

**PHASE II
ENVIRONMENTAL SITE ASSESSMENT
VACANT PARCEL
630 WEST AMELIA AVENUE
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**

Prepared by:



**ECT No. 140644
December 2014**

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1.0 SUMMARY

Environmental Consulting & Technology, Inc. (ECT) has completed this Phase II Environmental Site Assessment (ESA) for the former Orlando Arena parcel, located at 630 W. Amelia Avenue, Orlando, Orange County, Florida. The Site is currently vacant with no aboveground structures.

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, groundwater impacts associated with two former United States Department of Agriculture (USDA) Bureau of Entomology laboratories identified on a Sanborn Fire Insurance Map dated 1919.

ECT installed five groundwater monitoring wells (MWs) to depths ranging from 20-35 feet below land surface (ft. bls) depending upon topography. Monitoring wells were constructed of 2-inch diameter polyvinyl chloride (PVC), with 10 feet of 0.006-inch slotted screen, variable lengths of solid riser (depending upon the depth of each MW), along with a 30/45 sand pack and flush-mounted eight-inch diameter steel manhole and concrete pad.

An exceedance of the arsenic groundwater cleanup target level (GCTL) was detected in the groundwater sample from MW-4. Other tested parameters were below the GCTLs.

ECT recommends that no additional assessment activities be completed at this time using money from EPA Brownfield Cooperative Agreement BF-95498212.

2.0 INTRODUCTION

ECT has completed this Phase II Environmental Site Assessment (ESA) for the former Orlando Arena parcel, located at 630 West Amelia Avenue, Orlando, Orange County, Florida. The Site is currently vacant with no aboveground or belowground structures. 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**.

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, groundwater samples were placed on 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 five groundwater monitoring wells to determine groundwater quality and flow direction;
- 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 is currently vacant with no aboveground or belowground structures. The Site has an undulating surface, sparse vegetation, and is within the borders of the proposed Creative Village.

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
26-22-29-6326-00-010	630 W. Amelia Street	City of Orlando	8.72

3.3 Site History and Land Use

Site history and land use was investigated for the proposal prepared by ECT in September 2014 and summarized below:

1919 – Sanborn Fire Insurance Map – Two USDA entomology laboratories are depicted, one on either side of Trenton Avenue.

1925 – Sanborn Fire Insurance Map – Residential dwellings are depicted on either side of Trenton Avenue where the two former USDA entomology laboratories were located in the 1919 Sanborn Map.

1950 – Sanborn Fire Insurance Map – Additional residential dwellings are depicted on either side of Trenton Street where the two former USDA entomology laboratories were located in the 1919 Sanborn Map.

1956-1973 – Sanborn Fire Insurance Map – only minor changes from the 1950 Sanborn Map.

1984 – Aerial Photograph – Residential dwellings are depicted on either side of Trenton Avenue where the two former USDA entomology laboratories were located in the 1919 Sanborn Map.

1994 – Aerial Photograph – The residential dwellings have been replaced by the former Amway Arena (aka TD Waterhouse Arena).

2014 – Aerial Photograph – the TD Waterhouse Arena has been demolished. The current use of the Site is vacant but planned for Creative Village, a 68-acre mixed-use, transit oriented, urban infill neighborhood in the heart of downtown Orlando.

3.4 Adjacent Property Land Use

The Site is located in a developed area of Orlando, the Parramore Heritage District. Vacant land and surface parking areas are located to the north and south. Tennis courts at the Orlando Recreation Centre are located to the west. A parking garage is located to the east.

3.5 Summary of Previous Assessment

No previous assessment reports were reviewed or provided by the City of Orlando.

4.0 WORK PERFORMED AND RATIONALE

This Phase II ESA consisted of the completion and approval of a SSQAPP, a Health and Safety Plan (HASP), field activities consisting of 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 groundwater quality at the locations of the former USDA entomology laboratories;
2. To determine groundwater flow direction;
3. Provide groundwater quality information for future redevelopment activities.

4.1 Scope of Assessment

The scope of the Phase II ESA assessment included activities to evaluate the groundwater quality associated with the previous activities at the Site.

ECT installed five groundwater monitoring wells (MWs) to depths ranging from 20-35 feet below land surface (ft. bls) depending upon topography. Monitoring wells were constructed of 2-inch diameter polyvinyl chloride (PVC), with 10 feet of 0.006-inch slotted screen, variable lengths of solid riser (depending upon the depth of each MW), along with a 30/45 sand pack and flush-mounted eight-inch diameter steel manhole with a 2' x 2' concrete pad.

4.2 Exploration, Sampling, and Analytical Test Methods

Five MWs (designated MW-1 through MW-5) were completed using hollow-stem auger (HSA) techniques. Drill cuttings and development water was spread on-site near each respective MW.

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 ice and transported to Accutest Laboratories, Southeast (Accutest), a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory with appropriate chain of custody documentation for analyses.

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. Monitoring well construction logs, permits, and groundwater sampling logs are provided in **Appendix C**.

4.3 Chemical Analytical Methods

The groundwater samples from MW-1 through MW-5 were analyzed for purgable aromatics using EPA Method SW846 8260B, herbicides using EPA Method SW846 8151A, priority pollutant pesticides using EPA Method SW846 8081B and 3510C, organophosphorous pesticides using EPA Method SW846 8141B and 3510C, and arsenic using EPA Method SW846 6010C.

4.4 Field Investigation Chronology

The following field investigation activities were conducted from October 13, 2014 through November 10, 2014:

- Monitoring well installation – October 13-14, 2014

- Groundwater sampling – October 16, 2014
- Monitoring well top of casing survey – November 10, 2014
- Monitoring well depth to water gauging – December 11, 2014

5.0 PRESENTATION AND EVALUATION OF RESULTS

5.1 Tables

Tables 1-3 present and summarize the field data and laboratory analytical reports obtained during this Phase II ESA. Groundwater laboratory reports are provided in **Appendix D**.

5.2 Figures

Figures 4-7 depict the results of the field data and groundwater analytical results obtained during this Phase II ESA.

5.3 Groundwater Quality

An exceedance of the groundwater cleanup target level (GCTL) for arsenic was detected in the groundwater sample from well MW-4. All other parameters tested were below their respective GCTL.

5.4 Groundwater Flow Direction

Groundwater elevations were recorded on October 16 and December 10, 2014. Groundwater appears to be generally in a northeasterly direction, which is consistent with previous investigations at the Orlando Recreation Center.

6.0 INTERPRETATION AND CONCLUSIONS

6.1 Recognized Environmental Condition / Potential Release Area

This Phase II ESA investigated the groundwater quality associated with the two former USDA entomology laboratories.

6.2 Conceptual Model Validation / Adequacy of Investigations

The conceptual model targeted the groundwater quality associated with the two former USDA entomology laboratories. The current investigation consisted of monitoring well installation, groundwater sampling, laboratory analyses and data evaluation to determine groundwater quality at the site.

The data set compiled was adequate to determine the presence or absence of groundwater impacts associated with the two former USDA entomology laboratories.

6.3 Absence, Presence, Degree, Extent of Target Analytes

Target analytes were selected based upon historical use and previously detected groundwater contaminants discovered at the Orlando Recreation Center. The observed target analyte concentrations were compared to applicable GCTLs. A summary of the results are provided in the table below:

Target Analyte	MW-1	MW-2	MW-3	MW-4	MW-5
Benzene	0.24U	0.24U	0.24U	0.36	0.24U
Toluene	0.20U	0.20U	0.27	0.87	0.20U
Ethyl benzene	0.28U	0.28U	0.71	1.6	0.28U
Total Xylenes	0.66U	0.66U	5.1	11.0	0.66U
MTBE	0.20U	0.20U	0.20U	0.20U	0.20U
Naphthalene	1.0U	1.0U	1.0U	1.0U	1.0U
Dieldrin	0.0064U	0.0064U	0.0064U	0.0064U	0.0064U
Arsenic	2.4U	2.4U	5.5I	11.4	2.4U
Beta-BHC	0.054	0.010U	0.010U	0.010U	0.010U
4,4'-DDE	0.018I	0.0096U	0.0096U	0.0096U	0.0096U
Endrin	0.032I	0.0067U	0.0067U	0.0067U	0.0067U
Heptachlorepoxyde	0.049	0.0069U	0.0069U	0.0069U	0.0069U
Pentachlorophenol	0.0044U	0.0044U	0.054I	0.047I	0.0044U

U = not detected

I = Result \geq MDL but $<$ PQL

MDL = mean detection limit

PQL = practical quantitation limit

Bold = groundwater cleanup target level exceedance

6.4 Conclusions / Objectives Met

The goal of this Phase II ESA was to investigate the groundwater quality at the locations of the two former USDA entomology laboratories. The data set compiled was adequate to meet the objective of the Phase II investigation.

7.0 RECOMMENDATIONS

Exceedance of the arsenic GCTL was detected at MW-4. Future road extensions and/or redevelopment 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 exceedance of arsenic. No additional assessment activities are recommended at this time using money from EPA Brownfield Cooperative Agreement BF-95498212.

8.0 REFERENCES

Environmental Consulting & Technology, Inc., Phase I Environmental Site Assessment:
Orlando Recreation Complex and Tennis Centre Parcel, November 2013.
Environmental Consulting & Technology, Inc., Phase II Environmental Site Assessment:
Orlando Recreation Complex and Tennis Centre Parcel, August 2014.
Cardno TBE, Figures from Parramore BRT: provided by City of Orlando, June 2014.
Google Maps, 2014 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 parcel of property located at 630 W. Amelia 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.

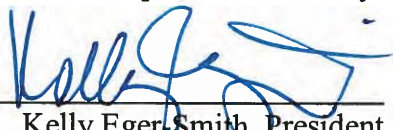
The objective of this Phase II ESA was to determine the presence, magnitude, and distribution of groundwater impacts, associated with two former USDA entomology laboratories identified during previous investigations.

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License Number 1593

Report Reviewed By:

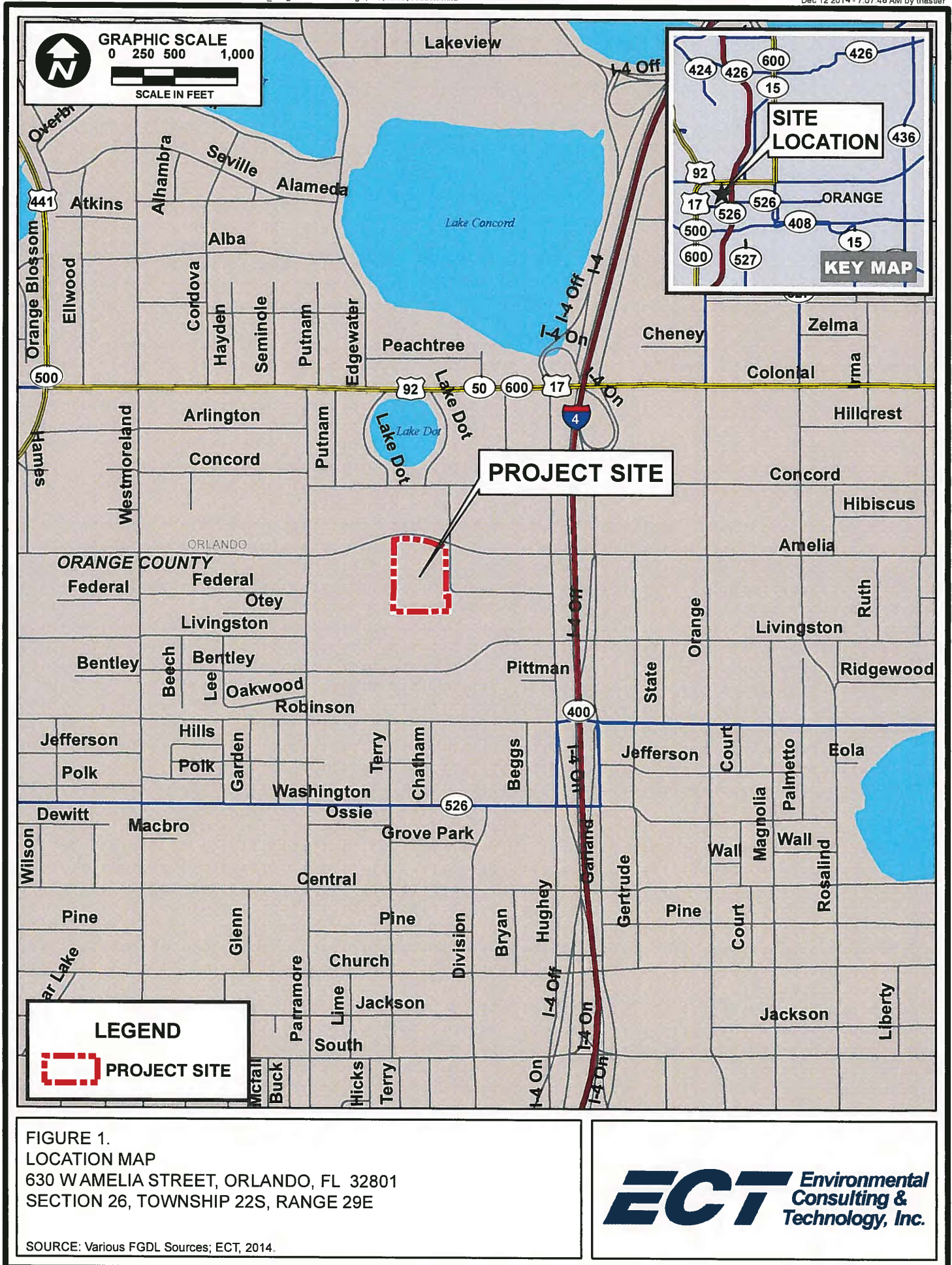

Kelly Eger-Smith, President
American Environmental Consulting

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC. (ECT)
3660 Maguire Boulevard, Suite 107
Orlando, FL 32803

Geology Business Authorization No. 42

TABLES

FIGURES



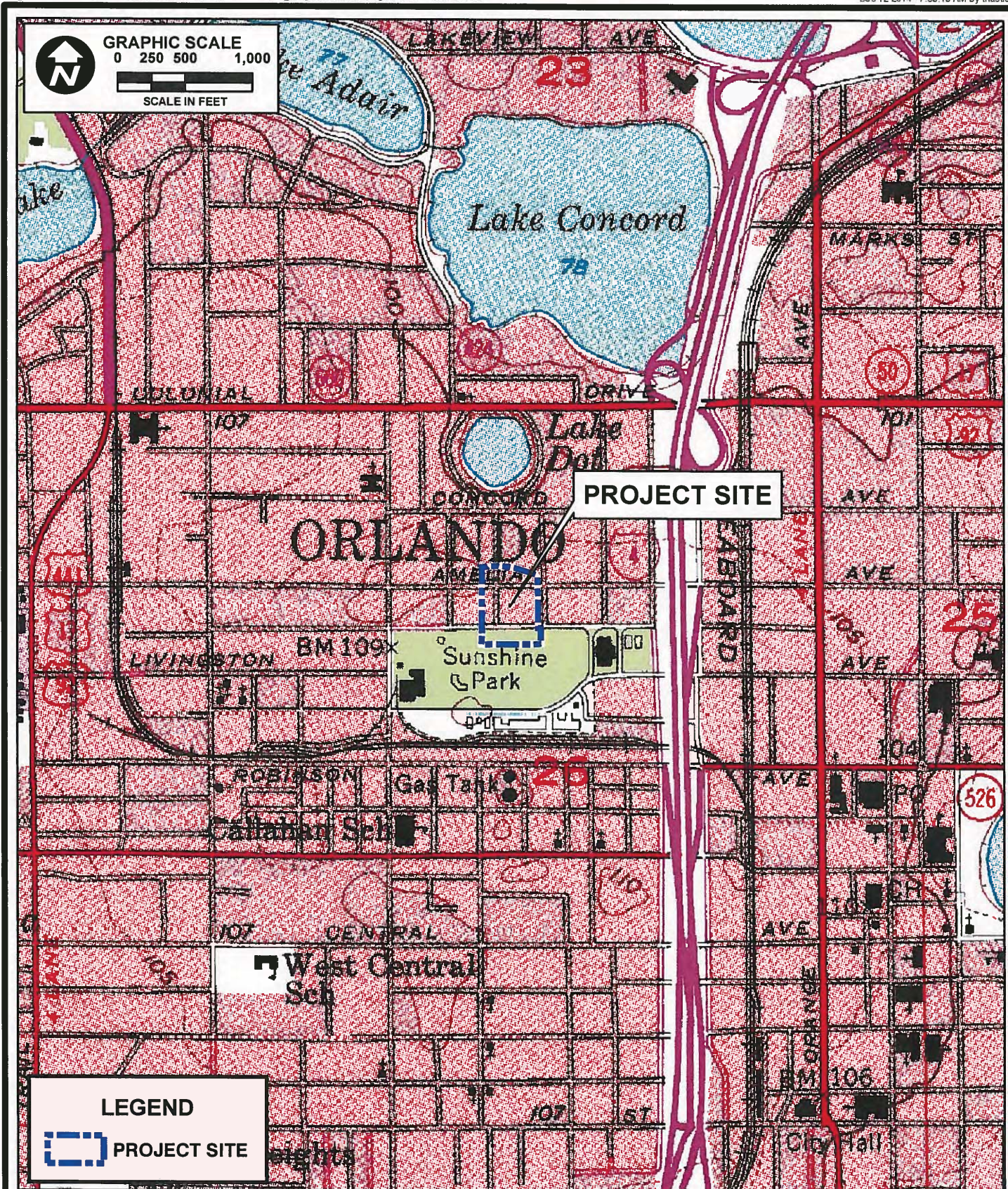


FIGURE 2.
 USGS TOPOGRAPHIC MAP
 630 W AMELIA STREET, ORLANDO, FL 32801
 SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: LABINS, USGS QUAD 3712 ORLANDO WEST, 1980; ECT, 2014.

ECT Environmental
 Consulting &
 Technology, Inc.

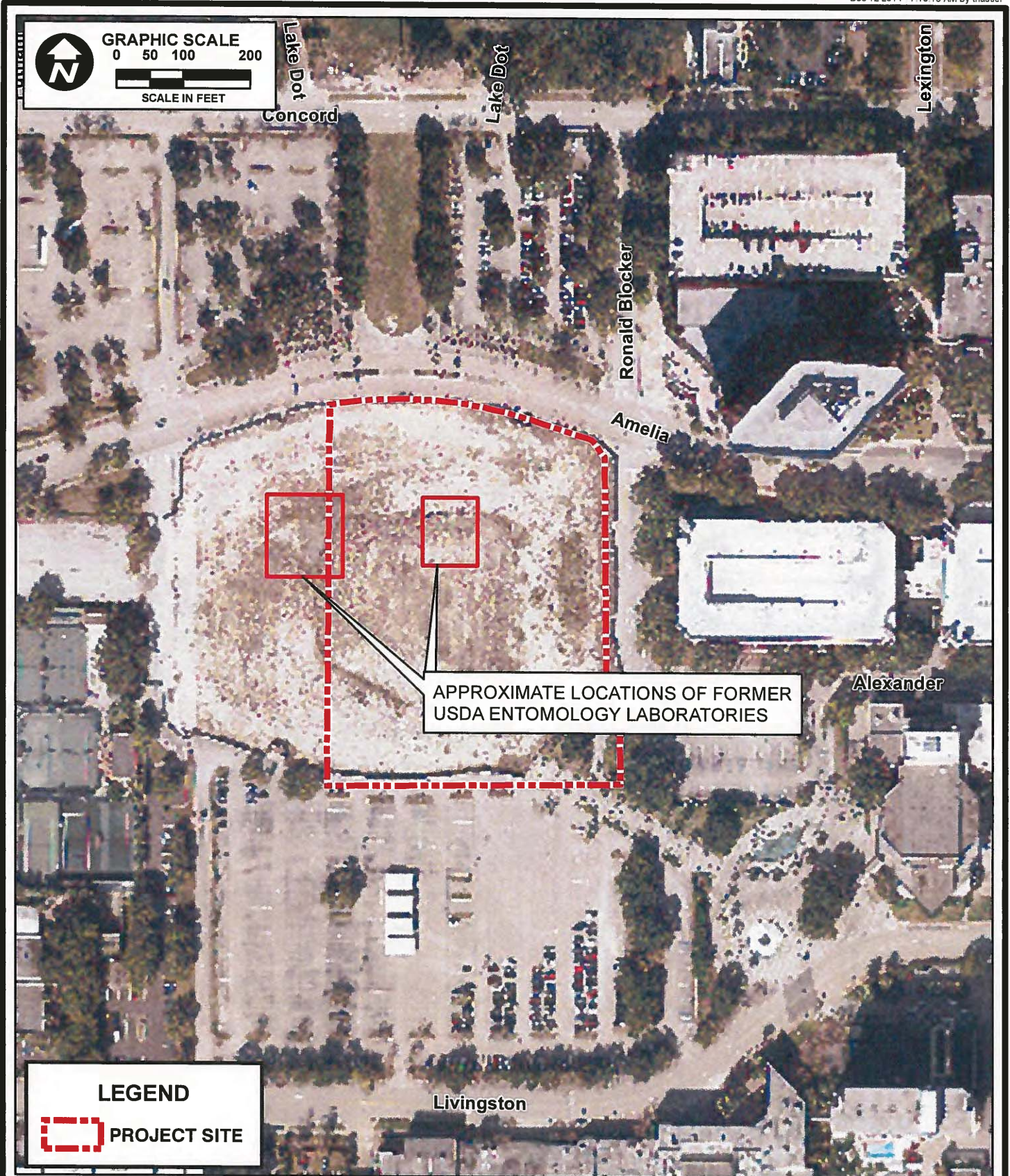


FIGURE 3.
SITE PLAN
630 W AMELIA STREET, ORLANDO, FL 32801
SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: OCPA, 2014; ECT, 2014.

ECT Environmental
Consulting &
Technology, Inc.

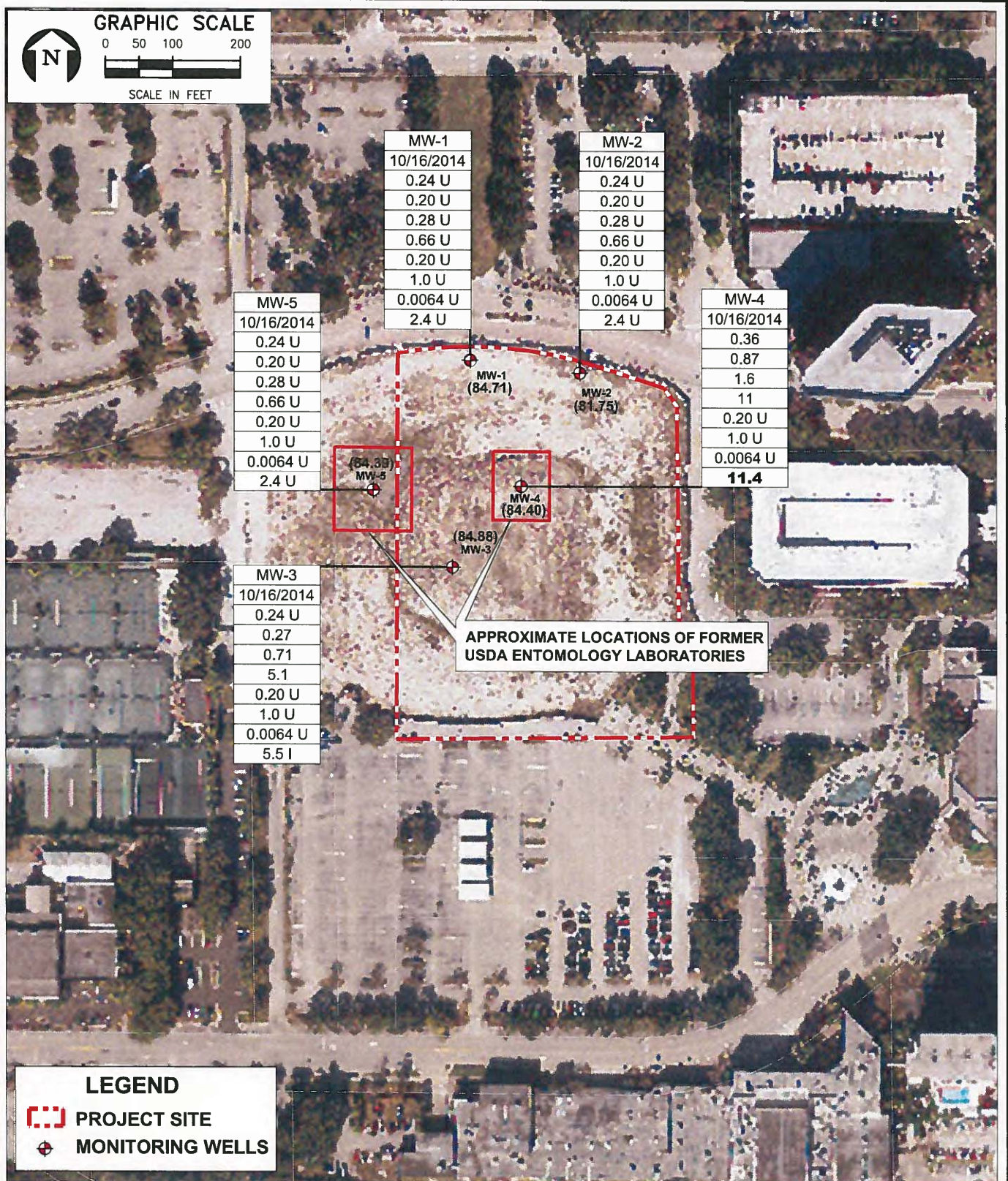


FIGURE 4.
MONITORING WELL LOCATIONS
630 W AMELIA STREET, ORLANDO, FL 32801
SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: OCPA, 2014; ECT, 2014.

ECT Environmental
Consulting &
Technology, Inc.

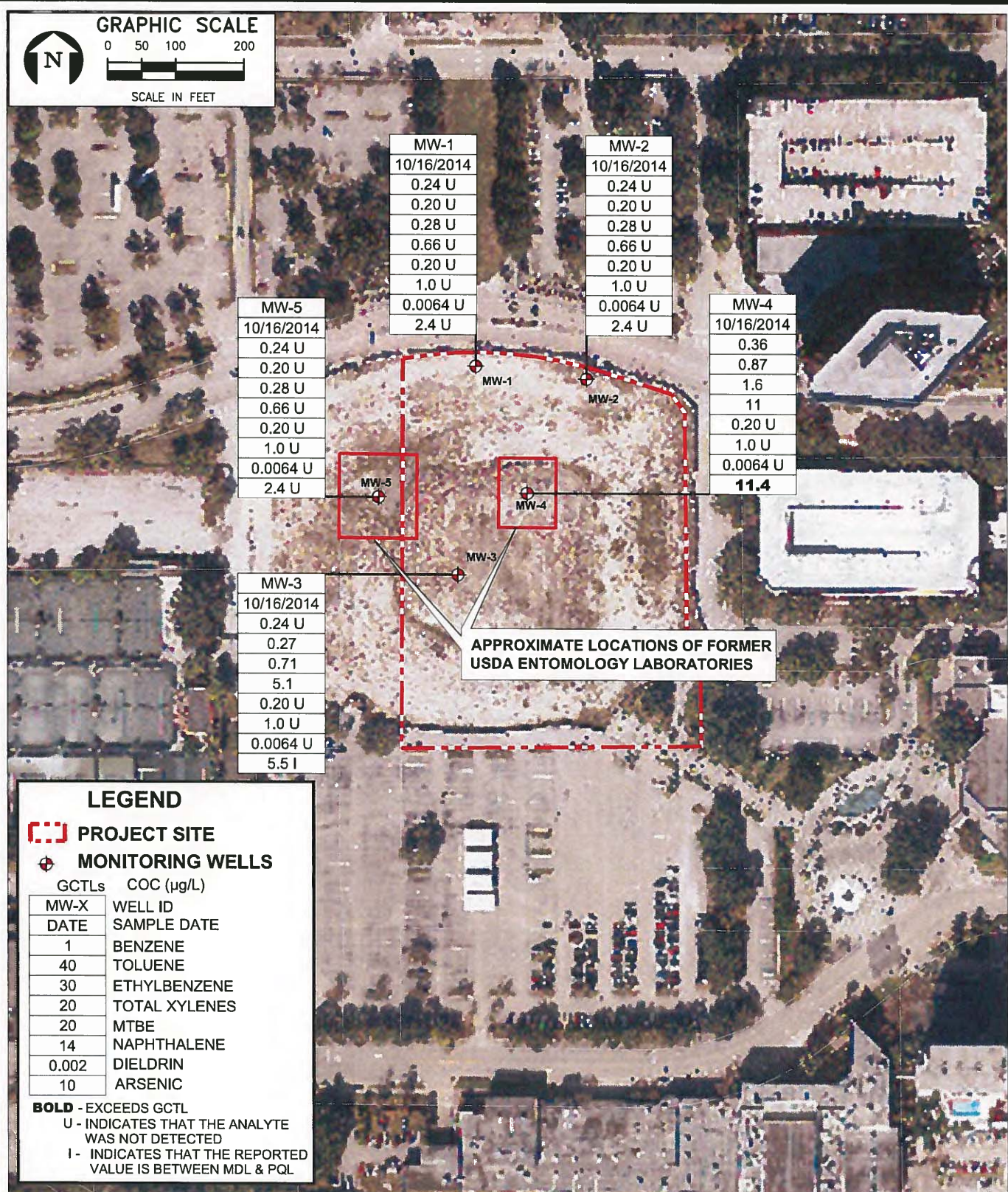


FIGURE 5.
GROUNDWATER QUALITY SUMMARY
630 W AMELIA STREET, ORLANDO, FL 32801
SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: OCPA, 2014; ECT, 2014.

ECT Environmental
Consulting &
Technology, Inc.

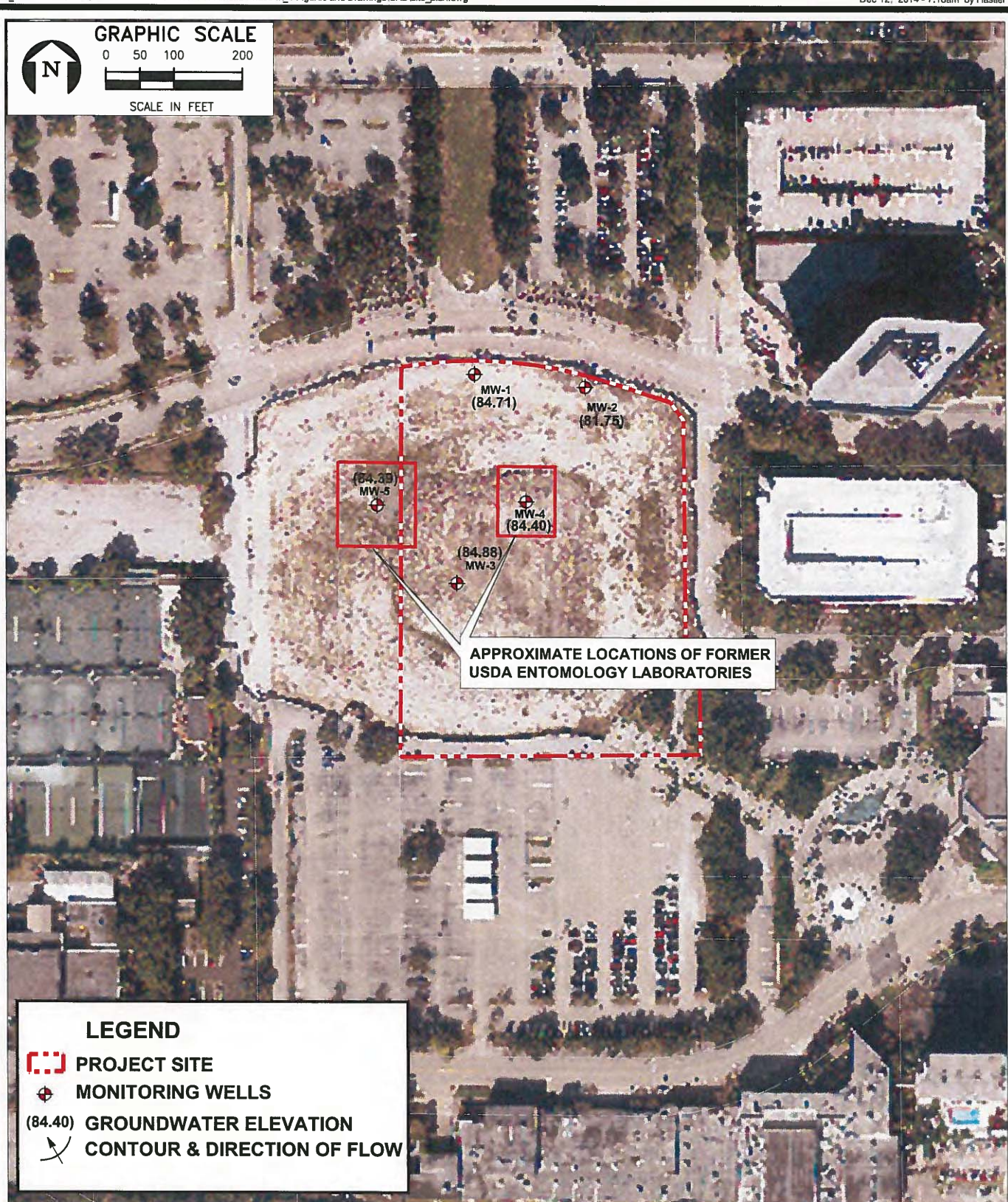


FIGURE 6.
GROUNDWATER ELEVATIONS (10/16/2014)
630 W AMELIA STREET, ORLANDO, FL 32801
SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: OCPA, 2014; ECT, 2014.

ECT Environmental
Consulting &
Technology, Inc.

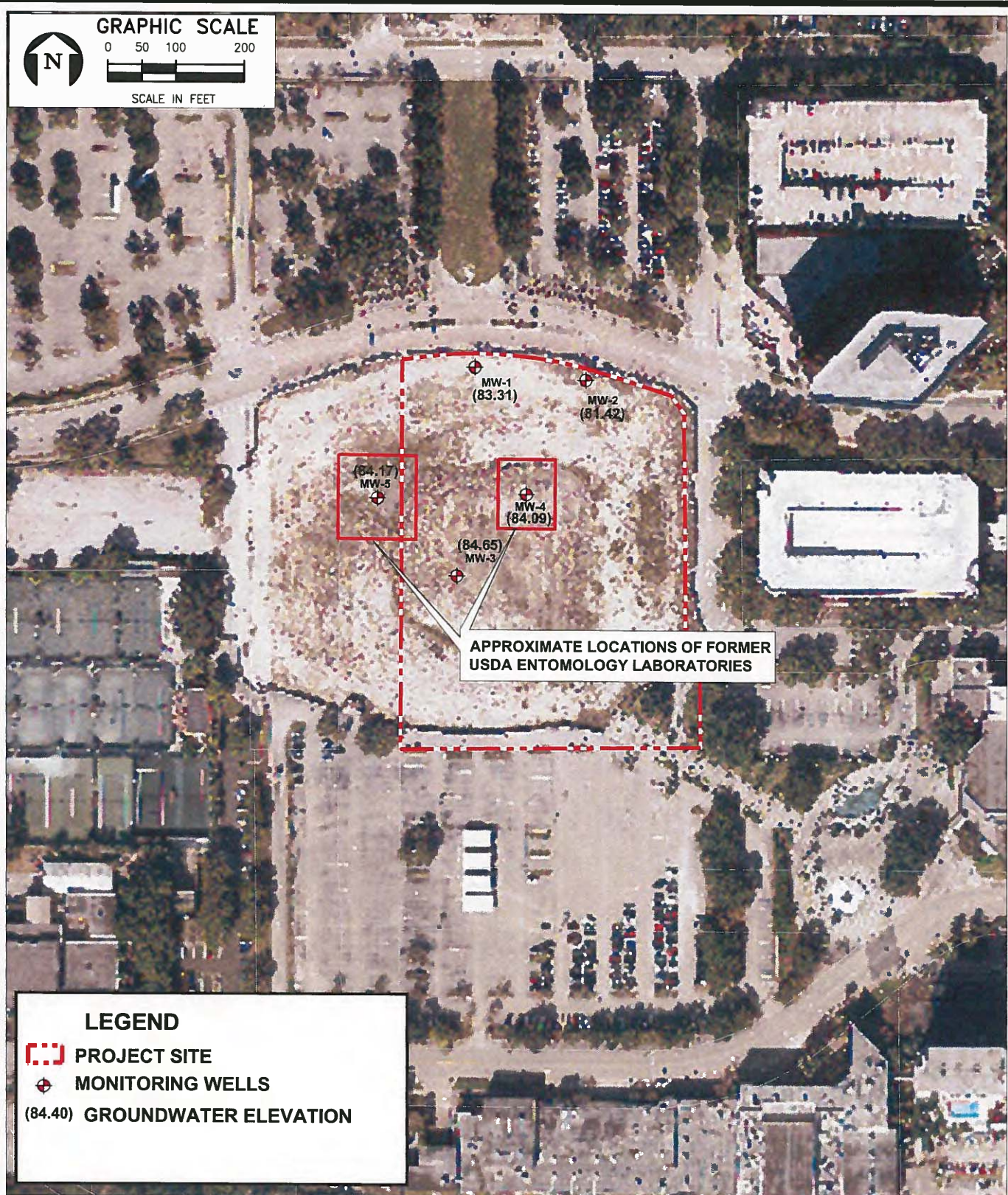


FIGURE 7.
GROUNDWATER ELEVATIONS (12/10/2014)
630 W AMELIA STREET, ORLANDO, FL 32801
SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: OCPA, 2014; ECT, 2014.

ECT Environmental
Consulting &
Technology, Inc.

APPENDIX A

**EPA R4 BROWNFIELDS GRANT
SITE ELIGIBILITY DETERMINATION OUTLINE**

To be used for determining site eligibility for Phase II Environmental Site Assessments and Cleanups.

A. GENERAL INFORMATION

1. Grantee/Applicant Name: CITY OF ORLANDO, FLORIDA
2. If Grant:
Grant Number: BF95498212
Grant Type (104(k) Assessment, 104(k) RLF): ASSESSMENT
3. Work to be conducted (Phase II Assessment, Phase III Assessment, Cleanup): PHASE II ASSESSMENT
4. How much funding do you anticipate spending on the site? \$26,450. Please note that there are funding limitations for site-specific activities. For assessments, no more than \$200,000 per site, with the possibility of a waiver for up to \$350,000. For cleanups, no more than \$200,000 per site.
5. Date of proposed work: October 2014
6. Date of this document: September 24, 2014

B. BASIC SITE INFORMATION

1. Site Name: 630 W. AMELIA STREET
2. Site Address (and County): 630 W. AMELIA STREET, ORLANDO, FL
3. Who is the current owner of the site? CITY OF ORLANDO
4. Describe grantee's or applicants relationship with the owner, and the owner's role in the work to be performed:

THE CITY OF ORLANDO OWNS THE SITE. A SYNOPSIS OF ECT'S RESEARCH, ALONG WITH A SITE MAP OF THE PROPOSED PHASE II ESA ACTIVITIES, IS PROVIDED IN APPENDIX A.

5. Known or Suspected Contaminant(s) (check one):
 - ☐ Hazardous Substances
 - ☐ Mine Scarred Lands
 - ☐ Controlled Substances

- ☒ Hazardous Substances Commingled with Petroleum
☒ Petroleum Only

6. Identify when and how the site became contaminated; describe previous known uses. If the land has been vacant for many years, why does the grantee think that it is contaminated?

FROM DOCUMENTS PROVIDED BY THE CITY, AND REVIEW OF THE LOCAL SANBORN MAPS, TWO USDA BUREAU OF ENTOMOLOGY LABORATORIES WERE IDENTIFIED ON WHAT IS NOW PARCEL 26-22-29-6326-00-010. THE CITY IS IN THE PROCESS OF SIGNING A BROWNFIELD SITE REHABILITATION AGREEMENT (BSRA) FOR CREATIVE VILLAGE, AND THIS PARCEL IS PART OF CREATIVE VILLAGE AND WILL BE INCLUDED IN THE BSRA. THEREFORE, THE CITY IS REQUESTING SITE ASSESSMENT ACTIVITIES BE COMPLETED TO SATISFY THE REQUIREMENTS OF THE BSRA AND ASSIST WITH FUTURE REDEVELOPMENT ACTIVITIES.

7. Does the site meet the definition of a Brownfields Site? (Is the site "real property, the expansion, redevelopment or reuse of which is complicated by the presence or potential presence of hazardous substances, pollutants or contaminants"?)

☒ YES ☐ NO

C. SITES NOT ELIGIBLE FOR FUNDING BY STATUTE

The grantee must supply the following information to the best of their knowledge:

1. Is the facility listed (or proposed for listing) on the National Priorities List? ☐ YES ☒ NO
2. Is the facility subject to unilateral administrative orders, court orders, administrative orders on consent, or judicial consent decrees issued to or entered into by parties under CERCLA?
☐ YES ☒ NO
3. Is the facility subject to the jurisdiction, custody, or control of the US government. (Land held in trust by the US government for an Indian tribe is eligible.) ☐ YES ☒ NO

*Note: If the answer is YES to any of the above (C.1-3) the property is **not** eligible.*

D. SITES ONLY ELIGIBLE FOR FUNDING WITH A PROPERTY SPECIFIC DETERMINATION BY EPA:

Certain properties can only be approved with a Property Specific Determination by EPA. The grantee must provide answers to the following questions to the best of their knowledge:

1. Is the site/facility subject to a planned or ongoing CERCLA removal action? ☐ YES ☒ NO
2. Has the site/facility been the subject of a unilateral administrative order, court order, an administrative order on consent or judicial consent decree that has been issued to or entered into by the parties, or been issued a permit by the U.S. or an authorized state under the Solid Waste Disposal Act (as amended by the Resource Conservation and Recovery Act (RCRA)), the Federal Water Pollution Control Act (FWPCA), the Toxic Substances Control Act (TSCA), or the Safe Drinking Water Act (SWDA)? ☐ YES ☒ NO
3. Is the site/facility subject to corrective action orders under RCRA (sections 3004(u) or 3008(h)) and has there been a corrective action permit or order issued or modified to require corrective measures? ☐ YES ☒ NO
4. Is the site/facility a land disposal unit that has submitted a RCRA closure notification under subtitle C of RCRA and is subject to closure requirements specified in a closure plan or permit? ☐ YES ☐ NO
5. Has the site/facility had a release of polychlorinated biphenyls (PCBs) that is subject to remediation under TSCA? ☐ YES ☒ NO
6. Has the site/facility received funding for remediation from the leaking Underground Storage Tank (LUST) Trust Fund? ☐ YES ☒ NO

Note: If the answer is YES to any of the above (D. 1-6), a property specific determination is required. The grantee or TBA applicant must complete the remaining applicable portions of this outline and submit additional information, as outlined in Appendix A to this document.

E. HAZARDOUS SUBSTANCE/COMMINGLED CONTAMINATION SITES (for Petroleum only sites, skip to F.)

1. Does the grantee own the site? ☒ YES ☐ NO
2. Answer the following if the grantee *is the current site owner*. (If the grantee is not the current site owner, skip to 3) :
 - a. Is the owner a ☒ Unit of State or Local Government **or** ☐ Other
 - b. If the owner is a governmental unit, how was the property acquired?
☐ Tax Foreclosure ☐ Donation ☐ Eminent Domain ☐ Bought it outright

X Other (Explain): QUIT CLAIM DEED

Date acquired: 1984

c. Do they have a defense to CERCLA liability? (see FY12 ARC Guidelines)

☐ YES – Involuntary Acquisition

Bankruptcy, tax delinquency, abandonment, or other similar circumstances.

X YES – Bona Fide Prospective Purchaser (BFPP)

Did the owner conduct Pre-purchase Inquiry (EPA All Appropriate Inquiry, ASTM standards, or other) prior to acquiring property?

X YES ☐ NO

Did the owner take reasonable steps with regards to the contamination at the site?

X YES ☐ NO

☐ YES – Contiguous Property Owner

☐ YES – Third Party or Innocent Land Owner

☐ YES – Indian Tribe

☐ NO

d. Are they liable at the site as an ☐ Operator, ☐ Arranger, **or** ☐ Transporter

OR **X** None Applicable

e. Did all disposal of hazardous substances at the site occur before they acquired the property? **X** YES ☐ NO

f. Did they cause or contribute to any release of hazardous substances at the site?

☐ YES **X** NO

3. Answer the following if the grantee *is not the site owner*:

N/A

a. Is the grantee potentially liable at the site as an ☐ Operator, ☐ Arranger, ☐ Transporter

b. Is the grantee affiliated with the site owner (familial, contractual, financial)

OR ☐ None Applicable

F. PETROLEUM ONLY CONTAMINATION SITES

Petroleum sites need a written site eligibility determination by the state or EPA.

1. If the state *has made* the petroleum eligibility determination, the grantee must provide EPA with the letter from the state.

2. If the state *was unable to make* the determination, EPA must make the determination consistent with the Guidelines (note that EPA staff will need to refer to the most recent ARC Guidelines to conduct the petroleum determination). The grantee must provide information regarding the following:

a. Whether the site is of "relatively low risk" compared with other "petroleum-only" sites in the state. Two key questions for this determination follow:

1. Have Leaking Underground Storage Tank funds been expended at this site?
☐ YES ☐ NO

2. Have Federal Oil Pollution Act response funds been expended at this site?
☐ YES ☐ NO

b. Whether there is a viable responsible party at the site. Key questions for this determination follow:

1. Was the site last acquired through tax foreclosure, abandonment or equivalent government proceedings? ☐ YES ☐ NO

2. Has a responsible party been identified through:

- a) a judgment rendered in a court of law or an administrative order that would require any party to assess, investigate, or cleanup the site; ☐ YES ☐ NO or
- b) a filed enforcement action brought by federal or state authorities that would require any party to assess, investigate, or cleanup the site; ☐ YES ☐ NO or
- c) a citizen suit, contribution action or other third party claim against the current or immediate past owner, that would, if successful, require that party to assess, investigate, or clean up the site. ☐ YES ☐ NO;

Skip to "b.5" if the site was acquired through tax foreclosure, abandonment or equivalent government proceedings; if not, answer question b.3 and 5.4.

3. The current owner is: _____ [fill in the blank] Has the current owner:

- a) dispensed or disposed of petroleum or petroleum product at the site? ☐ YES ☐ NO
- b) owned the property during the dispensing or disposal of petroleum product at the site? ☐ YES ☐ NO
- e) exacerbated the contamination at the site? ☐ YES ☐ NO
- d) taken reasonable steps with regard to contamination at the site, ☐ YES ☐ NO.

4. The immediate past owner is: _____ [fill in the blank] Has the immediate past owner:

- a) dispensed or disposed of petroleum or petroleum product at the site? ☐ YES ☐ NO
- b) owned the property during the dispensing or disposal of petroleum product at the site? ☐ YES ☐ NO
- c) exacerbated the contamination at the site? ☐ YES ☐ NO
- d) taken reasonable steps with regard to contamination at the site, ☐ YES ☐ NO

5. Based on the above, for purposes of Brownfields funding, is there a responsible party? ☐ YES ☐ NO If "YES" go on to #6, if "NO" proceed directly to F.2.C.

6. If there is a responsible party, is that party viable (has adequate financial resources to pay for assessment of the site). ☐ YES ☐ NO If "NO", explain the basis for that conclusion:

If there is a viable responsible party, the petroleum site is ineligible. If there is no responsible party, or if there is a responsible party who is not viable, continue. NOTE: States may apply their own laws and regulations to make the petroleum site determination instead of the previous questions; if they do so, the grantee must submit their determination and rationale.

c. Whether the grantee is potentially liable for cleaning up the site. Key questions for this determination follow:

1. Has the grantee ever:

a) dispensed or disposed of petroleum or petroleum product at the site, or owned the property during the dispensing or disposing of petroleum?

☐ YES ☐ NO

b) exacerbated the contamination at the site? ☐ YES ☐ NO

d. Is the site subject to any order issued under Sec. 9003(h) of the Solid Waste Disposal Act? ☐ YES ☐ NO

G. ACCESS

Does grantee have access or an access agreement for this property? ☒ YES ☐ NO

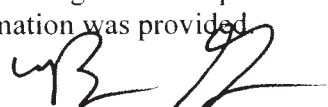
H. SITE ELIGIBILITY DETERMINATION BY EPA PROJECT OFFICER

Please Note: If there are any questions on eligibility, OR if the grantee owns the site it wishes to work on, the P.O. should consult with the Regional Brownfields Coordinator, and as necessary EPA legal counsel.

Site ☒ is / ☐ is not eligible for site assessment activities using EPA Brownfields Funds

-- OR --

☐ Site is eligible but requires an EPA Property-Specific Determination, for which additional information was provided



EPA Project Officer

9-25-2014

Date:

I. EPA NOTIFICATION TO APPLICANT OF SITE ELIGIBILITY

Date Sent :

9-26-2014

Copy of Notification Attached: ☐ YES ☐ NO

APPENDIX A: [IF REQUIRED] INFORMATION TO SUPPORT PROPERTY SPECIFIC DETERMINATION by EPA

Grantee must explain why Brownfields financial assistance is needed and how it will protect human health and the environment and either promote economic development or enable the creation of, preservation of, or addition to parks, greenways undeveloped property, other recreational property, or other property used for nonprofit purposes.

From documents provided by the City, and review of the local Sanborn maps, two USDA Bureau of Entomology laboratories were identified on what is now parcel 26-22-29-6326-00-010. Copies of Sanborn maps and aerial photographs are attached. The City is in the process of signing a Brownfield Site Rehabilitation Agreement (BSRA) for Creative Village, and this parcel is part of Creative Village and will be included in the BSRA. Therefore, the City is requesting site assessment activities be completed to satisfy the requirements of the BSRA and assist with future redevelopment activities.

OCPA Web Map

Florida turnpike	Major Roads	Proposed Road	Block Line	Commercial/Institutional	Hydro	Golf Course
Interstate 4	Public Road	Brick Road	Lot Line	Governmental/Institutional/Misc	Waste Land	Lakes and Rivers
Toll Road	Gated Roads	Rail Road	Residential	Misc Commercial/Industrial	County Boundary	Building
Road Under Construction	Proposed SunRail	Agriculture	Agricultural Curtilage	Parks	Hospital	



OCPA Web Map

Florida turnpike	Major Roads	Proposed Road	Block Line	Commercial/Institutional	Hydro	Golf Course
Interstate 4	Public Roads	Brick Road	Lot Line	Governmental/Institutional/Misc	Waste Land	Lakes and Rivers
Toll Road	Gated Roads	Rail Road	Residential	Misc Commercial/Industrial	County Boundary	Building
Road Under Construction	Proposed SunRail	Agriculture	Agricultural Curtilage	Parks	Hospital	



Created: 8/13/2014

This map is for reference only and is not a survey.



INQUIRY #: 3666506.5

YEAR: 1994

| = 500'





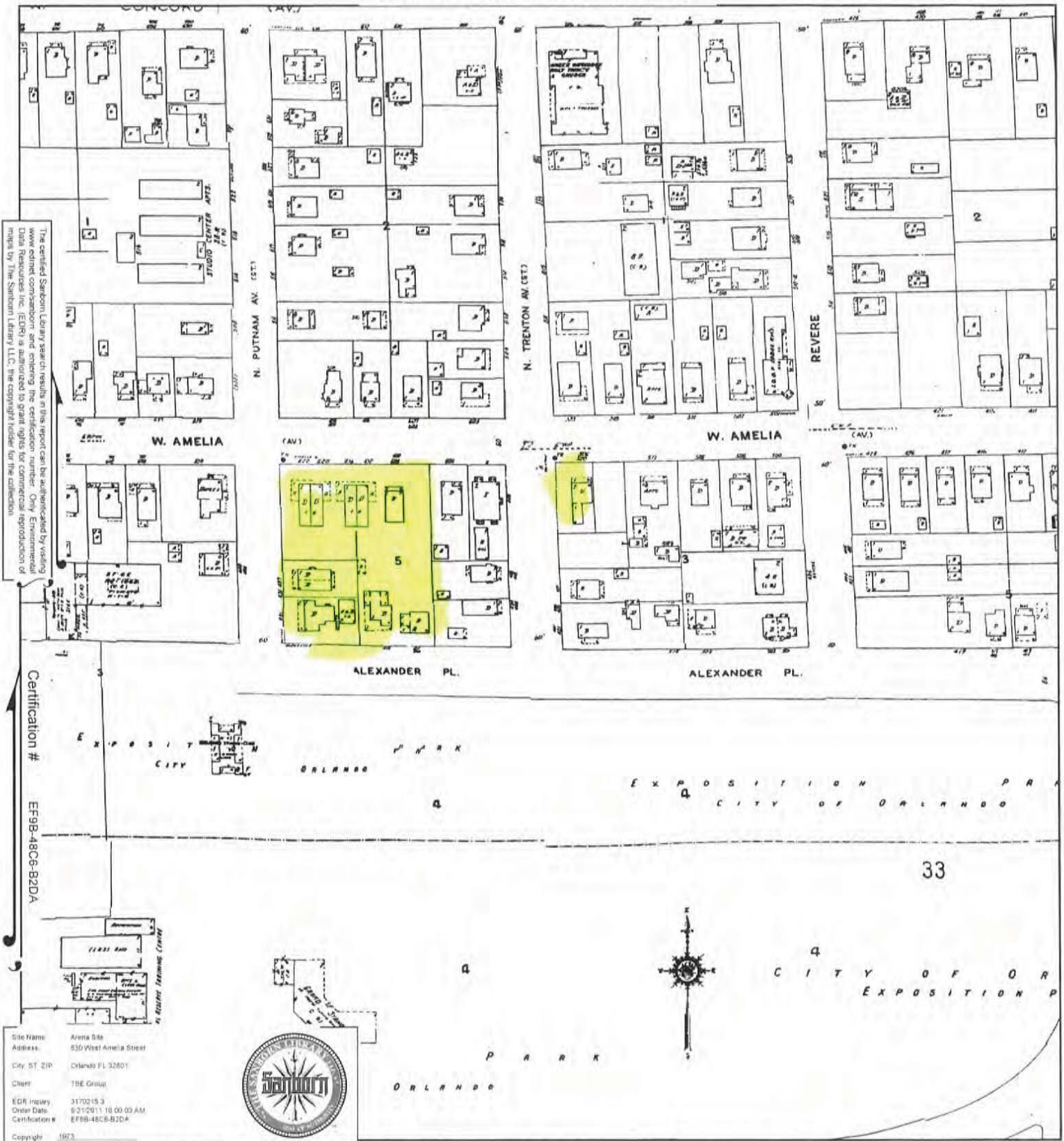
INQUIRY #: 3666506.5

YEAR: 1984

| = 500'



1973 Certified Sanborn Map

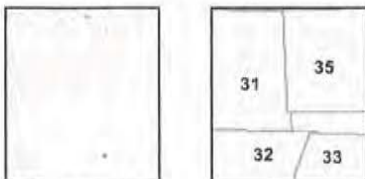


Certification # EF9B-4806-B2DA

Site Name: Arena Site
Address: 530 West Amelia Street
City, ST, ZIP: Orlando FL 32801
Client: TBE Group
EGR Inquiry: 3170215.3
Order Date: 8/31/2011 10:00 AM
Certification #: EF9B-4806-B2DA
Copyright: 1973



This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

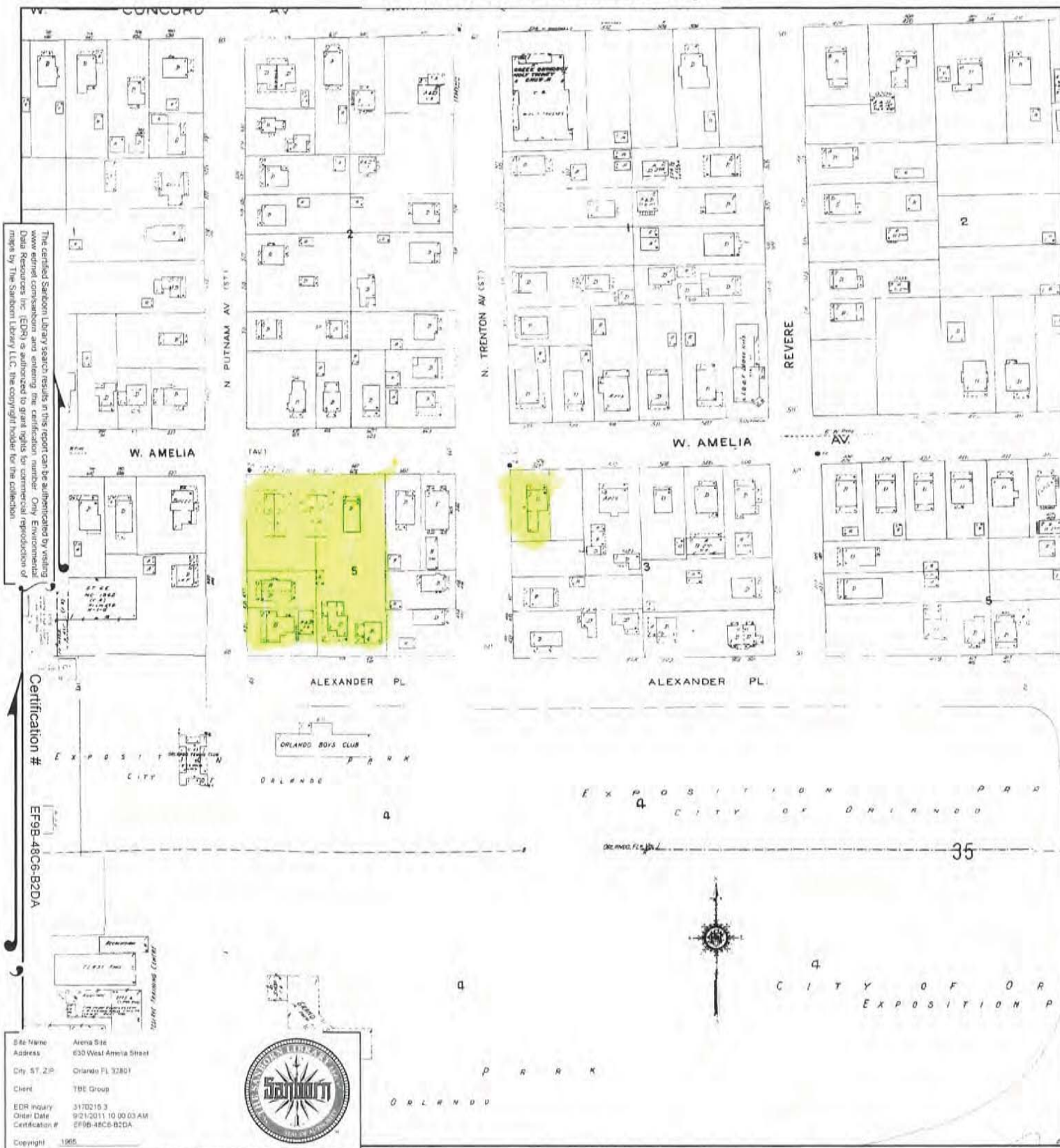


Volume 1, Sheet 31
Volume 1, Sheet 32
Volume 1, Sheet 33
Volume 1, Sheet 35

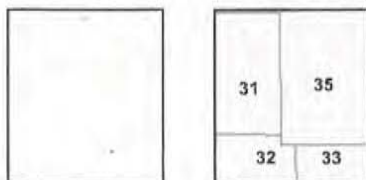
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1965 Certified Sanborn Map



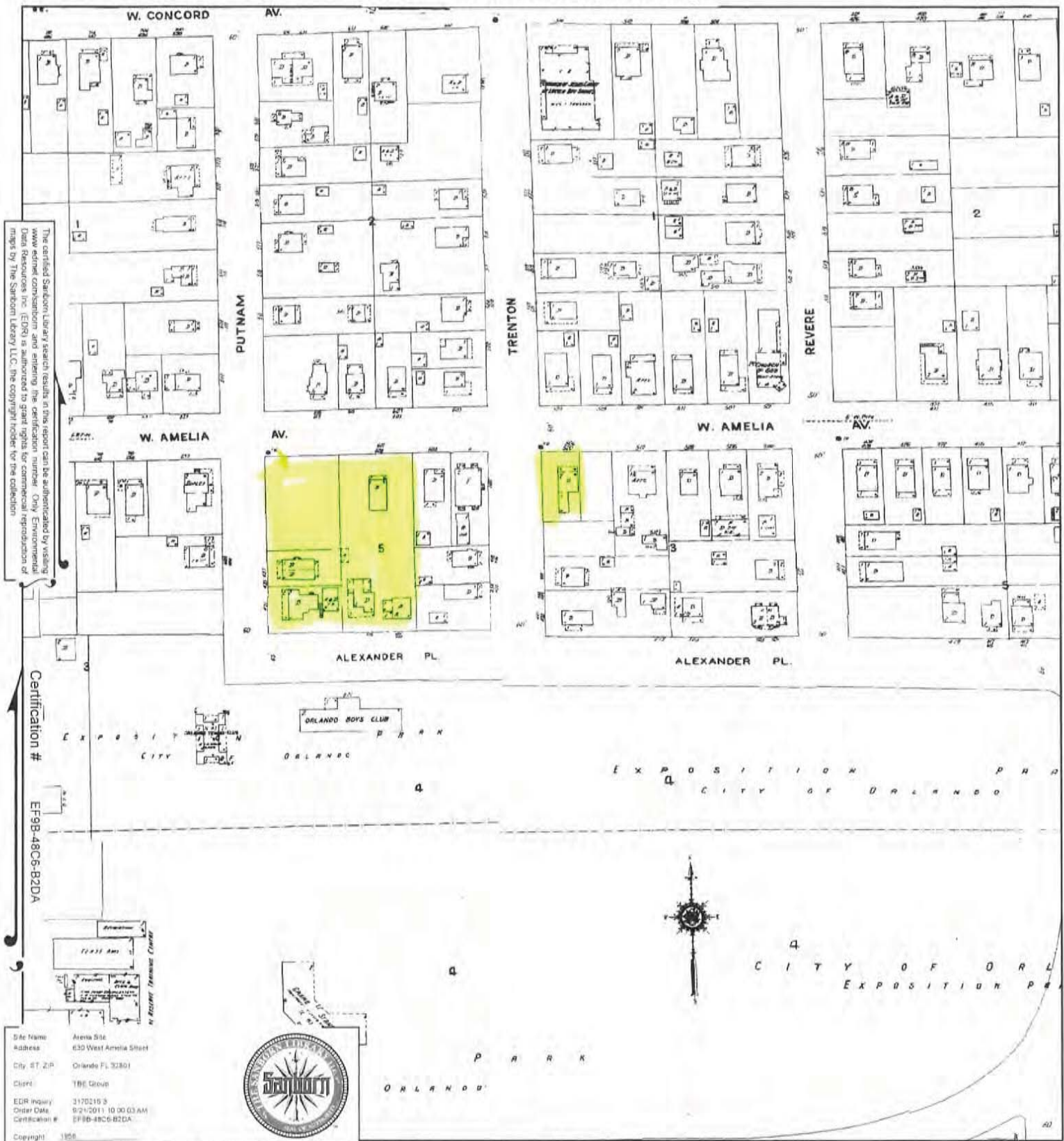
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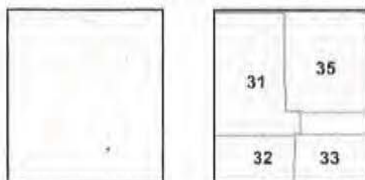
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1956 Certified Sanborn Map



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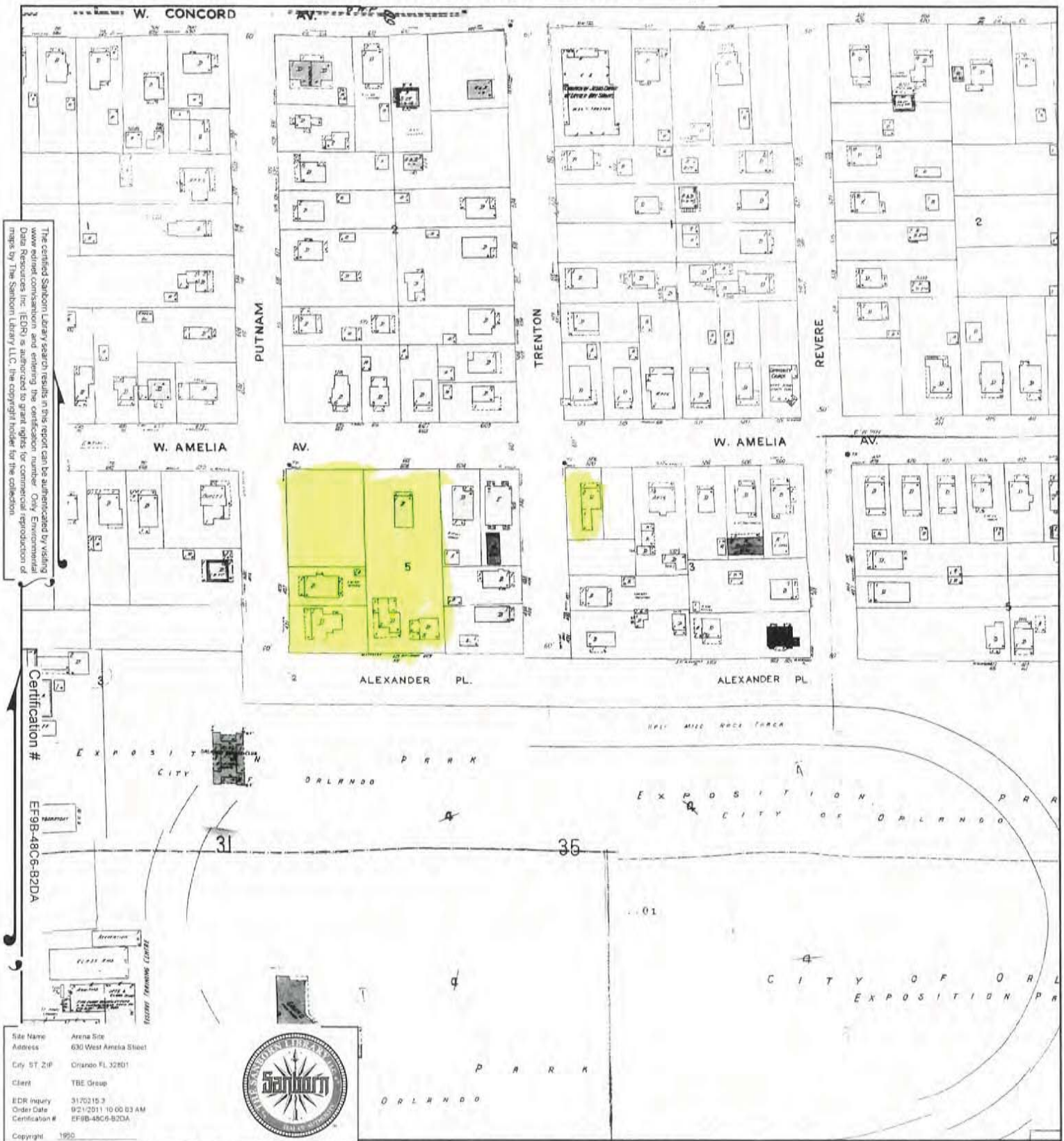


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 Volume 1, Sheet 32
 Volume 1, Sheet 33
 Volume 1, Sheet 35

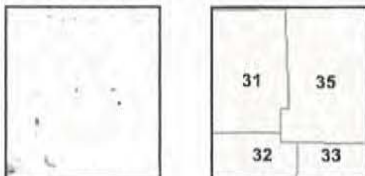
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1950 Certified Sanborn Map



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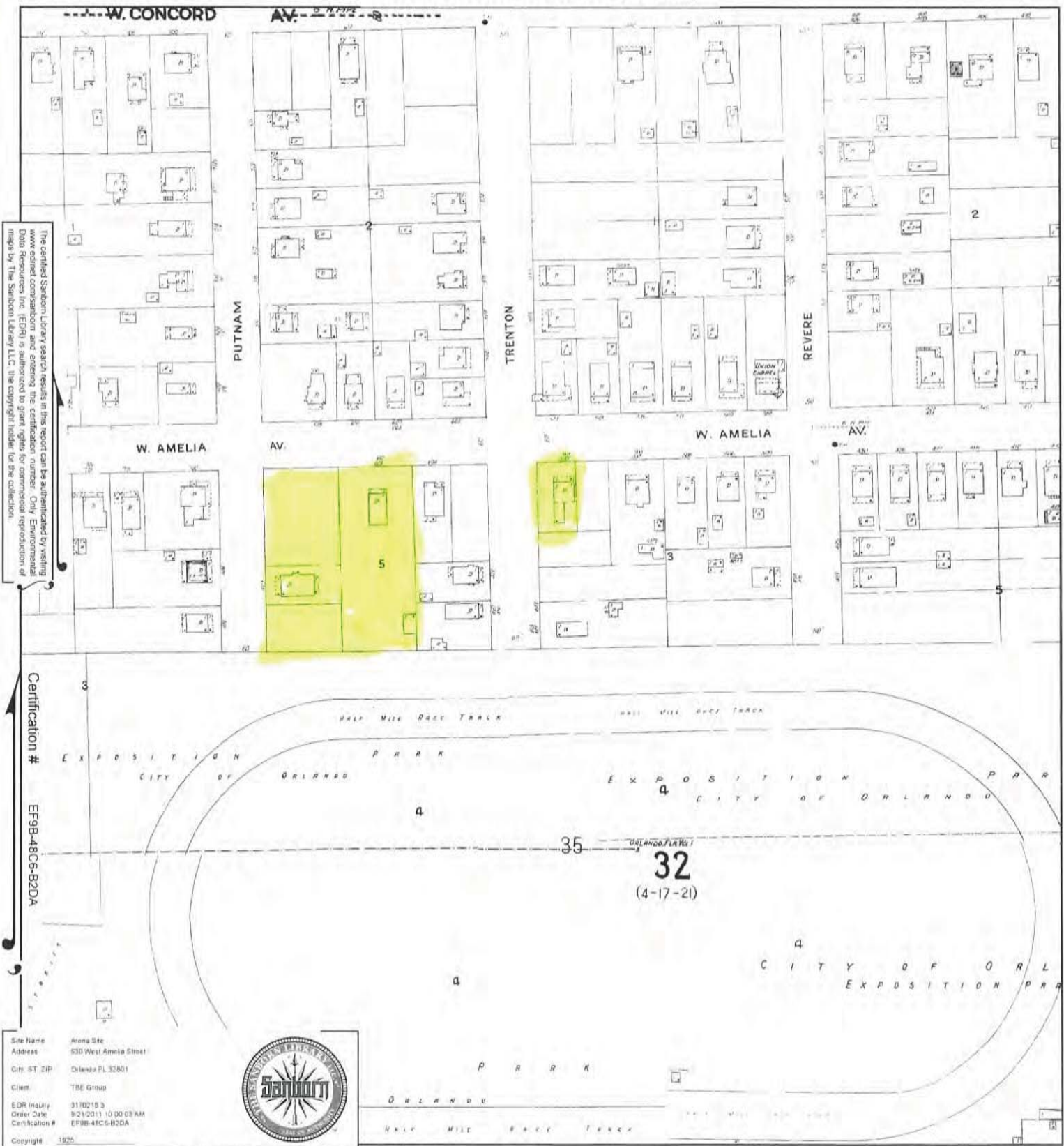


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Volume 1, Sheet 33
Volume 1, Sheet 35

0 Feet 150 300 600



1925 Certified Sanborn Map



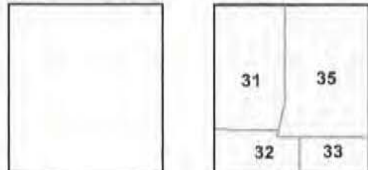
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Certification # EF9B-48C6-B2DA

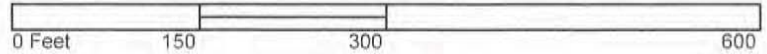
Site Name: Arona Site
Address: 530 West Amelia Street
City ST ZIP: Orlando FL 32801
Client: TBE Group
EDR Inquiry: 3170215-3
Order Date: 9/21/2011 10:00 AM
Certification #: EF9B-48C6-B2DA
Copyright: 1925



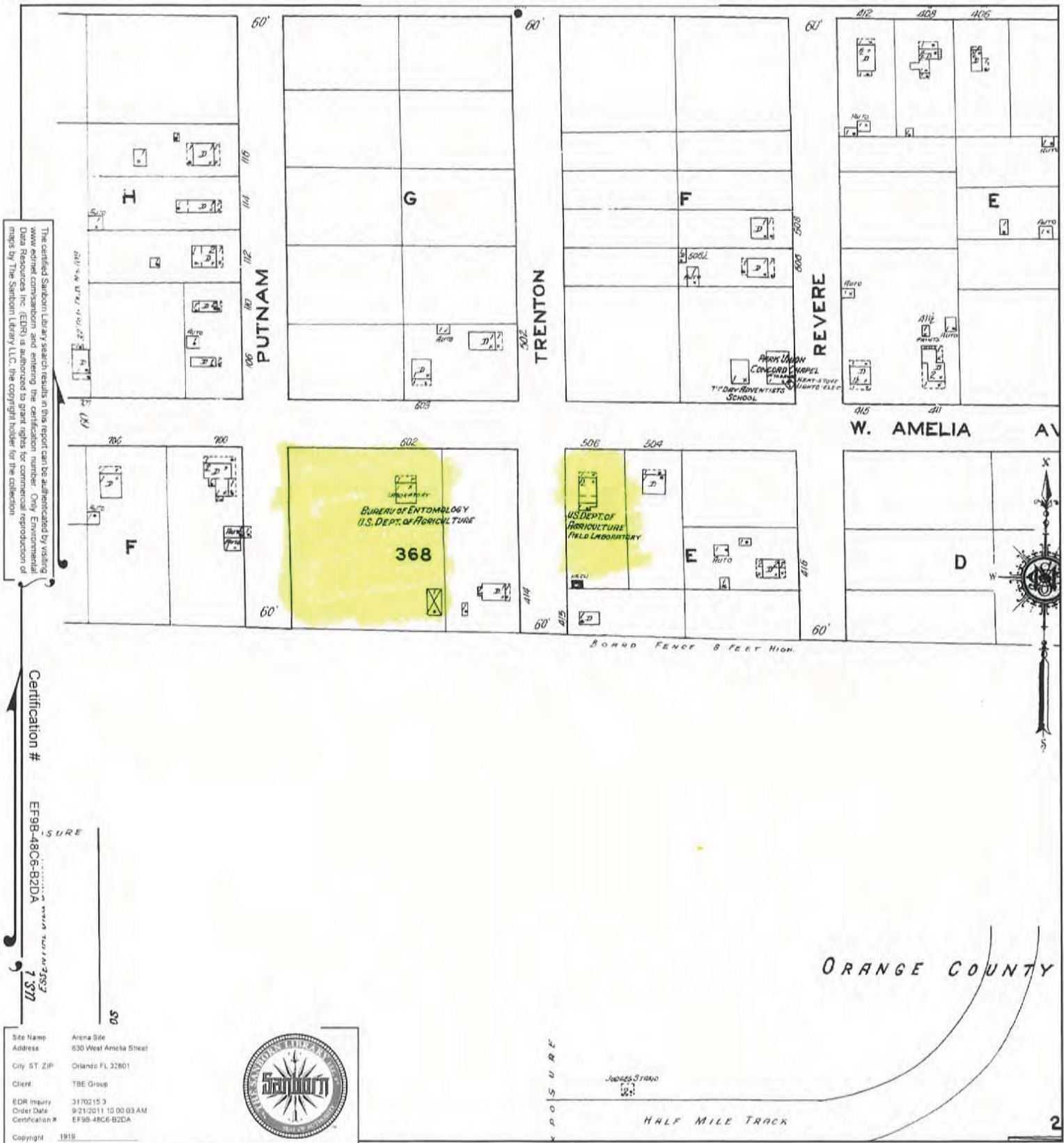
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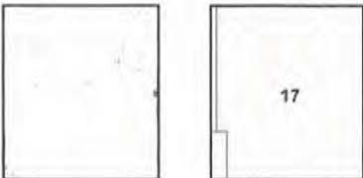
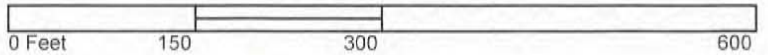
- Volume 1 & 2, Sheet 31
- Volume 1 & 2, Sheet 32
- Volume 1 & 2, Sheet 33
- Volume 1 & 2, Sheet 35



1919 Certified Sanborn Map



This Certified Sanborn Map combines the following sheets.
 Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 17

APPENDIX B

A1. TITLE/APPROVAL AND INTRODUCTION

**Site Specific Quality Assurance Project Plan
Addendum 3A**

Brownfields Phase II Environmental Site Assessment
630 W. Amelia Street
Orlando, Orange County, Florida
A companion document to

Generic Quality Assurance Project Plan
for
EPA Brownfields Cooperative Agreement BF-95498212

prepared for:




City of Orlando, Florida
Public Works Division
5100 L.B. McLeod Road
Orlando, FL 32811

prepared by:

ECT Environmental
Consulting &
Technology, Inc
3660 Maguire Boulevard, Suite 107
Orlando, Florida 32803
407/903-0005 (t)
www.ectinc.com

ECT Project No. 140644-0001

September 2014

Project Manager/Director:		Approval:
	Jeffrey J. Peters, P.G.	Jeffrey J. Peters / 9/29/2014
		Printed Name/Date
ECT Quality Assurance/Quality Control Officer:		
	Dave Kraus, P.G.	Dave Kraus / 9/29/2014
		Printed Name/Date
U.S. EPA Project Manager:		10-10-2014
	Brian Gross	Printed Name/Date
U.S. EPA Designated Approving Office:		10-10-2014
	Brian Gross	Printed Name/Date
City of Orlando Brownfield Coordinator		10-14-2014
	Dan Dashtaki	Printed Name/Date

INTRODUCTION

The City of Orlando, Florida is the recipient of a Brownfields Assessment Grant, EPA Cooperative Agreement BF-95498212. This grant was awarded in September 2012 and is a community-wide grant, with emphasis on the Parramore Community. Developing these areas will boost the core of the community's economy and provide a greater connectivity with other economically depressed communities.

As part of the Brownfields Assessment Grant, a Generic Quality Assurance Project Plan (QAPP) was prepared in September 2013. The plan was prepared in accordance with the requirements of EPA Region 4 Brownfields Program. The Generic QAPP was approved by EPA on September 18, 2013.

The vacant parcel of property located at 630 W. Amelia Street (Site) is proposed for redevelopment as part of Creative Village. From documents provided by the City, and review of the local Sanborn maps, two USDA Bureau of Entomology laboratories were identified on what is now parcel 26-22-29-6326-00-010. The City is in the process of signing a Brownfield Site Rehabilitation Agreement (BSRA) for Creative Village, and this parcel will be included in the BSRA. Therefore, the City is requesting site assessment activities be completed to satisfy the requirements of the BSRA and assist with future redevelopment activities.

A proposal for a Phase II ESA has been prepared to investigate the potential concerns listed above. The Phase II ESA for this site shall be conducted in general accordance with the scope and limitations of ASTM E1903-11.

This Site Specific Quality Assurance Project Plan (SSQAPP) was prepared in accordance with the requirements of EPA Region 4 Brownfields Program and is intended to document the necessary quality assurance (QA) and quality control (QC) criteria, and other technical activities that are implemented to ensure that the results of the Phase II ESA will satisfy the required performance criteria. This SSQAPP is the initial SSQAPP prepared for this site. Therefore, the addendum reference for this document is Addendum 3A. The work described in this SSQAPP will be conducted in accordance with the processes described in the Generic QAPP.

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LIST OF ATTACHMENTS

FIGURES

Figure 1: Proposed Groundwater Monitoring Well Locations

ATTACHMENT A

Quality Assurance Project Organization Chart

A3. DISTRIBUTION LIST

The following individuals will receive copies of the approved Site Specific Quality Assurance Project Plan (QAPP) and subsequent revisions:

- Brian Gross, Brownfields Project Officer/Manager, United States Environmental Protection Agency (EPA) Region 4, Atlanta Federal Building, 61 Forsyth Street S.W., Atlanta, Georgia 30303; Phone (404) 562-8604, email: gross.brian@epamail.epa.gov
- George Houston II, P.G., Brownfields Coordinator, FDEP, Central District, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803; Phone (407) 893-3331; fax (407)893-3599; email: George.houston@dep.state.fl.us
- Dan Dashtaki, Brownfields Coordinator, 5100 L.B. McLeod Road, Orlando, FL 32811; Phone (407) 246-2664; fax (407) 24-2886; email: dan.dashtaki@cityoforlando.net

ECT Distribution List

- Jeffrey Peters, P.G., Project Manager/Director, ECT, 3660 Maguire Boulevard, Suite 107, Orlando, Florida 32803; Phone (407) 903-0005, email: jpeters@ectinc.com
- Dave Kraus, P.G., Quality Assurance/Quality Control (QA/QC) Officer, ECT, 3660 Maguire Boulevard, Suite 107, Orlando, Florida 32803; Phone (407) 903-0005, email: dkraus@ectinc.com
- Adam Earl, Field Team Technician, ECT, 3660 Maguire Boulevard, Suite 107, Orlando, Florida 32803; Phone (407) 903-0005. aearl@ectinc.com

A4. PROJECT/TASK ORGANIZATION

The project/task organization for this project follows the description provided in the Generic QAPP. The **Quality Assurance Project Organization Chart** included **Attachment A** shows the project organization structure for this Phase II ESA.

A5. PROBLEM DEFINITION/BACKGROUND

The City of Orlando is the current property owner of the Site located at 630 W. Amelia Street, Orlando, FL (**Figures 1-3**). The purpose of this Phase II ESA is to address the following issues and/or questions:

- To determine if the former entomology laboratories have impacted the groundwater at the Site to levels above the Florida Groundwater Cleanup Target Levels (GCTLs).

Current Conceptual Site Model

The United States Geological Survey (USGS) 7.5-Minute Series of the Orlando West, Florida quadrangle map dated 1997 indicates the Site has an approximate elevation of 109 feet above mean sea level (ft-msl). The surrounding properties are typically at the same elevation or lower than the Site.

According to the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey of Orange County, Florida (1989), the majority of the subject property is underlain by Millhopper fine sands. Below is a brief description of this soil type:

Millhopper fine sand: This soil type is nearly level to gently sloping and moderately well drained and is found on low ridges and knolls on the uplands and on the flatwoods. The slopes are nearly smooth to slightly convex. A seasonal high water table in Tavares soil is at a depth of 40 to 72 inches for more than 6 months, and it recedes to a depth of more than 80 inches during extended dry periods. A seasonal high water table in Millhopper soil is at a depth of 40 to 60 inches for 1 to 4 months, and it recedes to a depth of 60 to 72 inches for 2 to 4 months. During periods of high rainfall, the water table is at a depth of 30 to 40 inches for cumulative periods of 1 to 3 weeks. The permeability of Tavares soil is very rapid. The permeability of Millhopper soil is rapid in the surface and subsurface layers and moderately rapid of moderate in the subsoil. The available water capacity of Tavares soil is very low. The available water capacity of Millhopper soil is low in the surface and subsurface layers and medium in the subsoil. Natural fertility is very low in Tavares soil and low in Millhopper soil. Organic matter content is very low in Tavares soil and low or moderately low in Millhopper soil. In most areas, the soils in this map unit are used for citrus crops and/or for homesite development.

ECT personnel also reviewed the soil survey of Orange County, dated 1957 (issued 1960). According to the Soil Survey, Orange County is underlain by marine deposited beds of sand, silt, clay, limestone, dolomite, and shale to about 6,500 feet below land surface (bls). The uppermost unit is Pleistocene to Recent in age and generally composed of unconsolidated, very fine to medium-grained quartz sand with some clays. The Pleistocene and Recent age

sediments are underlain by the Hawthorn Group of Miocene age (about 25 million years old). In general, the Hawthorn Group is highly variable and diverse, including inter-bedded and inter-fingered sand, clayey sand, sandy-clayey phosphatic sediments, dolomite, and limestone. The Miocene age sediments are underlain by a thick sequence of late Eocene age limestone formations known as the Ocala Group. It is described as gray clay and gravel to white, soft limestone. The Ocala Group Limestone is underlain by the Avon Park Limestone, which is also of Eocene age. This formation is composed of similar materials, but distinguished from overlying units by the occurrence of sand-sized, cone-shaped foraminifera. The formation is usually tan in color, but can range from chalky white to light brown or ashen gray. The Lake City Limestone of middle Eocene age underlies the Avon Park Limestone. It is similar in lithology and water-bearing properties to the Avon Park Limestone and makes up the bottom portion of the Floridan aquifer.

According to the Soil Survey, ground water occurs in both artesian and non-artesian conditions in the Orange County. The non-artesian aquifer is composed mainly of sand and shell with varying amounts of clay and provides limited amounts of water. Water from this aquifer is used mainly for livestock and limited domestic use. Water quality in this aquifer varies depending on the chemical composition of the aquifer and the content of the calcium carbonate in the area. The secondary artesian aquifer and the Floridan Aquifer are the two types of artesian aquifers in Orange County. The secondary artesian aquifer generally yields less water than the Floridan Aquifer, but yields more than the non-artesian aquifers. The secondary artesian aquifers contain undifferentiated sediments and are more extensive in the Hawthorn Group. The quality of the secondary artesian aquifer varies with depth, location, and local geologic and hydrologic conditions.

The Floridan Aquifer underlies all of Florida. In Orange County, the Floridan Aquifer includes the Lake City Limestone, the Avon Park Limestone, the Ocala Group, and parts of the Hawthorn Group. The aquifer consists of alternating layers of limestone and dolomite or dolomitic limestone. This aquifer is one of the most productive in the world. Ground water recharge in Orange County of the Floridan Aquifer comes from annual rainfall. Water also enters the Floridan Aquifer by underground flow from outside the region. Discharge of ground water from the Floridan Aquifer occurs by spring outflow, seepage into the St. Johns River system, by outflows to other areas, and by localized pumping in the area.

A6. PROJECT/TASK DESCRIPTION AND SCHEDULE

The objectives of this Phase II ESA will be to evaluate whether or not petroleum-based or hazardous substances associated with the former entomology laboratories may have impacted the groundwater. A site map depicting the locations of the proposed groundwater monitoring well locations is presented as **Figure 1**.

The tasks to be completed that comprise this Phase II ESA include:

Site-Specific Quality Assurance Project Plan

Prior to implementing the scope of work outlined below, this SSQAPP was prepared and submitted to the City of Orlando and to EPA for approval. This plan was prepared in general accordance with the Brownfield grant requirements.

Site-Specific Health and Safety Plan

ECT will prepare and complete a Site-Specific Health & Safety Plan in accordance with 29 CFR 1910.120 and EPA requirements which shall be submitted to the City of Orlando and EPA for review and approval.

Groundwater Investigation

ECT proposes to install 5 monitoring wells (MWs) to a depth of 20 feet below land surface (ft. bls). Monitoring wells will be 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. The well shall be flush mounted with a concrete pad (2' x 2'). The drilling contractor will develop the well and provide the well development logs and associated documents to ECT. Drill cuttings will be spread on-site adjacent to the monitoring wells. Monitoring well development water will be containerized for disposal.

At least 48-hours after MW installation, ECT will sample the groundwater from the MWs. The groundwater samples will be analyzed by Accutest Laboratories according to EPA Methods 8260 (BTEX + MTBE + naphthalene), 8151 (chlorinated herbicides), 8141 (organophosphorous pesticides), 6020 (arsenic), and 8081 (TCL pesticides). Monitoring well development water will be containerized for disposal.

No soil samples will be collected due to the nature of the Site (former Orlando Arena) and the presumption that the soils in this area are non-native or have been re-worked due to former development activities.

Laboratory Analyses

Groundwater samples will be delivered under a chain of custody on wetted ice to Accutest Laboratories for the analyses outlined in Section B.2.

Phase II ESA Report

Based on the information obtained from the tasks above, a report will be prepared that presents the Phase II ESA findings with figures, tables, and appendices, as appropriate. Recommendations for further assessment or corrective actions, if applicable, will be included in the report.

Schedule

Once the SSQAPP is complete and approved by the City of Orlando, the SSQAPP will be sent to the EPA for review. It is anticipated that review of the SSQAPP will take approximately 1-3 weeks.

Field work will be scheduled to begin within one week of approval from the EPA of the SSQAPP. Field activities are expected to take 2 days. It is anticipated that the laboratory analyses report will be received within 10 business days after the completion of the soil sampling event. A final report can be delivered within 30 calendar days of receipt of laboratory analytical data.

The objectives of the Brownfields Phase II ESA for the Site will be to evaluate whether petroleum-based or hazardous substances are present in the groundwater. FDEP Chapter 62-780, F.A.C will provide guidance to whether further assessment is warranted based upon applicable criteria. The scope of work has been designed to assess the presence or absence of petroleum-based or hazardous substances and/or contaminants of concern associated with pigments or paint resulting from historical use of the property adjoining the Site to the east; not to delineate impacts or to design a remediation strategy.

A7. SPECIAL TRAINING REQUIREMENTS/CERTIFICATION

General procedures and requirements for special training requirements/certification are provided in the Generic QAPP.

A8. DOCUMENTS AND RECORDS

General procedures and requirements for documents and records are provided in the Generic QAPP.

B1. PROJECT/TASK ORGANIZATION

The site specific Project/Task Organization chart is included as **Attachment A**.

B2. SAMPLING DESIGN PROCESS

General procedures and requirements regarding the sampling design process are provided in the Generic QAPP. FDEP SOP-001/01 provides procedures for routine field sampling and measurement; the procedures presented in FDEP SOP-001/01 will be followed during field sampling events as applicable.

A summary table for groundwater sampling containers, methods of analysis, number of containers for each analytical analysis and QA sampling requirements is provided below:

Matrix	Parameter	Number of Samples	Method	Container	Preservative	Hold Time	Container
Liquid	VOCs	5	EPA 8260 BTEX/NAPH	Glass	HCL	14 days	40 ml vial
Liquid	Herbicides	5	EPA 8151	Glass	Ice	7 days	1 liter amber
Liquid	Pesticides	5	EPA 8081	Glass	Ice	7 days	1 liter amber
Liquid	Pesticides	5	EPA 8141	Glass	Ice	7 days	1 liter amber
Liquid	Arsenic	5	EPA 6010	Plastic	HNO3	28 days	500 ml

Note: Additional samples may be warranted based on field conditions at the time of sampling.

Equipment Needs

The following is a list of equipment anticipated for use during the implementation of this Phase II ESA:

Groundwater Sampling

VS peristaltic pump

DO meter

Flow-through cell

pH meter

Conductivity meter

Groundwater level meter

Consumable Equipment

Nitrile gloves

Paper towels

Aluminum foil

En Core[®] samplers

Non-phosphate detergent

Trash bags

Ice

Tubing

Other information for the Sampling design process is provided in the Generic QAPP.

B3. SAMPLE HANDLING AND CUSTODY REQUIREMENTS

General procedures and requirements for sample handling and custody requirements are provided in the Generic QAPP.

B4. ANALYTICAL METHODS AND REQUIREMENTS

General procedures for analytical methods and requirements are provided in the Generic QAPP. A listing of the site specific analytical methodologies and required instrumentation is as follows:

- Volatile organic compounds (Table A): U.S. EPA Method 8260
- Arsenic: U.S. EPA Method 6010
- Organophosphate pesticides: U.S. EPA Method 8041 / 8141

- Organochlorine pesticides: U.S. EPA Method 8081
- Chlorinated herbicides: U.S. EPA Method 8151

It is anticipated that laboratory analytical reports will be delivered within 10 business days after field activities are complete.

B5. FIELD QUALITY CONTROL REQUIREMENTS

General procedures for field quality control requirements are provided in the Generic QAPP. Field personnel shall take special care when handling soils; soil screening and sampling shall be conducted in general accordance with FDEP SOPs.

The site specific numbers of duplicate and blank samples to be collected for soil analyses are as follows:

- Equipment rinsate blanks will be collected whenever field decontamination of equipment to be re-used in sampling activities is performed. At least one equipment rinsate blank shall be collected for each of the soil sample analyses listed above in **Section B4**.
- Two duplicate samples for groundwater samples collected for analysis by U.S. EPA 8260
- One field blank sample for each cooler containing groundwater samples collected for analysis by U.S. EPA 8260
- One trip blank for each cooler containing groundwater samples.

B6. LABORATORY QUALITY CONTROL REQUIREMENTS

General procedures for laboratory quality control requirements are provided in the Generic QAPP. Additional requirements regarding laboratory quality control requirements are specifically addressed in Accutest's QA manual provided in Attachment D of the Generic QAPP.

B7. FIELD EQUIPMENT AND CORRECTIVE ACTION

General requirements on field equipment and corrective action are provided in the Generic QAPP.

B8. LAB EQUIPMENT AND CORRECTIVE ACTION

General procedures for laboratory equipment and corrective action are provided in the Generic QAPP. Additional requirements regarding laboratory equipment and corrective

action are specifically addressed in Accutest's QA Manual provided in Attachment D of the Generic QAPP.

B9. ANALYTICAL SENSITIVITY AND PROJECT CRITERIA

Details regarding Analytical Sensitivity and Project Criteria are provided in the Generic QAPP. The site specific information is addressed by the Accutest's QA Manual in Attachment D of the Generic QAPP. In addition, project criteria are based on Chapter 62-777, F.A.C.

B10. DATA MANAGEMENT AND DOCUMENTS

General requirements for data management and documents are provided in the Generic QAPP.

It is anticipated that laboratory analytical reports for this Phase II ESA will be received within 10 working days following field activities as discussed in Section A6, above. Final reports shall be issued within 30 calendar days after receipt of the above specified analytical reports and data.

C1. ASSESSMENT AND RESPONSE ACTIONS

General requirements for assessment and response actions are provided in the Generic QAPP.

C2. PROJECT REPORTS

General requirements for project reports are provided in the Generic QAPP.

It is anticipated that laboratory analytical reports for this Phase II ESA will be received within 10 working days following field activities as discussed in Section A6, above. Final reports shall be issued with 30 calendar days after receipt of the above specified analytical reports and data.

D1. FIELD DATA EVALUATION

General requirements for field data evaluation are provided in the Generic QAPP.

D2. LABORATORY DATA EVALUATION

General requirements for laboratory data evaluation are provided in the Generic QAPP. Additional requirements regarding laboratory data evaluation are specifically addressed in Accutest's QA Manual provided in Attachment D of the Generic QAPP.

D3. DATA USABILITY AND PROJECT VERIFICATION

General requirements for data usability and project verification are provided in the Generic QAPP. Additional requirements regarding laboratory data evaluation are specifically addressed in Accutest's QA Manual provided in Attachment D of the Generic QAPP.

REFERENCES

- American Society for Testing and Materials. ASTM E1527 – 13. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.
- American Society for Testing and Materials. ASTM E1903 – 11. Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process.
- Chapter 62-160 Florida Administrative Code, Quality Assurance.
- Chapter 62-780 Florida Administrative Code, Contaminated Site Cleanup Criteria.
- Department of Environmental Protection Standard Operating Procedures for Field activities DEP-SOP-001/01 July 30, 2014 (DEP Field SOPs).
- Department of Environmental Protection Standard Operating Procedures for Laboratory Activities DEP-SOP-002/01 February 1, 2004 (DEP Lab SOPs).
- U.S. Code of Federal Regulations CFR Title 40 – Protection of Environment.
- U.S. Environmental Protection Agency, Region 4, Generic QAPP Appendix A Checklist.
- U.S. Environmental Protection Agency. Quality Assurance Guidance for Conducting Brownfields Site Assessments. EPA 540-R-98-038. September 1998.
- U.S. Environmental Protection Agency. EPA Guidance for Quality Assurance Project Plans. EPA QA/G-5. EPA 2401R-02/009. December 2002.
- U.S. Environmental Protection Agency. EPA Requirements for Quality Assurance Project Plans. EPA QA/R-5. EPA 240-B-01-003. March 2001 (Reissued May 2006).
- U.S. Environmental Protection Agency. Data Quality Assessment: Statistical Tools for Practitioners. EPA QA/G-9S. EPA 240-B-06-003. February 2006.
- U.S. Environmental Protection Agency. EPA Guidance on Systematic Planning Using the Data Quality Objectives Process. EPA QA/G-4. EPA 240/B-06/00 I. February 2006.
- U.S. Environmental Protection Agency, Region 4, SEDS, Field Branches Quality System and Technical Procedures, February 2008.
- U.S. Environmental Protection Agency, Region 4, SEDS, Operating Procedure, Field Sampling Quality Control, SEDSPROC-011-R4, February 2013.
- U.S. Environmental Protection Agency, Region 4, SEDS, Operating Procedure, Field Equipment Cleaning and Decontamination, SEDSPROC-205-R2, December 2011.

U.S. Environmental Protection Agency, Region 4, SEDS, Soil Sampling, SEDSPROC-300-R2, December 2011.

U.S. Environmental Protection Agency, Region 4, SEDS, Waste Sampling, SEDSPROC-302-R2, January 2013.

U.S. Environmental Protection Agency, Region 4, SEDS, Operating Procedure, Packing, Marking, Labeling and Shipping of Environmental and Waste Samples, SEDSPROC-209-R2, April 2011.

LIST OF ABBREVIATIONS

AAI	All Appropriate Inquiry
ASTM	American Society for Testing and Materials
ATI	Ambient Technologies, Inc.
bls	Below Land Surface
ECT	Environmental Consulting & Technology, Inc.
ESA	Environmental Site Assessment
EUL	Electronic Utility Locating
FL	Florida
GPR	Ground Penetrating Radar
GPS	Global Positioning Satellite
OVA	Organic Vapor Analyzer
P.E.	Professional Engineer
P.G.	Professional Geologist
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
REC	Recognized Environmental Condition
RQAO	Regional Quality Assurance Designated Approving Official
ROW	Right-Of-Way
SOP	Standard Operating Procedure
SPT	Standard Penetration Test
SSQAPP	Site Specific Quality Assurance Project Plan
TDEM	Time Delayed Electromagnetic
USC	Unified Soil Classification
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey

Figures

Figure 1: Proposed Groundwater Monitoring Well Locations

OCPA Web Map

Florida turnpike	Major Roads	Proposed Road	Block Line	Commercial/Institutional	Hydro	Golf Course
Interstate 4	Public Roads	Brick Road	Lot Line	Governmental/Institutional/Misc	Waste Land	Lakes and Rivers
Toll Road	Gated Roads	Rail Road	Residential	Misc Commercial/Industrial	County Boundary	Building
Road Under Construction	Proposed SunRail	Agriculture	Agricultural Curtilage	Parks	Hospital	

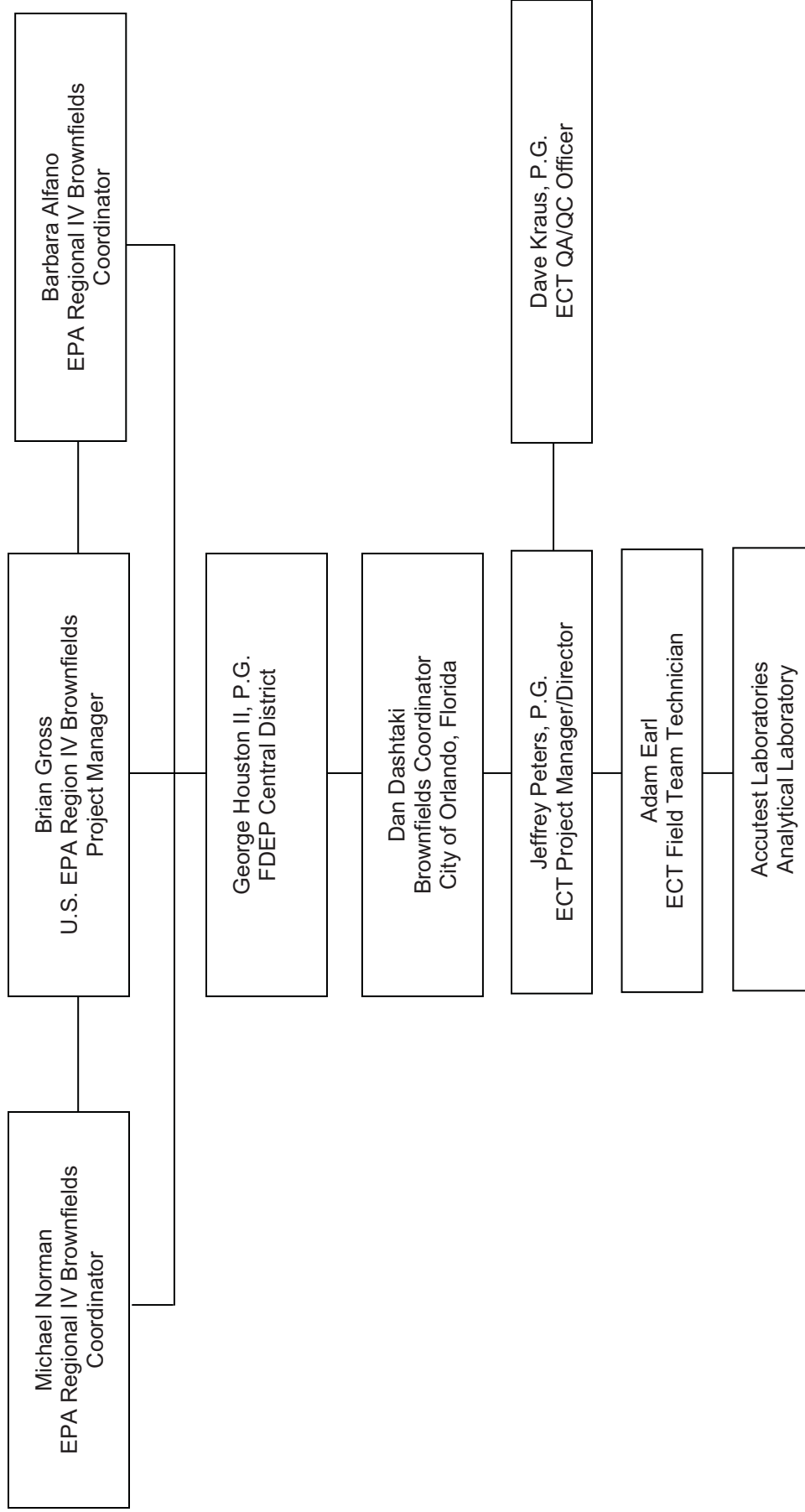


Created: 8/13/2014

This map is for reference only and is not a survey.

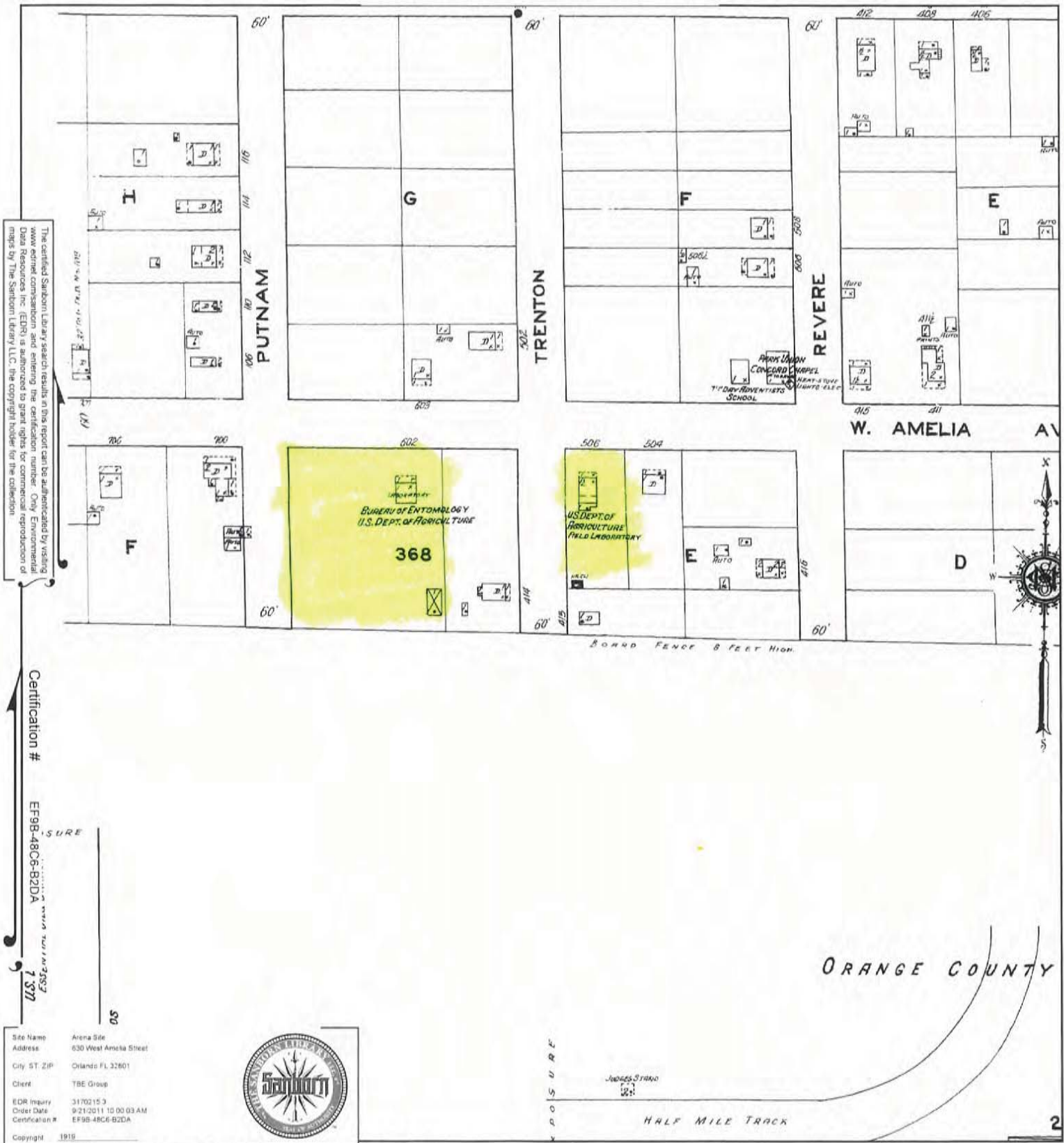
Attachment A
Quality Assurance Project Organization Chart

City of Orlando, Florida Quality Assurance Project Organization Chart

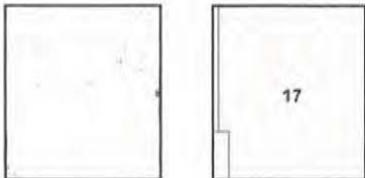


APPENDIX C

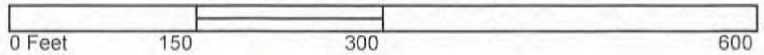
1919 Certified Sanborn Map



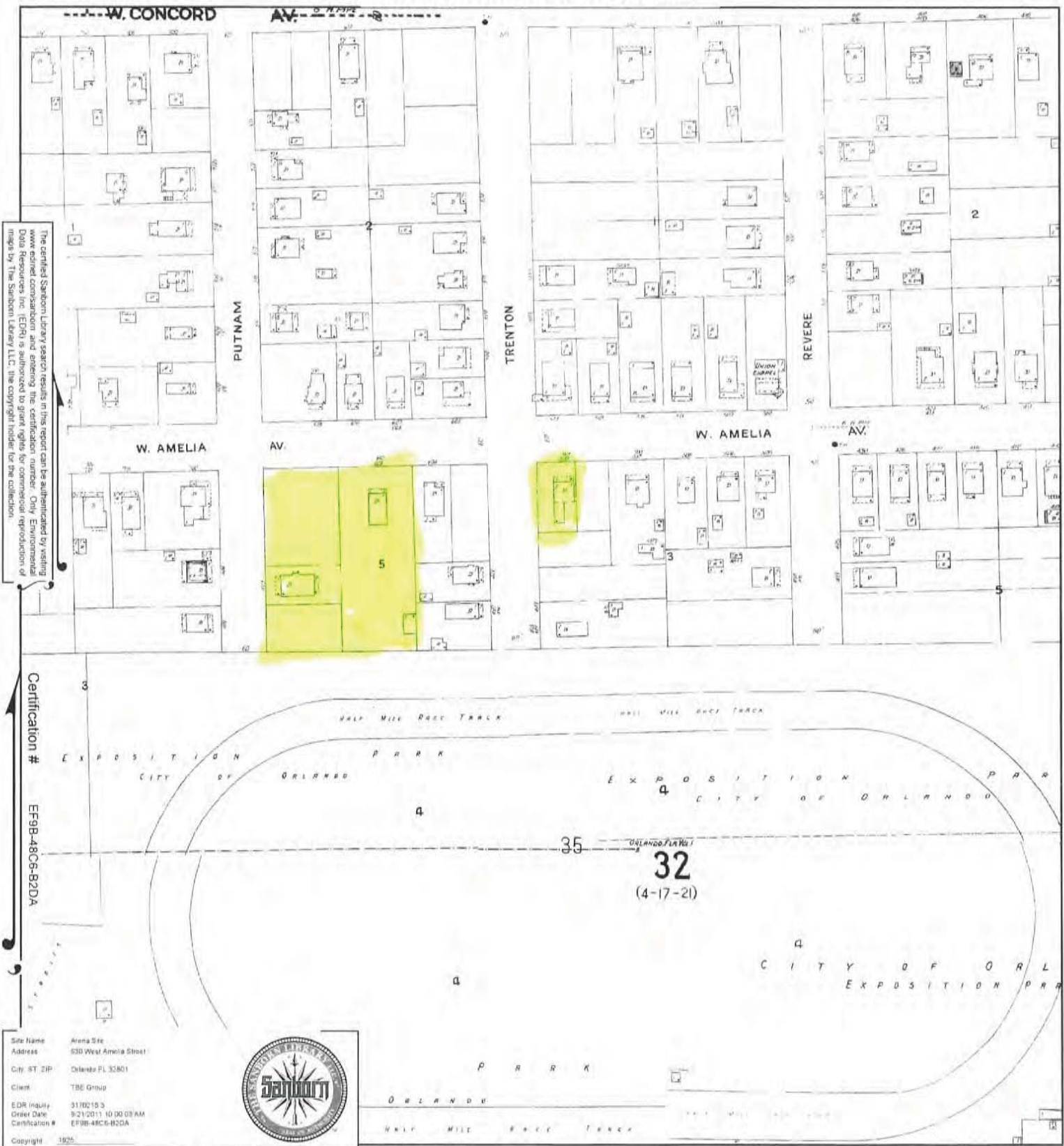
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Volume 1, Sheet 17



1925 Certified Sanborn Map



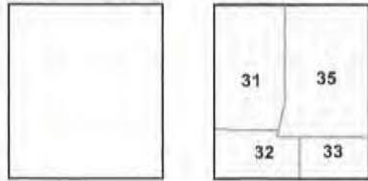
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Certification # EF9B-48C6-B2DA

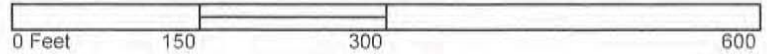
Site Name: Arona Site
Address: 530 West Amelia Street
City, ST, ZIP: Orlando, FL 32801
Client: TBE Group
EDR Inquiry: 3170215-3
Order Date: 9/21/2011 10:00 AM
Certification #: EF9B-48C6-B2DA
Copyright: 1925



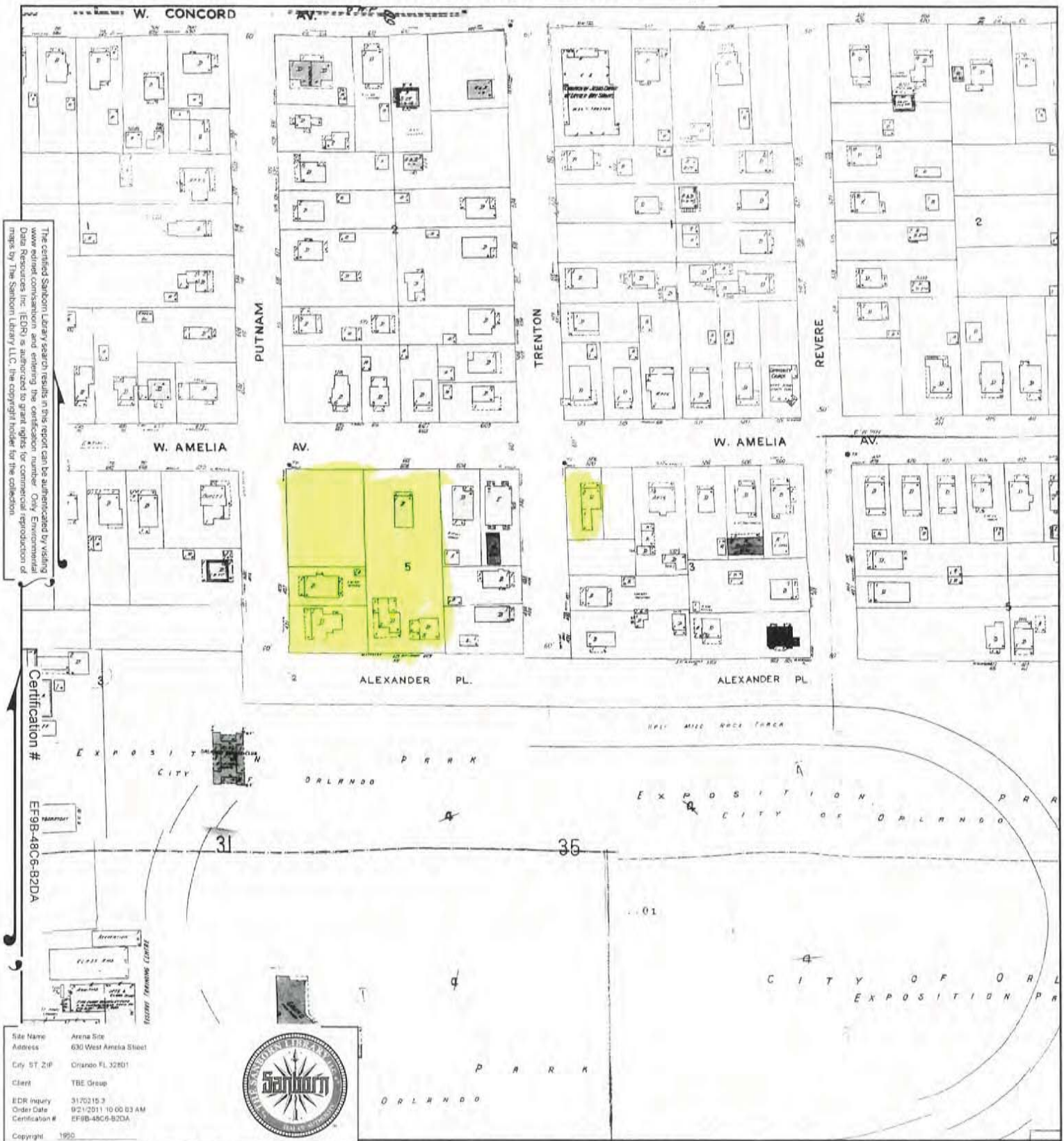
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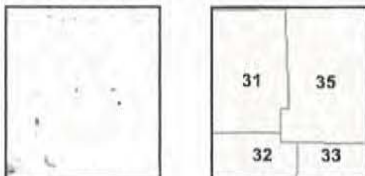
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- Volume 1 & 2, Sheet 32
- Volume 1 & 2, Sheet 33
- Volume 1 & 2, Sheet 35



1950 Certified Sanborn Map



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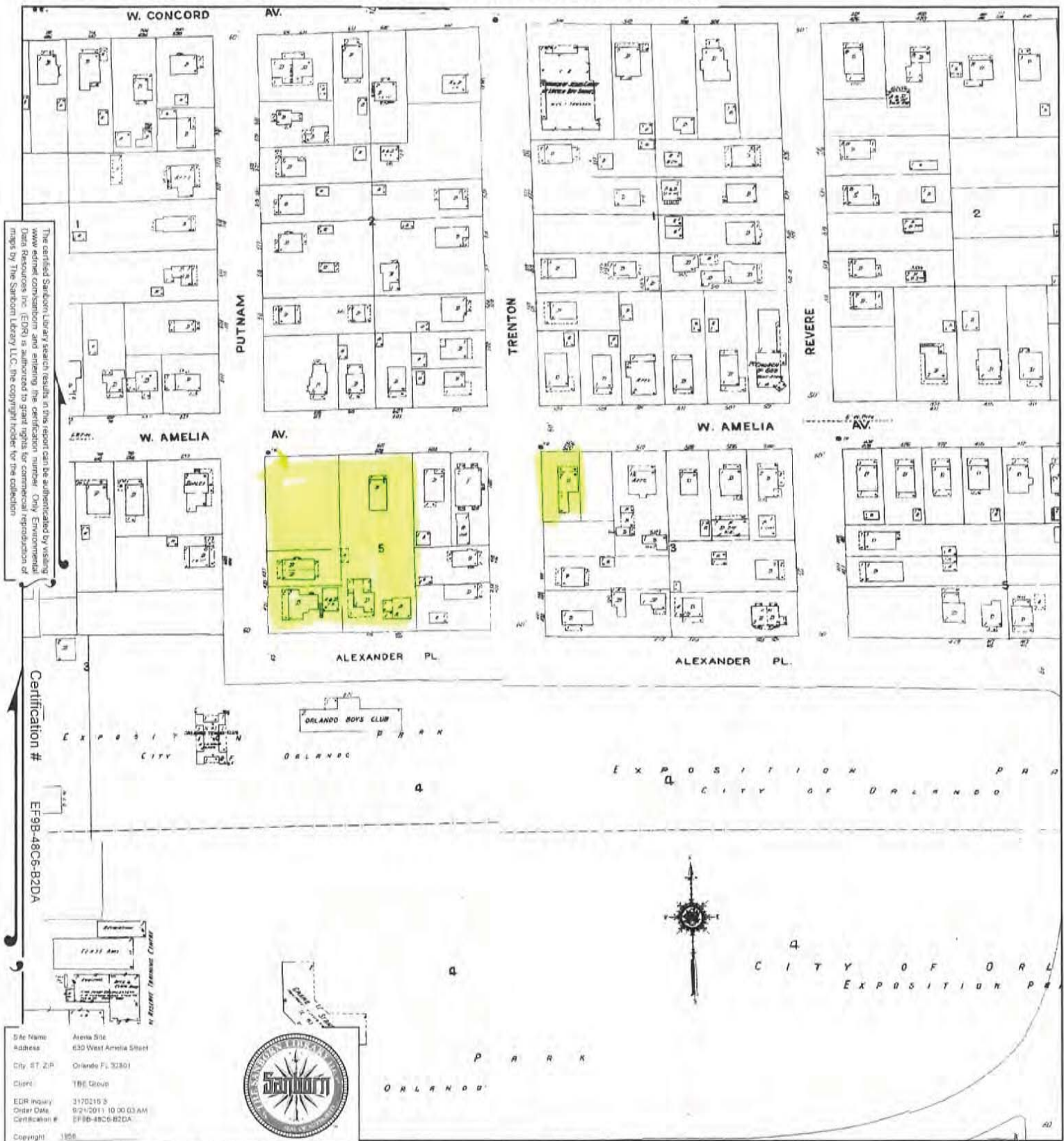


Volume 1, Sheet 31
Volume 1, Sheet 32
Volume 1, Sheet 33
Volume 1, Sheet 35

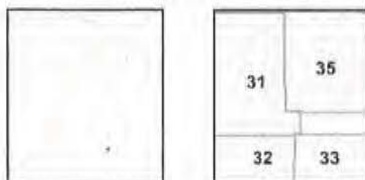
0 Feet 150 300 600



1956 Certified Sanborn Map



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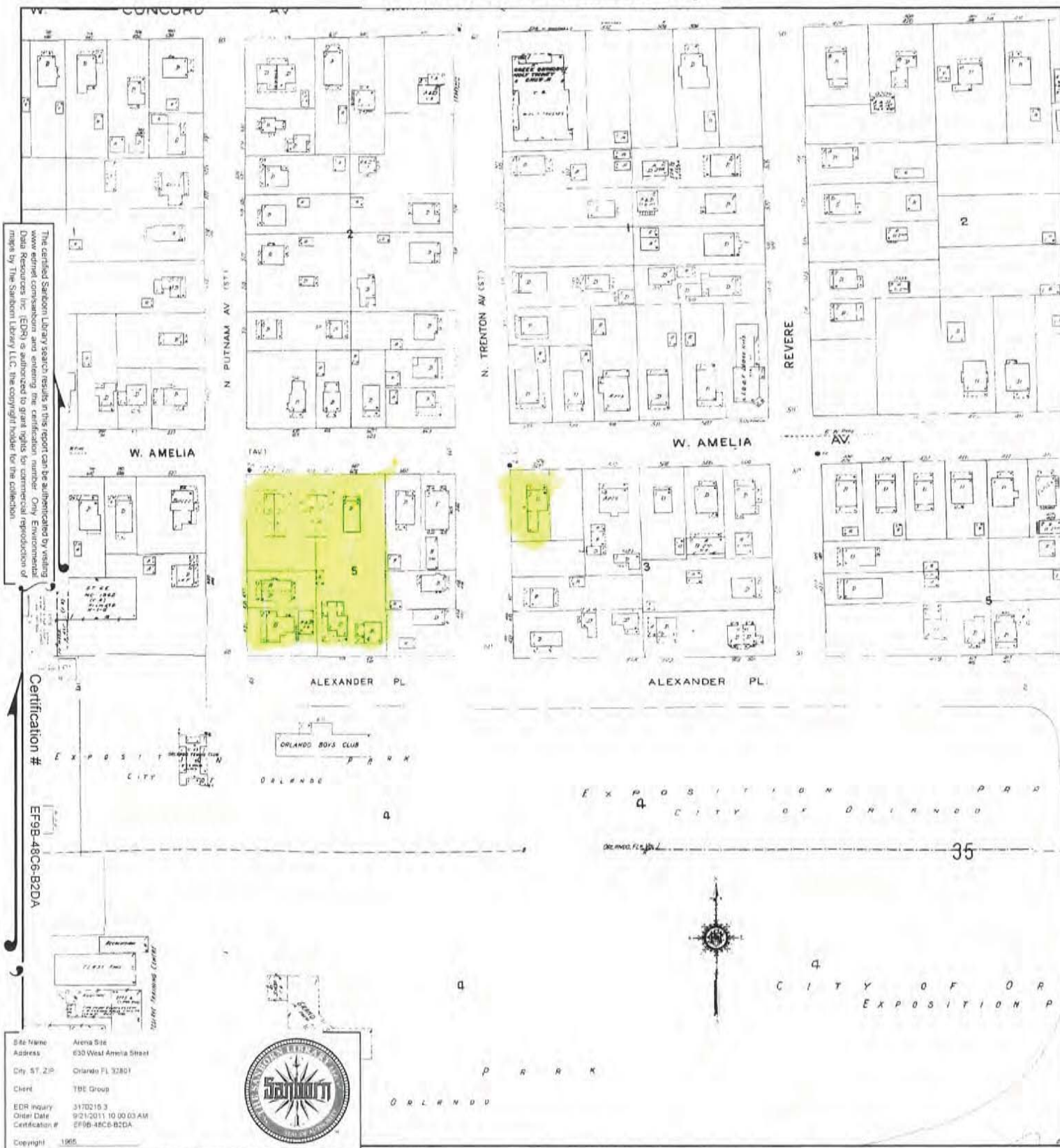


Volume 1, Sheet 31
Volume 1, Sheet 32
Volume 1, Sheet 33
Volume 1, Sheet 35

0 Feet 150 300 600



1965 Certified Sanborn Map



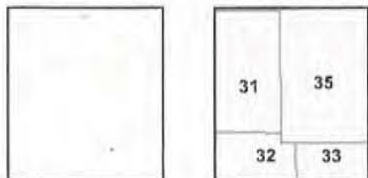
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Certification # EF9B-48CB-B2DA

Site Name: Arena Site
Address: 630 West Amelia Street
City, ST, ZIP: Orlando FL 32801
Client: TBE Group
EDR Inquiry: 3170215-3
Order Date: 9/21/2011 10:00:03 AM
Certification #: EF9B-48CB-B2DA
Copyright: 1965



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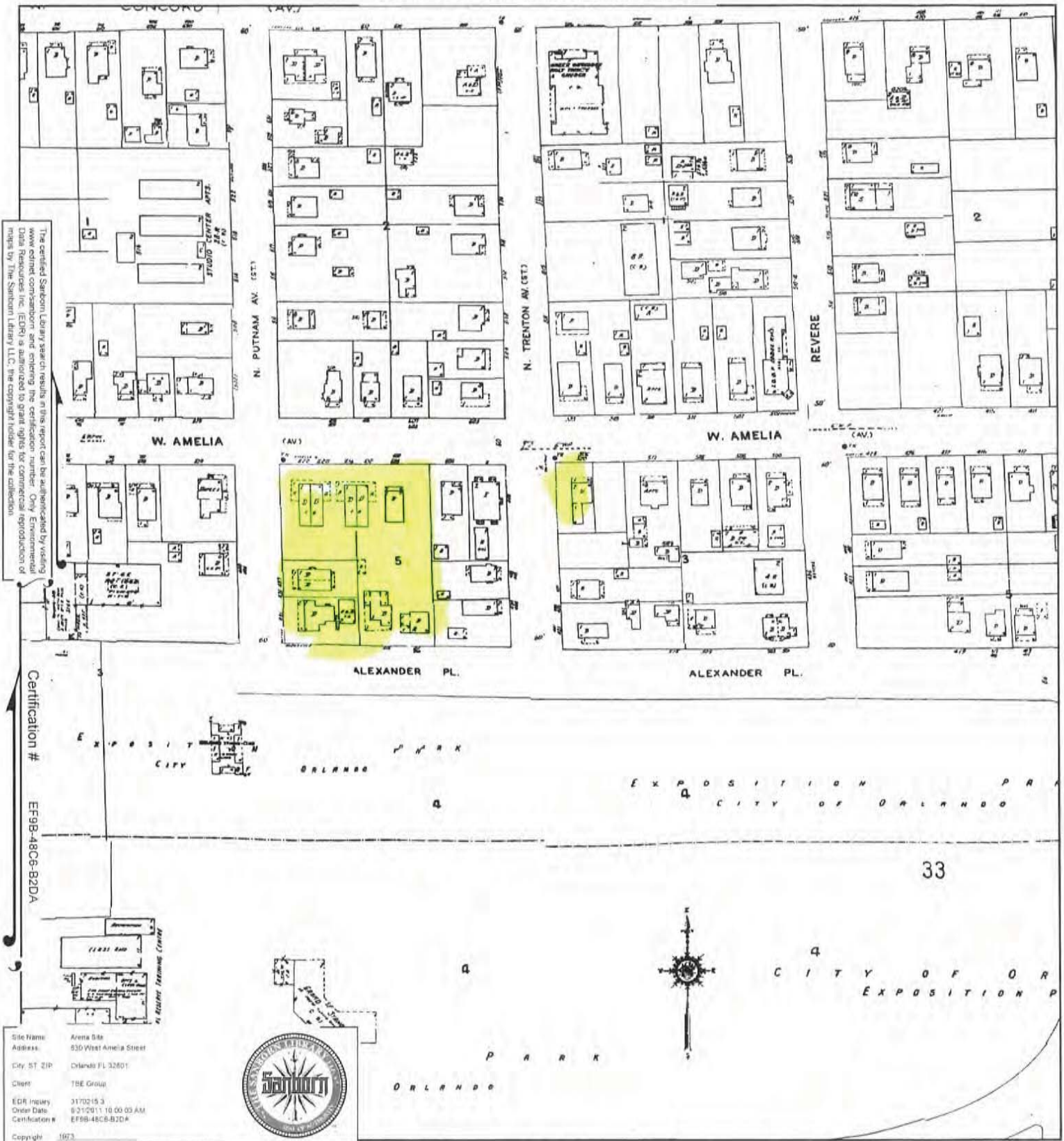


Volume 1, Sheet 31
Volume 1, Sheet 32
Volume 1, Sheet 33
Volume 1, Sheet 35

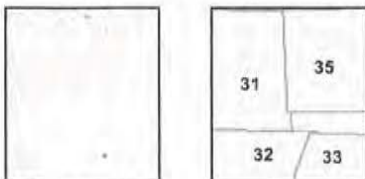
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1973 Certified Sanborn Map



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 Outlined areas indicate map sheets within the collection.



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 Volume 1, Sheet 32
 Volume 1, Sheet 33
 Volume 1, Sheet 35



INQUIRY #: 3666506.5

YEAR: 1984

| = 500'





INQUIRY #: 3666506.5

YEAR: 1994

| = 500'



APPENDIX D

WELL COMPLETION LOG

Water Mgmt. Dist.:

Permit Number:

Work Order: 1014032

Type of Well: Monitor

Well Number: MW 1

Method Used: H S A

Borehole Diaz: 8.25'

Site Information:

Name: City of Orlando

Address: 630 W. Amelia St.

C.S.Z: Orlando, FL

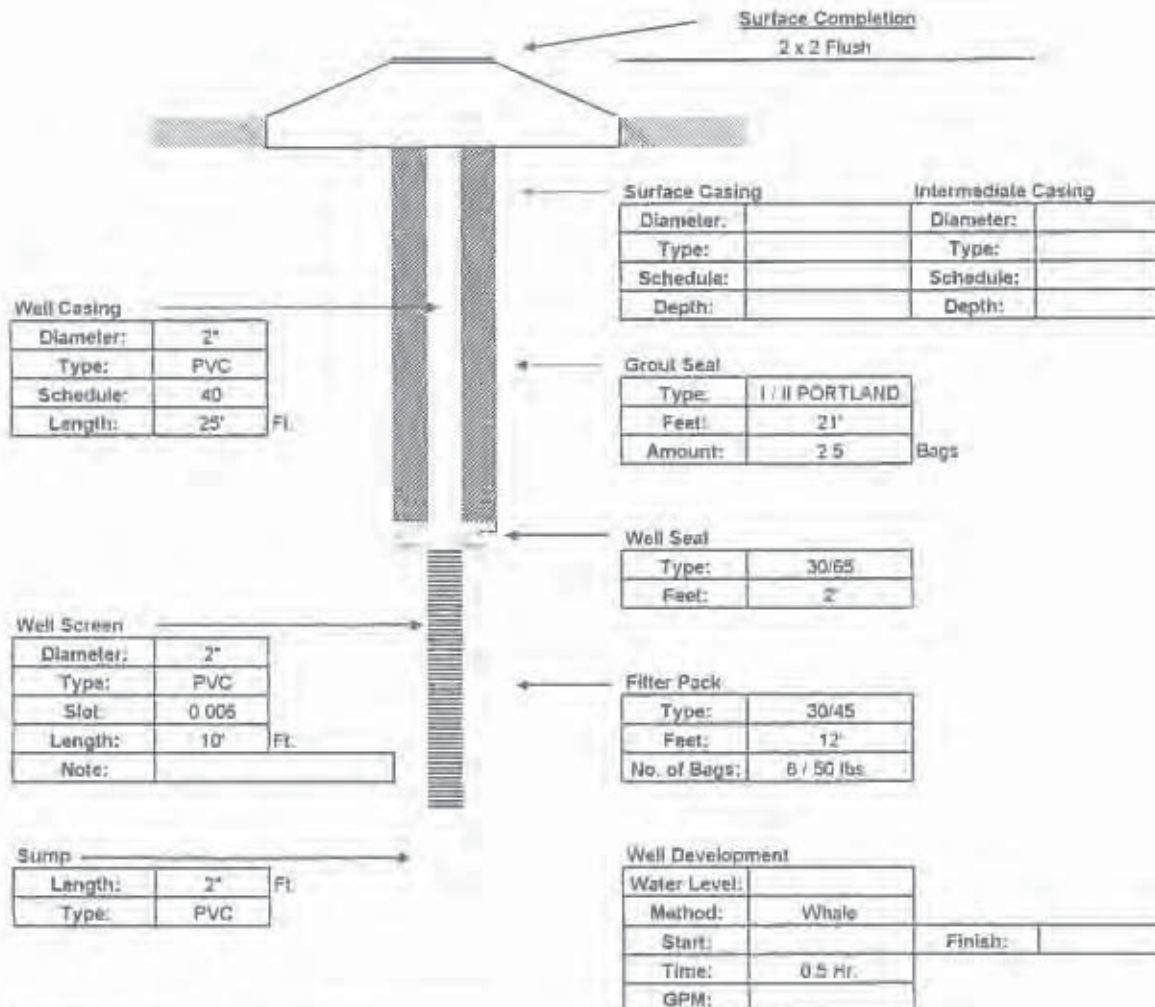
S/T/R:

Client / Consultant Information:

Consultant: ECT

Field Rep: Adam Earl

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	35'	10'	25'	2.5	8 / 50 lbs	30/45	30/65
40	Schedule	Slot Size	0.006		21'	Feet	12'	2"



Contractor Information

Contractor #:	8311
Completion:	10/13/2014
Driller:	Christian Dodd
Lead Hand:	Tim Elstasz
3rd Man:	Taylor Milliner
Drill Rig:	7822B

Company: Drillpro LLC d/b/a Groundwater Protection
Address: 2300 Silver Star Road
C.S.Z: Orlando, Florida 32804-3210
Phone/FAX: (407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist.:

Permit Number:

Work Order: 1014032

Type of Well: Monitor

Well Number: MW 2

Method Used: H.S.A.

Borehole Dia: 8.25"

Site Information:

Name: City of Orlando

Address: 630 W. Amelia St.

C.S.Z: Orlando, FL

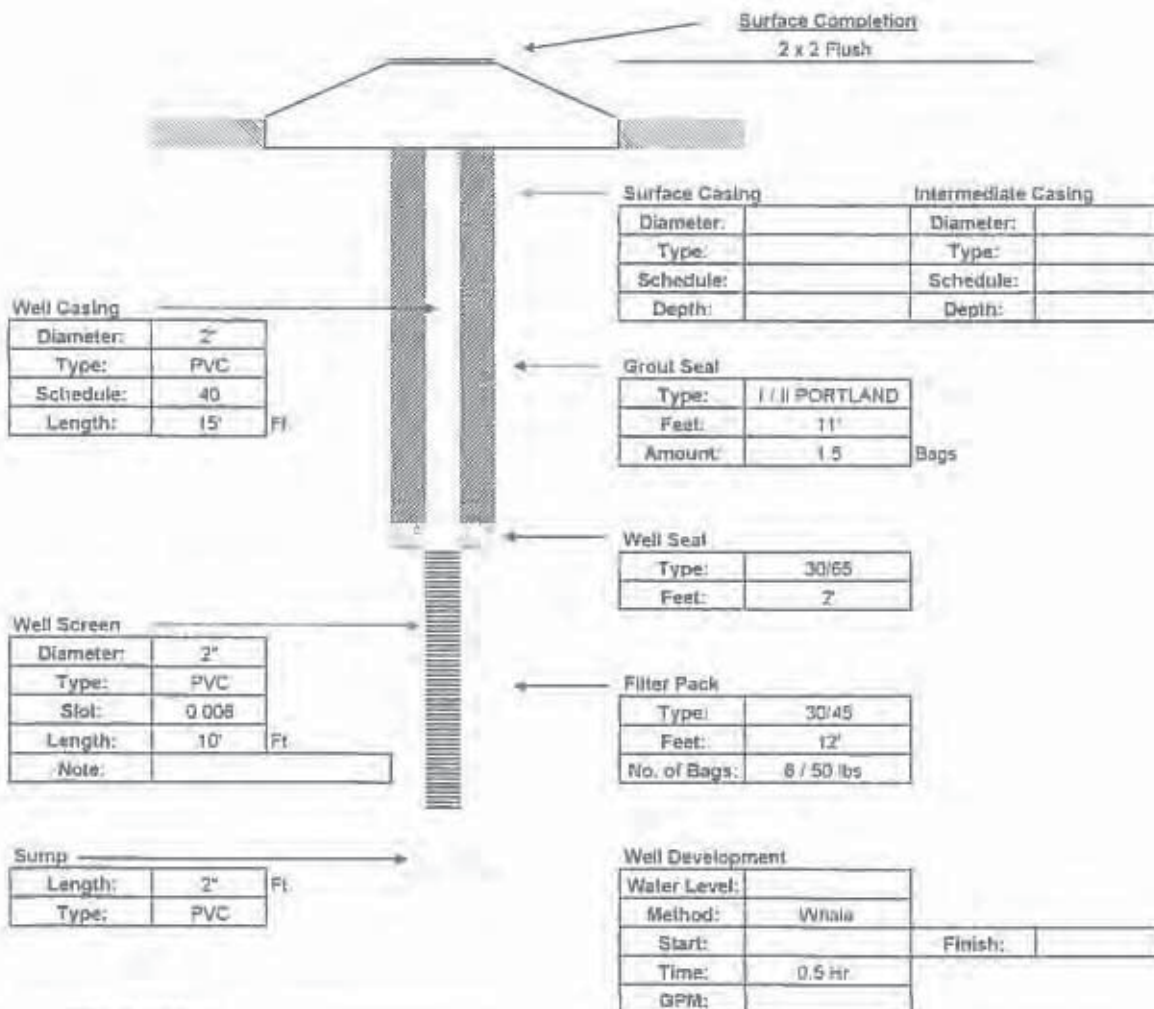
S/T/R:

Client / Consultant Information

Consultant: ECT

Field Rep: Adam Earl

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	25'	10'	15'	1.5	6 / 50 lbs.	30/45	30/65
40	Schedule	Slot Size	0.008		11'	Feet	12'	2'



Contractor Information

Contractor #:	9311
Completion:	10/13/2014
Driller:	Christian Dodd
Lead Hand:	Tim Elszasz
3rd Man:	Tyler Milliner
Drill Rig:	7822B

Company: Drillpro LLC d/b/a Groundwater Protection
Address: 2300 Silver Star Road
C.S.Z: Orlando, Florida 32804-3310
Phone/FAX: (407) 426-7885 / (407) 426-7886

WELL COMPLETION LOG

Water Mgmt. Dist.:

Permit Number:

Work Order: 1014032

Type of Well: Monitor

Well Number: MW 3

Method Used: H.S.A.

Borehole Dia: 8.25"

Site Information:

Name: City of Orlando

Address: 630 W. Amelia St.

C.S.Z: Orlando, FL

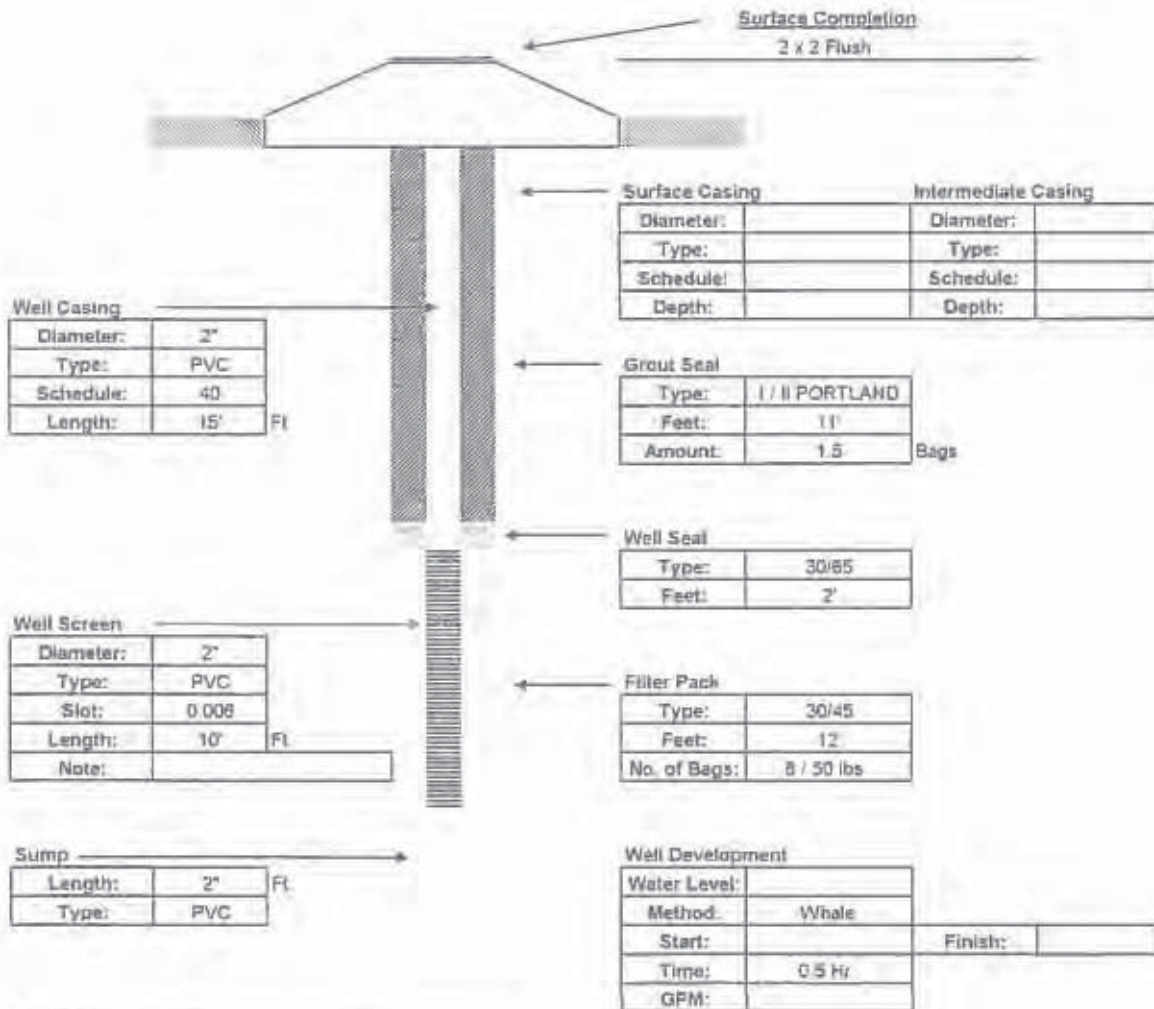
S/T/R:

Client / Consultant Information

Consultant: ECT

Field Rep: Adam Earl

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	25'	10'	15'	1.5	8 / 50 lbs	30/45	30/65
40	Schedule Slot Size		0.008		11'	Feet	12'	2'



Contractor Information

Contractor #:	9311
Completion:	10/13/2014
Driller:	Christian Dodd
Lead Hand:	Tim Elszasz
3rd Man:	Tyler Milliner
Drill Rig:	7822B

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2100 Silver Star Road
C.S.Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7585 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist. _____

Permit Number: _____

Work Order: 1014032

Type of Well: Monitor

Well Number: MW 4

Method Used: H.S.A.

Borehole Diaz: 8.25"

Site Information:

Name: City of Orlando

Address: 630 W. Amelia St.

C.S.Z.: Orlando, FL

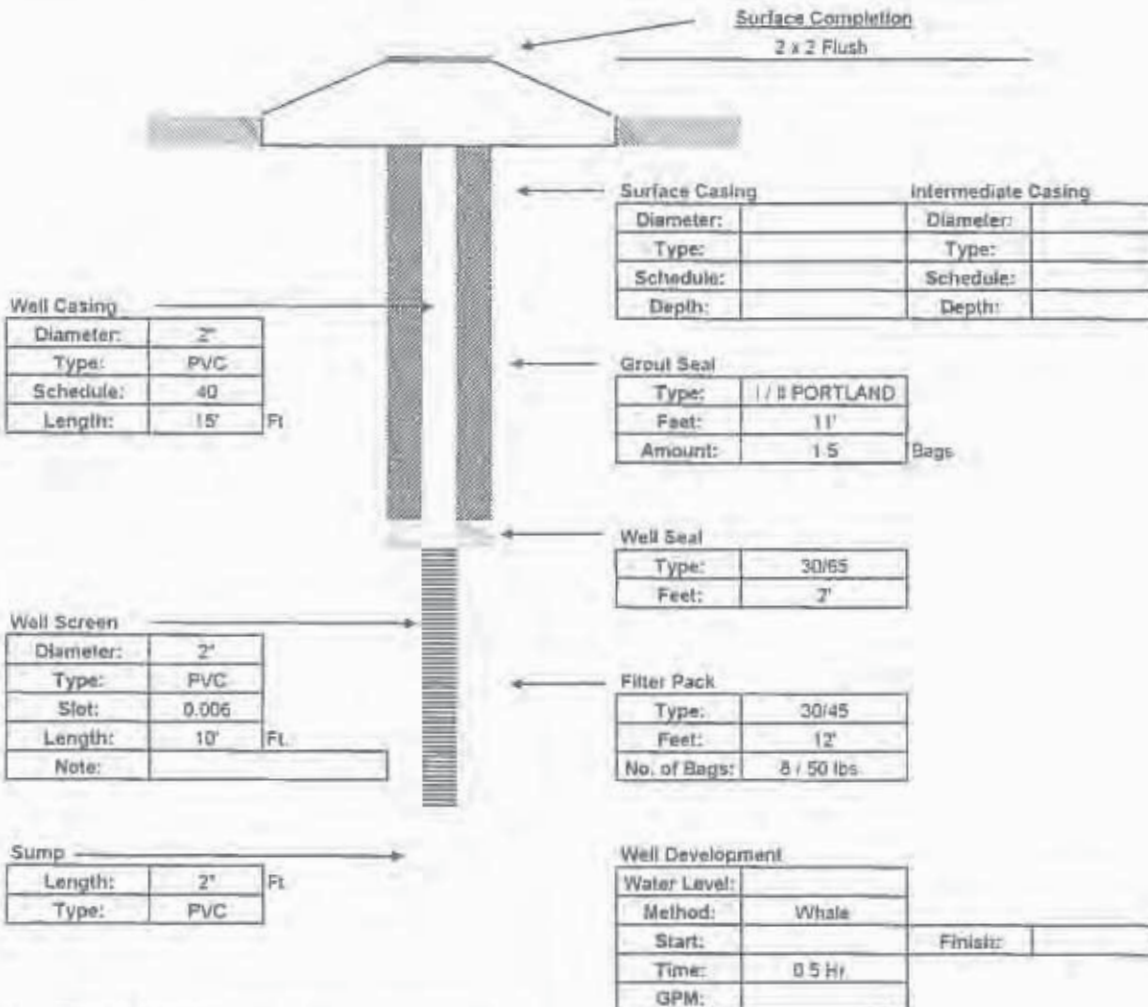
S/T/R: _____

Client / Consultant Information

Consultant: ECT

Field Rep: Adam Earl

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	25'	10'	15'	1.5	8 / 50 lbs	30/45	30/65
40	← Schedule	Slot Size: →	0.006		11'	← Feet →	12'	2'



Contractor Information

Contractor #:	9311
Completion:	10/13/2014
Driller:	Christian Dodd
Lead Hand:	Tim Elszasz
3rd Man:	Tyler Milliner
Drill Rig:	7622B

Company: Drillpro LLC d/b/a Groundwater Protection
 Address: 2300 Silver Star Road
 C.S.Z.: Orlando, Florida 32804-3310
 Phone/FAX: (407) 426-7865 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist.:

Permit Number:

Work Order: 1014032

Type of Well: Monitor

Well Number: MW 5

Method Used: H.S.A.

Borehole Diaz: 8.25"

Site Information:

Name: City of Orlando

Address: 630 W. Amelia St.

C.S.Z: Orlando, FL

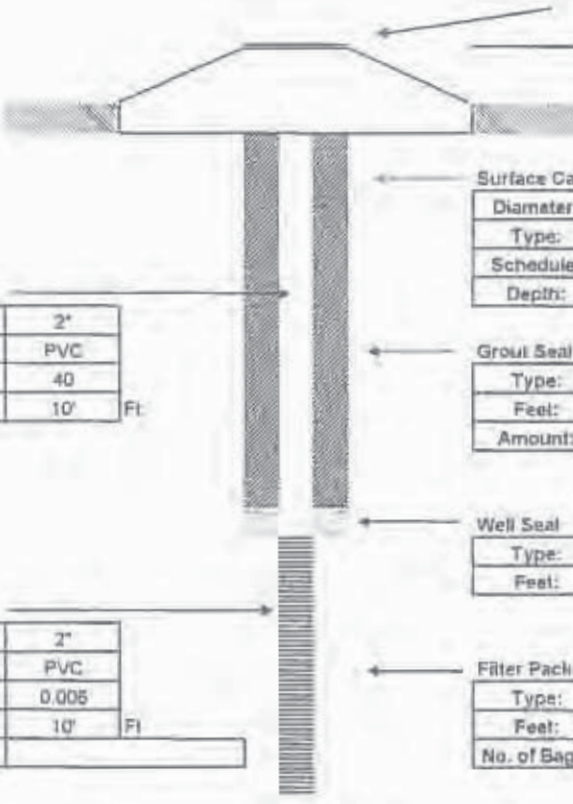
S/T/R:

Client / Consultant Information

Consultant: ECT

Field Rep: Adam Earl

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	20'	10'	10'	1	8 / 50 lbs	30/45	30/65
40	← Schedule	Slot Size: →	0.006		6'	← Feet →	12'	2'



The diagram shows a cross-section of a well. At the top is the 'Surface Completion' with a '2 x 2 Flush'. Below this is the 'Surface Casing' and 'Intermediate Casing'. The 'Well Casing' is shown as a vertical pipe. The 'Well Screen' is at the bottom of the casing. The 'Sump' is at the very bottom. Arrows point from the tables to the corresponding parts of the well diagram.

Surface Completion
2 x 2 Flush

Well Casing

Diameter:	2"
Type:	PVC
Schedule:	40
Length:	10' Ft

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Grout Seal

Type:	I / II PORTLAND
Feet:	6'
Amount:	1 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	2"
Type:	PVC
Slot:	0.006
Length:	10' Ft
Note:	

Filter Pack

Type:	30/45
Feet:	12'
No. of Bags:	8 / 50 lbs.

Sump

Length:	2" Ft
Type:	PVC

Well Development

Water Level:			
Method:	Whale		
Start:		Finish:	
Time:	0.5 Hr		
GPM:			

Contractor Information

Contractor #:	9311
Completion:	10/13/2014
Driller:	Christian Dodd
Lead Hand:	Tim Elaszcz
3rd Man:	Tyler Millner
Drill Rig:	7622B

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C.S.Z:	Orlando, Florida 32804-3316
Phone/FAX:	(407) 426-7895 / (407) 426-7586

XXXXXXXX

Orange County Health Department
800 N. Mercy Dr., Suite 1 Orlando, FL 32808
Phone 407-521-2630

Permit # 140665 Fee : \$200.00
Date Issued 10/10/2014
Well Location 630 W Amelia St
S 26 T 22 R 29 Orlando

Permit for: New Well Construction
Primary Use: Monitoring
Issued to

Groundwater Protection Lic # 9311
James Hinst
2300 Silver Star Rd
Orlando FL 32804

Well must meet all required setbacks
Authority Chapter 36-A Orange County Well Code

Construction Specifics

Drilling Meth:	Type Well:
Annular Mat:	Casing Mat:
Casing joined by	Well Diameter 2 in
Grout:	Casing depth 10 ft
Pump Type:	Exceed 75psi No
Tank Type:	Electric No
Deaerated:	

STATE OF FLORIDA WELL COMPLETION REPORT



- ☐ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☒ Delegated Authority (if Applicable)

PLEASE FILL OUT ALL APPLICABLE FIELDS
 (* Denotes Required Fields Where Applicable)

Onlie Stamp

Orange County

Official Use Only

1 * Permit Number 140665 CUPWSP No. _____ DID Number _____ 62-524 Delineation No. _____

2 * Number of permitted wells constructed, repaired, or abandoned 1 * Number of permitted wells not constructed, repaired, or abandoned 0

3 * Owner's Name City of Orlando 4 * Completion Date 10/13/2014 5 Florida Unique ID _____

6 630 W. Amelia Street - Orlando
 * Well Location - Address, Road Name or Number, City, ZIP

7 * County Orange * Section 26 Land Grant _____ * Township 22 * Range 29

8 Latitude _____ Longitude _____

9 Data Obtained From _____ GPS _____ Map _____ Survey _____ Datum NAD 27 NAD 83 WGS 84

10 * TYPE OF WORK: ☒ Construction ☐ Repair ☐ Modification ☐ Abandonment

11. Specify Intended Use(s) of Well(s):

<input type="checkbox"/> Domestic	<input type="checkbox"/> Landscape Irrigation	<input type="checkbox"/> Agricultural Irrigation	<input type="checkbox"/> Site Investigation
<input type="checkbox"/> Bottled Water Supply	<input type="checkbox"/> Recreation Area Irrigation	<input type="checkbox"/> Livestock	<input checked="" type="checkbox"/> Monitoring
<input type="checkbox"/> Public Water Supply (Limited Use/DOH)	<input type="checkbox"/> Nursery Irrigation	<input type="checkbox"/> Test	<input type="checkbox"/> Earth - Coupled Geotechnical
<input type="checkbox"/> Public Water Supply (Community or from Community/DEP)	<input type="checkbox"/> Commercial / Industrial	<input type="checkbox"/> HVAC Supply	<input type="checkbox"/> HVAC Return
<input type="checkbox"/> Class I Injection	<input type="checkbox"/> Golf Course Irrigation	<input type="checkbox"/> Other (Describe)	

Class V Injection ☐ Recharge ☐ Commercial/Industrial Disposal ☐ Aquifer Storage & Recovery ☐ Drainage

Remediation ☐ Recovery ☐ Air Sparge ☐ Other (Describe) _____

Other (Describe) _____

12 * Drill Method ☒ Auger ☐ Cable Tool ☐ Rotary ☐ Combination (Two or More Methods) ☐ Jetted ☐ Sonic

☐ Horizontal Drilling ☐ Hydraulic Pump (Direct Push) ☐ Other _____

13 * Measured Static Water Level _____ ft. Measured Pumping Water Level NA ft. After NA hours & NA GPM

14 * Measuring Point (Describe) Land Surface Which is 0 ft. Above ☐ Below Land Surface * Flowing ☒ Yes ☒ No

15 * Casing Material ☐ Black Steel ☐ Galvanized ☒ PVC ☐ Stainless Steel ☐ Not Cased ☐ Other _____

16 * Total Well Depth 20 ft. Cased Depth 10 ft. Open Hole From NA to NA ft. Screen From 10 to 20 ft. Slot Size 0.006

* ABANDONMENT OTHER (Explain) _____

From _____ ft. To _____ ft. No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft. To _____ ft. No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft. To _____ ft. No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft. To _____ ft. No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

* SURFACE CASING DIAMETER & DEPTH

Diam _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

* PRIMARY CASING DIAMETER & DEPTH

Diam <u>2</u> in. From <u>0</u> ft. To <u>6</u> ft. # of bags <u>1</u>	Seal Material (Check One) <input checked="" type="checkbox"/>	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

* LINER CASING DIAMETER & DEPTH

Diam _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

* TELESCOPE CASING DIAMETER & DEPTH

Diam _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

PUMP TYPE (If Known) _____ Centrifugal _____ Jet _____ Submersible _____ Turbine _____

Horsepower _____ Pump Capacity (GPM) _____ Laboratory Test _____ Field Test Kit _____

Pump depth _____ ft. Intake Depth _____ ft.

CHEMICAL ANALYSIS (When Required)

Iron _____ ppm Sulfate _____ ppm Chloride _____ ppm

WATER WELL CONTRACTOR

* Contractor Name James Hinst * License No. 9311 Email Address Jim@drillproinc.com

* Contractor's Signature James Hinst * Owner's Name Christian Dodd

I certify that the information on this report is accurate & true.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
 2375 BROAD STREET, BROOKSVILLE, FL 34604-6899
 PHONE (352) 796-7211 OR (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
 4049 REID STREET, PALATKA, FL 32178-1427
 PHONE (386) 329-4500
WWW.SJRWMDCOM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
 152 WATER MANAGEMENT DR., HAVANA FL 32333-4712
 (US HIGHWAY 90, 10 MILES WEST OF TALLAHASSEE)
 PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
 P.O. BOX 24680
 3301 GUN CLUB ROAD
 WEST PALM BEACH, FL 33416-4680
 PHONE (561) 886-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
 9225 CR 49
 LIVE OAK, FL 32060
 PHONE (386) 362-1001 OR (800) 226-1066 (FLORIDA ONLY)
WWW.MYSUWANNEERIVER.COM

DRILL CUTTINGS LOG (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zones.)

From <u>0</u> ft	To <u>17</u> ft.	Color <u>Brown</u>	Grain Size (F, M, C) <u>NA</u>	Material <u>Sand</u>
From <u>17</u> ft.	To <u>20</u> ft.	Color <u>Tan</u>	Grain Size (F, M, C) <u>NA</u>	Material <u>Sand</u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C) <u> </u>	Material <u> </u>

COMMENTS _____

Detailed Site Map of Well Location

GP WO 1014032

MW 5 28°32'56.8"

81°23'13.2"



Give distances from all reference point or structures, septic systems, sanitary hazards, and contamination sources within 500 ft. of well

STATE OF FLORIDA WELL COMPLETION REPORT



- ☐ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☒ Delegated Authority (if Applicable)

PLEASE FILL OUT ALL APPLICABLE FIELDS
 (* Denotes Required Fields Where Applicable)

Date Stamp

Orange County

Official Use Only

1 * Permit Number 140665 CURMUP No. _____ DID Number _____ SC-524 Certification No. _____

2 * Number of permitted wells constructed, repaired, or abandoned 1 * Number of permitted wells not constructed, repaired, or abandoned 0

3 * Owner's Name City of Orlando 4 * Completion Date 10/13/2014 5 Florida Unique ID _____

6 630 W. Amelia Street - Orlando
 * Well Location - Address, Road Name or Number, City, ZIP

7 * County Orange * Section 26 Land Grant _____ * Township 22 * Range 29

8 Latitude _____ Longitude _____

9 Data Obtained From: GPS Map Survey Datum: NAD 27 NAD 83 WGS 84

10 * TYPE OF WORK: ☒ Construction ☐ Repair ☐ Modification ☐ Abandonment

11. Specify Intended Use(s) of Well(s):

<input type="checkbox"/> Domestic	<input type="checkbox"/> Landscape Irrigation	<input type="checkbox"/> Agricultural Irrigation	<input type="checkbox"/> See Investigation
<input type="checkbox"/> Bottled Water Supply	<input type="checkbox"/> Recreation Area Irrigation	<input type="checkbox"/> Livestock	<input checked="" type="checkbox"/> Monitoring
<input type="checkbox"/> Public Water Supply (Limited Use/DOH)	<input type="checkbox"/> Nursery Irrigation	<input type="checkbox"/> Test	
<input type="checkbox"/> Public Water Supply (Community or Non Community/DEP)	<input type="checkbox"/> Commercial / Industrial	<input type="checkbox"/> Earth - Coupled Geothermal	
<input type="checkbox"/> Class Injection	<input type="checkbox"/> Golf Course Irrigation	<input type="checkbox"/> HVAC Supply	
		<input type="checkbox"/> HVAC Return	

Class V Injection: ☐ Recharge ☐ Commercial/Industrial Disposal ☐ Aquifer Storage & Recovery ☐ Drainage

Remediation: ☐ Recovery ☐ Air Sparge ☐ Other (Describe): _____

12 * Drill Method: ☒ Auger ☐ Cable Tool ☐ Rotary ☐ Combination (Two or More Methods) ☐ Jetted ☐ Sonic

☐ Horizontal Drilling ☐ Hydraulic Fracture (Direct Push) ☐ Other _____

13 * Measured Static Water Level _____ ft Measured Pumping Water Level NA ft After NA hours NA GPM

14 * Measuring Point (Describe) Land Surface Which is 0 ft Above Below Land Surface * Flowing Yes No ☒

15 * Casing Material: ☐ Black Steel ☐ Galvanized ☒ PVC ☐ Stainless Steel ☐ Not Cased ☐ Other _____

16 * Total Well Depth 35 ft Cased Depth 25 ft Open Hole From NA to NA ft Screen From 25 to 35 ft Slot Size 0.005

* ABANDONMENT OTHER (Explain)

From _____ ft To _____ ft No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft To _____ ft No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft To _____ ft No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft To _____ ft No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft To _____ ft No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

* SURFACE CASING DIAMETER & DEPTH

Diam _____ in From _____ ft To _____ ft # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in From _____ ft To _____ ft # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

* PRIMARY CASING DIAMETER & DEPTH

Diam <u>2</u> in From <u>0</u> ft To <u>21</u> ft # of bags <u>2.5</u>	Seal Material (Check One) <input checked="" type="checkbox"/>	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in From _____ ft To _____ ft # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in From _____ ft To _____ ft # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

* LINER CASING DIAMETER & DEPTH

Diam _____ in From _____ ft To _____ ft # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in From _____ ft To _____ ft # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

* TELESCOPE CASING DIAMETER & DEPTH

Diam _____ in From _____ ft To _____ ft # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in From _____ ft To _____ ft # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

PUMP TYPE (if Known) _____ Jet _____ Submersible _____ Turbine _____

Horsepower _____ Pump Capacity (GPM) _____

Pump depth _____ ft Intake Depth _____ ft

CHEMICAL ANALYSIS (When Required)

Iron _____ ppm	Sulfate _____ ppm	Chloride _____ ppm
Laboratory Test _____	Field Test Kit _____	

* Contact Name James Hinsai * License No. 9311 Email Address jmh@dph.state.fl.us

* Contractor's Signature James Hinsai * Owner's Name Christian Dodd

I certify that the information in this report is accurate & true.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE (352) 796-7211 OR (800) 423-1475
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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1427
PHONE (386) 329-4500
WWW.SJRWMDC.COM

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152 WATER MANAGEMENT DR., HAVANA FL 32333-4712
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WWW.MYSUWANNEERIVER.COM

DRILL CUTTINGS LOG (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zones.)

From <u>0</u> ft.	To <u>17</u> ft.	Color <u>Brown</u>	Grain Size (F, M, C)	<u>NA</u>	Material <u>Sand</u>
From <u>17</u> ft.	To <u>35</u> ft.	Color <u>Tan</u>	Grain Size (F, M, C)	<u>NA</u>	Material <u>Sand</u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C)	<u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C)	<u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C)	<u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C)	<u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C)	<u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C)	<u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C)	<u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C)	<u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C)	<u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C)	<u> </u>	Material <u> </u>
From <u> </u> ft.	To <u> </u> ft.	Color <u> </u>	Grain Size (F, M, C)	<u> </u>	Material <u> </u>

COMMENTS _____

Detailed Site Map of Well Location

GP WO 1014032

MW 1 28°32'58.5"

81°23'10.2"



Give distances from all reference point or structures, septic systems, sanitary hazards, and contamination sources within 500 ft. of well

STATE OF FLORIDA WELL COMPLETION REPORT



- ☐ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☒ Delegated Authority (if Applicable)

PLEASE FILL OUT ALL APPLICABLE FIELDS
(* Denotes Required Fields Where Applicable)

Orange County

Date Stamp

Officer Use Only

1 * Permit Number: 140665 CUP/WUP No. _____ CID Number _____ 62-524 Delineation No. _____

2 * Number of permitted wells constructed, repaired, or abandoned: 3 * Number of permitted wells not constructed, repaired, or abandoned: 0

3 * Owner's Name: City of Orlando 4 * Completion Date: 10/13/2014 5 Florida Unique ID: _____

6 630 W. Amelia Street - Orlando
* Well Location - Address, Road Name or Number, City, ZIP

7 * County: Orange * Section: 26 Land Grant: _____ * Township: 22 * Range: 29

8 Latitude: _____ Longitude: _____

9 Data Obtained From: _____ GPS _____ Map _____ Survey _____ Datum: _____ NAD 27 _____ NAD 83 _____ WGS 84

10 * TYPE OF WORK: ☒ Construction _____ Repair _____ Modification _____ Abandonment _____

11. Specify Intended Use(s) of Well(s):

<input type="checkbox"/> Domestic	<input type="checkbox"/> Landscape Irrigation	<input type="checkbox"/> Agricultural Irrigation	<input type="checkbox"/> Site Investigation
<input type="checkbox"/> Bottled Water Supply	<input type="checkbox"/> Recreation Area Irrigation	<input type="checkbox"/> Livestock	<input checked="" type="checkbox"/> Monitoring
<input type="checkbox"/> Public Water Supply (Limited Use/DOH)		<input type="checkbox"/> Nursery Irrigation	<input type="checkbox"/> Test
<input type="checkbox"/> Public Water Supply (Community or Non Community/DEP)		<input type="checkbox"/> Commercial / Industrial	<input type="checkbox"/> Earth - Coupled Geothermal
<input type="checkbox"/> Class I Injection		<input type="checkbox"/> Golf Course Irrigation	<input type="checkbox"/> HVAC Supply
			<input type="checkbox"/> HVAC Return

Class V Injection: ☐ Recharge ☐ Commercial/Industrial Disposal ☐ Aquifer Storage & Recovery ☐ Drainage

Remediation: ☐ Recovery ☐ Air Sparge ☐ Other (Describe): _____

Other (Describe): _____

12. * Drill Method: ☒ Auger _____ Cable Tool _____ Rotary _____ Combination (Two or More Methods) _____ Jeted _____ Sonic _____

Horizontal Drilling _____ Hydraulic Point (Direct Push) _____ Other _____

13. * Measured Static Water Level: _____ ft. Measured Pumping Water Level: NA ft. After NA hours: NA GPM

14. * Measuring Point (Describe): Land Surface Which is: 0 ft. Above _____ Below Land Surface * Flowing: ☒ Yes ☐ No

15. * Casing Material: _____ Black Steel _____ Galvanized _____ ☒ PVC _____ Stainless Steel _____ Not Cased _____ Other _____

16. * Total Well Depth: 25 ft. Cased Depth: 15 ft. Open Hole From: NA to NA ft. Screen From: 15 to 25 ft. Slot Size: 0.006

*** ABANDONMENT** OTHER (Explain)

From _____ ft. To _____ ft. No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft. To _____ ft. No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft. To _____ ft. No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft. To _____ ft. No. of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

*** SURFACE CASING DIAMETER & DEPTH**

Diam. _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam. _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

*** PRIMARY CASING DIAMETER & DEPTH**

Diam. <u>2</u> in. From <u>0</u> ft. To <u>11</u> ft. # of bags <u>1.5</u>	Seal Material (Check One) <input checked="" type="checkbox"/>	Neat Cement _____	Bentonite _____	Other _____
Diam. _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam. _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

*** LINER CASING DIAMETER & DEPTH**

Diam. _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam. _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

*** TELESCOPE CASING DIAMETER & DEPTH**

Diam. _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam. _____ in. From _____ ft. To _____ ft. # of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

PUMP TYPE (If Known) _____ Centrifugal _____ Jet _____ Submersible _____ Turbine _____

Iron _____ ppm Sulfate _____ ppm Chloride _____ ppm

Horsepower _____ Pump Capacity (GPM) _____ Laboratory Test _____ Field Test Kit _____

Pump depth: _____ ft. Intake Depth: _____ ft.

WATER WELL CONTRACTOR

* Contractor Name: James Hinst * License No: 9311 Email Address: jnh@drillproll.com

* Contractor's Signature: James Hinst * Driller's Name: Christian Dodd

I certify that the information on this report is accurate and true.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
 2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
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WWW.MYSUWANNEERIVER.COM

DRILL CUTTINGS LOG (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zones)

From 0 ft.	To 17 ft.	Color Brown	Grain Size (F, M, C)	NA	Material	Sand
From 17 ft.	To 25 ft.	Color Tan	Grain Size (F, M, C)	NA	Material	Sand
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From _____ ft.	To _____ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____

COMMENTS _____

Detailed Site Map of Well Location

GP WO

1014032

MW 2	28°32'58.8"	81°23'11.9"
MW 3	28°32'55.6"	81°23'11.5"
MW 4	28°32'56.5"	81°23'12.2"



Give distances from all reference point or structures, septic systems, sanitary hazards, and contamination sources within 500 ft. of well

SITE NAME: <u>Former Orlando Arena</u>		SITE LOCATION: <u>630 West Amelia St. Orlando, FL</u>	
WELL NO: <u>MW-6</u>	SAMPLE ID: <u>MW-6-101614</u>	DATE: <u>10-16-14</u>	

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 4.78	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)				
= (20 feet - 4.78 feet) X 0.16 gallons/foot = 2.43 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
= gallons + (gallons/foot X feet) + gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 11	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 5	PURGING INITIATED AT: 1418	PURGING ENDED AT: 1442	TOTAL VOLUME PURGED (gallons): 3.45

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: ECT-Adam F./kelly E.				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: 1/4/3		SAMPLING ENDED AT: 1455		
PUMP OR TUBING DEPTH IN WELL (feet): 5				TUBING MATERIAL CODE: LDPE			FIELD-FILTERED: Y <input checked="" type="radio"/> N <input type="radio"/>		FILTER SIZE: _____ µm		
FIELD DECONTAMINATION: PUMP Y <input checked="" type="radio"/> N <input type="radio"/>				TUBING Y <input checked="" type="radio"/> N (replaced) <input type="radio"/>			DUPLICATE: Y <input type="radio"/> N <input checked="" type="radio"/>				
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
u10-76	3	CG	40ml	HCL	—	—	V8260B	REPP	100		
101614	2	AG	250ml	none/ICE	—	—	P8081PESTPP	APP	↓		
↓	2	AG	250ml	none/ICE	—	—	P8141STD	↓			
	2	AG	250ml	none/ICE	—	—	H8151F1				
	1	PE	250ml	HNO3	—	—	AS		↓		

REMARKS

Submerged Screen (Pump fill Lake) @ 11' b/s to lower

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
 RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: <u>Former Orlando Areen</u>		SITE LOCATION: <u>630 W. Amelia St. Orlando, FL</u>	
WELL NO: <u>MW-3</u>	SAMPLE ID: <u>MW-3-101614</u>	DATE: <u>10-16-14</u>	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ECT-Adam E. Kelly E.				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: 1343		SAMPLING ENDED AT: 1354	
PUMP OR TUBING DEPTH IN WELL (feet): 19				TUBING MATERIAL CODE: LOPE			FIELD-FILTERED: Y <input checked="" type="radio"/> N <input type="radio"/>		FILTER SIZE: _____ µm	
FIELD DECONTAMINATION: PUMP Y <input checked="" type="radio"/> N <input type="radio"/> TUBING Y <input checked="" type="radio"/> N <input type="radio"/> (replaced)							DUPLICATE: Y <input checked="" type="radio"/> N <input type="radio"/>			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
NW-3	3	CG	400ml	HCL	—	—	V82605		RFPP	2100
10164	2	AG	250ml	none/ICE	—	—	P3081PESTP/1		APP	↓
↓	2	AG	250ml	none/ICE	—	—	P8141STD		↓	↓
↓	2	AG	250ml	none/ICE	—	—	H8151FI		↓	↓
↓	1	PE	250ml	H2O3	—	—	AS		↓	↓
REMARKS:										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally $+ 5$ NTU or $+ 10\%$ (whichever is greater)

SITE NAME: Former Orlando Arena		SITE LOCATION: 636 W. Amelia St Orlando FL	
WELL NO: MW-4	SAMPLE ID: MW-4-101614	DATE: 10-16-14	

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 15 feet to 25 feet	STATIC DEPTH TO WATER (feet): 17.95	PURGE PUMP TYPE OR BAILER: PP
------------------------------	----------------------------------	---	--	----------------------------------

$$= (25 \text{ feet} - 17.95 \text{ feet}) \times 0.16 \text{ gallons/foot} = 1.12 \text{ gallons}$$

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

=	gallons + (gallons/foot X	feet) +	gallons =	gallons
---	-------------	----------------	---------	-----------	---------

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	PURGING INITIATED AT: 1220	PURGING ENDED AT: 1307	TOTAL VOLUME PURGED (gallons): 1235
--	--	-------------------------------	---------------------------	--

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: ECT-Adam E. / Kelly F.	SAMPLER(S) SIGNATURE(S): 	SAMPLING INITIATED AT: 1308	SAMPLING ENDED AT: 1315
---	---	-----------------------------	-------------------------

PUMP OR TUBING DEPTH IN WELL (feet):	18.5	TUBING MATERIAL CODE:	LAPE	FIELD-FILTERED: Y <input checked="" type="radio"/> N <input type="radio"/>	FILTER SIZE:	µm
---	------	--------------------------	------	--	--------------	----

FIELD DECONTAMINATION:		PUMP	Y	N	TUBING	Y	N (replaced)	DUPLICATE:	Y	N
------------------------	--	------	---	--------------	--------	---	-------------------------	------------	---	--------------

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene;
S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
 RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally $+ 5$ NTU or $+ 10\%$ (whichever is greater)

SITE NAME: Former Orlando Asenc		SITE LOCATION: 630 W. Amelia St. Orlando, FL	
WELL NO: MW-1	SAMPLE ID: MW-1-101614	DATE: 10-16-14	

[illegible]

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** $\pm 0.2^{\circ}\text{C}$ **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally $+ 5$ NTU or $+ 10\%$ (whichever is greater)

SITE NAME: Former Orlando Arena		SITE LOCATION: 630 W. Amelia St. Orlando, FL	
WELL NO: MW-2	SAMPLE ID: MW-2-101614	DATE: 10/16/14	

WELL DIAMETER (inches):	2	TUBING DIAMETER (inches):	3/8	WELL SCREEN INTERVAL DEPTH: 15 feet to 25 feet	STATIC DEPTH TO WATER (feet): 18.40	PURGE PUMP TYPE OR BAILER: PP
----------------------------	---	------------------------------	-----	---	--	----------------------------------

(only fill out if applicable)

= (25 feet - 18.40 feet) X 0.14 gallons/foot = 1.05 gallons

$$\text{(only fill out if applicable)} \quad = \quad \text{gallons} + (\quad \text{gallons/foot} \times \quad \text{feet}) + \quad \text{gallons} = \quad \text{gallons}$$

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 19	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 19	PURGING INITIATED AT: 1049	PURGING ENDED AT: 1140	TOTAL VOLUME PURGED (gallons): 1.49
--	--	-------------------------------	---------------------------	--

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: ECT-Adam F. / cell x F.	SAMPLER(S) SIGNATURE(S): 	SAMPLING INITIATED AT: 1107	SAMPLING ENDED AT: 1125
--	---	-----------------------------	-------------------------

PUMP OR TUBING DEPTH IN WELL (feet):	19	TUBING MATERIAL CODE:	LDPE	FIELD-FILTERED: Y	N	FILTER SIZE: _____ μ m
--------------------------------------	----	-----------------------	------	-------------------	---	----------------------------

FIELD DECONTAMINATION:	PUMP	Y	N	TUBING	Y	N (replaced)	DUPLICATE:	Y	N
------------------------	------	---	---	--------	---	--------------	------------	---	---

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene;
S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Chain of Custody

5 Vineland Road, Suite C-15 | Orlando, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707
www.accutest.com

[illegible]

GROUNDWATER

DAILY PROJECT SUMMARY

DAILY PROJECT SUMMARY



PROTECTION

A Division of DRILLPRO, LLC
Environmental & Geotechnical Drilling

CLIENT NAME: EctDRILLER: ChristianRIG: 782213PROJECT NAME: City of ColoradoWORK ORDER #: 1014032DATE: 10-13-14

OVERNIGHT:

☐ Yes ☒ No

CREW MEMBERS:

Christian DoddT. Miller 10/13/14Tyler Milliner 2:00pm
T. Miller 5:00pm

HOURS WORKED:

Time On Site: 8:00Lunch: 1/2Time Off Site: 7:45

MATERIALS USED / PURCHASED:

Sand 36 30/45
Fine Sand 10
Bentonite 2
Portland 7
Concrete 10
Locks _____
Cones _____
Other _____

Riser 100'-2"
Screen 6-10x2" 0060
Pre-Packed _____
Manholes 5-8" Fl.
Sample Tubing 240'
Exp. Points _____
LEP 5-2"
Other _____

EQUIPMENT RENTAL:

Rental Company: _____

Equipment Rental: _____

Rental Company: _____

Equipment Rental: _____

Reason: _____

of Days: _____

Cost: _____

Other: _____

DRUMS:

Drums Supplied _____

Soil _____

Water _____

Time Spent Relocating Drums On Site _____

Spread.

MISCELLANEOUS:

Pavement Cutting (hrs.): _____

Concrete Coring: _____

Decontamination Structure: _____

STANDBY TIME:

Hour / Date / Time _____

Reason _____

2 hrs Wait on Client for well Dr. this
and to go get more materials from Sling.

DESCRIPTION OF SIGNIFICANT PROBLEMS / ADDITIONAL COMMENTS

Head Portholes and lots of
Debris. Very Drilling.

Well # Latitude Longitude

MW-1 28°32'58.5" 81°23'10.2"
MW-2 28°32'58.8" 81°23'11.9"
MW-3 28°32'55.6" 81°23'11.5"
MW-4 28°32'56.5" 81°23'11.2"
MW-5 28°32'56.8" 81°23'13.2"

To the best of my knowledge, the quantities indicated are correct, and I know of no injuries, loss of, or damage to equipment or near miss incidents that occurred during this project.

Signature of Client Field Representative

Printed Name of Client Field Representative

Date Signed

DAILY PROJECT SUMMARY

GROUNDWATER



PROTECTION

DAILY PROJECT SUMMARY

CLIENT NAME: ECY DRILLER: Chris Lane RIG: 732215
 PROJECT NAME: City of Colorado WORK ORDER #: 1014032 DATE: 10-13-14

6:00 A.M.	
6:30 A.M.	
7:00 A.M.	
7:30 A.M.	
8:00 A.M.	In Site Start up Pump
8:30 A.M.	Transfer start water to Ring and Watering
9:00 A.M.	
9:30 A.M.	
10:00 A.M.	10:15 1" water to 20' Pumped to Ring No Water. Wait
10:30 A.M.	1" water to 20' Pumped to Ring
11:00 A.M.	Pump changed Well Depth 1" full well photo set!
11:30 A.M.	Regrout well and drill to 35'
12:00 P.M.	
12:30 P.M.	12:15 well not Pumped because Pump not
1:00 P.M.	Start Pumping to 20' level and put down well
1:30 P.M.	Regrout well and
2:00 P.M.	On Site Start setting well
2:30 P.M.	
3:00 P.M.	
3:30 P.M.	
4:00 P.M.	
4:30 P.M.	
5:00 P.M.	
5:30 P.M.	
6:00 P.M.	
6:30 P.M.	
7:00 P.M.	Finished All Wells. Tools Damaged and set up to pad
7:30 P.M.	and move equipment on last well. Load up Trucks
8:00 P.M.	and Rig at Site 7:48
8:30 P.M.	

To the best of my knowledge, the quantities indicated are correct, and I know of no injuries, loss of, or damage to equipment or near miss incidents that occurred during this project.

Signature of Client Field Representative

Printed Name of Client Field Representative

Date Signed

DAILY PROJECT SUMMARY

GROUNDWATER



PROTECTION

A Division of DRILLPRO, LLC
Environmental & Geotechnical Drilling

DAILY PROJECT SUMMARY

CLIENT NAME:

ECT

DRILLER:

M. J. S. L. S.

RIG:

782213

PROJECT NAME:

City of Orlando

WORK ORDER #:

1014032

DATE:

10-13-14

WELL/BORING #	MW-1	MW-1	MW-2	MW-3	MW-4	MW-5		
DIRECT PUSH								
Soil Sampling	Pulled							
# of Samples	Not							
Total Depth								
H ₂ O Samples SP15/Profiling	Deep							
# of Samples								
Total Depth	Enough							
DRILLING								
STP Footage / Sonic Sampling								
0-50' Below Land Surface								
50'-100' Below Land Surface								
100'+ Below Land Surface								
Total Spoons / Samples								
WELL / BOREHOLE ABANDONMENT								
Diameter	2"							
Depth	20'							
Pad Removal	N/A							
WELL INFORMATION:								
Size	2"	2"	2"	2"	2"	2"		
Depth	20'	35'	29'	25'	25'	20'		
Screen Length	10'	10'	10'	10'	10'	10'		
SURFACE CASING / DUAL								
Size								
Depth								
Type:								
CAPS:								
LEP		2"	2"	2"	2"	2"		
Slip Cap								
COVER:								
Flush Cover		8"	8"	8"	8"	8"		
Above Grade Protector								
Bumper Post								
Bolt Down Cover								
WELL DEVELOPMENT TIME:								
Pumping		30 min	30 min	30 min	30 min	30 min		
STEAM CLEANING # HOURS:		30 min	20 min	20 min	20 min	20 min		
CLEAN-UP # HOURS:		30 min	30 min	30 min	30 min	30 min		

To the best of my knowledge, the quantities indicated are correct, and I know of no injuries, loss of, or damage to equipment or near miss incidents that occurred during this project.

Signature of Client Field Representative

Printed Name of Client Field Representative

Date Signed

Tail Gate Safety Meeting Acknowledgement

By signing this document you acknowledge that you have completed a Tailgate Safety Meeting, agree to abide by its contents, and that you understand that the breaking of any ECT critical safety rule will lead to immediate dismissal from the site and from performing any future work with ECT, Inc.

MEETING CONDUCTED BY: Adam Earl

ATTENDEES

[illegible]

GROUNDWATER MONITORING CALIBRATION LOGS

Field Instrument Calibration Records

Instrument (Make/Model #) VST Pro PlusInstrument # Pro Plus #1

Parameter: [check all that apply]

☒ TEMPERATURE ☒ CONDUCTIVITY ☐ SALINITY ☒ pH ☐ ORP
☐ TURBIDITY ☐ RESIDUAL CHLORINE ☒ DO ☐ OTHER _____

STANDARDS Ph: [Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased.]

Standard A 7.0 LOT # C256012 EXP. 11/15
Standard B 4.0 LOT # C252301 EXP. 11/15
Standard C 10.0 LOT # C256078 EXP. 12/15

DATE (mm/dd/yy)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
10-16-14	1015	A	7.0	7.00		Y	INIT.	ACE
↓	↓	B	4.0	4.00		Y	INIT.	↓
↓	↓	C	10.0	10.00		Y	INIT.	↓
↓	1500	A	7.0	7.00		N	CONT.	↓

STANDARDS Conductivity: [Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased.]

Standard A 100 LOT # C358489 EXP. 1/15
Standard B 1000 LOT # C256773 EXP. 1/15

DATE (mm/dd/yy)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
10-16-14	1015	A	100	100		N	INIT.	ACE
↓	↓	B	1000	1000		Y	↓	↓
↓	1500	B	1000	998		N	CONT.	↓

STANDARDS Dissolved Oxygen: [Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased.]

Standard A AIR 100% HUMIDITY
Standard B _____
Standard C _____

DATE (mm/dd/yy)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
10-16-14	1015	A	100%	25.8 @ 28.14		Y	INIT.	ACE
↓	1500	A	100%	26.7 @ 28.01		N	CONT.	↓

GROUNDWATER MONITORING CALIBRATION LOGS

Field Instrument Calibration Records

Instrument (Make/Model #) LaMotte 2020EInstrument # 26858

Parameter: [check all that apply]

☐ TEMPERATURE
 ☐ CONDUCTIVITY
 ☐ SALINITY
 ☐ pH
 ☐ ORP
☒ TURBIDITY
 ☐ RESIDUAL CHLORINE
 ☐ DO
 ☐ OTHER _____

STANDARDS Turbidity: [Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased.]

Standard A 1.0 LOT # _____ EXP. _____
 Standard B 10.0 LOT # _____ EXP. _____
 Standard C _____ LOT # _____ EXP. _____

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
14/10/16	1015	A	1.0	1.05		N	INIT.	ACE
		B	10.0	10.03		N	INIT.	
	1500	B	10.0	10.05		N	CONT.	

APPENDIX E

Technical Report for

ECT

Former Orlando Arena; 630 Amelia St, Orlando, FL

Accutest Job Number: FA19167

Sampling Date: 10/16/14

Report to:

ECT
3660 Maguire Blvd Suite 107
Orlando, FL 32803
jpeters@ectinc.com

ATTN: Jeff Peters

Total number of pages in report: **38**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.



Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001)
DoD ELAP (L-A-B L2229), CA (04226CA), TX (T104704404), PA (68-03573), VA (460177),
AK, AR, GA, KY, MA, NV, OK, UT, WA

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Test results relate only to samples analyzed.

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Sample Summary

ECT

Job No: FA19167

Former Orlando Arena; 630 Amelia St, Orlando, FL

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA19167-1	10/16/14	11:07 AEKE	10/16/14	AQ	Ground Water	MW-2 10/16/14
FA19167-2	10/16/14	12:02 AEKE	10/16/14	AQ	Ground Water	MW-1 10/16/14
FA19167-3	10/16/14	13:08 AEKE	10/16/14	AQ	Ground Water	MW-4 10/16/14
FA19167-4	10/16/14	13:43 AEKE	10/16/14	AQ	Ground Water	MW-3 10/16/14
FA19167-5	10/16/14	14:43 AEKE	10/16/14	AQ	Ground Water	MW-5 10/16/14

Summary of Hits

Page 1 of 1

Job Number: FA19167
Account: ECT
Project: Former Orlando Arena; 630 Amelia St, Orlando, FL
Collected: 10/16/14

2

Lab Sample ID	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
---------------	------------------	-----------------	-----	-----	-------	--------

FA19167-1 MW-2 10/16/14

No hits reported in this sample.

FA19167-2 MW-1 10/16/14

beta-BHC ^a	0.054	0.038	0.010	ug/l	SW846 8081B
4,4'-DDE ^a	0.018 I	0.077	0.014	ug/l	SW846 8081B
Endrin ^a	0.032 I	0.077	0.0067	ug/l	SW846 8081B
Heptachlor epoxide ^a	0.049	0.038	0.0069	ug/l	SW846 8081B

FA19167-3 MW-4 10/16/14

Benzene	0.36 I	1.0	0.24	ug/l	SW846 8260B
Toluene	0.87 I	1.0	0.20	ug/l	SW846 8260B
Ethylbenzene	1.6	1.0	0.28	ug/l	SW846 8260B
Xylene (total)	11.0	3.0	0.66	ug/l	SW846 8260B
Pentachlorophenol ^b	0.047 I	0.19	0.044	ug/l	SW846 8151A
Arsenic	11.4	10	2.4	ug/l	SW846 6010C

FA19167-4 MW-3 10/16/14

Toluene	0.27 I	1.0	0.20	ug/l	SW846 8260B
Ethylbenzene	0.71 I	1.0	0.28	ug/l	SW846 8260B
Xylene (total)	5.1	3.0	0.66	ug/l	SW846 8260B
Pentachlorophenol ^b	0.054 I	0.19	0.044	ug/l	SW846 8151A
Arsenic	5.5 I	10	2.4	ug/l	SW846 6010C

FA19167-5 MW-5 10/16/14

No hits reported in this sample.

(a) All hits confirmed by dual column analysis.

(b) All hits confirmed by dual column analysis. Primary and confirmation results differ by more than 40%. Lower value reported due to possible coelution.

Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

3.1
3

Client Sample ID:	MW-2 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-1	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z29259.D	1	10/20/14	CP	n/a	n/a	VZ1133
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	PQL	MDL	Units	Q
71-43-2	Benzene	0.24 U	1.0	0.24	ug/l	
108-88-3	Toluene	0.20 U	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	0.28 U	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	0.66 U	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.20 U	1.0	0.20	ug/l	
91-20-3	Naphthalene	1.0 U	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	108%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-2 10/16/14	
Lab Sample ID:	FA19167-1	Date Sampled: 10/16/14
Matrix:	AQ - Ground Water	Date Received: 10/16/14
Method:	SW846 8151A SW846 8151A	Percent Solids: n/a
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC045914.D	1	10/24/14	NJ	10/23/14	OP53633	GCC745
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	PQL	MDL	Units	Q
94-75-7	2,4-D	0.35 U	1.9	0.35	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.058 U	0.19	0.058	ug/l	
93-76-5	2,4,5-T	0.056 U	0.19	0.056	ug/l	
1918-00-9	Dicamba	0.053 U	0.19	0.053	ug/l	
88-85-7	Dinoseb	0.96 U	3.8	0.96	ug/l	
75-99-0	Dalapon	1.9 U	4.8	1.9	ug/l	
120-36-5	Dichloroprop	0.40 U	1.9	0.40	ug/l	
94-82-6	2,4-DB	0.63 U	1.9	0.63	ug/l	
93-65-2	MCPP	25 U	190	25	ug/l	
94-74-6	MCPA	40 U	190	40	ug/l	
87-86-5	Pentachlorophenol	0.044 U	0.19	0.044	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	76%		33-145%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-2 10/16/14**Lab Sample ID:** FA19167-1**Matrix:** AQ - Ground Water**Method:** SW846 8081B SW846 3510C**Project:** Former Orlando Arena; 630 Amelia St, Orlando, FL**Date Sampled:** 10/16/14**Date Received:** 10/16/14**Percent Solids:** n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK67083.D	1	10/23/14	GB	10/21/14	OP53597	GKK2210
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	PQL	MDL	Units	Q
309-00-2	Aldrin	0.0062 U	0.038	0.0062	ug/l	
319-84-6	alpha-BHC	0.0038 U	0.038	0.0038	ug/l	
319-85-7	beta-BHC	0.010 U	0.038	0.010	ug/l	
319-86-8	delta-BHC	0.0076 U	0.038	0.0076	ug/l	
58-89-9	gamma-BHC (Lindane)	0.0040 U	0.038	0.0040	ug/l	
12789-03-6	Chlordane	0.16 U	0.38	0.16	ug/l	
60-57-1	Dieldrin	0.0064 U	0.038	0.0064	ug/l	
72-54-8	4,4' -DDD	0.0096 U	0.077	0.0096	ug/l	
72-55-9	4,4' -DDE	0.014 U	0.077	0.014	ug/l	
50-29-3	4,4' -DDT	0.0096 U	0.077	0.0096	ug/l	
72-20-8	Endrin	0.0067 U	0.077	0.0067	ug/l	
1031-07-8	Endosulfan sulfate	0.0064 U	0.077	0.0064	ug/l	
7421-93-4	Endrin aldehyde	0.0063 U	0.077	0.0063	ug/l	
959-98-8	Endosulfan-I	0.0063 U	0.038	0.0063	ug/l	
33213-65-9	Endosulfan-II	0.0077 U	0.038	0.0077	ug/l	
76-44-8	Heptachlor	0.0060 U	0.038	0.0060	ug/l	
1024-57-3	Heptachlor epoxide	0.0069 U	0.038	0.0069	ug/l	
72-43-5	Methoxychlor	0.0096 U	0.077	0.0096	ug/l	
8001-35-2	Toxaphene	1.1 U	1.9	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	61%		42-127%
2051-24-3	Decachlorobiphenyl	70%		27-127%

U = Not detected MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
 V = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-2 10/16/14**Lab Sample ID:** FA19167-1**Matrix:** AQ - Ground Water**Method:** SW846 8141B SW846 3510C**Project:** Former Orlando Arena; 630 Amelia St, Orlando, FL**Date Sampled:** 10/16/14**Date Received:** 10/16/14**Percent Solids:** n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ25661.D	1	10/22/14	MRE	10/21/14	OP53593	GZZ952
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	2.0 ml
Run #2		

Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
35400-43-2	Bolstar	0.57 U	1.5	0.57	ug/l	
2921-88-2	Chlorpyrifos	0.51 U	1.5	0.51	ug/l	
56-72-4	Coumaphos	0.60 U	1.5	0.60	ug/l	
8065-48-3	Demeton	0.90 U	3.1	0.90	ug/l	
333-41-5	Diazinon	0.43 U	1.5	0.43	ug/l	
62-73-7	Dichlorvos	0.50 U	1.5	0.50	ug/l	
60-51-5	Dimethoate	0.42 U	1.5	0.42	ug/l	
298-04-4	Disulfoton	0.45 U	1.5	0.45	ug/l	
2104-64-5	EPN	0.49 U	1.5	0.49	ug/l	
13194-48-4	Ethoprop	0.35 U	1.5	0.35	ug/l	
56-38-2	Ethyl Parathion	0.45 U	1.5	0.45	ug/l	
115-90-2	Fensulfothion	1.1 U	1.5	1.1	ug/l	
55-38-9	Fenthion	0.47 U	1.5	0.47	ug/l	
121-75-5	Malathion	0.36 U	1.5	0.36	ug/l	
86-50-0	Methyl Azinphos (Guthion)	0.45 U	1.5	0.45	ug/l	
298-00-0	Methyl Parathion	0.40 U	1.5	0.40	ug/l	
150-50-5	Merphos	1.2 U	3.8	1.2	ug/l	
7786-34-7	Mevinphos	0.46 U	1.5	0.46	ug/l	
6923-22-4	Monocrotophos ^a	0.77 U	3.8	0.77	ug/l	
300-76-5	Naled ^b	0.54 U	1.5	0.54	ug/l	
298-02-2	Phorate	0.34 U	1.5	0.34	ug/l	
299-84-3	Ronnel	0.45 U	1.5	0.45	ug/l	
3689-24-5	Sulfotep	0.44 U	1.5	0.44	ug/l	
22248-79-9	Stirophos	0.47 U	1.5	0.47	ug/l	
107-49-3	TEPP ^a	1.5 U	3.8	1.5	ug/l	
34643-46-4	Tokuthion	0.67 U	1.5	0.67	ug/l	
327-98-0	Trichloronate	0.70 U	1.5	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
126-73-8	Tributyl phosphate	125%		47-140%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Client Sample ID: MW-2 10/16/14	Date Sampled: 10/16/14
Lab Sample ID: FA19167-1	Date Received: 10/16/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8141B SW846 3510C	
Project: Former Orlando Arena; 630 Amelia St, Orlando, FL	

Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
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- (a) Associated BS recovery outside control limits.
(b) Associated CCV and BS outside control limits.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Client Sample ID:	MW-2 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-1	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

Total Metals Analysis

Analyte	Result	PQL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	10	2.4	ug/l	1	10/20/14	10/20/14 LM	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA11975

(2) Prep QC Batch: MP28082

PQL = Practical Quantitation Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result > = MDL but < PQL

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Client Sample ID:	MW-1 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-2	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z29260.D	1	10/20/14	CP	n/a	n/a	VZ1133
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	PQL	MDL	Units	Q
71-43-2	Benzene	0.24 U	1.0	0.24	ug/l	
108-88-3	Toluene	0.20 U	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	0.28 U	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	0.66 U	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.20 U	1.0	0.20	ug/l	
91-20-3	Naphthalene	1.0 U	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	109%		79-125%
2037-26-5	Toluene-D8	96%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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3**Client Sample ID:** MW-1 10/16/14**Lab Sample ID:** FA19167-2**Date Sampled:** 10/16/14**Matrix:** AQ - Ground Water**Date Received:** 10/16/14**Method:** SW846 8151A SW846 8151A**Percent Solids:** n/a**Project:** Former Orlando Arena; 630 Amelia St, Orlando, FL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC045915.D	1	10/24/14	NJ	10/23/14	OP53633	GCC745
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	PQL	MDL	Units	Q
94-75-7	2,4-D	0.35 U	1.9	0.35	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.058 U	0.19	0.058	ug/l	
93-76-5	2,4,5-T	0.056 U	0.19	0.056	ug/l	
1918-00-9	Dicamba	0.053 U	0.19	0.053	ug/l	
88-85-7	Dinoseb	0.96 U	3.8	0.96	ug/l	
75-99-0	Dalapon	1.9 U	4.8	1.9	ug/l	
120-36-5	Dichloroprop	0.40 U	1.9	0.40	ug/l	
94-82-6	2,4-DB	0.63 U	1.9	0.63	ug/l	
93-65-2	MCPP	25 U	190	25	ug/l	
94-74-6	MCPA	40 U	190	40	ug/l	
87-86-5	Pentachlorophenol	0.044 U	0.19	0.044	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	56%		33-145%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1 10/16/14**Lab Sample ID:** FA19167-2**Date Sampled:** 10/16/14**Matrix:** AQ - Ground Water**Date Received:** 10/16/14**Method:** SW846 8081B SW846 3510C**Percent Solids:** n/a**Project:** Former Orlando Arena; 630 Amelia St, Orlando, FL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	KK67084.D	1	10/23/14	GB	10/21/14	OP53597	GKK2210
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	PQL	MDL	Units	Q
309-00-2	Aldrin	0.0062 U	0.038	0.0062	ug/l	
319-84-6	alpha-BHC	0.0038 U	0.038	0.0038	ug/l	
319-85-7	beta-BHC	0.054	0.038	0.010	ug/l	
319-86-8	delta-BHC	0.0076 U	0.038	0.0076	ug/l	
58-89-9	gamma-BHC (Lindane)	0.0040 U	0.038	0.0040	ug/l	
12789-03-6	Chlordane	0.16 U	0.38	0.16	ug/l	
60-57-1	Dieldrin	0.0064 U	0.038	0.0064	ug/l	
72-54-8	4,4' -DDD	0.0096 U	0.077	0.0096	ug/l	
72-55-9	4,4' -DDE	0.018	0.077	0.014	ug/l	I
50-29-3	4,4' -DDT	0.0096 U	0.077	0.0096	ug/l	
72-20-8	Endrin	0.032	0.077	0.0067	ug/l	I
1031-07-8	Endosulfan sulfate	0.0064 U	0.077	0.0064	ug/l	
7421-93-4	Endrin aldehyde	0.0063 U	0.077	0.0063	ug/l	
959-98-8	Endosulfan-I	0.0063 U	0.038	0.0063	ug/l	
33213-65-9	Endosulfan-II	0.0077 U	0.038	0.0077	ug/l	
76-44-8	Heptachlor	0.0060 U	0.038	0.0060	ug/l	
1024-57-3	Heptachlor epoxide	0.049	0.038	0.0069	ug/l	
72-43-5	Methoxychlor	0.0096 U	0.077	0.0096	ug/l	
8001-35-2	Toxaphene	1.1 U	1.9	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	59%		42-127%
2051-24-3	Decachlorobiphenyl	64%		27-127%

(a) All hits confirmed by dual column analysis.

U = Not detected MDL = Method Detection Limit
 PQL = Practical Quantitation Limit
 L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
 V = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1 10/16/14	
Lab Sample ID:	FA19167-2	Date Sampled: 10/16/14
Matrix:	AQ - Ground Water	Date Received: 10/16/14
Method:	SW846 8141B SW846 3510C	Percent Solids: n/a
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ25664.D	1	10/22/14	MRE	10/21/14	OP53593	GZZ952
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	2.0 ml
Run #2		

Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
35400-43-2	Bolstar	0.57 U	1.5	0.57	ug/l	
2921-88-2	Chlorpyrifos	0.51 U	1.5	0.51	ug/l	
56-72-4	Coumaphos	0.60 U	1.5	0.60	ug/l	
8065-48-3	Demeton	0.90 U	3.1	0.90	ug/l	
333-41-5	Diazinon	0.43 U	1.5	0.43	ug/l	
62-73-7	Dichlorvos	0.50 U	1.5	0.50	ug/l	
60-51-5	Dimethoate	0.42 U	1.5	0.42	ug/l	
298-04-4	Disulfoton	0.45 U	1.5	0.45	ug/l	
2104-64-5	EPN	0.49 U	1.5	0.49	ug/l	
13194-48-4	Ethoprop	0.35 U	1.5	0.35	ug/l	
56-38-2	Ethyl Parathion	0.45 U	1.5	0.45	ug/l	
115-90-2	Fensulfothion	1.1 U	1.5	1.1	ug/l	
55-38-9	Fenthion	0.47 U	1.5	0.47	ug/l	
121-75-5	Malathion	0.36 U	1.5	0.36	ug/l	
86-50-0	Methyl Azinphos (Guthion)	0.45 U	1.5	0.45	ug/l	
298-00-0	Methyl Parathion	0.40 U	1.5	0.40	ug/l	
150-50-5	Merphos	1.2 U	3.8	1.2	ug/l	
7786-34-7	Mevinphos	0.46 U	1.5	0.46	ug/l	
6923-22-4	Monocrotophos ^a	0.77 U	3.8	0.77	ug/l	
300-76-5	Naled ^b	0.54 U	1.5	0.54	ug/l	
298-02-2	Phorate	0.34 U	1.5	0.34	ug/l	
299-84-3	Ronnel	0.45 U	1.5	0.45	ug/l	
3689-24-5	Sulfotep	0.44 U	1.5	0.44	ug/l	
22248-79-9	Stirophos	0.47 U	1.5	0.47	ug/l	
107-49-3	TEPP ^a	1.5 U	3.8	1.5	ug/l	
34643-46-4	Tokuthion	0.67 U	1.5	0.67	ug/l	
327-98-0	Trichloronate	0.70 U	1.5	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
126-73-8	Tributyl phosphate	112%		47-140%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Client Sample ID:	MW-1 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-2	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8141B SW846 3510C		
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
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- (a) Associated BS recovery outside control limits.
(b) Associated CCV and BS outside control limits.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Client Sample ID:	MW-1 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-2	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

Total Metals Analysis

Analyte	Result	PQL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	10	2.4	ug/l	1	10/20/14	10/20/14 LM	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA11975

(2) Prep QC Batch: MP28082

PQL = Practical Quantitation Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result > = MDL but < PQL

Report of Analysis

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Client Sample ID:	MW-4 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-3	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z29261.D	1	10/20/14	CP	n/a	n/a	VZ1133
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	PQL	MDL	Units	Q
71-43-2	Benzene	0.36	1.0	0.24	ug/l	I
108-88-3	Toluene	0.87	1.0	0.20	ug/l	I
100-41-4	Ethylbenzene	1.6	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	11.0	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.20 U	1.0	0.20	ug/l	
91-20-3	Naphthalene	1.0 U	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	105%		79-125%
2037-26-5	Toluene-D8	96%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-3	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8151A SW846 8151A		
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	CC045918.D	1	10/24/14	NJ	10/23/14	OP53633	GCC745
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	PQL	MDL	Units	Q
94-75-7	2,4-D	0.35 U	1.9	0.35	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.058 U	0.19	0.058	ug/l	
93-76-5	2,4,5-T	0.056 U	0.19	0.056	ug/l	
1918-00-9	Dicamba	0.053 U	0.19	0.053	ug/l	
88-85-7	Dinoseb	0.96 U	3.8	0.96	ug/l	
75-99-0	Dalapon	1.9 U	4.8	1.9	ug/l	
120-36-5	Dichloroprop	0.40 U	1.9	0.40	ug/l	
94-82-6	2,4-DB	0.63 U	1.9	0.63	ug/l	
93-65-2	MCPP	25 U	190	25	ug/l	
94-74-6	MCPA	40 U	190	40	ug/l	
87-86-5	Pentachlorophenol ^b	0.047	0.19	0.044	ug/l	I

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	129%		33-145%

(a) All hits confirmed by dual column analysis.

(b) Primary and confirmation results differ by more than 40%. Lower value reported due to possible coelution.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-3	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8081B SW846 3510C		
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK67087.D	1	10/23/14	GB	10/21/14	OP53597	GKK2210
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	PQL	MDL	Units	Q
309-00-2	Aldrin	0.0062 U	0.038	0.0062	ug/l	
319-84-6	alpha-BHC	0.0038 U	0.038	0.0038	ug/l	
319-85-7	beta-BHC	0.010 U	0.038	0.010	ug/l	
319-86-8	delta-BHC	0.0076 U	0.038	0.0076	ug/l	
58-89-9	gamma-BHC (Lindane)	0.0040 U	0.038	0.0040	ug/l	
12789-03-6	Chlordane	0.16 U	0.38	0.16	ug/l	
60-57-1	Dieldrin	0.0064 U	0.038	0.0064	ug/l	
72-54-8	4,4' -DDD	0.0096 U	0.077	0.0096	ug/l	
72-55-9	4,4' -DDE	0.014 U	0.077	0.014	ug/l	
50-29-3	4,4' -DDT	0.0096 U	0.077	0.0096	ug/l	
72-20-8	Endrin	0.0067 U	0.077	0.0067	ug/l	
1031-07-8	Endosulfan sulfate	0.0064 U	0.077	0.0064	ug/l	
7421-93-4	Endrin aldehyde	0.0063 U	0.077	0.0063	ug/l	
959-98-8	Endosulfan-I	0.0063 U	0.038	0.0063	ug/l	
33213-65-9	Endosulfan-II	0.0077 U	0.038	0.0077	ug/l	
76-44-8	Heptachlor	0.0060 U	0.038	0.0060	ug/l	
1024-57-3	Heptachlor epoxide	0.0069 U	0.038	0.0069	ug/l	
72-43-5	Methoxychlor	0.0096 U	0.077	0.0096	ug/l	
8001-35-2	Toxaphene	1.1 U	1.9	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	50%		42-127%
2051-24-3	Decachlorobiphenyl	64%		27-127%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-3	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8141B SW846 3510C		
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ25665.D	1	10/22/14	MRE	10/21/14	OP53593	GZZ952
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	2.0 ml
Run #2		

Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
35400-43-2	Bolstar	0.57 U	1.5	0.57	ug/l	
2921-88-2	Chlorpyrifos	0.51 U	1.5	0.51	ug/l	
56-72-4	Coumaphos	0.60 U	1.5	0.60	ug/l	
8065-48-3	Demeton	0.90 U	3.1	0.90	ug/l	
333-41-5	Diazinon	0.43 U	1.5	0.43	ug/l	
62-73-7	Dichlorvos	0.50 U	1.5	0.50	ug/l	
60-51-5	Dimethoate	0.42 U	1.5	0.42	ug/l	
298-04-4	Disulfoton	0.45 U	1.5	0.45	ug/l	
2104-64-5	EPN	0.49 U	1.5	0.49	ug/l	
13194-48-4	Ethoprop	0.35 U	1.5	0.35	ug/l	
56-38-2	Ethyl Parathion	0.45 U	1.5	0.45	ug/l	
115-90-2	Fensulfothion	1.1 U	1.5	1.1	ug/l	
55-38-9	Fenthion	0.47 U	1.5	0.47	ug/l	
121-75-5	Malathion	0.36 U	1.5	0.36	ug/l	
86-50-0	Methyl Azinphos (Guthion)	0.45 U	1.5	0.45	ug/l	
298-00-0	Methyl Parathion	0.40 U	1.5	0.40	ug/l	
150-50-5	Merphos	1.2 U	3.8	1.2	ug/l	
7786-34-7	Mevinphos	0.46 U	1.5	0.46	ug/l	
6923-22-4	Monocrotophos ^a	0.77 U	3.8	0.77	ug/l	
300-76-5	Naled ^b	0.54 U	1.5	0.54	ug/l	
298-02-2	Phorate	0.34 U	1.5	0.34	ug/l	
299-84-3	Ronnel	0.45 U	1.5	0.45	ug/l	
3689-24-5	Sulfotep	0.44 U	1.5	0.44	ug/l	
22248-79-9	Stirophos	0.47 U	1.5	0.47	ug/l	
107-49-3	TEPP ^a	1.5 U	3.8	1.5	ug/l	
34643-46-4	Tokuthion	0.67 U	1.5	0.67	ug/l	
327-98-0	Trichloronate	0.70 U	1.5	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
126-73-8	Tributyl phosphate	123%		47-140%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: MW-4 10/16/14	Date Sampled: 10/16/14
Lab Sample ID: FA19167-3	Date Received: 10/16/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8141B SW846 3510C	
Project: Former Orlando Arena; 630 Amelia St, Orlando, FL	

Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
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- (a) Associated BS recovery outside control limits.
(b) Associated CCV and BS outside control limits.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-4 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-3	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

Total Metals Analysis

Analyte	Result	PQL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	11.4	10	2.4	ug/l	1	10/20/14	10/20/14 LM	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA11975

(2) Prep QC Batch: MP28082

PQL = Practical Quantitation Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result > = MDL but < PQL

Report of Analysis

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3.4
3**Client Sample ID:** MW-3 10/16/14**Lab Sample ID:** FA19167-4**Date Sampled:** 10/16/14**Matrix:** AQ - Ground Water**Date Received:** 10/16/14**Method:** SW846 8260B**Percent Solids:** n/a**Project:** Former Orlando Arena; 630 Amelia St, Orlando, FL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z29262.D	1	10/20/14	CP	n/a	n/a	VZ1133
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	PQL	MDL	Units	Q
71-43-2	Benzene	0.24 U	1.0	0.24	ug/l	
108-88-3	Toluene	0.27	1.0	0.20	ug/l	I
100-41-4	Ethylbenzene	0.71	1.0	0.28	ug/l	I
1330-20-7	Xylene (total)	5.1	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.20 U	1.0	0.20	ug/l	
91-20-3	Naphthalene	1.0 U	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	109%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-3 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-4	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8151A SW846 8151A		
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	CC045919.D	1	10/24/14	NJ	10/23/14	OP53633	GCC745
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	PQL	MDL	Units	Q
94-75-7	2,4-D	0.35 U	1.9	0.35	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.058 U	0.19	0.058	ug/l	
93-76-5	2,4,5-T	0.056 U	0.19	0.056	ug/l	
1918-00-9	Dicamba	0.053 U	0.19	0.053	ug/l	
88-85-7	Dinoseb	0.96 U	3.8	0.96	ug/l	
75-99-0	Dalapon	1.9 U	4.8	1.9	ug/l	
120-36-5	Dichloroprop	0.40 U	1.9	0.40	ug/l	
94-82-6	2,4-DB	0.63 U	1.9	0.63	ug/l	
93-65-2	MCPP	25 U	190	25	ug/l	
94-74-6	MCPA	40 U	190	40	ug/l	
87-86-5	Pentachlorophenol ^b	0.054	0.19	0.044	ug/l	I

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	112%		33-145%

(a) All hits confirmed by dual column analysis.

(b) Primary and confirmation results differ by more than 40%. Lower value reported due to possible coelution.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3 10/16/14**Lab Sample ID:** FA19167-4**Date Sampled:** 10/16/14**Matrix:** AQ - Ground Water**Date Received:** 10/16/14**Method:** SW846 8081B SW846 3510C**Percent Solids:** n/a**Project:** Former Orlando Arena; 630 Amelia St, Orlando, FL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK67088.D	1	10/23/14	GB	10/21/14	OP53597	GKK2210
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	PQL	MDL	Units	Q
309-00-2	Aldrin	0.0062 U	0.038	0.0062	ug/l	
319-84-6	alpha-BHC	0.0038 U	0.038	0.0038	ug/l	
319-85-7	beta-BHC	0.010 U	0.038	0.010	ug/l	
319-86-8	delta-BHC	0.0076 U	0.038	0.0076	ug/l	
58-89-9	gamma-BHC (Lindane)	0.0040 U	0.038	0.0040	ug/l	
12789-03-6	Chlordane	0.16 U	0.38	0.16	ug/l	
60-57-1	Dieldrin	0.0064 U	0.038	0.0064	ug/l	
72-54-8	4,4' -DDD	0.0096 U	0.077	0.0096	ug/l	
72-55-9	4,4' -DDE	0.014 U	0.077	0.014	ug/l	
50-29-3	4,4' -DDT	0.0096 U	0.077	0.0096	ug/l	
72-20-8	Endrin	0.0067 U	0.077	0.0067	ug/l	
1031-07-8	Endosulfan sulfate	0.0064 U	0.077	0.0064	ug/l	
7421-93-4	Endrin aldehyde	0.0063 U	0.077	0.0063	ug/l	
959-98-8	Endosulfan-I	0.0063 U	0.038	0.0063	ug/l	
33213-65-9	Endosulfan-II	0.0077 U	0.038	0.0077	ug/l	
76-44-8	Heptachlor	0.0060 U	0.038	0.0060	ug/l	
1024-57-3	Heptachlor epoxide	0.0069 U	0.038	0.0069	ug/l	
72-43-5	Methoxychlor	0.0096 U	0.077	0.0096	ug/l	
8001-35-2	Toxaphene	1.1 U	1.9	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	55%		42-127%
2051-24-3	Decachlorobiphenyl	39%		27-127%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3 10/16/14**Lab Sample ID:** FA19167-4**Date Sampled:** 10/16/14**Matrix:** AQ - Ground Water**Date Received:** 10/16/14**Method:** SW846 8141B SW846 3510C**Percent Solids:** n/a**Project:** Former Orlando Arena; 630 Amelia St, Orlando, FL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ25666.D	1	10/22/14	MRE	10/21/14	OP53593	GZZ952
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	2.0 ml
Run #2		

Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
35400-43-2	Bolstar	0.57 U	1.5	0.57	ug/l	
2921-88-2	Chlorpyrifos	0.51 U	1.5	0.51	ug/l	
56-72-4	Coumaphos	0.60 U	1.5	0.60	ug/l	
8065-48-3	Demeton	0.90 U	3.1	0.90	ug/l	
333-41-5	Diazinon	0.43 U	1.5	0.43	ug/l	
62-73-7	Dichlorvos	0.50 U	1.5	0.50	ug/l	
60-51-5	Dimethoate	0.42 U	1.5	0.42	ug/l	
298-04-4	Disulfoton	0.45 U	1.5	0.45	ug/l	
2104-64-5	EPN	0.49 U	1.5	0.49	ug/l	
13194-48-4	Ethoprop	0.35 U	1.5	0.35	ug/l	
56-38-2	Ethyl Parathion	0.45 U	1.5	0.45	ug/l	
115-90-2	Fensulfothion	1.1 U	1.5	1.1	ug/l	
55-38-9	Fenthion	0.47 U	1.5	0.47	ug/l	
121-75-5	Malathion	0.36 U	1.5	0.36	ug/l	
86-50-0	Methyl Azinphos (Guthion)	0.45 U	1.5	0.45	ug/l	
298-00-0	Methyl Parathion	0.40 U	1.5	0.40	ug/l	
150-50-5	Merphos	1.2 U	3.8	1.2	ug/l	
7786-34-7	Mevinphos	0.46 U	1.5	0.46	ug/l	
6923-22-4	Monocrotophos ^a	0.77 U	3.8	0.77	ug/l	
300-76-5	Naled ^b	0.54 U	1.5	0.54	ug/l	
298-02-2	Phorate	0.34 U	1.5	0.34	ug/l	
299-84-3	Ronnel	0.45 U	1.5	0.45	ug/l	
3689-24-5	Sulfotep	0.44 U	1.5	0.44	ug/l	
22248-79-9	Stirophos	0.47 U	1.5	0.47	ug/l	
107-49-3	TEPP ^a	1.5 U	3.8	1.5	ug/l	
34643-46-4	Tokuthion	0.67 U	1.5	0.67	ug/l	
327-98-0	Trichloronate	0.70 U	1.5	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
126-73-8	Tributyl phosphate	133%		47-140%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: MW-3 10/16/14	Date Sampled: 10/16/14
Lab Sample ID: FA19167-4	Date Received: 10/16/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8141B SW846 3510C	
Project: Former Orlando Arena; 630 Amelia St, Orlando, FL	

Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
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- (a) Associated BS recovery outside control limits.
(b) Associated CCV and BS outside control limits.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result \geq MDL but $<$ PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-3 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-4	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

Total Metals Analysis

Analyte	Result	PQL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.5 I	10	2.4	ug/l	1	10/20/14	10/20/14 LM	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA11975

(2) Prep QC Batch: MP28082

PQL = Practical Quantitation Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result > = MDL but < PQL

Report of Analysis

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3.5
3**Client Sample ID:** MW-5 10/16/14**Lab Sample ID:** FA19167-5**Date Sampled:** 10/16/14**Matrix:** AQ - Ground Water**Date Received:** 10/16/14**Method:** SW846 8260B**Percent Solids:** n/a**Project:** Former Orlando Arena; 630 Amelia St, Orlando, FL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z29263.D	1	10/20/14	CP	n/a	n/a	VZ1133
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	PQL	MDL	Units	Q
71-43-2	Benzene	0.24 U	1.0	0.24	ug/l	
108-88-3	Toluene	0.20 U	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	0.28 U	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	0.66 U	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.20 U	1.0	0.20	ug/l	
91-20-3	Naphthalene	1.0 U	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		83-118%
17060-07-0	1,2-Dichloroethane-D4	108%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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3.5
3**Client Sample ID:** MW-5 10/16/14**Lab Sample ID:** FA19167-5**Date Sampled:** 10/16/14**Matrix:** AQ - Ground Water**Date Received:** 10/16/14**Method:** SW846 8151A SW846 8151A**Percent Solids:** n/a**Project:** Former Orlando Arena; 630 Amelia St, Orlando, FL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC045920.D	1	10/24/14	NJ	10/23/14	OP53633	GCC745
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	PQL	MDL	Units	Q
94-75-7	2,4-D	0.35 U	1.9	0.35	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.058 U	0.19	0.058	ug/l	
93-76-5	2,4,5-T	0.056 U	0.19	0.056	ug/l	
1918-00-9	Dicamba	0.053 U	0.19	0.053	ug/l	
88-85-7	Dinoseb	0.96 U	3.8	0.96	ug/l	
75-99-0	Dalapon	1.9 U	4.8	1.9	ug/l	
120-36-5	Dichloroprop	0.40 U	1.9	0.40	ug/l	
94-82-6	2,4-DB	0.63 U	1.9	0.63	ug/l	
93-65-2	MCPP	25 U	190	25	ug/l	
94-74-6	MCPA	40 U	190	40	ug/l	
87-86-5	Pentachlorophenol	0.044 U	0.19	0.044	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	72%		33-145%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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3.5
3**Client Sample ID:** MW-5 10/16/14**Lab Sample ID:** FA19167-5**Matrix:** AQ - Ground Water**Method:** SW846 8081B SW846 3510C**Project:** Former Orlando Arena; 630 Amelia St, Orlando, FL**Date Sampled:** 10/16/14**Date Received:** 10/16/14**Percent Solids:** n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK67089.D	1	10/23/14	GB	10/21/14	OP53597	GKK2210
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	PQL	MDL	Units	Q
309-00-2	Aldrin	0.0062 U	0.038	0.0062	ug/l	
319-84-6	alpha-BHC	0.0038 U	0.038	0.0038	ug/l	
319-85-7	beta-BHC	0.010 U	0.038	0.010	ug/l	
319-86-8	delta-BHC	0.0076 U	0.038	0.0076	ug/l	
58-89-9	gamma-BHC (Lindane)	0.0040 U	0.038	0.0040	ug/l	
12789-03-6	Chlordane	0.16 U	0.38	0.16	ug/l	
60-57-1	Dieldrin	0.0064 U	0.038	0.0064	ug/l	
72-54-8	4,4' -DDD	0.0096 U	0.077	0.0096	ug/l	
72-55-9	4,4' -DDE	0.014 U	0.077	0.014	ug/l	
50-29-3	4,4' -DDT	0.0096 U	0.077	0.0096	ug/l	
72-20-8	Endrin	0.0067 U	0.077	0.0067	ug/l	
1031-07-8	Endosulfan sulfate	0.0064 U	0.077	0.0064	ug/l	
7421-93-4	Endrin aldehyde	0.0063 U	0.077	0.0063	ug/l	
959-98-8	Endosulfan-I	0.0063 U	0.038	0.0063	ug/l	
33213-65-9	Endosulfan-II	0.0077 U	0.038	0.0077	ug/l	
76-44-8	Heptachlor	0.0060 U	0.038	0.0060	ug/l	
1024-57-3	Heptachlor epoxide	0.0069 U	0.038	0.0069	ug/l	
72-43-5	Methoxychlor	0.0096 U	0.077	0.0096	ug/l	
8001-35-2	Toxaphene	1.1 U	1.9	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	63%		42-127%
2051-24-3	Decachlorobiphenyl	60%		27-127%

U = Not detected MDL = Method Detection Limit
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 L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
 V = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5 10/16/14	
Lab Sample ID:	FA19167-5	Date Sampled: 10/16/14
Matrix:	AQ - Ground Water	Date Received: 10/16/14
Method:	SW846 8141B SW846 3510C	Percent Solids: n/a
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ25667.D	1	10/22/14	MRE	10/21/14	OP53593	GZZ952
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	2.0 ml
Run #2		

Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
35400-43-2	Bolstar	0.57 U	1.5	0.57	ug/l	
2921-88-2	Chlorpyrifos	0.51 U	1.5	0.51	ug/l	
56-72-4	Coumaphos	0.60 U	1.5	0.60	ug/l	
8065-48-3	Demeton	0.90 U	3.1	0.90	ug/l	
333-41-5	Diazinon	0.43 U	1.5	0.43	ug/l	
62-73-7	Dichlorvos	0.50 U	1.5	0.50	ug/l	
60-51-5	Dimethoate	0.42 U	1.5	0.42	ug/l	
298-04-4	Disulfoton	0.45 U	1.5	0.45	ug/l	
2104-64-5	EPN	0.49 U	1.5	0.49	ug/l	
13194-48-4	Ethoprop	0.35 U	1.5	0.35	ug/l	
56-38-2	Ethyl Parathion	0.45 U	1.5	0.45	ug/l	
115-90-2	Fensulfothion	1.1 U	1.5	1.1	ug/l	
55-38-9	Fenthion	0.47 U	1.5	0.47	ug/l	
121-75-5	Malathion	0.36 U	1.5	0.36	ug/l	
86-50-0	Methyl Azinphos (Guthion)	0.45 U	1.5	0.45	ug/l	
298-00-0	Methyl Parathion	0.40 U	1.5	0.40	ug/l	
150-50-5	Merphos	1.2 U	3.8	1.2	ug/l	
7786-34-7	Mevinphos	0.46 U	1.5	0.46	ug/l	
6923-22-4	Monocrotophos ^a	0.77 U	3.8	0.77	ug/l	
300-76-5	Naled ^b	0.54 U	1.5	0.54	ug/l	
298-02-2	Phorate	0.34 U	1.5	0.34	ug/l	
299-84-3	Ronnel	0.45 U	1.5	0.45	ug/l	
3689-24-5	Sulfotep	0.44 U	1.5	0.44	ug/l	
22248-79-9	Stirophos	0.47 U	1.5	0.47	ug/l	
107-49-3	TEPP ^a	1.5 U	3.8	1.5	ug/l	
34643-46-4	Tokuthion	0.67 U	1.5	0.67	ug/l	
327-98-0	Trichloronate	0.70 U	1.5	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
126-73-8	Tributyl phosphate	128%		47-140%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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3.5
3

Client Sample ID: MW-5 10/16/14	Date Sampled: 10/16/14
Lab Sample ID: FA19167-5	Date Received: 10/16/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8141B SW846 3510C	
Project: Former Orlando Arena; 630 Amelia St, Orlando, FL	

Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
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- (a) Associated BS recovery outside control limits.
(b) Associated CCV and BS outside control limits.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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3.5
3

Client Sample ID:	MW-5 10/16/14	Date Sampled:	10/16/14
Lab Sample ID:	FA19167-5	Date Received:	10/16/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Former Orlando Arena; 630 Amelia St, Orlando, FL		

Total Metals Analysis

Analyte	Result	PQL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	10	2.4	ug/l	1	10/20/14	10/20/14 LM	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA11975

(2) Prep QC Batch: MP28082

PQL = Practical Quantitation Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result > = MDL but < PQL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



Accutest Laboratories Southeast

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

FA19167

Accutest JOB #

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Client / Reporting Information		Project Information		Analytical Information		Matrix Codes	
Company Name	ECT	Project Name	Former Orlando Avenue				
Address	3660 Magnolia Blvd	Street	1630 Amelia St.				
City	Orlando	City	Orlando				
State	FL	State	FL				
Zip	32803						
Project Contact	Jeff Vaters	Project #					
E-mail	vaters@ectinc.com	Fax #					
Phone #	407-963-0005	Client Purchase Order #					
Sampler(s) Name(s) (Printed)	Adam Paul / Kelly Eger						
Field ID / Point of Collection		CONTAINER INFORMATION					
Accutest Sample #		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	LAB USE ONLY
1	MW-2	10/16/14	1107	AE/KE	BW	10	
2	MW-1	10/16/14	1202				
3	MW-4	10/16/14	1302				
4	MW-3	10/16/14	1343				
5	MW-5	10/16/14	1443				
TURNAROUND TIME (Business Days)		Data Deliverable Information					
<input checked="" type="checkbox"/> 5 DAY Standard		Approved By: / Rush Code					
<input type="checkbox"/> 7 Day RUSH		ECT Rates					
<input type="checkbox"/> 5 Day RUSH							
<input type="checkbox"/> 3 Day EMERGENCY							
<input type="checkbox"/> 2 Day EMERGENCY							
<input type="checkbox"/> 1 Day EMERGENCY							
<input type="checkbox"/> OTHER							
Emergency or Rush T/A Data Available VIA Email or Lablink							
Sample Custody must be documented by each time samples change possession, including courier delivery.							
Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	
1. [Signature]	10/16/14 1500	2. [Signature]	10/16/14 1500	3.		4.	
Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	
5.		6.		7.		8.	
Lab Use Only: Custody Seal in Place: Y N		Temp Blank Provided: Y N		Preserved where Applicable: Y N		Total # of Coolers: Cooler Temperature (s) Celsius: 3.4	

FA19167: Chain of Custody

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ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: FA19167 CLIENT: ECT PROJECT: FORMER ORLANDO ARENA
 DATE/TIME RECEIVED: 10/16/14 1500 (MM/DD/YY 24:00) NUMBER OF COOLERS RECEIVED: 1
 METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER
 AIRBILL NUMBERS: _____

COOLER INFORMATION

- ☐ CUSTODY SEAL NOT PRESENT OR NOT INTACT
- ☐ CHAIN OF CUSTODY NOT RECEIVED (COC)
- ☐ ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- ☐ SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- ☐ TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- ☒ TRIP BLANK PROVIDED
- ☐ TRIP BLANK NOT PROVIDED
- ☒ TRIP BLANK NOT ON COC
- ☒ TRIP BLANK INTACT
- ☐ TRIP BLANK NOT INTACT
- ☒ RECEIVED WATER TRIP BLANK
- ☐ RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES? 25-GRAM 5-GRAM
 NUMBER OF 5035 FIELD KITS? _____
 NUMBER OF LAB FILTERED METALS? _____

TEMPERATURE INFORMATION

IR THERM ID #3 CORR. FACTOR -0.2
 OBSERVED TEMPS: 3.6
 CORRECTED TEMPS: 3.4

SAMPLE INFORMATION

- ☐ INCORRECT NUMBER OF CONTAINERS USED
- ☐ SAMPLE RECEIVED IMPROPERLY PRESERVED
- ☐ INSUFFICIENT VOLUME FOR ANALYSIS
- ☐ DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- ☐ ID'S ON COC DO NOT MATCH LABEL
- ☐ VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- ☐ BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- ☐ NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- ☐ UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- ☐ SAMPLE CONTAINER(S) RECEIVED BROKEN
- ☐ 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- ☐ BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- ☐ % SOLIDS JAR NOT RECEIVED
- ☐ RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

SUMMARY OF COMMENTS: 8081, 8141, 8151 AMBERS ARE: 250 ML BOTTLES

TECHNICIAN SIGNATURE/DATE: [Signature] 10/16/14 REVIEWER SIGNATURE/DATE: Jay Seid 10-16-14
 RS 04/14 receipt confirmation 041514.xls