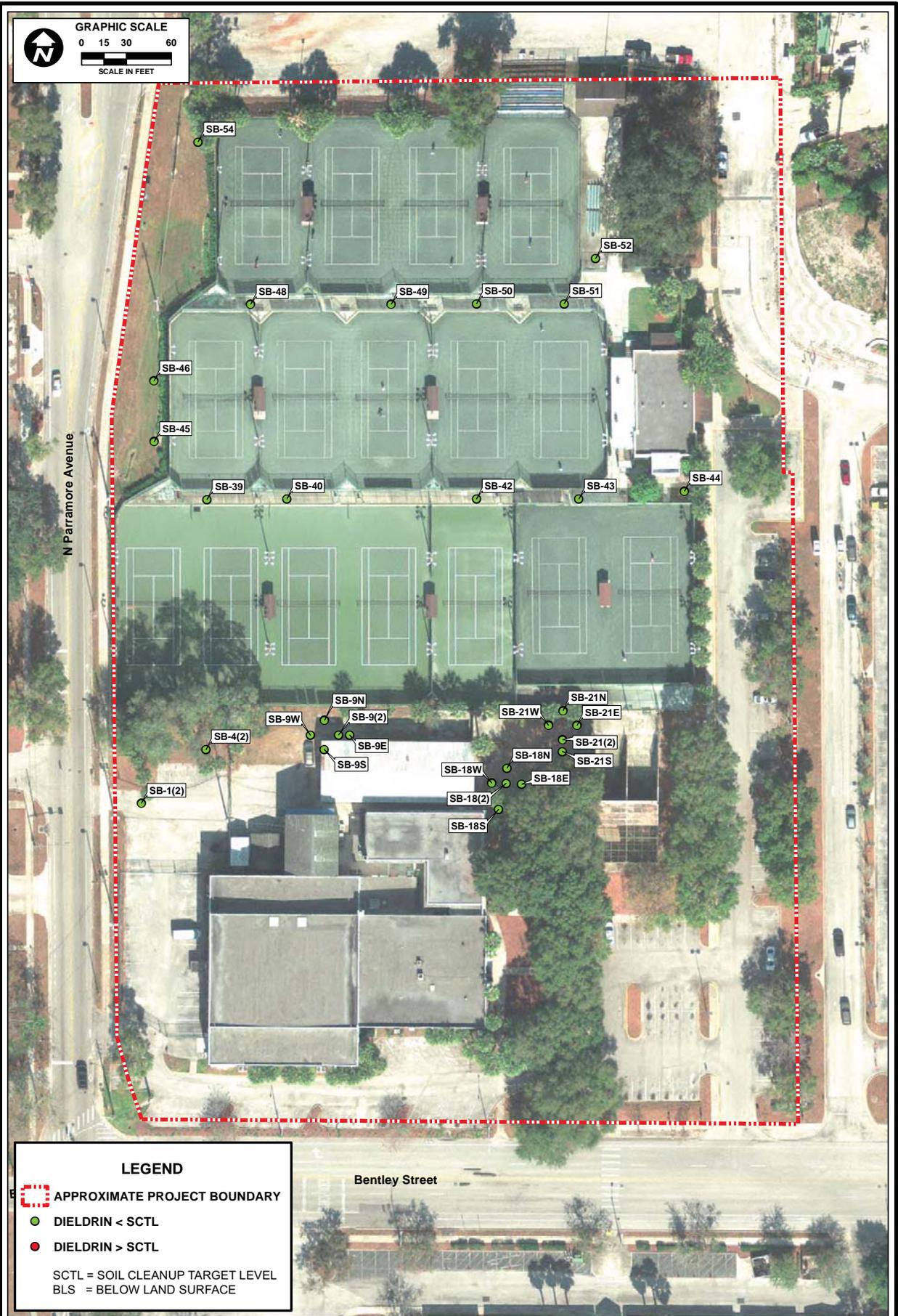


FIGURE 8.
DIELDRIN 3-5 FT BLS
ORLANDO DOWNTOWN RECREATION COMPLEX & TENNIS CENTRE
CITY OF ORLANDO, ORANGE COUNTY, FLORIDA
SECTION 26, TOWNSHIP 22S, RANGE 29E
SOURCE: FDOT Aerial, 2012; ECT, 2012.



FIGURE 9.
ARSENIC 5-7 FT BLS
ORLANDO DOWNTOWN RECREATION COMPLEX & TENNIS CENTRE
CITY OF ORLANDO, ORANGE COUNTY, FLORIDA
SECTION 26, TOWNSHIP 22S, RANGE 29E
SOURCE: FDOT Aerial, 2012; ECT, 2012.

