

# UNIVERSAL DEVELOPMENT APPLICATION - DOKA

2209 7TH AVENUE NORTH



## REQUIRED DOCUMENTATION

- [SOUTH-RENDER-ELEVATION.jpg](#)
- [WEST-RENDER-ELEVATION.jpg](#)
- [Warranty-deed.pdf](#)
- [Universal-Development-Application.pdf](#)
- [survey.pdf](#)
- [Sign-Posting-Agreement-UMDASCH.pdf](#)
- [Project-Narrative.pdf](#)
- [Owners-consent-Reves-003.pdf](#)
- [NORTH-EAST-RENDER-ELEVATION.jpg](#)
- [Perspective-rendering-2.jpg](#)
- [Perspective-rendering-1.jpg](#)
- [EAST-RENDER-ELEVATION.jpg](#)
- [DOKA-LAKE-WORTH-BEACH-LANDSCAPE-SET.pdf](#)
- [A4-4\\_NORTH-EAST-ELEVATION.pdf](#)
- [Boundary-Survey-Drawing-LG.pdf](#)
- [A4-6\\_SOUTH-RENDER-ELEVATION.pdf](#)
- [A4-5\\_WEST-RENDER-ELEVATION.pdf](#)
- [A0-3.pdf](#)
- [A0-2.pdf](#)
- [A0-1.pdf](#)
- [A0-0.pdf](#)
- [A4-3.pdf](#)
- [A4-2.pdf](#)
- [A4-1.pdf](#)
- [A4-0.pdf](#)
- [A1-1.pdf](#)
- [A1-0.pdf](#)
- [A0-4.pdf](#)
- [2020.08.19-Doka-Signage.pdf](#)
- [37373730-v1-Doka-Signed-and-Notarized-Affidavit-of-Completeness-and-Accuracy.PDF](#)
- [2020.09.02-Doka-SS.pdf](#)

HAVE YOU UPLOADED ALL REQUIRED FILES?

Yes

SITE PLAN

• Major

USE

• Administrative

## PROJECT INFORMATION

PROJECT NAME

DOKA

PROJECT ADDRESS

2209 7TH AVENUE NORTH  
LAKE WORTH BEACH, Florida 33460  
United States

LEGAL DESCRIPTION

TRACT 66 AND THE NORTH 210.81 FEET OF TRACT 81, MODEL LAND CO. SUBDIVISION OF SECTION 20, TOWNSHIP 44 SOUTH, RANGE 43 EAST, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN THE PUBLIC RECORD OF PALM BEACH COUNTY, FLORIDA.

PROPERTY CONTROL NUMBER (PCN)

38-43-44-20-01-066-0010

ZONING - EXISTING

I-POC

ZONING - PROPOSED

I-POC

<b>FUTURE LAND USE - EXISTING</b>	
<b>FUTURE LAND USE - PROPOSED</b>	
<b>PROPOSED USE</b>	• Industrial
<b>TOTAL ESTIMATED PROJECT COST</b>	\$11,000,000.00
<b>DESCRIPTION OF WORK</b>	TWO STORY 10,042 SQUARE FOOT SHOWROOM, 26,743 SQUARE FOOT MAINTENANCE SHOP/WAREHOUSE 11,160 SQUARE FOOT OUTDOOR OPEN AIR CANOPY STRUCTURE.
<b>CONTACT INFORMATION</b>	
<b>PROJECT MANAGER NAME</b>	LISA REVES
<b>PROJECT MANAGER COMPANY</b>	SAUL EWING ARNSTEIN & LEHR
<b>PROJECT MANAGER EMAIL</b>	<a href="mailto:LISA.REVES@SAUL.COM">LISA.REVES@SAUL.COM</a>
<b>PROJECT MANAGER PHONE</b>	(561) 650-8465
<b>PROJECT MANAGER ADDRESS</b>	515 N FLAGLER DR WEST PALM BEACH, Florida 33401 United States
<b>APPLICANT COMPANY</b>	UMDASCH REAL ESTATE USA, LTD.
<b>APPLICANT ADDRESS</b>	214 GATES RD LITTLE FERRY, New Jersey 07643 United States
<b>OWNER COMPANY</b>	LW INDUSTRIAL, LLC
<b>OWNER ADDRESS</b>	Florida United States

# Universal Development Application



This application is required for ALL applications submitted to the Planning, Zoning and Historic Preservation Division. If you have questions regarding this application, please make an appointment with planning staff.

## 1. Application Type (select all that apply)

- a. Site Plan: ☐ Minor ☒ Major ☐ Planned Development ☐ Sustainable Bonus
- b. Use: ☒ Administrative ☐ Conditional
- c. Proximity Waiver: ☐ Alcoholic Beverage ☐ Community Residence ☐ Gaming Establishment  
☐ Adult Use
- d. Approvals: ☐ Variance ☐ Mural ☐ Cert. of Appropriateness ☐ Adjustment
- e. Amendments: ☐ Rezoning / Map ☐ Text
- f. Other: ☐ Subdivision/Plat ☐ Annexation ☐ Zoning Letter  
☐ ABT Signoff ☒ Economic Investment & Development Electricity Incentives

## 2. Project Information

- a. Project Name: Doka
- b. Project Location / Address: 2209 7th Avenue North
- c. Legal Description: \_\_\_\_\_
- d. Property Control Number (PCN): 38-43-44-20-01-066-0010
- e. Zoning: Existing: I-POC Proposed: I-POC
- f. Future Land Use: Existing: I Proposed: I
- g. Proposed Use: ☐ Residential; Units \_\_\_\_\_ ☐ Commercial; \_\_\_\_\_ S.F. ☒ Industrial; \_\_\_\_\_ S.F.
- h. Total Estimated Project Cost: \_\_\_\_\_
- i. Description of Work: 2 STORY 10,042 SF SHOWROOM, 26,743 SF MAINTENCE SHOP/WAREHOUSE  
11,160 SF OUTDOOR OPEN AIR CANOPY STRUCTURE.

## 3. Contact Information

- a. Project Manager / Contact Person: Lisa Reves  
Company: Saul Ewing Arnstein & Lehr  
Address: 515 N Flagler Dr., Suite 1400 City: West Palm Beach St: FL Zip: 33401  
Phone Number: 561-833-9300 E-Mail Address: lisa.reves@saul.com
- b. Applicant Name (if different from Project Manager): \_\_\_\_\_  
Company: Doka  
Address: \_\_\_\_\_ City: \_\_\_\_\_ St: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_
- c. Owner Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_ City: \_\_\_\_\_ St: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

#### 4. Owner's Consent

LW Industrial, LLC

\_\_\_\_ ("Owner") certifies that it is the owner of the property located at  
2209 7th Avenue North Lake Worth Beach \_\_\_\_ ("Subject Property") and expressly consents to the use of the Subject

Property as described in this application and to all conditions that may be agreed to as a part of the approval of this application, which may be imposed by the decision making board. Owner hereby authorizes, Lisa A. Reves, Esq., agent for the Buyer to file this application and represent the Buyer, Doka USA, Ltd., a New Jersey corporation, at any and all meetings and hearings required for the approval of this application.

Owner's Signature: x [Signature] Date: 8/11/2020

Bill Cuthbertson as Registered Agent, LW Industrial, LLC.

Name/Title of Signatory: \_\_\_\_\_

STATE OF FLORIDA

COUNTY OF Broward

The foregoing instrument was acknowledged before me this 12 day of August, 2020 by Bill Cuthbertson  
who is personally known to me or who produced a N/A as identification. He/she did not take an oath.

(NOTARY SEAL)



Arlene D. Everett  
NOTARY PUBLIC  
STATE OF FLORIDA  
Comm# GG138623  
Expires 8/28/2021

x [Signature]  
(Signature of Notary Public)

Arlene D. Everett  
(Name of Notary)

#### 5. Affidavit of Completeness and Accuracy

**Instructions:** To be completed by the individual submitting the application (owner or authorized agent)

Project Name: \_\_\_\_\_ Submittal Date: \_\_\_\_\_

##### STATEMENT OF COMPLETENESS AND ACCURACY:

I hereby certify all property owners have full knowledge the property they own is the subject of this application. I hereby certify that all owners and petitioners have been provided a complete copy of all material, attachments and documents submitted to the City of Lake Worth relating to this application. I further certify the statements or information made in any paper or plans submitted herewith are true and correct to the best of my knowledge. I understand this application, related application material and all attachments become official records of the Planning, Zoning and Historic Preservation Division of Lake Worth, Florida, and will not be returned. I understand that any knowingly false, inaccurate or incomplete information provided by me will result in the denial, revocation or administrative withdrawal of this application, request, approval or permit. I further acknowledge that additional information may be required by Palm Beach County to process this application. I further acknowledge that any plans that I have prepared or had prepared comply with the Fair Housing Standards. I further consent to the City of Lake Worth to publish, copy or reproduce any copyrighted documents submitted as a part of this application for any third party. I further agree to all terms and conditions, which may be imposed as part of the approval of this application.

\_\_\_\_\_  
(Name – type, stamp, or print clearly)

x \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Name of Firm)

\_\_\_\_\_  
(Address, City, State, Zip)

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_

who is personally known to me or who produced a \_\_\_\_\_ as identification. He/she did not take an oath.

(NOTARY SEAL)

x \_\_\_\_\_  
(Signature of Notary Public)

\_\_\_\_\_  
(Name of Notary)



#### 4. Owner's Consent

LW Industrial, LLC ("Owner") certifies that it is the owner of the property located at 2209 7th Avenue North Lake Worth Beach ("Subject Property") and expressly consents to the use of the Subject Property as described in this application and to all conditions that may be agreed to as a part of the approval of this application, which may be imposed by the decision making board. Owner hereby authorizes, Lisa A. Reves, Esq. as agent, to file this application and represent Owner at any and all meetings and hearings required for the approval of this application.

Owner's Signature: x Date: \_\_\_\_\_

Name/Title of Signatory: \_\_\_\_\_

STATE OF FLORIDA

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_

who is personally known to me or who produced a \_\_\_\_\_ as identification. He/she did not take an oath.

(NOTARY SEAL)

x

(Signature of Notary Public)

(Name of Notary)

#### 5. Affidavit of Completeness and Accuracy

Instructions: To be completed by the individual submitting the application (owner or authorized agent)

Project Name: UMDASCH REAL ESTATE USA, LTD. Submittal Date: AUGUST 2020

##### STATEMENT OF COMPLETENESS AND ACCURACY:

I hereby certify all property owners have full knowledge the property they own is the subject of this application. I hereby certify that all owners and petitioners have been provided a complete copy of all material, attachments and documents submitted to the City of Lake Worth relating to this application. I further certify the statements or information made in any paper or plans submitted herewith are true and correct to the best of my knowledge. I understand this application, related application material and all attachments become official records of the Planning, Zoning and Historic Preservation Division of Lake Worth, Florida, and will not be returned. I understand that any knowingly false, inaccurate or incomplete information provided by me will result in the denial, revocation or administrative withdrawal of this application, request, approval or permit. I further acknowledge that additional information may be required by Palm Beach County to process this application. I further acknowledge that any plans that I have prepared or had prepared comply with the Fair Housing Standards. I further consent to the City of Lake Worth to publish, copy or reproduce any copyrighted documents submitted as a part of this application for any third party. I further agree to all terms and conditions, which may be imposed as part of the approval of this application.

LISA A. REVES, ESQ.

(Name – type, stamp, or print clearly)

SAUL EWING ARNSTEIN & LEHR

(Name of Firm)

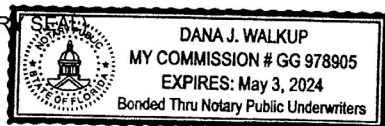
STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 10 day of AUGUST, 2020 by Lisa A. Reves

who is personally known to me or who produced a \_\_\_\_\_ as identification. He/she did not take an oath.

(NOTAR



x

(Signature)

515 N. FLAGLER DR. WEST PALM BEACH, FL 33401

(Address, City, State, Zip)

x

(Signature of Notary Public)

Dana J. WALKUP

(Name of Notary)

RECORDED & RETURNED  
ALL FLORIDA TITLE COMPANY, INC.  
SUITE 310  
1995 EAST OAKLAND PARK BLVD.  
FT. LAUDERDALE, FL 33306  
APT 5601

CFN 20080401228  
OR BK 22937 PG 1849  
RECORDED 11/04/2008 13:34:24  
Palm Beach County, Florida  
AMT 1,500,000.00  
Doc Stamp 10,500.00  
Sharon R. Bock, CLERK & COMPTROLLER  
Pgs 1849 - 1850; (2pgs)

Prepared by:

Larry A. Rothenberg, P.A.  
815 Coral Ridge Drive  
Coral Springs, FL 33071

Return to:

All Florida Title Company, Inc.  
1995 E. Oakland Park Blvd., #310  
Fort Lauderdale, FL 33306

File Number: 08-1190

Will Call No.:

Parcel Identification No. 38 43 44 20 01 066 0010

DOC STAMPS \$10,500.00

[Space Above This Line For Recording Data]

## Warranty Deed

(STATUTORY FORM - SECTION 689.02, F.S.)

**This Indenture** made this 29th day of October, 2008 between LAKE WORTH 10 ACRES, LLC, a Florida limited liability company whose post office address is 4801 Linton Blvd., #11A, #643, Delray Beach, FL 33445 of the County of Palm Beach, State of Florida, grantor\*, and LW INDUSTRIAL, LLC, a Florida limited liability company whose post office address is 720 S.W. 75 Terrace, Plantation, FL 33317 of the County of Broward, State of Florida, grantee\*,

**Witnesseth** that said grantor, for and in consideration of the sum of TEN AND NO/100 DOLLARS (\$10.00) and other good and valuable considerations to said grantor in hand paid by said grantee, the receipt whereof is hereby acknowledged, has granted, bargained, and sold to the said grantee, and grantee's heirs and assigns forever, the following described land, situate, lying and being in Palm Beach County, Florida, to-wit:

Tract 66 and the North 210.81 feet of Tract 81, Model Land Co. Subdivision of Section 20, Township 44 South, Range 43 East, according to the map or plat thereof, as recorded in Plat Book 5, Page 79, of the Public Records of Palm Beach County, Florida.


and said grantor does hereby fully warrant the title to said land, and will defend the same against lawful claims of all persons whomsoever.

\* "Grantor" and "Grantee" are used for singular or plural, as context requires.

**In Witness Whereof**, grantor has hereunto set grantor's hand and seal the day and year first above written.

Signed, sealed and delivered in our presence:

  
Witness Name: LARRY A. ROTHENBERG

  
Witness Name: Megan Becker

LAKE WORTH 10 ACRES, LLC, a Florida limited liability company

By:   
DONATO W. CASALE, Managing Member

DoubleTimes

State of Florida

County of Broward

The foregoing instrument was acknowledged before me this 29 day of October, 2008 by DONATO W. CASALE, Managing Member of LAKE WORTH 10 ACRES, LLC, a Florida limited liability company, on behalf of said firm. He ☒ is personally known or ☐ has produced a driver's license as identification.

[Notary Seal]

Notary Public

Printed Name: LARRY A. ROTHENBERG

My Commission Expires: 3-19-12



Certified copy

September 22, 2020

Re: PROJECT NARRATIVE

2209 7<sup>th</sup> Avenue North, Lake Worth Beach, FL

### **Nature of Use/Business Operations**

Umdasch Real Estate USA, Ltd., the ownership entity, is developing the site for use by Doka USA Ltd., the operating entity. Doka USA Ltd., is an international leader in developing, manufacturing and distributing formwork technology for use in all fields of construction and is proposing to locate its newest location within the Boutwell Industrial Park of Commerce at 2209 7<sup>th</sup> Avenue North. The site is zoned I-POC with corresponding Future Land Use of Industrial and includes 9.7916 acres of vacant land. This facility will house rental and sales services of formwork, construction equipment and safety systems. No manufacturing will occur at this facility. This site will conduct yard operations, maintenance operations, and office operations. Yard operations, loads equipment onto trucks for transportation to various jobsites. As the equipment returns, maintenance operations inspects and repairs the equipment. While office operations consists of various departments including but not limited to, the sales department, engineering department, operational and logistics department, and management. Doka is proposing business hours from 7:30 a.m. until 4:00 p.m. Monday through Friday and if needed Saturdays 7:30 a.m. until noon. This site is not proposed as a retail business so traffic will be limited to employees and trucks transporting the formwork to and from jobsites.

### **Site Characteristics**

Based upon information provided by Nutting Environmental of Florida, Inc., the subject site included several bodies of water but by 1973, the bodies of water on the eastern portion of the site were no longer visible. The site is listed in the Solid Waste activity directory (SWF/LF) databases, as the "Boutwell Road Trash Dump". The Environmental Risk Information System (ERIS) report, indicates this site formerly operated as a "trash and yard waste, unpermitted dump" which closed in the late 1970's early 1980's. In 2011, the property was cleared and has remained undeveloped.

### **Surrounding Property Information**

The proposed project is harmonious with uses in the surrounding area, which is comprised of industrial concrete and metal buildings. The property to the North, of the subject site, is vacant land which is zoned I-POC. To the east of the subject site is Marlin Industrial Park ("Park") zoned I-POC and includes three industrial buildings. The architectural style of these buildings are utilitarian and include store front door and window systems with rolling bays doors in multiple tenant bays. To the west of the site is the E-4 Canal in unincorporated Palm Beach County. The south side of the site is bordered by both the Marlin Commerce Center and

Oakwood Apartments. The apartment complex is zoned MU-W and comprised of nine (9), two (2) story multi-family buildings. The apartment buildings have gabled roofs with limited window and door openings. The Marlin Commerce Center includes three (3) buildings which house Office and Industrial structures within flat roof industrial style architecture.

**Compliance with Site Design Qualitative Standards of Section 23.2-31:**

1. Harmonious and efficient organization. The proposed site improvements include a building located on the northwest portion of the site which houses a two (2) story ten thousand forty two (10,042) square foot office space located along the south side of 7<sup>th</sup> Avenue North, a 26,743 square foot maintenance shop and warehouse, 11,160 square foot canopy shaded area and 104,342 square foot outdoor storage area, all are harmoniously and efficiently organized for the functional use of the property. The proposed improvements will not impede the normal and orderly development of surrounding property for uses permitted within the Land Development Regulations (“LDR”)
2. Preservation of Natural Conditions. The subject property is vacant and due to the historical use of the property no natural communities remain.
3. Screening and buffering. Fences, walls, vegetation and lakes are utilized to protect neighboring properties from undesirable views, light, noise, or other adverse on-site effects. The 97,264 square foot lake is strategically located along the south portion of the site to provide the maximum possible separation from the multi-family community to the south.
4. Residential privacy is enhanced, not only by the strategic location of the lake but also by the Lake Worth Drainage District (“LWDD”) 200 foot right of way for the E-4 Canal along the west of the subject site. The LWDD right of way and position of lake provide reasonable, visual and acoustical privacy for the dwelling units located adjacent to the site.
5. Emergency access. Site access is proposed from three locations on 7<sup>th</sup> Avenue North, all include 20 foot roll gates with Knox-box access. The proposed structure is arranged in a manner which allows emergency vehicles access to all of the building facades from the right of way and the ingress/egress access aisles which surround the building.
6. Access to public ways. The proposed structure has safe and convenient access to the public street via the proposed concrete sidewalk within the 7<sup>th</sup> Avenue North right of way and the connecting internal walkways and crosswalks as depicted on the site plan.
7. Pedestrian circulation. The pedestrian circulation system is insulated as completely as reasonably possible from the vehicular circulation system as depicted on the site plan. Location of the internal walkways and crosswalks have been located in the safest possible manner in relation to the building location and vehicular circulation.
8. Design of ingress and egress drives. The site is accessed from the terminus of 7<sup>th</sup> Avenue North via three(3) proposed ingress/egress points. The access points are arranged to minimize negative impacts on public and private ways and on adjacent property.
9. Coordination of on-site circulation with off-site circulation. Site access and circulation is designed so that passenger vehicles parking and circulation will occur from the western access point and truck circulation will occur predominately on the east side of the property.
10. Design of on-site public right-of-way. The extension of 7<sup>th</sup> Avenue North is designed for maximum efficiency and to provide site access in a manner that is harmonious with existing conditions.
11. Off-street parking, loading and vehicular circulation areas. Off-street parking, loading, and vehicular circulation areas are located, designed and screened to minimize the impact of



glare, noise, and odor on adjacent property. The off-street parking is proposed on the western façade of the building and accessible from the west ingress/egress point to the site. The majority of truck access and circulation, is separated from passenger vehicle circulation and will occur from two access points located east of the proposed building.

12. Refuse and service areas. Refuse and service areas are located, designed and screened to minimize the impact of noise, glare and odor on adjacent property and locating it on the west property line away from neighboring property owners.
13. Protection of property values. The elements of the site plan are arranged to minimize any potential negative impact on adjoining property and would improve the property values with the proposed improvements, fencing, screen walls and landscape improvement proposed for the site.
14. Transitional development. Not applicable.
15. Consideration of future development. The above standards are met and impacts to existing and future development have been mitigated.

**Compliance with Community Appearance Criteria Section 23.2-31(l):**

1. The plan for the proposed structure is in conformity with good taste, good design, and in general contributes to the image of the City as a place of beauty, spaciousness, harmony, taste, fitness, broad vistas and is a high quality home of an international company.
2. The proposed structure is not, in its exterior design and appearance, of inferior quality such as to cause the nature of the local environment or evolving environment to materially depreciate in appearance and value.
3. The proposed structure is in harmony with the proposed developments in the general area, with code requirements pertaining to site plan, signage and landscaping, and the comprehensive plan for the City, and with the criteria set forth herein.
4. The proposed structure is in compliance with this section and 23.2-29, as applicable.

Best Regards,

Lisa A. Reves

sb

August 31, 2020

Re: PROJECT NARRATIVE

2209 7<sup>th</sup> Avenue North, Lake Worth Beach, FL

Umdasch Real Estate USA, Ltd., the ownership entity, is developing the site for use by Doka USA Ltd., the operating entity. Doka USA Ltd., is an international leader in developing, manufacturing and distributing formwork technology for use in all fields of construction and is proposing to locate its newest location within the Boutwell Industrial Park of Commerce at 2209 7<sup>th</sup> Avenue North. The site is zoned I-POC with corresponding Future Land Use of Industrial and includes 9.7916 acres of vacant land.

#### **Site Characteristics**

Based upon information provided by Nutting Environmental of Florida, Inc., the subject site included several bodies of water but by 1973, the bodies of water on the eastern portion of the site were no longer visible. The site is listed in the Solid Waste activity directory (SWF/LF) databases, as the "Boutwell Road Trash Dump". The Environmental Risk Information System (ERIS) report, indicates this site formerly operated as a "trash and yard waste, unpermitted dump" which closed in the late 1970's early 1980's. In 2011, the property was cleared and has remained undeveloped.

#### **Surrounding Property Information**

The proposed project is harmonious with uses in the surrounding area, which is comprised of industrial concrete and metal buildings. The property to the North, of the subject site, is vacant land which is zoned I-POC. To the east of the subject site is Marlin Industrial Park ("Park") zoned I-POC and includes three industrial buildings. The architectural style of these buildings are utilitarian and include store front door and window systems with rolling bays doors in multiple tenant bays. To the west of the site is the E-4 Canal in unincorporated Palm Beach County. The south side of the site is bordered by both the Marlin Commerce Center and Oakwood Apartments. The apartment complex is zoned MU-W and comprised of nine (9), two (2) story multi-family buildings. The apartment buildings have gabled roofs with limited window and door openings. The Marlin Commerce Center includes three (3) buildings which house Office and Industrial structures within flat roof industrial style architecture.

#### **Compliance with Site Design Qualitative Standards of Section 23.2-31:**

1. Harmonious and efficient organization. The proposed site improvements include a building located on the northwest portion of the site which houses a two (2) story ten thousand forty two (10,042) square foot office space located along the south side of 7<sup>th</sup> Avenue North, a 26,743 square foot maintenance shop and warehouse, 11,160 square foot canopy shaded area

and 104,342 square foot outdoor storage area, all are harmoniously and efficiently organized for the functional use of the property. The proposed improvements will not impede the normal and orderly development of surrounding property for uses permitted within the Land Development Regulations (“LDR”)

2. Preservation of Natural Conditions. The subject property is vacant and due to the historical use of the property no natural communities remain.
3. Screening and buffering. Fences, walls, vegetation and lakes are utilized to protect neighboring properties from undesirable views, light, noise, or other adverse on-site effects. The 97,264 square foot lake is strategically located along the south portion of the site to provide the maximum possible separation from the multi-family community to the south.
4. Residential privacy is enhanced, not only by the strategic location of the lake but also by the Lake Worth Drainage District (“LWDD”) 200 foot right of way for the E-4 Canal along the west of the subject site. The LWDD right of way and position of lake provide reasonable, visual and acoustical privacy for the dwelling units located adjacent to the site.
5. Emergency access. Site access is proposed from three locations on 7<sup>th</sup> Avenue North, all include 20 foot roll gates with Knox-box access. The proposed structure is arranged in a manner which allows emergency vehicles access to all of the building facades from the right of way and the ingress/egress access aisles which surround the building.
6. Access to public ways. The proposed structure has safe and convenient access to the public street via the proposed concrete sidewalk within the 7<sup>th</sup> Avenue North right of way and the connecting internal walkways and crosswalks as depicted on the site plan.
7. Pedestrian circulation. The pedestrian circulation system is insulated as completely as reasonably possible from the vehicular circulation system as depicted on the site plan. Location of the internal walkways and crosswalks have been located in the safest possible manner in relation to the building location and vehicular circulation.
8. Design of ingress and egress drives. The site is accessed from the terminus of 7<sup>th</sup> Avenue North via three(3) proposed ingress/egress points. The access points are arranged to minimize negative impacts on public and private ways and on adjacent property.
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10. Design of on-site public right-of-way. The extension of 7<sup>th</sup> Avenue North is designed for maximum efficiency and to provide site access in a manner that is harmonious with existing conditions.
11. Off-street parking, loading and vehicular circulation areas. Off-street parking, loading, and vehicular circulation areas are located, designed and screened to minimize the impact of glare, noise, and odor on adjacent property. The off-street parking is proposed on the western façade of the building and accessible from the west ingress/egress point to the site. The majority of truck access and circulation, is separated from passenger vehicle circulation and will occur from two access points located east of the proposed building.
12. Refuse and service areas. Refuse and service areas are located, designed and screened to minimize the impact of noise, glare and odor on adjacent property and locating it on the west property line away from neighboring property owners.
13. Protection of property values. The elements of the site plan are arranged to minimize any potential negative impact on adjoining property and would improve the property values with

the proposed improvements, fencing, screen walls and landscape improvement proposed for the site.

14. Transitional development. Not applicable.

15. Consideration of future development. The above standards are met and impacts to existing and future development have been mitigated.

**Compliance with Community Appearance Criteria Section 23.2-31(l):**

1. The plan for the proposed structure is in conformity with good taste, good design, and in general contributes to the image of the City as a place of beauty, spaciousness, harmony, taste, fitness, broad vistas and is a high quality home of an international company.
2. The proposed structure is not, in its exterior design and appearance, of inferior quality such as to cause the nature of the local environment or evolving environment to materially depreciate in appearance and value.
3. The proposed structure is in harmony with the proposed developments in the general area, with code requirements pertaining to site plan, signage and landscaping, and the comprehensive plan for the City, and with the criteria set forth herein.
4. The proposed structure is in compliance with this section and 23.2-29, as applicable.

Best Regards,

Lisa A. Reves

sb



**Department of Engineering  
and Public Works**

P.O. Box 21229

West Palm Beach, FL 33416-1229

(561) 684-4000

FAX: (561) 684-4050

www.pbcgov.com



**Palm Beach County  
Board of County  
Commissioners**

Dave Kerner, Mayor

Robert S. Weinroth, Vice Mayor

Hal R. Valeche

Gregg K. Weiss

Mary Lou Berger

Melissa McKinlay

Mack Bernard

**County Administrator**

Verdenia C. Baker

November 19, 2020

Stephanie A. Kinlen, P.E.  
Kimley-Horn and Associates, Inc.  
1920 Wekiva Way, Suite 200  
West Palm Beach, FL 33411

**RE: 2209 7<sup>th</sup> Avenue N**  
**Project #: 201107**  
**Traffic Performance Standards Review**

Dear Ms. Kinlen:

The Palm Beach County Traffic Division has reviewed the **2209 7<sup>th</sup> Avenue N** Traffic Impact Statement, dated November 13, 2020, pursuant to the Traffic Performance Standards in Article 12 of the Palm Beach County Unified Land Development Code (ULDC). The project is summarized as follows:

<b>Municipality:</b>	Lake Worth Beach
<b>Location:</b>	South side of 7 <sup>th</sup> Ave N, west of 23 <sup>rd</sup> Ave S
<b>PCN:</b>	38-43-44-20-01-066-0010
<b>Access:</b>	Two access driveway connections onto 7 <sup>th</sup> Avenue N <u>(As used in the study and is NOT necessarily an approval by the County through this TPS letter)</u>
<b>Existing Uses:</b>	Vacant
<b>Proposed Uses:</b>	Gen. Office = 10,042 SF Warehouse = 26,743 SF Outdoor Storage = 2.4 Acres
<b>New Daily Trips:</b>	221
<b>New Peak Hour Trips:</b>	40 (35/5) AM; 23 (7/16) PM
<b>Build-out:</b>	December 31, 2021

Based on our review, the Traffic Division has determined the proposed development is located within the Lake Worth Park of Commerce Traffic Concurrency Exception Area (TCEA) and therefore, exempt from the Traffic Performance Standards of Palm Beach County.

Please note the receipt of a Traffic Performance Standards (TPS) approval letter does not constitute the review and issuance of a Palm Beach County Right-of-Way (R/W) Construction Permit nor does it eliminate any requirements that may be deemed as site related. For work within Palm Beach County R/W, a detailed review of the project will be provided upon submittal for a R/W permit application. The project is required to comply with all Palm Beach County standards and may include R/W dedication.

No building permits are to be issued by the City after the build-out date specified above. The County traffic concurrency approval is subject to the Project Aggregation Rules set forth in the Traffic Performance Standards Ordinance.

*"An Equal Opportunity  
Affirmative Action Employer"*





Stephanie A. Kinlen, P.E.  
November 19, 2020  
Page 2

The approval letter shall be valid no longer than one year from date of issuance, unless an application for a Site Specific Development Order has been approved, an application for a Site Specific Development Order has been submitted, or the approval letter has been superseded by another approval letter for the same property.

If you have any questions regarding this determination, please contact me at 561-684-4030 or email [QBari@pbcgov.org](mailto:QBari@pbcgov.org).

Sincerely,

A handwritten signature in blue ink that reads "Quazi Bari".

Quazi Bari, P.E., PTOE  
Manager – Growth Management  
Traffic Division

QB:HA:rb

cc: Addressee

Erin Fitzhugh Sita, AICP, Assistant Director-Planning, Zoning, & Preservation Community  
Sustainability Department, City of Lake Worth Beach  
Hanane Akif, E.I., Project Coordinator II, Traffic Division  
Steve Bohovsky, Technical Assistant III, Traffic Division

File: General - TPS - Mun - Traffic Study Review  
F:\TRAFFIC\HA\MUNICIPALITIES\APPROVALS\2020\201107 - 2209 7TH AVE.DOCXN

# Sustainable Bonus Incentive Program



All development proposals seeking increased height above two stories, or additional FAR, as each may be allowed in a zoning district, shall submit this Sustainable Bonus Incentive Program Application. The application shall accompany the standard City of Lake Worth Universal Development Application for the development proposal.

Two hard copies and one electronic copy of the following materials are required in order for a Sustainable Bonus Incentive Program Application to be deemed complete and sufficient to present to the decision making board.

The Sustainable Bonus Incentive calculations are based on the gross square footage of the bonus height or intensity requested. The additional gross square footage amount is multiplied by \$5 per square foot ("Value Multiplier") in order to determine the value of the additional improvements to be provided for the project.

## 1. Please indicate whether the development proposal includes bonus height or bonus intensity:

### a. ☒ Bonus Height

i. No. of Additional Stories: \_\_\_\_\_ ("Bonus Height")

ii. Additional Gross Floor Area: 5,565 sf ("Bonus Area")

### b. ☐ Bonus Intensity

i. Additional Floor Area Ratio: \_\_\_\_\_ ("Bonus Intensity")

ii. Additional Gross Floor Area: \_\_\_\_\_ ("Bonus Area")

## 2. Multiply the Bonus Area by the Value Multiplier to determine the value of required improvements.

a. 5,565 sf square feet x \$5 = \$8,347.50  
Bonus Area Value of Required Improvements

## 3. Indicate the type and value of the community benefit proposed to qualify for the Bonus Area:

a. ☒ On-Site Features and Improvements; Value: \$ 130,000

b. ☐ Off-Site Features and Improvements; Value: \$ \_\_\_\_\_

c. ☐ Fee In Lieu; Amount: \$ \_\_\_\_\_

## 4. Attach to this application a separate sheet with a detailed description of the proposed improvement and valuation of the same.

-Cost for code minimum fencing w/ fabric mesh : 1,300 linear feet of vinyl coated chain link fence w fabric mesh x \$25/LF = \$32,500. Net Value of improvements above required = \$97,500.00 Total Value Required 2). Above = \$8,347.50 Net total of improvements: \$89,152.50



November 2020

*UMDASCH Real Estate USA, LTD  
Office and Industrial Facility*

*Drainage Report  
KHA PN: 143189000*

***Prepared for:***  
*UMDASCH Real Estate USA, LTD  
2209 7<sup>th</sup> Ave N  
Lake Worth Beach, FL 33461*

***Prepared by:***  
*Kimley-Horn & Associates, Inc.  
8201 Peters Road, Suite 2200  
Plantation, FL 33324*

**Kimley»Horn**

DRAINAGE REPORT

for

UMDASCH Real Estate USA, LTD  
Office and Industrial Facility  
2209 7<sup>th</sup> Ave N  
Lake Worth Beach, FL 33461

KHA Project No.: 143189000  
November 2020

---

George Balaban, P.E.  
Florida Professional Engineer License Number 74543  
Kimley-Horn and Associates, Inc.  
8201 Peters Road, Suite 2200  
Plantation, Florida 33324  
(954) 535-5134

## TABLE OF CONTENTS

PROJECT DESCRIPTION.....	3
EXISTING CONDITIONS.....	3
OBJECTIVE .....	3
REQUIREMENTS.....	3
FEMA FLOOD ELEVATION.....	4
PROPOSED STORMWATER MANAGEMENT SYSTEM.....	4
STORM ANALYSIS .....	5
CONCLUSION AND RECOMMENDATIONS.....	5
REFERENCES .....	6

## APPENDICES

### A. MAPS

- A-1 – PROJECT LOCATION AERIAL
- A-2 – SOILS MAP
- A-3 – FEMA FLOOD INSURANCE RATE MAP
- A-4 – SFWMD FLOOD CRITERIA (5-YEAR, 1-DAY RAINFALL)
- A-5 – SFWMD FLOOD CRITERIA (10-YEAR, 3-DAY RAINFALL)
- A-6 – SFWMD FLOOD CRITERIA (25-YEAR, 3-DAY RAINFALL)
- A-7 – SFWMD FLOOD CRITERIA (100-YEAR, 3-DAY RAINFALL)

### B. DRAINAGE CALCULATIONS

- B-1 – PROPOSED AREA BREAKDOWN
  - B-2 – WATER QUALITY AND PRE-TREATMENT CALCULATIONS
  - B-3 – EXFILTRATION TRENCH CALCULATIONS
  - B-4 – SOIL STORAGE CALCULATIONS
  - B-5 – STAGE STORAGE CALCULATIONS
- Cascade Routing Results (3-yr 1day, 10-yr 3day, 25-yr 3day, 100-yr 3day)

### C. GEOTECHNICAL REPORT (by Nutting Engineers)

### D. PREVIOUSLY APPROVED SFWMD PERMIT FOR SITE

### E. CONSERVATION EASEMENT & SFWMD RELEASE OF CONSERVATION EASEMENT

### F. SFWMD C-51 BASIN INFORMATION



## PROJECT DESCRIPTION

The subject site is located in Section 20, Township 44, Range 43 E within the City of Lake Worth Beach, Florida. The project consists of a single lot located at 2209 7<sup>th</sup> Avenue North in Lake Worth Beach, Florida, 33461. The parcel control number is 38-43-44-20-01-066-0010. The project consists of 9.63 net acres and proposes the construction of a 26,617SF maintenance shop/warehouse, and a 10,150 SF 2 story office. The site is located within the C-51 Basin of the South Florida Water Management District (SFWMD) and shall meet or exceed Sub-Basin 33 requirements of 11.2'(NAVD) max 100 year Stage with 35 CSM max 10 year Discharge Rate (approximately 0.53 cfs for the 9.63 acres of the project) The site is bounded to the north by 7<sup>th</sup> Avenue North, bounded to the south by Oakwood Apartments, bounded to the west by E-4 Canal (Keller Canal), and bounded to the east by industrial buildings (see Appendix A-1, Project Location Aerial).

## EXISTING CONDITIONS

The existing site is heavily vegetated with an existing lake on-site. There is legal positive outfall to the Lake Worth Drainage District (LWDD) E-4 (Keller Canal). The site previously obtained a SFWMD Permit No. 50-09006-P (Application 080311-7) on May 14, 2009. Previously a conservation easement was required on-site (See Appendix E) recorded March 01, 2010. This conservation easement was later released on November 14, 2013 (See Appendix E).

## OBJECTIVE

The objective of this design is to provide a stormwater management system that will provide adequate flood protection for the proposed project and meet the environmental and regulatory requirements set forth by the federal, state, county, and local governmental agencies. These agencies include: the Florida Department of Transportation (FDOT), City of Lake Worth Beach, Florida Department of Environmental Protection (FDEP), Lake Worth Drainage District (LWDD), and South Florida Water Management District (SFWMD).

## REQUIREMENTS

SFWMD and LWDD have jurisdiction over stormwater quality and quantity criteria. The following subsections outline the requirements set forth by these entities. The stormwater system must be designed to meet the most stringent of the aforementioned requirements.

### *Water Quality Criteria – Treatment Required*

Per SFWMD design criteria for industrial properties, water quality treatment is required. The water quality treatment volume shall be provided for the first inch of runoff from the developed project, or the total runoff of 2.5 inches times the percentage impervious, whichever is greater. The required water quality of 1.15 ac-ft will be met in the proposed exfiltration trench, which provide 4.12 ac-ft of storage. (See Appendix B for detailed calculations).

## *Water Quantity Criteria – Design Storm Events*

### **5-Year, 1-Day Rainfall**

The post-development runoff from a storm event with duration of 1-day and 5-year return frequency should be completely retained within the proposed stormwater system below the minimum inlet elevation.

### **10-Year, 3-Day Rainfall**

The post-development runoff from a storm event with duration of 3-day and 25-year return frequency regulates the discharge to the canal.

### **25-Year, 3-Day Rainfall**

The post-development runoff from a storm event with duration of 3-day and 25-year return frequency.

### **100-Year, 3-Day Rainfall**

The building finish floor elevation must be set at or above the peak stage of a storm event with duration of 3-day and 100-year return frequency. No discharge is accounted for.

### **Water Table**

The design water table elevation of 7.00 ft NAVD was obtained from Lake Worth Drainage District Canal Elevations Map (see Appendix A-8).

## **FEMA FLOOD ELEVATION**

The project is located in Community Panel Numbers 12099C0777F (Panel 777 of 1200) of the Flood Insurance Rate Map (FIRM), revised October 5, 2017. According to the National Flood Insurance Program the project is within Zone AE (Elevation 11' NAVD) as well as outside the 100-year flood zone in Flood Zone 'X' (see Appendix A-3).

## **PROPOSED STORMWATER MANAGEMENT SYSTEM**

The proposed stormwater improvements will have the capability to manage the stormwater runoff produced by the proposed development through the use of 2,193 LF of exfiltration trench and one (1) lakes on-site. The project site will discharge via control structure on the southwest corner of the parcel to the E-4 (LWDD) Keller Canal. The control structure will include a rim elevation above the 10year-3-day discharge storm and will also include a 6 inch inverted triangle bleeder.

## **STORM ANALYSIS**

The storm analysis consisted of determining the rainfall amounts for the following storm events and executing Cascade drainage software to model and determine the stage and runoff of each event. The analysis was completed for the following storm events and rainfall depths:

Design Storm Event	Rainfall Depth (inches)
5-Year, 1-Day (Figure A-4)	7.5
10-Year, 3-Day (Figure A-5)	10.5
25-Year, 3-Day (Figure A-6)	12.5
100-Year, 3-Day (Figure A-7)	16.3

## CONCLUSION AND RECOMMENDATIONS

The stormwater system satisfies the LWDD and SFWMD retention criteria for the required design storm events. The drainage analysis indicates that the proposed stormwater management system should be able to protect the site from flooding and prevent off-site discharge for the 1-day: 5-year and 3-day: 10-year design storm events (see Appendix B, Drainage Calculations).

DESIGN STORM	POST-DEVELOPMENT		
	MAX. STAGE ELEVATION (FT, NAVD)	DESIGN ELEMENT	PROPOSED ELEVATION OF DESIGN ELEMENT (FT, NAVD)
5-Year, 1-Day	8.07	Lowest Rim Elevation	10.5
10-Year, 3-Day	8.54	Perimeter Berm	9.0
25-Year, 3-Day	8.87	-	N/A
100-Year, 3-Day	10.51	Finished Floor Elevation	12.5

STAGE/STORAGE COMPARISON (PREVIOUSLY SFWMD PERMIT VS PROPOSED)		
Stage (ft)	Previous SFWMD permit (ft, NAVD)	Proposed stage (ft, NAVD)
7.0	0	0
8.5	3.94	6.24
9.5	6.77	9.51
10.5	9.76	11.86
11.5	13.81	15.41

## REFERENCES

South Florida Water Management District. 2014. [Environmental Resource Permit Information Manual](#)  
 State of Florida Department of Transportation. 2019. [Drainage Manual](#)  
 State of Florida Department of Transportation 2019 [Drainage Design Guide](#)

## **APPENDIX A: MAPS**

**APPENDIX A-1**

**PROJECT LOCATION AERIAL**



This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Review of and reliance on this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



EXHIBIT NUMBER		DATE:	07/2019	PROJECT LOCATION MAP	PREPARED FOR: 2209 7th Avenue North Lake Worth Beach, FL 33461	 NOT TO SCALE	<b>Kimley»Horn</b> 600 North Pine Island Road, Suite 450 Plantation, Florida 33324 (954) 535-5100 Phone (954) 739-2247 Fax www.kimley-horn.com
A-1		DRAWN BY:	MB				
		PROJECT NO:					
		KHA NO.:	143051000				

## **APPENDIX A-2**

### **SOILS MAP**



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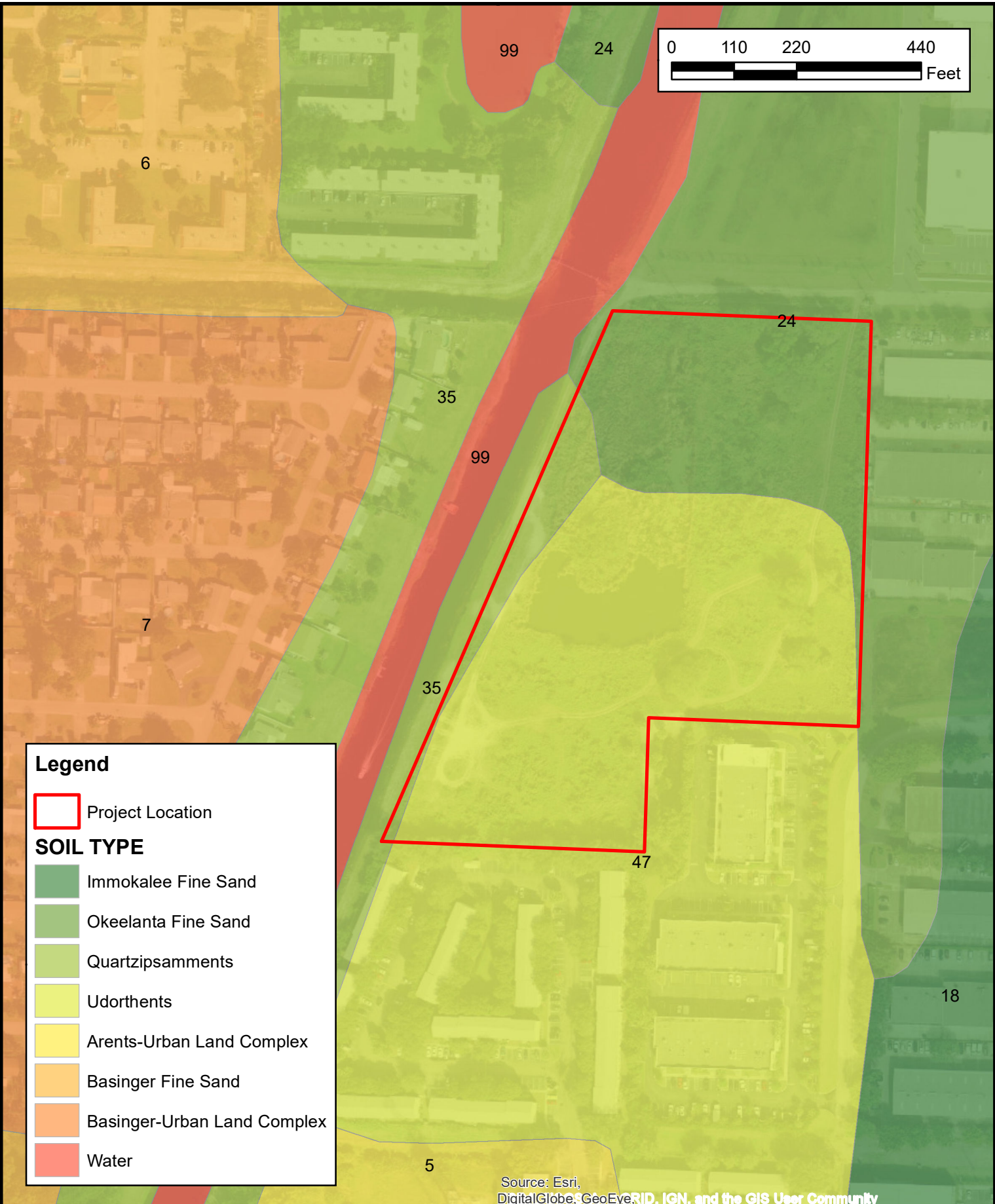



EXHIBIT NUMBER <b>A-2</b>	DATE: 07/2019	<b>SOILS MAP</b>	PREPARED FOR: 2209 7th Avenue North Lake Worth Beach, FL 33461	 NOT TO SCALE	<b>Kimley»Horn</b> 600 North Pine Island Road, Suite 450 Plantation, Florida 33324 (954) 535-5100 Phone (954) 739-2247 Fax www.kimley-horn.com
	DRAWN BY: MB				
	PROJECT NO:				
	KHA NO.: 143051000				

**APPENDIX A-3**

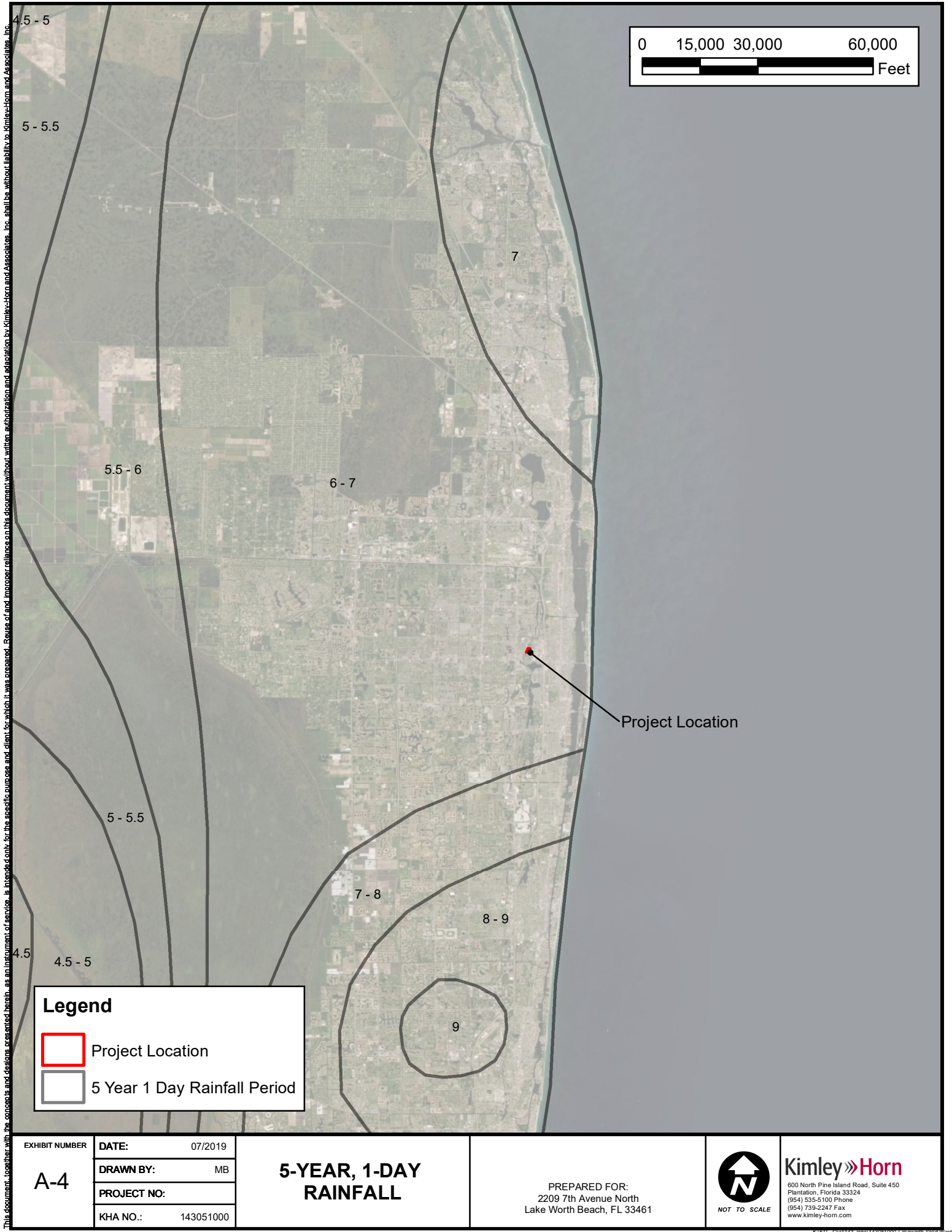
**FEMA FLOOD INSURANCE RATE MAP**



## **APPENDIX A-4**

### **SFWMD FLOOD CRITERIA (5-YEAR, 1-DAY RAINFALL)**





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**Legend**



Project Location



5 Year 1 Day Rainfall Period

EXHIBIT NUMBER

A-4

DATE:

07/2019

DRAWN BY:

MB

PROJECT NO:

KHA NO.:

143051000

**5-YEAR, 1-DAY  
RAINFALL**

PREPARED FOR:  
2209 7th Avenue North  
Lake Worth Beach, FL 33461



NOT TO SCALE

**Kimley»Horn**

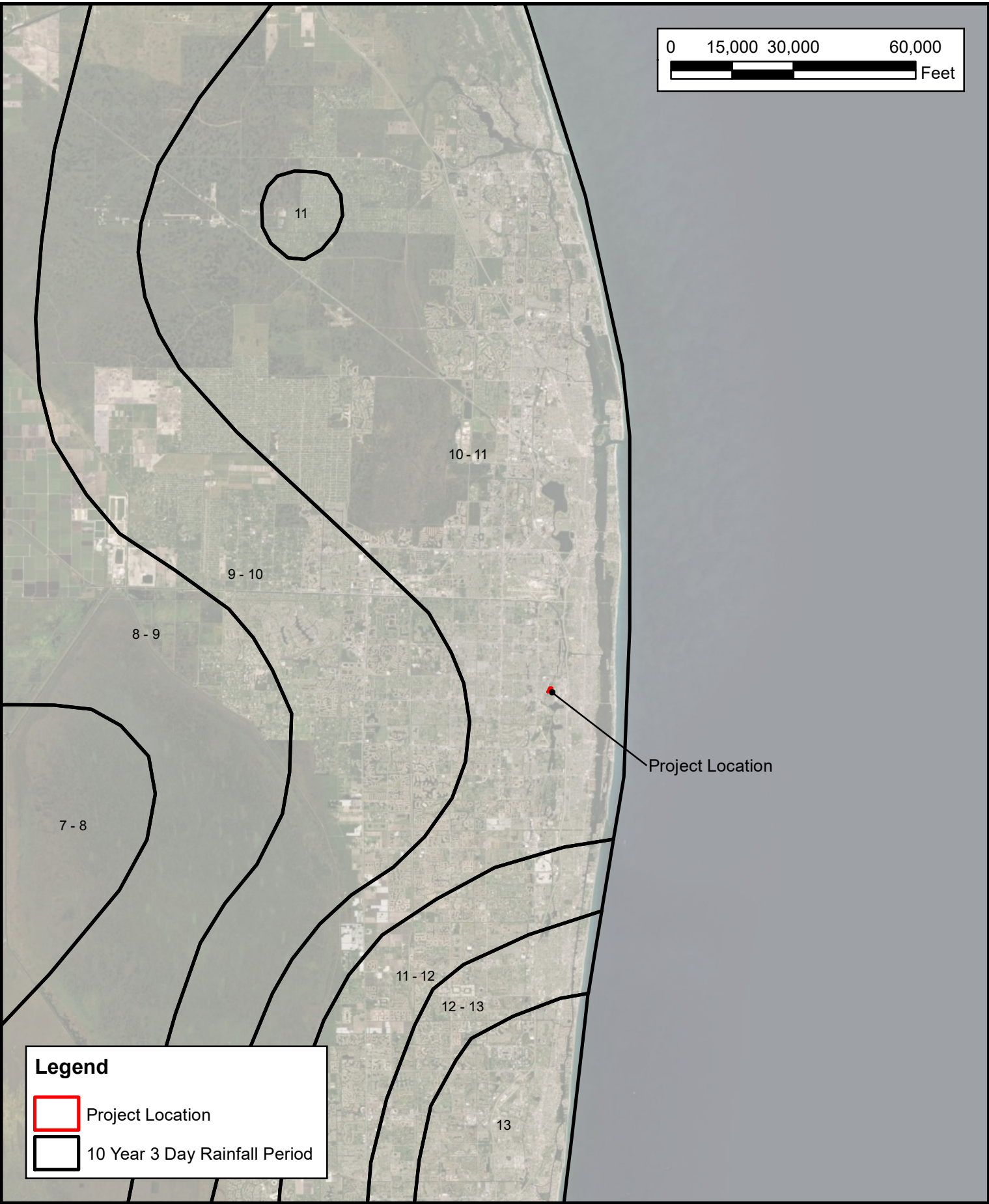
600 North Pine Island Road, Suite 450  
Plantation, Florida 33324  
(954) 535-5100 Phone  
(954) 739-2247 Fax  
www.kimley-horn.com

## **APPENDIX A-5**

### **SFWMD FLOOD CRITERIA (10-YEAR, 3-DAY RAINFALL)**



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**Legend**



Project Location



10 Year 3 Day Rainfall Period

EXHIBIT NUMBER

A-5

DATE:

07/2019

DRAWN BY:

MB

PROJECT NO:

KHA NO.:

143051000

**10-YEAR, 3-DAY  
RAINFALL**

PREPARED FOR:  
2209 7th Avenue North  
Lake Worth Beach, FL 33461



NOT TO SCALE

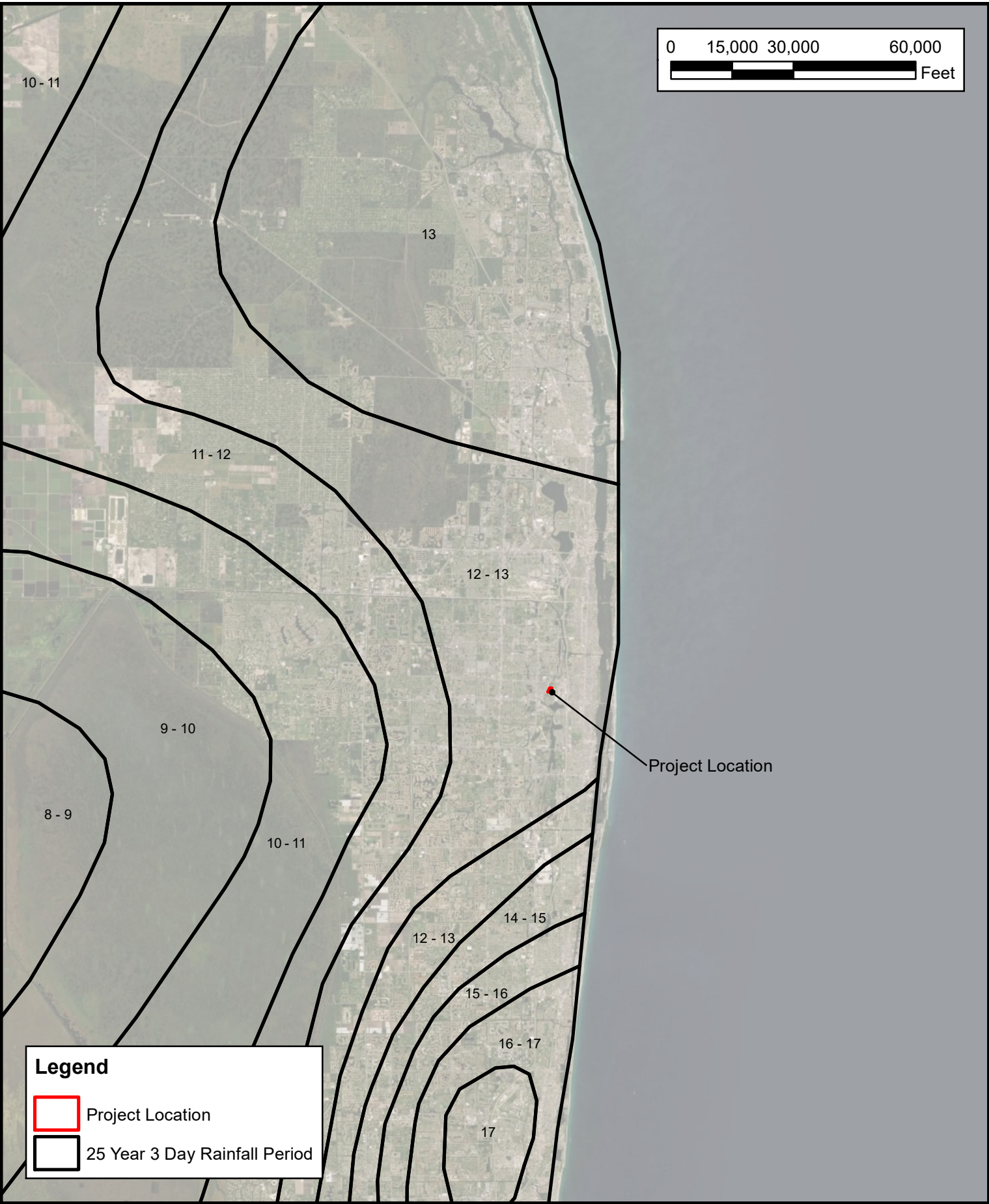
**Kimley»Horn**

600 North Pine Island Road, Suite 450  
Plantation, Florida 33324  
(954) 535-5100 Phone  
(954) 739-2247 Fax  
www.kimley-horn.com

## **APPENDIX A-6**

### **SFWMD FLOOD CRITERIA (25-YEAR, 3-DAY RAINFALL)**

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**Legend**



Project Location



25 Year 3 Day Rainfall Period

EXHIBIT NUMBER	DATE:	07/2019
A-6	DRAWN BY:	MB
	PROJECT NO:	
	KHA NO.:	143051000

**25-YEAR, 3-DAY  
RAINFALL**

PREPARED FOR:  
2209 7th Avenue North  
Lake Worth Beach, FL 33461



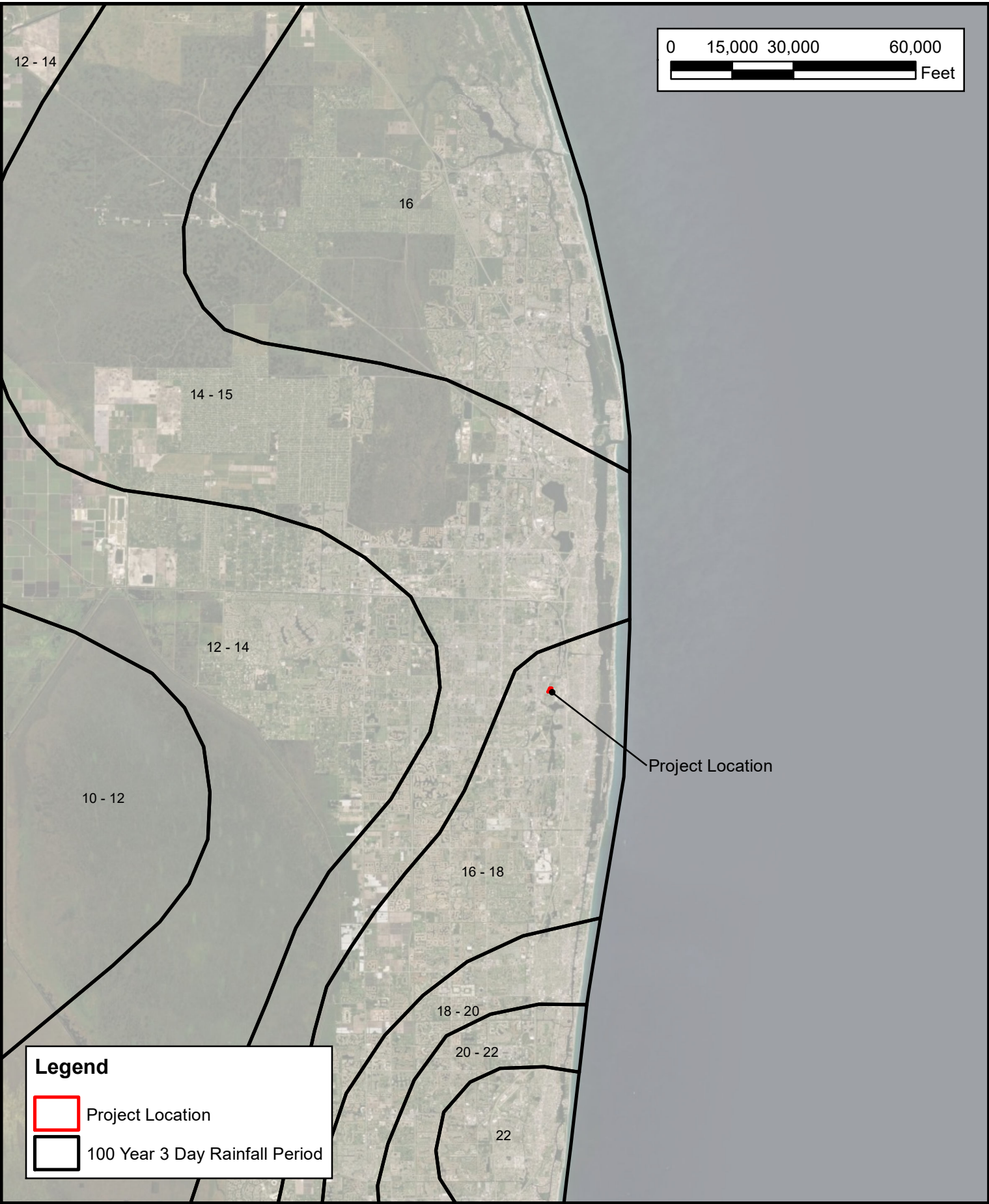
**Kimley»Horn**  
600 North Pine Island Road, Suite 450  
Plantation, Florida 33324  
(954) 535-5100 Phone  
(954) 739-2247 Fax  
www.kimley-horn.com

## **APPENDIX A-7**

### **SFWMD FLOOD CRITERIA (100-YEAR, 3-DAY RAINFALL)**



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**Legend**



-  Project Location
-  100 Year 3 Day Rainfall Period

EXHIBIT NUMBER	DATE:	07/2019
A-7	DRAWN BY:	MB
	PROJECT NO:	
	KHA NO.:	143051000

**100-YEAR, 3-DAY  
RAINFALL**

PREPARED FOR:  
2209 7th Avenue North  
Lake Worth Beach, FL 33461

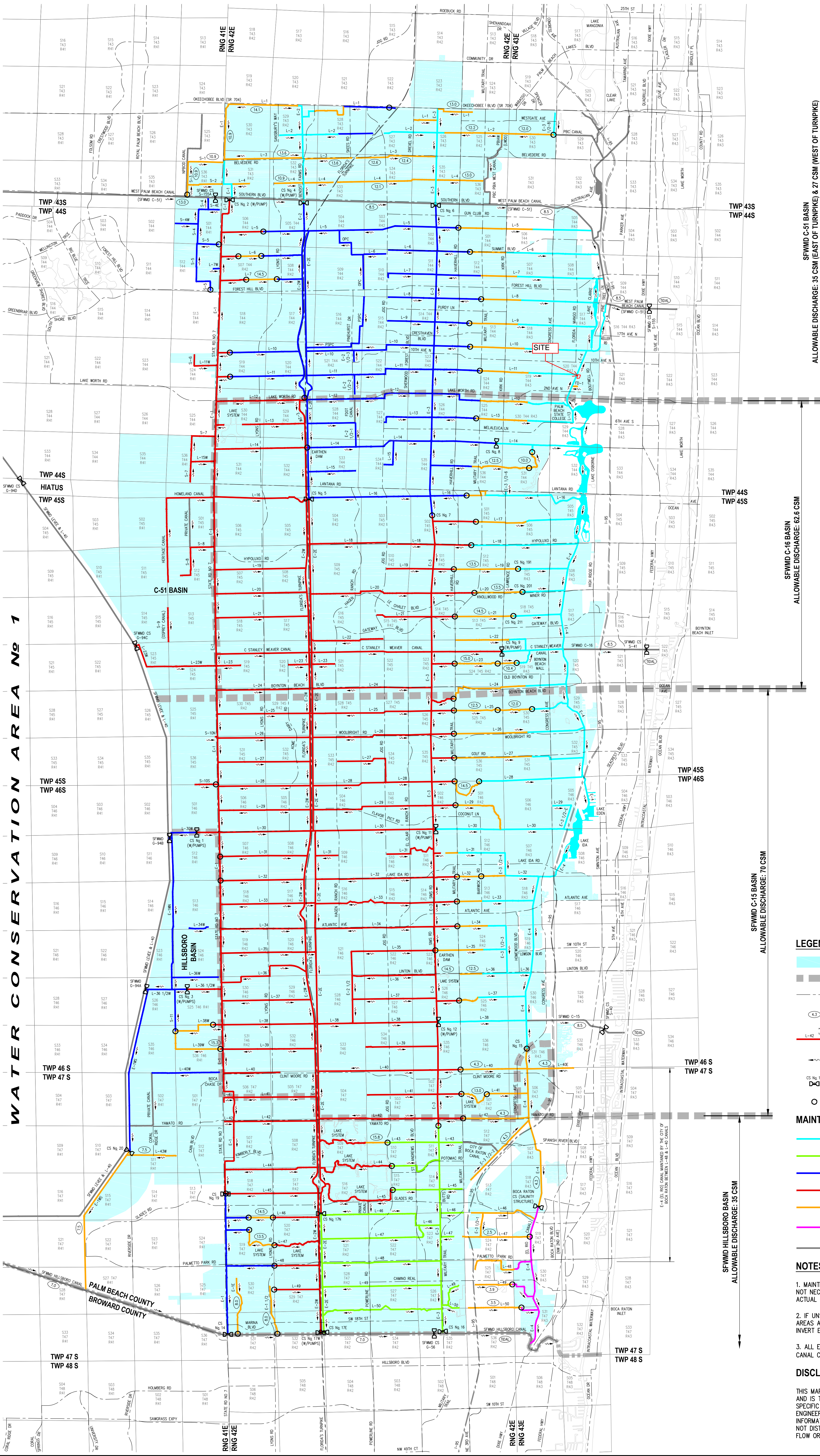


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Plantation, Florida 33324  
(954) 535-5100 Phone  
(954) 739-2247 Fax  
www.kimley-horn.com



# LAKE WORTH DRAINAGE DISTRICT

## MAINTAINED CANAL ELEVATIONS MAP

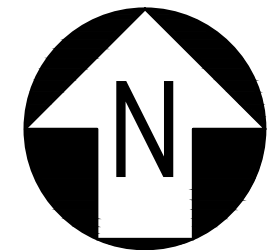


SEWMD C-51 BASIN  
ALLOWABLE DISCHARGE: 35 CSM (EAST OF TURNPIKE) & 27 CSM (WEST OF TURNPIKE)

SEWMD C-16 BASIN  
ALLOWABLE DISCHARGE: 62.6 CSM

SEWMD C-45 BASIN  
ALLOWABLE DISCHARGE: 70 CSM

SEWMD HILLSBORO BASIN  
ALLOWABLE DISCHARGE: 35 CSM



GRAPHIC SCALE  
0 5,000 7,500 10,000  
SCALE: 1"=5,000'

### LEGEND

- LWDD SERVICE AREA
- BOUNDARY LINE FOR SEWMD BASIN AREAS
- PRINCIPAL ROADWAY
- DENOTES SOME SPECIFIC CANAL MAINTENANCE ELEVATIONS
- LWDD CANAL DESIGNATIONS (UNLESS OTHERWISE NOTED)
- DIRECTION OF FLOW
- CS No. 16 (UNLESS OTHERWISE NOTED) DRAINAGE CONTROL STRUCTURE
- LWDD MINOR CONTROL STRUCTURE

### MAINTAINED CANAL ELEVATIONS:

- CANAL ELEVATION = 8.5' NGVD (SEE NOTE No. 1)
- CANAL ELEVATION = 9.3' NGVD (SEE NOTE No. 1)
- CANAL ELEVATION = 13.0' NGVD (SEE NOTE No. 1)
- CANAL ELEVATION = 16.0' NGVD (SEE NOTE No. 1)
- CANAL ELEVATION VARIES (SEE NOTES No. 1 & 2)
- DENOTES AREAS WHERE CANAL ELEVATIONS ARE AFFECTED BY TIDAL CURRENT
- OTHER CANALS (NOT MAINTAINED BY LWDD)

### NOTES:

- MAINTENANCE ELEVATION OF THE CONTROL STRUCTURE AND IS TO BE USED FOR INFORMATIONAL PURPOSES ONLY. FOR SPECIFIC DESIGN REQUIREMENTS, PLEASE CONTACT THE LWDD ENGINEERING DEPARTMENT DIRECTLY. CANAL RIGHT-OF-WAY INFORMATION IS NOT SHOWN ON THIS MAP. ALSO, THIS MAP DOES NOT DISTINGUISH CONVEYANCE METHODS BETWEEN OPEN CHANNEL FLOW OR FLOW THROUGH CLOSED CULVERTS.
- IF UNSPECIFIED, THE MAINTENANCE ELEVATIONS IN THESE AREAS ARE DEPENDENT ON CANAL BOTTOM ELEVATIONS, CULVERT INVERT ELEVATIONS OR GROUNDWATER INTRUSION.
- ALL ELEVATIONS ARE SUBJECT TO VERIFICATION BY A CURRENT CANAL CROSS SECTION(S) TO LWDD SPECIFICATIONS.

### DISCLAIMER:

THIS MAP SHOWS THE MAINTAINED ELEVATIONS OF LWDD CANALS AND IS TO BE USED FOR INFORMATIONAL PURPOSES ONLY. FOR SPECIFIC DESIGN REQUIREMENTS, PLEASE CONTACT THE LWDD ENGINEERING DEPARTMENT DIRECTLY. CANAL RIGHT-OF-WAY INFORMATION IS NOT SHOWN ON THIS MAP. ALSO, THIS MAP DOES NOT DISTINGUISH CONVEYANCE METHODS BETWEEN OPEN CHANNEL FLOW OR FLOW THROUGH CLOSED CULVERTS.

WATER CONSERVATION AREA No. 1

ATLANTIC OCEAN



**APPENDIX B: DRAINAGE CALCULATIONS**

## **APPENDIX B-1**

### **PROPOSED AREA BREAKDOWN**



## EXHIBIT B-1

### PROPOSED AREA BREAKDOWN

Future Area Type	Total		
	Square Feet	Acres	Percentage
<b><u>Pervious</u></b>			
Lake Bank	25113	0.58	6.0%
Green (excluding lake bank)	56874	1.31	13.6%
<b>TOTAL PERVIOUS</b>	81987	1.88	19.5%
<b><u>Impervious</u></b>			
Asphalt Pavement/ Sidewalk	217258	4.99	51.8%
Building	32702	0.75	7.8%
<b>TOTAL IMPERVIOUS</b>	249960	5.74	59.6%
<b><u>Lake</u></b>	87520	2.01	20.9%
Water surface only			
<b>TOTAL SITE AREA</b>	<b>419467</b>	<b>9.63</b>	<b>100.0%</b>

## **APPENDIX B-2**

### **WATER QUALITY AND PRE-TREATMENT CALCULATIONS**

## EXHIBIT B-2

### MINIMUM WATER QUALITY REQUIRED

- 1) Compute the first inch of runoff from the developed site:  
$$= 1 \text{ in.} \times \text{Site Area} \times \left( \frac{1 \text{ ft}}{12 \text{ in.}} \right)$$
$$= 1 \text{ in.} \times 9.63 \text{ acres} \times \left( \frac{1 \text{ ft}}{12 \text{ in.}} \right) = \mathbf{0.80 \text{ ac} - \text{ft}}$$
  - 2) Compute 2.5 times the percentage of imperviousness.
    - a. Site area for water quality pervious/impervious calculations only:  
$$= \text{Total Project} - (\text{Water Surface} + \text{Roof})$$
$$= 9.63 \text{ acres} - (2.01 \text{ acres} + 0.75 \text{ acres}) = 6.87 \text{ acres}$$
    - b. Impervious area for water quality pervious/impervious calculations only:  
$$= (\text{Site Area for Water Quality}) - \text{Pervious}$$
$$= 6.87 \text{ acres} - 1.88 \text{ acres} = 4.99 \text{ acres}$$
    - c. Percentage of imperviousness for water quality:  
$$= (\text{Impervious Area for Water Quality} / \text{Site Area for Water Quality}) \times 100\%$$
$$= (4.99 \text{ acres} / 6.87 \text{ acres}) \times 100\% = 72.6\%$$
    - d. For 2.5 inches times the percentage impervious:  
$$= 2.5 \text{ in.} \times \text{Percentage Impervious}$$
$$= 2.5 \text{ in.} \times 72.6\% = 1.82 \text{ in. to be treated}$$
    - e. Compute volume required for quality detention:  
$$= \text{Inches to be Treated} \times (\text{Total Site} - \text{Lake})$$
$$= 1.82 \text{ in.} \times (9.63 \text{ acres} - 2.01) \times \left( \frac{1 \text{ ft}}{12 \text{ in.}} \right) = \mathbf{1.15 \text{ ac} - \text{ft}}$$
- 1.15 ac-ft (15.02 ac-in) of water quality volume is required as a minimum.**

### MINIMUM PRE-TREATMENT REQUIRED

- 1) Compute volume generated by 1/2" of rainfall:  
$$= \frac{1}{2} \text{ in.} \times \text{Site Area} \times \left( \frac{1 \text{ ft}}{12 \text{ in.}} \right)$$
$$= \frac{1}{2} \text{ in.} \times 9.63 \text{ acres} \times \left( \frac{1 \text{ ft}}{12 \text{ in.}} \right) = \mathbf{0.40 \text{ ac} - \text{ft}}$$
- 0.40 ac-ft (4.82 ac-in) of pre-treatment is required as a minimum.**

## **APPENDIX B-3**

### **EXFILTRATION TRENCH CALCULATIONS**

## EXHIBIT B-3

### Minimum Exfiltration Trench Calculations

#### Exfiltration Trench Parameters

Control Elevation (lowest rim elevation)	10.50	NAVD
Water Table:	7.00	NAVD
Top of trench	9.00	NAVD
Bottom of trench	5.00	NAVD
Pipe diameter	18	in.

$$L = \frac{FS[(\%WQ)(V_{wq}) + V_{add}]}{K(H_2W + 2H_2D_u - D_u^2 + 2H_2D_s) + (1.39 \times 10^{-4})WD_u} \text{ (Regular Formula)}$$

#### Exfiltration Trench Equation Parameters

FS, factor of safety	2.00	
%WQ, Water Quality Credit Percentage	50%	
V(wq), Volume of Water Quality	13.83	ac-in
V(add), Additional Storage Volume	0	ac-in
K, Hydraulic Conductivity <sup>1</sup>	0.000704	cfs/ft <sup>2</sup> -ft
H <sub>2</sub> , Distance from Water Table to Control Elevation <sup>2</sup>	3.50	ft.
D <sub>u</sub> , unsaturated trench depth	2	ft.
D <sub>s</sub> , saturated trench depth	2.00	ft.
W, trench width	8.00	ft.

#### Required Exfiltration Trench

Credited Volume (Actual):	6.92	ac-in.
Regular/Conservative:	Regular	
Trench Required	356	LF
Trench Required	723	LF

<b>Length of Trench Required<sup>3</sup>:</b>	<b>356 LF</b>
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1. Refer to Appendix D for Geotechnical Report

2. H<sub>2</sub> value is based on lowest discharge inlet connected to the exfiltration trench system

3. The conservative formula is required if the project meets one of the following criteria: 1) If the saturated trench depth (D<sub>s</sub>) is greater than the non-saturated trench depth (D<sub>u</sub>), or 2) If the trench width (W) is greater than two (2) times the total trench depth.

#### Required Pretreatment

Site Area	9.63	acres
0.5" x Site Area	4.82	ac-in.

<b>Volume Required for Pretreatment</b>	<b>0.401 ac-ft</b>
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## EXHIBIT B-3

### Provided Water Quality Calculations

#### Volume Provided in Exfiltration Trench

Proposed Length of Trench	2193	LF
Required Length of Trench	356	LF
Additional Trench Provided	1836.8	LF
Credited Volume Provided by Required Length	1.15	ac-ft
Volume Provided in Additional Trench (no credit applied)	2.972	ac-ft
<b>Volume Provided by Exfiltration Trench:</b>	<b>4.12</b>	<b>ac-ft</b>

## **APPENDIX B-4**

### **SOIL STORAGE CALCULATIONS**

## EXHIBIT B-4

### **SOIL STORAGE (EXISTING CONDITIONS):**

Average Elevation of Existing Site:	11.20	NAVD
Average Water Table Elevation:	7.00	NAVD
Average Depth to Water Table:	4.20	ft.
Soil Type:	Flatwoods	Compacted
Available Storage*:	6.75	in.
Percent Pervious (pervious area/total area):	19.55	%

$$\text{Soil Storage} = \text{Cumulative Water Storage} * \text{Percent Impervious}$$

<b>SOIL STORAGE:</b>	<b>1.32</b>	<b>in.</b>
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## **APPENDIX B-5**

### **STAGE STORAGE CALCULATIONS**

## EXHIBIT B-5

### STAGE-STORAGE TABULATION

#### STAGE-STORAGE CALCULATIONS (POST-CONDITIONS)

Area Type	Green	Lake Vertical	Lake Linear	Impervious	Building	Exfiltration Trench	Total
Area (ac)	1.31	2.01	0.58	4.99	0.75	4.125	9.63
Low Elev.	11.0	7.0	7.0	10.5	100.00	7.0	-
High Elev.	13.0		12.0	13.0		9.0	-

Stage (ft)	Linear	Vertical	Linear	Linear	None	Exfil Trench	Total Storage
NGVD	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.50	0.00	1.00	0.01	0.00	0.00	1.03	2.05
8.00	0.00	2.01	0.06	0.00	0.00	2.06	4.13
8.50	0.00	3.01	0.13	0.00	0.00	3.09	6.24
9.00	0.00	4.02	0.23	0.00	0.00	4.12	8.37
9.50	0.00	5.02	0.36	0.00	0.00	4.12	9.51
10.00	0.00	6.03	0.52	0.00	0.00	4.12	10.67
10.50	0.00	7.03	0.71	0.00	0.00	4.12	11.86
11.00	0.00	8.04	0.92	0.25	0.00	4.12	13.33
11.50	0.08	9.04	1.17	1.00	0.00	4.12	15.41
12.00	0.33	10.05	1.44	2.24	0.00	4.12	<b>18.18</b>
12.50	0.73	11.05	1.73	3.99	0.00	4.12	21.63

Project Name: DOKA Lake Worth Beach

Reviewer:

Project Number: 143189000

Period Begin: Nov 12, 2020;0000 hr End: Nov 14, 2020;0000 hr Duration: 48 hr

Time Step: 0.2 hr, Iterations: 10

**ALL ELEVATIONS IN NAVD**

## Basin 1: Site

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 24 hr

Design Frequency: 5 year

1 Day Rainfall: 7.5 inches

Area: 9.63003 acres

Ground Storage: 1.32 inches

Time of Concentration: 0.1 hours

Initial Stage: 7 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
7.00	0.00
7.50	2.05
8.00	4.13
8.50	6.24
9.00	8.37
9.50	9.51
10.00	10.67
10.50	11.86
11.00	13.33
11.50	15.41
12.00	18.18
12.50	21.63

## Offsite Receiving Body: Offsitel

Time (hr)	Stage (ft NGVD)
0.00	7.00
120.00	7.00

## Structure: 1

From Basin: Site

To Basin: Offsitel

Structure Type: Gravity

Weir: Sharp Crested, Crest Elev = 10.6 ft NGVD, Length = 3 ft

Bleeder: Inv-Tri, Invert Elev = 7 ft NGVD, Height = 0.5 ft

Width = 0.5 ft

Default Coefs: Weir Coef = 2.5, Orifice Coef = 0.6

Pipe: Diameter = 2 ft, Manning's n = 0.012, Length = 60 ft

US Invert Elev = 3 ft NGVD, DS Invert Elev = 3 ft NGVD, flap gate

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
0.00	0.00	0.00	0.00	0.00	7.00	7.00
1.00	0.07	0.00	0.00	0.00	7.00	7.00
2.00	0.15	0.00	0.00	0.00	7.00	7.00
3.00	0.24	0.00	0.00	0.00	7.00	7.00
4.00	0.34	0.09	0.00	0.00	7.00	7.00
5.00	0.47	0.30	0.00	0.00	7.00	7.00
6.00	0.62	0.58	0.00	0.00	7.01	7.00
7.00	0.81	0.92	0.00	0.00	7.03	7.00
8.00	1.03	1.28	0.00	0.00	7.05	7.00
9.00	1.28	1.76	0.00	0.00	7.08	7.00
10.00	1.60	2.38	0.01	0.00	7.12	7.00
11.00	2.02	3.75	0.02	0.00	7.19	7.00
12.00	4.92	45.46	0.30	0.01	7.59	7.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
13.00	5.75	5.37	0.43	0.04	7.84	7.00
14.00	6.14	3.24	0.45	0.08	7.90	7.00
15.00	6.38	2.12	0.47	0.12	7.94	7.00
16.00	6.60	2.12	0.48	0.16	7.98	7.00
17.00	6.74	1.27	0.49	0.20	7.99	7.00
18.00	6.87	1.27	0.49	0.24	8.01	7.00
19.00	7.01	1.28	0.50	0.28	8.02	7.00
20.00	7.14	1.28	0.51	0.32	8.04	7.00
21.00	7.23	0.85	0.51	0.36	8.05	7.00
22.00	7.32	0.85	0.51	0.41	8.05	7.00
23.00	7.41	0.85	0.51	0.45	8.06	7.00
24.00	7.50	0.85	0.52	0.49	8.07	7.00
25.00	7.50	0.00	0.51	0.53	8.06	7.00
26.00	7.50	0.00	0.51	0.58	8.05	7.00
27.00	7.50	0.00	0.51	0.62	8.04	7.00
28.00	7.50	0.00	0.50	0.66	8.03	7.00
29.00	7.50	0.00	0.50	0.70	8.02	7.00
30.00	7.50	0.00	0.49	0.74	8.01	7.00
31.00	7.50	0.00	0.49	0.78	8.00	7.00
32.00	7.50	0.00	0.49	0.82	7.99	7.00
33.00	7.50	0.00	0.48	0.86	7.98	7.00
34.00	7.50	0.00	0.48	0.90	7.97	7.00
35.00	7.50	0.00	0.48	0.94	7.96	7.00
36.00	7.50	0.00	0.47	0.98	7.95	7.00
37.00	7.50	0.00	0.47	1.02	7.94	7.00
38.00	7.50	0.00	0.47	1.06	7.93	7.00
39.00	7.50	0.00	0.46	1.10	7.92	7.00
40.00	7.50	0.00	0.46	1.13	7.92	7.00
41.00	7.50	0.00	0.45	1.17	7.91	7.00
42.00	7.50	0.00	0.45	1.21	7.90	7.00
43.00	7.50	0.00	0.45	1.25	7.89	7.00
44.00	7.50	0.00	0.44	1.28	7.88	7.00
45.00	7.50	0.00	0.44	1.32	7.87	7.00
46.00	7.50	0.00	0.44	1.36	7.86	7.00
47.00	7.50	0.00	0.43	1.39	7.85	7.00
48.00	7.50	0.00	0.43	1.43	7.84	7.00

## STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	0.52	24.00	0.00	0.00

## BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
Site	8.07	24.00	7.00	0.00

## BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
Site	4.91	0.00	1.42	0.00	3.49	0.00

Project Name: DOKA Lake Worth Beach

Reviewer:

Project Number: 143189000

Period Begin: Nov 12, 2020;0000 hr End: Nov 16, 2020;0000 hr Duration: 96 hr

Time Step: 0.2 hr, Iterations: 10

**ALL ELEVATIONS IN NAVD**

## Basin 1: Site

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 3day

Design Frequency: 10 year

3 Day Rainfall: 10.5 inches

Area: 9.63003 acres

Ground Storage: 1.32 inches

Time of Concentration: 0.1 hours

Initial Stage: 7 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
7.00	0.00
7.50	2.05
8.00	4.13
8.50	6.24
9.00	8.37
9.50	9.51
10.00	10.67
10.50	11.86
11.00	13.33
11.50	15.41
12.00	18.18
12.50	21.63

## Offsite Receiving Body: Offsitel

Time (hr)	Stage (ft NGVD)
0.00	7.00
120.00	7.00

## Structure: 1

From Basin: Site

To Basin: Offsitel

Structure Type: Gravity

Weir: Sharp Crested, Crest Elev = 10.6 ft NGVD, Length = 3 ft

Bleeder: Inv-Tri, Invert Elev = 7 ft NGVD, Height = 0.5 ft

Width = 0.5 ft

Default Coefs: Weir Coef = 2.5, Orifice Coef = 0.6

Pipe: Diameter = 2 ft, Manning's n = 0.012, Length = 60 ft

US Invert Elev = 3 ft NGVD, DS Invert Elev = 3 ft NGVD, flap gate

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
0.00	0.00	0.00	0.00	0.00	7.00	7.00
1.00	0.05	0.00	0.00	0.00	7.00	7.00
2.00	0.09	0.00	0.00	0.00	7.00	7.00
3.00	0.14	0.00	0.00	0.00	7.00	7.00
4.00	0.19	0.00	0.00	0.00	7.00	7.00
5.00	0.24	0.00	0.00	0.00	7.00	7.00
6.00	0.28	0.01	0.00	0.00	7.00	7.00
7.00	0.33	0.04	0.00	0.00	7.00	7.00
8.00	0.38	0.07	0.00	0.00	7.00	7.00
9.00	0.42	0.09	0.00	0.00	7.00	7.00
10.00	0.47	0.11	0.00	0.00	7.01	7.00
11.00	0.52	0.13	0.00	0.00	7.01	7.00
12.00	0.56	0.15	0.00	0.00	7.01	7.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
13.00	0.61	0.17	0.00	0.00	7.01	7.00
14.00	0.66	0.18	0.00	0.00	7.02	7.00
15.00	0.71	0.20	0.00	0.00	7.02	7.00
16.00	0.75	0.21	0.00	0.00	7.03	7.00
17.00	0.80	0.22	0.00	0.00	7.03	7.00
18.00	0.85	0.24	0.00	0.00	7.03	7.00
19.00	0.89	0.25	0.00	0.00	7.04	7.00
20.00	0.94	0.26	0.00	0.00	7.04	7.00
21.00	0.99	0.26	0.00	0.00	7.05	7.00
22.00	1.03	0.27	0.00	0.00	7.05	7.00
23.00	1.08	0.28	0.00	0.00	7.06	7.00
24.00	1.13	0.29	0.00	0.00	7.07	7.00
25.00	1.20	0.44	0.00	0.00	7.07	7.00
26.00	1.27	0.45	0.00	0.00	7.08	7.00
27.00	1.33	0.46	0.00	0.00	7.09	7.00
28.00	1.40	0.47	0.00	0.00	7.10	7.00
29.00	1.47	0.48	0.01	0.00	7.11	7.00
30.00	1.54	0.49	0.01	0.00	7.12	7.00
31.00	1.61	0.50	0.01	0.00	7.13	7.00
32.00	1.68	0.51	0.01	0.00	7.14	7.00
33.00	1.75	0.52	0.01	0.00	7.15	7.00
34.00	1.81	0.52	0.01	0.01	7.16	7.00
35.00	1.88	0.53	0.02	0.01	7.17	7.00
36.00	1.95	0.54	0.02	0.01	7.18	7.00
37.00	2.02	0.54	0.02	0.01	7.19	7.00
38.00	2.09	0.55	0.02	0.01	7.20	7.00
39.00	2.16	0.55	0.03	0.01	7.21	7.00
40.00	2.23	0.56	0.03	0.02	7.22	7.00
41.00	2.29	0.56	0.03	0.02	7.23	7.00
42.00	2.36	0.57	0.04	0.02	7.25	7.00
43.00	2.43	0.57	0.04	0.02	7.26	7.00
44.00	2.50	0.57	0.05	0.03	7.27	7.00
45.00	2.57	0.58	0.05	0.03	7.28	7.00
46.00	2.64	0.58	0.06	0.04	7.29	7.00
47.00	2.71	0.58	0.06	0.04	7.30	7.00
48.00	2.77	0.59	0.07	0.05	7.31	7.00
49.00	2.85	0.66	0.07	0.05	7.32	7.00
50.00	2.93	0.67	0.08	0.06	7.33	7.00
51.00	3.02	0.81	0.09	0.07	7.35	7.00
52.00	3.12	0.94	0.10	0.07	7.36	7.00
53.00	3.25	1.22	0.11	0.08	7.38	7.00
54.00	3.42	1.50	0.13	0.09	7.41	7.00
55.00	3.61	1.79	0.16	0.11	7.44	7.00
56.00	3.83	2.08	0.19	0.12	7.48	7.00
57.00	4.09	2.52	0.26	0.14	7.52	7.00
58.00	4.42	3.10	0.29	0.16	7.57	7.00
59.00	4.85	4.54	0.33	0.19	7.64	7.00
60.00	7.84	48.80	0.52	0.22	8.07	7.00
61.00	8.70	5.65	0.60	0.27	8.33	7.00
62.00	9.09	3.40	0.62	0.32	8.40	7.00
63.00	9.34	2.22	0.63	0.37	8.44	7.00
64.00	9.57	2.22	0.64	0.43	8.47	7.00
65.00	9.71	1.33	0.64	0.48	8.48	7.00
66.00	9.85	1.33	0.65	0.53	8.50	7.00
67.00	9.99	1.33	0.65	0.59	8.51	7.00
68.00	10.13	1.33	0.66	0.64	8.52	7.00
69.00	10.22	0.89	0.66	0.69	8.53	7.00
70.00	10.31	0.89	0.66	0.75	8.53	7.00
71.00	10.41	0.89	0.66	0.80	8.54	7.00
72.00	10.50	0.89	0.66	0.86	8.54	7.00
73.00	10.50	0.00	0.66	0.91	8.53	7.00
74.00	10.50	0.00	0.65	0.97	8.52	7.00
75.00	10.50	0.00	0.65	1.02	8.50	7.00
76.00	10.50	0.00	0.65	1.07	8.49	7.00
77.00	10.50	0.00	0.64	1.13	8.48	7.00
78.00	10.50	0.00	0.64	1.18	8.47	7.00
79.00	10.50	0.00	0.64	1.23	8.45	7.00
80.00	10.50	0.00	0.63	1.29	8.44	7.00
81.00	10.50	0.00	0.63	1.34	8.43	7.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
82.00	10.50	0.00	0.63	1.39	8.42	7.00
83.00	10.50	0.00	0.62	1.44	8.40	7.00
84.00	10.50	0.00	0.62	1.49	8.39	7.00
85.00	10.50	0.00	0.62	1.54	8.38	7.00
86.00	10.50	0.00	0.61	1.59	8.37	7.00
87.00	10.50	0.00	0.61	1.64	8.36	7.00
88.00	10.50	0.00	0.60	1.69	8.34	7.00
89.00	10.50	0.00	0.60	1.74	8.33	7.00
90.00	10.50	0.00	0.60	1.79	8.32	7.00
91.00	10.50	0.00	0.59	1.84	8.31	7.00
92.00	10.50	0.00	0.59	1.89	8.30	7.00
93.00	10.50	0.00	0.59	1.94	8.29	7.00
94.00	10.50	0.00	0.58	1.99	8.27	7.00
95.00	10.50	0.00	0.58	2.04	8.26	7.00
96.00	10.50	0.00	0.58	2.08	8.25	7.00

## STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	0.66	72.00	0.00	0.00

## BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
Site	8.54	72.00	7.00	0.00

## BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
Site	7.27	0.00	2.08	0.00	5.19	0.00

Project Name: DOKA Lake Worth Beach

Reviewer:

Project Number: 143189000

Period Begin: Nov 12, 2020;0000 hr End: Nov 16, 2020;0000 hr Duration: 96 hr

Time Step: 0.2 hr, Iterations: 10

**ALL ELEVATIONS IN NAVD**

## Basin 1: Site

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 3day

Design Frequency: 25 year

3 Day Rainfall: 12.5 inches

Area: 9.63003 acres

Ground Storage: 1.32 inches

Time of Concentration: 0.1 hours

Initial Stage: 7 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
7.00	0.00
7.50	2.05
8.00	4.13
8.50	6.24
9.00	8.37
9.50	9.51
10.00	10.67
10.50	11.86
11.00	13.33
11.50	15.41
12.00	18.18
12.50	21.63

## Offsite Receiving Body: Offsitel

Time (hr)	Stage (ft NGVD)
0.00	7.00
120.00	7.00

## Structure: 1

From Basin: Site

To Basin: Offsitel

Structure Type: Gravity

Weir: Sharp Crested, Crest Elev = 10.6 ft NGVD, Length = 3 ft

Bleeder: Inv-Tri, Invert Elev = 7 ft NGVD, Height = 0.5 ft

Width = 0.5 ft

Default Coefs: Weir Coef = 2.5, Orifice Coef = 0.6

Pipe: Diameter = 2 ft, Manning's n = 0.012, Length = 60 ft

US Invert Elev = 3 ft NGVD, DS Invert Elev = 3 ft NGVD, flap gate

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
0.00	0.00	0.00	0.00	0.00	7.00	7.00
1.00	0.06	0.00	0.00	0.00	7.00	7.00
2.00	0.11	0.00	0.00	0.00	7.00	7.00
3.00	0.17	0.00	0.00	0.00	7.00	7.00
4.00	0.22	0.00	0.00	0.00	7.00	7.00
5.00	0.28	0.01	0.00	0.00	7.00	7.00
6.00	0.34	0.05	0.00	0.00	7.00	7.00
7.00	0.39	0.09	0.00	0.00	7.00	7.00
8.00	0.45	0.12	0.00	0.00	7.00	7.00
9.00	0.50	0.15	0.00	0.00	7.01	7.00
10.00	0.56	0.18	0.00	0.00	7.01	7.00
11.00	0.62	0.20	0.00	0.00	7.01	7.00
12.00	0.67	0.22	0.00	0.00	7.02	7.00



Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
13.00	0.73	0.24	0.00	0.00	7.02	7.00
14.00	0.78	0.26	0.00	0.00	7.03	7.00
15.00	0.84	0.28	0.00	0.00	7.03	7.00
16.00	0.90	0.29	0.00	0.00	7.04	7.00
17.00	0.95	0.31	0.00	0.00	7.05	7.00
18.00	1.01	0.32	0.00	0.00	7.05	7.00
19.00	1.06	0.33	0.00	0.00	7.06	7.00
20.00	1.12	0.34	0.00	0.00	7.06	7.00
21.00	1.18	0.35	0.00	0.00	7.07	7.00
22.00	1.23	0.36	0.00	0.00	7.08	7.00
23.00	1.29	0.37	0.00	0.00	7.09	7.00
24.00	1.34	0.38	0.00	0.00	7.09	7.00
25.00	1.42	0.57	0.00	0.00	7.10	7.00
26.00	1.51	0.58	0.01	0.00	7.12	7.00
27.00	1.59	0.59	0.01	0.00	7.13	7.00
28.00	1.67	0.61	0.01	0.00	7.14	7.00
29.00	1.75	0.62	0.01	0.00	7.15	7.00
30.00	1.83	0.63	0.01	0.00	7.16	7.00
31.00	1.91	0.63	0.02	0.01	7.18	7.00
32.00	2.00	0.64	0.02	0.01	7.19	7.00
33.00	2.08	0.65	0.02	0.01	7.20	7.00
34.00	2.16	0.66	0.03	0.01	7.21	7.00
35.00	2.24	0.66	0.03	0.01	7.23	7.00
36.00	2.32	0.67	0.04	0.02	7.24	7.00
37.00	2.40	0.68	0.04	0.02	7.25	7.00
38.00	2.49	0.68	0.05	0.02	7.27	7.00
39.00	2.57	0.69	0.05	0.03	7.28	7.00
40.00	2.65	0.69	0.06	0.03	7.29	7.00
41.00	2.73	0.70	0.06	0.04	7.30	7.00
42.00	2.81	0.70	0.07	0.04	7.32	7.00
43.00	2.89	0.70	0.08	0.05	7.33	7.00
44.00	2.98	0.71	0.09	0.06	7.34	7.00
45.00	3.06	0.71	0.09	0.06	7.35	7.00
46.00	3.14	0.71	0.10	0.07	7.37	7.00
47.00	3.22	0.72	0.11	0.08	7.38	7.00
48.00	3.30	0.72	0.12	0.09	7.39	7.00
49.00	3.39	0.81	0.13	0.10	7.40	7.00
50.00	3.49	0.82	0.14	0.11	7.42	7.00
51.00	3.60	0.98	0.16	0.12	7.43	7.00
52.00	3.72	1.15	0.17	0.14	7.45	7.00
53.00	3.87	1.49	0.20	0.15	7.48	7.00
54.00	4.07	1.83	0.25	0.17	7.51	7.00
55.00	4.30	2.18	0.27	0.19	7.54	7.00
56.00	4.56	2.53	0.30	0.22	7.58	7.00
57.00	4.87	3.05	0.33	0.24	7.63	7.00
58.00	5.26	3.75	0.36	0.27	7.70	7.00
59.00	5.78	5.48	0.40	0.30	7.78	7.00
60.00	9.34	58.51	0.59	0.34	8.30	7.00
61.00	10.36	6.76	0.68	0.40	8.61	7.00
62.00	10.83	4.07	0.70	0.45	8.69	7.00
63.00	11.12	2.65	0.71	0.51	8.73	7.00
64.00	11.40	2.65	0.72	0.57	8.77	7.00
65.00	11.56	1.59	0.73	0.63	8.79	7.00
66.00	11.73	1.59	0.73	0.69	8.81	7.00
67.00	11.89	1.59	0.73	0.75	8.82	7.00
68.00	12.06	1.59	0.74	0.81	8.84	7.00
69.00	12.17	1.06	0.74	0.87	8.85	7.00
70.00	12.28	1.06	0.74	0.94	8.85	7.00
71.00	12.39	1.06	0.74	1.00	8.86	7.00
72.00	12.50	1.06	0.74	1.06	8.87	7.00
73.00	12.50	0.00	0.74	1.12	8.85	7.00
74.00	12.50	0.00	0.74	1.18	8.84	7.00
75.00	12.50	0.00	0.73	1.24	8.82	7.00
76.00	12.50	0.00	0.73	1.30	8.81	7.00
77.00	12.50	0.00	0.73	1.36	8.80	7.00
78.00	12.50	0.00	0.72	1.42	8.78	7.00
79.00	12.50	0.00	0.72	1.48	8.77	7.00
80.00	12.50	0.00	0.72	1.54	8.75	7.00
81.00	12.50	0.00	0.71	1.60	8.74	7.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
82.00	12.50	0.00	0.71	1.66	8.73	7.00
83.00	12.50	0.00	0.71	1.72	8.71	7.00
84.00	12.50	0.00	0.70	1.78	8.70	7.00
85.00	12.50	0.00	0.70	1.83	8.69	7.00
86.00	12.50	0.00	0.70	1.89	8.67	7.00
87.00	12.50	0.00	0.69	1.95	8.66	7.00
88.00	12.50	0.00	0.69	2.01	8.65	7.00
89.00	12.50	0.00	0.69	2.06	8.63	7.00
90.00	12.50	0.00	0.68	2.12	8.62	7.00
91.00	12.50	0.00	0.68	2.18	8.61	7.00
92.00	12.50	0.00	0.67	2.23	8.59	7.00
93.00	12.50	0.00	0.67	2.29	8.58	7.00
94.00	12.50	0.00	0.67	2.34	8.57	7.00
95.00	12.50	0.00	0.66	2.40	8.55	7.00
96.00	12.50	0.00	0.66	2.45	8.54	7.00

## STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	0.74	72.00	0.00	0.00

## BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
Site	8.87	72.00	7.00	0.00

## BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
Site	8.86	0.00	2.45	0.00	6.41	0.00

Project Name: DOKA Lake Worth Beach

Reviewer:

Project Number: 143189000

Period Begin: Nov 12, 2020;0000 hr End: Nov 16, 2020;0000 hr Duration: 96 hr

Time Step: 0.2 hr, Iterations: 10

**ALL ELEVATIONS IN NAVD**

## Basin 1: Site

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 3day

Design Frequency: 100 year

3 Day Rainfall: 16.3 inches

Area: 9.63 acres

Ground Storage: 1.32 inches

Time of Concentration: 0.1 hours

Initial Stage: 7 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
7.00	0.00
7.50	2.05
8.00	4.13
8.50	6.24
9.00	8.37
9.50	9.51
10.00	10.67
10.50	11.86
11.00	13.33
11.50	15.41
12.00	18.18
12.50	21.63

## Offsite Receiving Body: Offsitel

Time (hr)	Stage (ft NGVD)
0.00	7.00
120.00	7.00

## STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
=====	=====	=====	=====	=====

## BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
=====	=====	=====	=====	=====
Site	10.51	73.00	7.00	0.00

## BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
=====	=====	=====	=====	=====	=====	=====
Site	11.89	0.00	0.00	0.00	11.89	0.00

## **APPENDIX C: GEOTECHNICAL REPORT**

**REPORT OF PRELIMINARY  
GEOTECHNICAL EXPLORATION**

**PROPOSED PROCESSING FACILITY  
2209 N 7<sup>TH</sup> AVENUE  
LAKE WORTH, FLORIDA**

**FOR**

**2209 N. 7<sup>TH</sup> AVENUE, LLC.  
785 NE 33<sup>RD</sup> STREET  
BOCA RATON, FLORIDA 33431**

**PREPARED BY**

**NUTTING ENGINEERS OF FLORIDA, INC.  
1310 NEPTUNE DRIVE  
BOYNTON BEACH, FLORIDA 33426**

**ORDER NO. 18648.1**

**APRIL, 2019**



Geotechnical & Construction Materials  
Engineering, Testing, & Inspection  
Environmental Services

Offices throughout the state of Florida

[www.nuttingengineers.com](http://www.nuttingengineers.com) [info@nuttingengineers.com](mailto:info@nuttingengineers.com)



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www.nuttingengineers.com info@nuttingengineers.com

April 11, 2019

2209 N. 7<sup>th</sup> Avenue, LLC.  
785 NE 33<sup>rd</sup> Street  
Boca Raton, Florida 33431  
Attn: Mr. Jason Pepitone  
954-650-1760 Email: harley1113@msn.com

Subject: Report of Preliminary Geotechnical Exploration  
**Proposed Processing Facility**  
2209 7<sup>th</sup> Avenue North  
Lake Worth, Florida

Dear Mr. Pepitone:

Nutting Engineers of Florida, Inc. (NE), has performed a preliminary Geotechnical Exploration for the proposed processing facility at the above referenced site in Lake Worth, Florida. This exploration was performed in accordance with the written authorization to proceed provided by you on March 18, 2019. This evaluation was performed to develop information regarding subsurface soil conditions at specific test locations which along with proposed construction information provided was used to develop opinions regarding earthwork procedures and foundations for support of the proposed construction. This report presents our findings and recommendations based upon the information examined at the time of this evaluation.

### PROJECT INFORMATION

We understand that plans include developing the site with a processing building initially covering approximately 38,003 square feet with a future phase to include approximately 38,003 square feet. There will also be an administration building covering approximately 4,500 square feet, a repair and maintenance building covering approximately 5,000 square feet. In addition to the buildings, asphalt paved parking and drive areas, a lake and retention area and ancillary structures (precast concrete wall, debris enclosures, etc.) will be constructed. No structural loading conditions or other specific details were provided to us at this time.

Currently, the site is wooded and overgrown with some low-lying (standing water) areas. Based on a review of historical aerial photographs, the site was cleared and earthwork operations were observed in 2011 and again in 2014.

We estimate that in general, two to possibly nine feet of fill may be required to bring the site up to construction grade; however, the final building pad elevation shall be determined by a professional architect, civil engineer, or other qualified party.



We should be notified in writing by the client of any changes in the proposed construction along with a request to amend our foundation analysis and/or recommendations within this report as appropriate.

## **GENERAL SUBSURFACE CONDITIONS**

### **Soil Survey Maps**

As part of the geotechnical exploration, we have reviewed available Soil Conservation Service (SCS) survey maps for Palm Beach County. These SCS maps provide information about potential general shallow soil conditions in the project vicinity. This information was derived from approximately 6-foot deep manual auger borings, aerial photo and surface feature interpretation at some point in the past (mid 1980's to early 1970's). The SCS data may or may not reflect actual current site conditions.

A review of the Soil Survey for Palm Beach County revealed that at the time the survey was conducted, the soils encompassing the southern half of the site were described as Udorthents series. The Udorthents series consists of heterogeneous fill material, dredged from canals, which was placed over the natural mineral soils for urban development. Okeelanta Muck was encountered in the northern region of the site. This series consists of very poorly drained, organic soils that have sandy mineral material within a depth of 40 inches. It is in large fresh water marshes and small, isolated depressions. On the extreme eastern edge of the site at the time the survey was conducted, the soils were described as Immokalee fine sand. This series can be described as nearly level, poorly drained sandy soils in broad, flatwoods in the eastern part of the survey area. These soils were naturally formed in deep sandy marine sediment. Running along the canal on the western edge of the site the soils were described as Quartzipsamments, shaped. This unit consists of nearly level to gently sloping, well drained, deep, sandy soils. Cutting down ridges and spreading the soil over adjacent lower soils, by filling areas above the natural ground level and has altered these soils by filling and shaping soils for various development. We note that the maximum depth of the survey is six feet.

### **Subsurface Exploration**

NUTTING ENGINEERS OF FLORIDA, INC. performed thirteen (13) Standard Penetration Test (SPT) borings (ASTM D-1586) to depths of ten to twenty-five feet below land surface. Fifteen test pits were also performed to better understand the soil conditions throughout the site. In addition, two (2) 'Usual Open-Hole' exfiltration tests were performed in accordance with South Florida Water Management District specifications, and three (3) double ring infiltration tests were performed at a depth of six inches.

The locations of the tests are indicated on the Boring Location Plan presented in the Appendix of this report. The boring locations were identified in the field using approximate methods; namely, a measuring wheel and available surface controls. As such the soil boring locations should be considered to be approximate.

### Test Boring Results

In general, the borings recorded very loose to medium dense fine sand and debris to depths of approximately four to six feet followed by soft fibrous peat to depths of approximately eight to thirteen feet below ground surface. Beneath this the borings encountered loose to medium dense fine sand to a depth of twenty-five feet, the maximum depth explored.

Please see the enclosed soil classification sheet in the Appendix of this report for additional important information regarding these descriptions, the field evaluation and other related information.

Note: Substantially different subsurface conditions may exist at intervening locations between soil borings. Buried debris may or may not be identified or adequately delineated by soil borings. Such conditions may be revealed during site development activities (e.g. proof rolling, utility and foundation excavation activities) or other related activities. Should additional assurance be desired by the client, further subsurface investigation could be performed.

### Test Pit Excavation Results

Test pits were excavated down to the suitable soils at fifteen locations within the reference area. The results of these excavations generally revealed a soil profile consisting of approximately four to seven feet of fine sand and debris (concrete, brick, wood, plastic, and metal) underlain by a layer of fibrous peat to approximately eight to ten feet, whereupon fine sand was encountered and the test pit was terminated.

### Laboratory Testing and Results

Soil samples obtained from the drilling operations were preserved in jars and visually classified in the laboratory by a geotechnical engineer to confirm the field classifications. Selected soil samples of the organic peat recovered from the borings were subjected to testing to determine natural moisture and organic contents to estimate the engineering properties of these soils. The tests were performed on a selected samples believed to be representative of the materials encountered. Results of the test are tabulated below:

#### LABORATORY RESULTS

<i>Test Boring/Pit #</i>	<i>Soil Description</i>	<i>Sample Depth Interval (Feet)</i>	<i>Moisture Content (%)</i>	<i>Organic Content (%)</i>
B-6	Peat	6 – 8	240	34
B-8	Peat	4 – 6	556	74
B-16	Black Organic Silt	4 – 6	76	19
B-17	Peat	6 – 8	327	34
B-20	Black Peat & Silt	10 – 12	429	53



## **Groundwater Information**

The immediate groundwater level was measured at the boring locations at the time of drilling. The groundwater level was encountered at approximate depths of half a foot to five and a half feet below the existing ground surface at the time of drilling. We note that some areas of the site were below the water table with as much as approximately five feet of standing water.

The immediate depth to groundwater measurements presented in this report will not provide a reliable indication of stabilized or more long term depth to groundwater at this site. Water table elevations can vary dramatically with time through rainfall, droughts, storm events, flood control activities, nearby surface water bodies, tidal activity, pumping and many other factors. For these reasons, this immediate depth to water data should not be relied upon alone for project design considerations.

## **Exfiltration Results**

Two 'Usual Open-Hole' exfiltration tests were performed to a depth of six feet below the existing ground surface. The tests were performed in order to determine the hydraulic conductivity of the in situ subsurface soils to evaluate drainage requirements for the project.

The hydraulic conductivity value was determined to be  $7.04 \times 10^{-4}$  cubic feet per second, per square foot, per foot of head. Detailed soil descriptions and flow rates are presented in the Appendix.

## **Infiltration Results**

Three double ring infiltration tests were performed in accordance with ASTM D3385 in order to analyze, by others, the drainage capabilities of the existing soils at the test locations to facilitate design of water retention areas. The tests returned an infiltration rate of 8.17 inches/hour. See the appendix for detailed flow rates and approximate test locations.

## **PRELIMINARY ANALYSIS AND RECOMMENDATIONS**

The test borings and test pits performed for this project revealed variable soils conditions. The historical information along with the soil conditions discovered as part of this study indicated that the site was cleared and earthwork operations were observed in 2011 and again in 2014. The site appears to have been filled with various materials mainly consisting of construction debris (concrete, brick, wood, and steel). In addition, an organic peat layer of between one foot thick minimum, two to three feet median thickness, and four to six feet maximum thickness was generally encountered over much of the northern and central areas of the site and extended from a minimum of five feet to a maximum of thirteen feet below the existing ground surface. Additional subsurface studies will be needed prior to finalizing the design and permitting process as portions of the site were under water and inaccessible at this time.

As proposed, the building would be situated on soils that are characterized as being: Areas of buried construction debris; Areas of clean sand and limerock; areas of sand over varying thickness of peat, and areas that have as much as five feet of standing water.

Constructing the building on the existing soils using a shallow foundation system would result in excessive total and differential settlements. We considered several options for shallow support of the building (both conventional and mat foundation) and deep foundations including:

- Over-excavating the soils to remove the compressible organic soils and replace them with well compacted structural fill.
- Deep Dynamic Compaction or Vibro-Compaction after excavation and filling.
- Rigid inclusions.
- Mass Soil Mixing.
- We also considered supporting the building using a deep foundation system consisting of augercast piles.

Due to the presence of debris and organic soils, the potential for long term settlement, and costs, it is our opinion that the over-excavation and filling with well compacted structural fill should be considered as the most technically feasible alternative. This should provide an allowable soil bearing capacity of 2,500 pounds per square foot. If higher bearing capacities up to approximately 6,000 pounds per square foot may be more beneficial, vibro-compaction should be considered after the excavation and filling is completed. We can provide details of this soil improvement method once more design and construction details are available.

The decision as to which alternative is best for this project will depend on several factors including costs, scheduling, structural loading conditions, final design parameters and other considerations. We recommend that discussions be held with representatives of the design and specialty contractor firms to better evaluate these and possibly other alternatives.

The following sections present general information that we feel is important concerning our recommended approach for foundation design and provides general details for further discussion. Once the over-excavation operations are properly completed, it is our opinion that an allowable soil bearing capacity of 3,000 pounds per square foot may be used for the foundation design.

### **Over-Excavation Alternative**

It is our opinion that in order to properly prepare the site for a shallow foundation system consisting of conventional column and wall footings with a slab-on-grade, and using an allowable soil bearing capacity of 2,500 pounds per square foot, the building areas will need to be over-excavated to a maximum depth of approximately thirteen feet below existing grade to remove the organic soils, and to provide a uniform base beneath the building. Suitable soils above the organics and the inert construction debris may be stockpiled separately for use as backfill. We anticipate that some crushing of the construction debris material may be required to create a suitable structural fill material.



Fill placed below the natural groundwater level should consist of a well-graded mixture of sand and limestone/crushed concrete having a minimum Limerock Bearing Ratio (LBR) of 60. The maximum particle size should not exceed six inches and no more than 10 percent passing the No. 200 sieve for material placed below the water table. The fill may be placed in a loose state until reaching no more than two feet above the natural groundwater level.

Once the fill has been brought to two feet above the natural ground water table, the soils should be compacted with at least twenty passes (ten in the north/south direction, ten in the east/west direction) and until ground surface subsidence has been minimized, with a vibratory compactor with a minimum dynamic force of 20 tons operated at a slow walking pace. Also, the surface should be compacted until a density equivalent to at least 98 percent of the modified Proctor maximum dry density (ASTM D-1557) is achieved to a depth of at least 12 inches below the compacted surface.

Fill then placed above the proof rolled surface may consist of clean granular soils, free of debris and organics, and shall have no more than 10 percent passing the No. 200 sieve, with a maximum particle size of 3 inches. The fill should be placed in lifts not exceeding 12 inches in loose thickness. Each lift should be compacted until densities equivalent to at least 98 percent of the modified Proctor maximum dry density are uniformly obtained. Field densities should be taken at a frequency of one per 5,000 square feet of building area with a minimum of one density per 2,500 square feet at the final lift.

Following site and building pad construction as discussed above, the foundation area should be excavated and the footings formed. The bottom of foundation excavations should be compacted after excavation to develop a minimum density requirement of 98 percent of the maximum modified Proctor dry density, for a minimum depth of one foot below the bottom of the footing depth. The floor slab area should also be compacted in the same manner.

A representative from Nutting Engineers should be present at the site to observe that the subsurface conditions are as we have discussed herein, and that earthwork activities are in accordance with our recommendations.

### **Earth Pressure on Walls**

Below grade structures should be designed to resist lateral earth pressure from granular backfill, surcharge loads, and unbalanced hydrostatic forces. We anticipate that soils supported by any retaining walls, if required, for the project will consist of a limestone and sand mixture. We estimate these soils will have an effective friction angle within the range of 30 degrees. The maximum toe pressure should not exceed 2,500 psf for walls resting on compacted structural soil. A passive soil resistance equal to a uniform pressure of 300 psf may be used for undisturbed soil against the face of the base or a key below the base of the wall. The walls can be designed for a coefficient of friction between the base of the wall and the subgrade soils of 0.3.

Excessive compaction of the fill behind the wall should be avoided since it could result in the development of lateral pressures whose intensity exceeds that used for design. Slab or other load carrying element loads must be included in the design of the walls. For foundation or other buried walls that are not restrained during backfilling but are free to rotate at the top, active earth pressure should be used in design. Walls that are restrained should be designed assuming at-rest earth pressures.

Estimated design geotechnical soil parameters were developed from the results of the test borings. The following table summarizes our recommendations for the soil parameters and the lateral active and passive pressure coefficients to be utilized for construction. The design of the support system shall include hydrostatic pressure acting behind the wall at the highest anticipated water level during construction, and/or design life of the structure.

#### SUMMARY OF DESIGN GEOTECHNICAL PARAMETERS

DEPTH (FEET)	SPT N- VALUE RANGE (Average)	SOIL UNIT WEIGHT (PCF)		ANGLE OF INTERNAL FRICTION (DEGREES)	EARTH PRESSURE COEFFICIENT		
		SATURATED	SUB- MERGED		AT REST (K <sub>o</sub> )	ACTIVE (K <sub>a</sub> )	PASSIVE (K <sub>p</sub> )
0-7	2-30	115	57.6	30	0.5	0.33	3.00

#### **Passenger Vehicle Asphalt Parking Areas**

The following would apply within asphalt parking and drive areas. Any deleterious material encountered should be removed and replaced with suitable fill as specified in the "Site Preparation" section of this report. A stabilized subgrade having a minimum LBR of 40 shall be placed to a depth of at least twelve inches below the base course. The stabilized subgrade should be compacted to an equivalent density of 98 percent of the modified Proctor maximum dry density. The base course should be placed to at least eight inches below the asphalt and should have a minimum LBR of 100. The base material should be compacted to 98 percent of the modified Proctor maximum dry density. The pavement material and thickness should be based on design requirements. It is our opinion that onsite materials may meet both of the LBR requirements, however, specific tests should be performed to confirm this.

At this time it appears that material will need to be imported in order to develop the subbase and base course sections at the site. We would require that the collection of bulk samples of both the imported base and sub-base course in order to determine their LBR values and suitability. When more engineering information is available pertaining to the pavement design we can provide more detailed input.



## GENERAL INFORMATION

Our client for this geotechnical evaluation was:

2209 N. 7<sup>th</sup> Avenue, LLC.  
785 NE 33<sup>rd</sup> Street  
Boca Raton, Florida 33431  
Attn: Mr. Jason Pepitone

The contents of this report are for the exclusive use of the client and the client's design team for this specific project exclusively. Information conveyed in this report shall not be used or relied upon by other parties or for other projects without the expressed written consent of Nutting Engineers of Florida, Inc. This report discusses geotechnical considerations for this site based upon observed conditions and our understanding of proposed construction for foundation support. Environmental issues including (but not limited to), soil and/or groundwater contamination are beyond our scope of service for this project. As such, this report should not be used or relied upon for evaluation of environmental issues.

If conditions are encountered which are not consistent with the findings presented in this report, or if proposed construction is moved from the location investigated, this office shall be notified immediately so that the condition or change can be evaluated and appropriate action taken.

The vibratory compaction equipment may cause vibrations that could be felt by persons within nearby buildings and could potentially induce structural settlements. Additionally, preexisting settlements may exist within these structures that could be construed to have been caused or worsened by the proposed vibratory compaction after the fact. Pre- and post conditions surveys of these structures along with the vibration monitoring during vibratory compaction could be performed to better evaluate this concern. The contractor should exercise due care during the performance of the vibratory compaction work with due consideration of potential impacts on existing structures. If potential vibrations and impacts are not considered tolerable, then alternate foundation modification techniques should be considered.

Nutting Engineers of Florida, Inc. shall bear no liability for the implementation of recommended inspection and testing services as described in this report if implemented by others. Nutting has no ability to verify the completeness, accuracy or proper technique of such procedures if performed by others.

Excavations of five feet or more in depth should be sloped or shored in accordance with OSHA and State of Florida requirements.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein, have been presented after being prepared in accordance with general accepted professional practice in the field of foundation engineering, soil mechanics and engineering geology. No other warranties are implied or expressed.



We appreciate the opportunity to be of service on this project. If we can be of any further assistance, or if you need additional information, please contact us at your convenience.

Sincerely,

**NUTTING ENGINEERS OF FLORIDA, INC.**

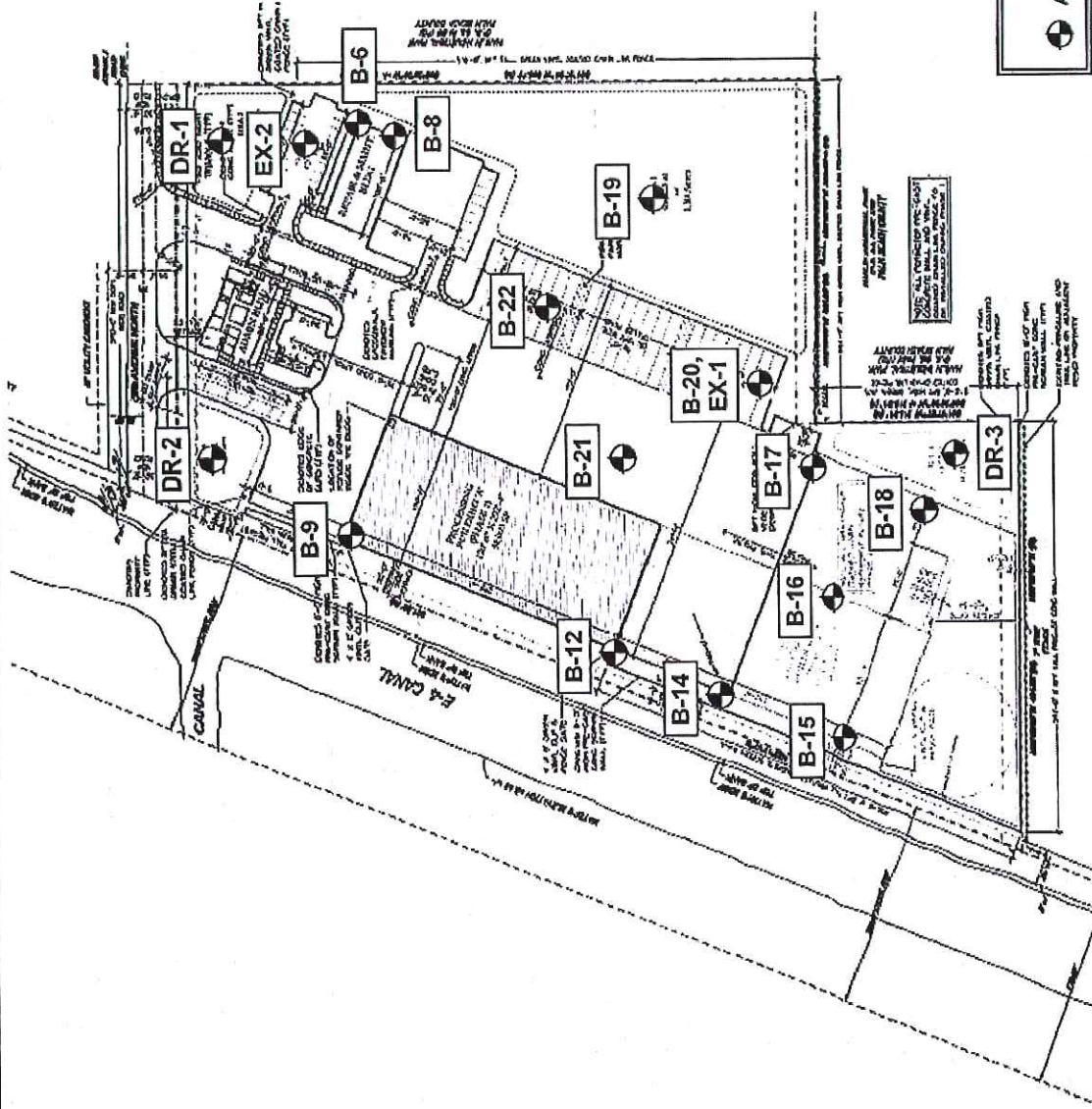
*Natalie Chavez for*

Adrian Ramirez  
Engineering Intern

*Richard Wohlforth 4/11/19*

Richard C. Wohlforth, P.E. #50858  
Director of Engineering

Attachments: Boring Location Plan - Figure 1  
Test Pit Location Plan - Figure 2  
Test Boring Logs  
Test Pit Logs  
Exfiltration Test Results  
Double Ring Infiltration Test Results  
Limitations of Liability  
Soil Classification Criteria



- LEGEND -  
● APPROX. TEST LOCATION

FIG. 1

GEOTECHNICAL EXPLORATION  
— Not to Scale —

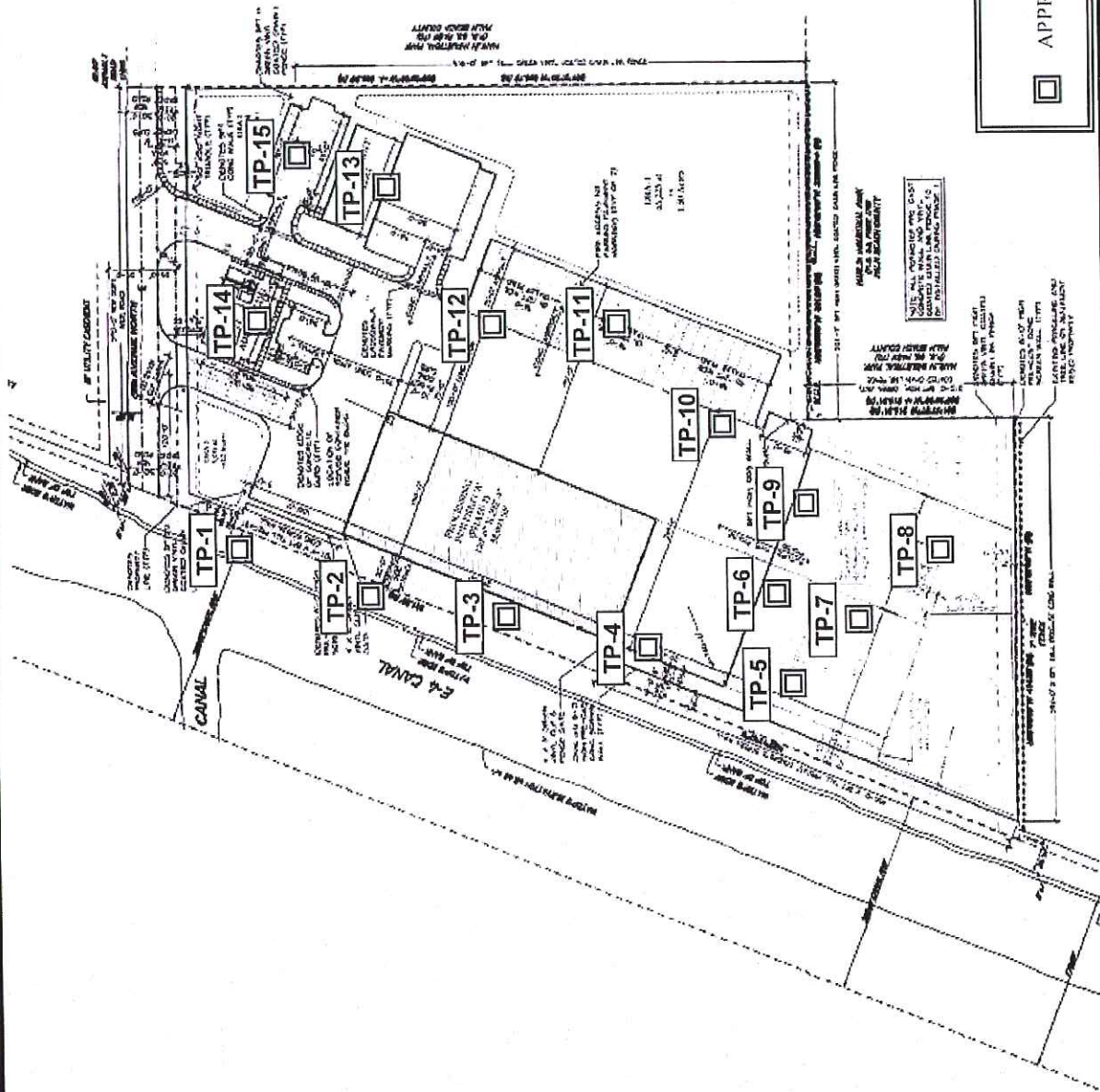
APPROXIMATE  
TEST  
LOCATION PLAN

ORDER NO. 18648.1

2209 N. 7th Avenue, LLC  
Proposed Processing Facility  
2209 7th Avenue North  
Lake Worth, Florida









**NUTTING  
ENGINEERS**  
— OF FLORIDA, INC.  
ESTABLISHED 1967

2209 N. 7th Avenue, LLC  
**Proposed Processing Facility**  
2209 7th Avenue North  
Lake Worth, Florida

ORDER NO. 18648.1

APPROXIMATE  
TEST  
LOCATION PLAN

GEOTECHNICAL EXPLORATION  
— Not to Scale —

FIG. 2





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# BORING NUMBER B-6

PAGE 1 OF 1

CLIENT 2209 N. 7th Avenue, LLC PROJECT NUMBER 18648.1  
PROJECT NAME Proposed Processing Facility  
PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida

DATE STARTED 3/21/19 COMPLETED 3/21/19 SURFACE ELEVATION REFERENCE Approx. @ Road Crown  
DRILLING METHOD Standard Penetration Boring GROUND WATER LEVELS:  
LOGGED BY T. Donovan CHECKED BY C. Gworek ▽ AT TIME OF DRILLING 1.0 ft.  
APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL	MC	LL	
0						20	40	60	80
						□ FINES CONTENT (%) □			
						20	40	60	80
		Gray to brown fine SAND and DEBRIS (fill)	SS 1	2-3-4-4	7	▲			
			SS 2	3-10-3-6	13		▲		
5			SS 3	3-8-3-2	11		▲		
		Brown fibrous PEAT	SS 4	1-1-1-6	2	▲			
		Gray fine SAND	SS 5	7-8-10-10	18			▲	
10			SS 6	5-6-8-10	14		▲		
		Brown fine SAND	SS 7	3-4-6	10	▲			
15			SS 8	6-7-10	17			▲	
20		Gray fine SAND							
		Bottom of hole at 20.0 feet.							

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# BORING NUMBER B-8

PAGE 1 OF 1

CLIENT 2209 N. 7th Avenue, LLC PROJECT NUMBER 18648.1  
PROJECT NAME Proposed Processing Facility  
PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida

DATE STARTED 3/21/19 COMPLETED 3/21/19 SURFACE ELEVATION REFERENCE Approx. @ Road Crown  
DRILLING METHOD Standard Penetration Boring GROUND WATER LEVELS:  
LOGGED BY T. Donovan CHECKED BY C. Gworek ✓ AT TIME OF DRILLING 0.5 ft  
APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL	MC	LL	
0						20	40	60	80
						□ FINES CONTENT (%) □			
						20	40	60	80
		Gray to brown fine SAND and DEBRIS (fill)	SS 1	2-20-6-3	26			▲	
			SS 2	2-4-2-4	6	▲			
5		Brown fibrous PEAT	SS 3	3-2-2-2	4	▲			
		Gray fine SAND	SS 4	2-5-9-9	14		▲		
			SS 5	8-9-10-8	19			▲	
			SS 6	5-8-8-11	16			▲	
10									
			SS 7	6-6-7	13		▲		
15									
			SS 8	7-9-10	19			▲	
20		Bottom of hole at 20.0 feet.							

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# **BORING NUMBER B-9**

PAGE 1 OF 1

CLIENT 2209 N. 7th Avenue, LLC PROJECT NUMBER 18648.1  
PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida PROJECT NAME Proposed Processing Facility

DATE STARTED 3/25/19 COMPLETED 3/25/19 SURFACE ELEVATION REFERENCE Approx. @ Road Crown  
DRILLING METHOD Standard Penetration Boring GROUND WATER LEVELS:  
LOGGED BY T. Donovan CHECKED BY C. Gworek ▽ AT TIME OF DRILLING 2.0 ft  
APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL	MC	LL	
						20	40	60	80
						□ FINES CONTENT (%) □			
						20	40	60	80
0		Brown fine SAND and LIMESTONE fragments (fill)	SS 1	2-20-8-7	28			▲	
		Brown fibrous PEAT	SS 2	3-2-2-2	4	▲			
5			SS 3	1-1-1-11	2	▲			
			SS 4	2-4-5-5	9		▲		
		Brown fine SAND	SS 5	4-4-4-5	8		▲		
10			SS 6	2-2-4-4	6	▲			
15			SS 7	3-3-4	7	▲			
20			SS 8	4-5-5	10		▲		
		Bottom of hole at 20.0 feet.							

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# BORING NUMBER B-12

PAGE 1 OF 1

CLIENT 2209 N. 7th Avenue, LLC PROJECT NUMBER 18648.1  
PROJECT NAME Proposed Processing Facility  
PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida

DATE STARTED 3/25/19 COMPLETED 3/25/19 SURFACE ELEVATION REFERENCE Approx. @ Road Crown  
DRILLING METHOD Standard Penetration Boring GROUND WATER LEVELS:  
LOGGED BY T. Donovan CHECKED BY C. Gworek ☒ AT TIME OF DRILLING 3.0 ft  
APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL      MC      LL 20   40   60   80			
						<input type="checkbox"/> FINES CONTENT (%) <input type="checkbox"/> 20   40   60   80			
0		Brown fine SAND	SS 1	2-3-4-7	7	▲			
5		Gray fine SAND	SS 2	6-5-11-11	16		▲		
			SS 3	7-5-5-6	10		▲		
			SS 4	4-4-4-4	8	▲			
10			SS 5	4-5-6-6	11		▲		
		Brown fine SAND	SS 6	3-3-4-5	7	▲			
15			SS 7	4-3-5	8		▲		
20		Gray fine SAND	SS 8	6-5-6	11		▲		
		Bottom of hole at 20.0 feet.							

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# BORING NUMBER B-14

PAGE 1 OF 1

CLIENT 2209 N. 7th Avenue, LLC

PROJECT NUMBER 18648.1

PROJECT NAME Proposed Processing Facility

PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida

DATE STARTED 3/22/19

COMPLETED 3/22/19

SURFACE ELEVATION REFERENCE Approx. @ Road Crown

DRILLING METHOD Standard Penetration Boring

GROUND WATER LEVELS:

LOGGED BY T. Donovan

CHECKED BY C. Gworek

▽ AT TIME OF DRILLING 5.5 ft

APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL	MC	LL	
0						20	40	60	80
						□ FINES CONTENT (%) □			
						20	40	60	80
		Brown to dk. brown fine SAND (fill)	SS 1	2-4-20-8	24			▲	
			SS 2	2-3-4-3	7	▲			
5		Brown fine SAND	SS 3	5-3-3-3	6	▲			
			SS 4	5-4-6-5	10		▲		
		Reddish brown fine SAND	SS 5	6-5-6-7	11		▲		
			SS 6	5-4-5-7	9		▲		
10									
		Lt. gray fine SAND	SS 7	3-3-4	7	▲			
15									
			SS 8	4-7-0	13		▲		
20		Bottom of hole at 20.0 feet.							

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# BORING NUMBER B-15

PAGE 1 OF 1

CLIENT 2209 N. 7th Avenue, LLC PROJECT NUMBER 18648.1  
PROJECT NAME Proposed Processing Facility  
PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida  
DATE STARTED 3/22/19 COMPLETED 3/22/19 SURFACE ELEVATION REFERENCE Approx. @ Road Crown  
DRILLING METHOD Standard Penetration Boring GROUND WATER LEVELS:  
LOGGED BY T. Donovan CHECKED BY C. Gworek  $\nabla$  AT TIME OF DRILLING 4.5 ft  
APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL	MC	LL	
						20	40	60	80
						□ FINES CONTENT (%) □			
						20	40	60	80
0		Gray to brown SAND, trace root and debris (fill)	SS 1	1-1-1-1	2	▲			
5		Brown fine SAND	SS 2	5-5-4-4	9	▲			
10		Reddish brown fine SAND	SS 3	4-3-5-6	8	▲			
			SS 4	4-4-6-5	10	▲			
			SS 5	6-6-7-8	13	▲			
			SS 6	5-9-4-7	13	▲			
15			SS 7	3-3-3	6	▲			
20		Gray fine SAND	SS 8	6-8-7	15	▲			
		Bottom of hole at 20.0 feet.							

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# BORING NUMBER B-16

PAGE 1 OF 1

PROJECT NUMBER 18648.1  
CLIENT 2209 N. 7th Avenue, LLC PROJECT NAME Proposed Processing Facility  
PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida

DATE STARTED 3/22/19 COMPLETED 3/22/19 SURFACE ELEVATION REFERENCE Approx. @ Road Crown  
DRILLING METHOD Standard Penetration Boring GROUND WATER LEVELS:  
LOGGED BY T. Donovan CHECKED BY C. Gworek ✓ AT TIME OF DRILLING 4.5 ft  
APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL	MC	LL	
						20	40	60	80
						□ FINES CONTENT (%) □			
						20	40	60	80
0		Brown fine SAND (fill)	SS 1	1-4-5-5	9	▲			
		Black organic SILT	SS 2	4-4-2-2	6	▲			
5		Dk. gray fine SAND	SS 3	2-2-6-11	8	▲			
		Gray fine SAND	SS 4	8-7-6-6	13	▲			
			SS 5	4-4-5-5	9	▲			
10			SS 6	4-5-5-7	10	▲			
15			SS 7	3-3-4	7	▲			
20			SS 8	6-7-7	14	▲			
		Bottom of hole at 20.0 feet.							

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# BORING NUMBER B-17

PAGE 1 OF 1

CLIENT 2209 N. 7th Avenue, LLC

PROJECT NUMBER 18648.1

PROJECT NAME Proposed Processing Facility

PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida

DATE STARTED 3/22/19

COMPLETED 3/22/19

SURFACE ELEVATION REFERENCE Approx. @ Road Crown

DRILLING METHOD Standard Penetration Boring

GROUND WATER LEVELS:

LOGGED BY T. Donovan

CHECKED BY C. Gworek

▽ AT TIME OF DRILLING 3.5 ft

APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL	MC	LL	
						20	40	60	80
						□ FINES CONTENT (%) □			
						20	40	60	80
0		Gray to brown SAND and DEBRIS (fill)	SS 1	1-2-2-2	4	▲			
			SS 2	7-3-8-3	11		▲		
5			SS 3	1-2-1-2	3	▲			
		Brown fibrous PEAT	SS 4	1-3-9-7	12		▲		
		Gray fine SAND	SS 5	4-5-6-6	11		▲		
10			SS 6	3-2-4-5	6	▲			
15			SS 7	4-5-7	12		▲		
20			SS 8	8-6-5	11		▲		
		Bottom of hole at 20.0 feet.							

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# BORING NUMBER B-18

PAGE 1 OF 1

CLIENT 2209 N. 7th Avenue, LLC

PROJECT NUMBER 18648.1

PROJECT NAME Proposed Processing Facility

PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida

DATE STARTED 3/22/19

COMPLETED 3/22/19

SURFACE ELEVATION REFERENCE Approx. @ Road Crown

DRILLING METHOD Standard Penetration Boring

GROUND WATER LEVELS:

LOGGED BY T. Donovan

CHECKED BY C. Gworek

▽ AT TIME OF DRILLING 4.0 ft

APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL	MC	LL	
						20	40	60	80
						□ FINES CONTENT (%) □			
						20	40	60	80
0		Gray to brown fine SAND, some debris (fill)	SS 1	1-1-3-2	4	▲			
			SS 2	4-2-1-1	3	▲			
5			SS 3	10-15-15-8	30			▲	
		Gray fine SAND, some peat	SS 4	3-4-7-12	11	▲			
		Gray to lt. gray fine SAND	SS 5	8-10-13-13	23			▲	
			SS 6	8-9-11-11	20			▲	
15			SS 7	4-6-7	13	▲			
20			SS 8	8-9-11	20			▲	
		Bottom of hole at 20.0 feet.							

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# BORING NUMBER B-19

PAGE 1 OF 1

CLIENT 2209 N. 7th Avenue, LLC PROJECT NUMBER 18648.1  
PROJECT NAME Proposed Processing Facility  
PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida

DATE STARTED 3/21/19 COMPLETED 3/21/19 SURFACE ELEVATION REFERENCE Approx. @ Road Crown  
DRILLING METHOD Standard Penetration Boring GROUND WATER LEVELS:  
LOGGED BY T. Donovan CHECKED BY C. Gworek ☒ AT TIME OF DRILLING 2.0 ft  
APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL	MC	LL	
						20	40	60	80
						□ FINES CONTENT (%) □			
						20	40	60	80
0		Gray to brown fine SAND and DEBRIS (fill)	SS 1	3-4-3-3	7	▲			
			SS 2	2-4-3-5	7	▲			
6		Brown fibrous PEAT	SS 3	3-3-2-2	5	▲			
			SS 4	3-3-3-3	6	▲			
		Brown fine SAND, some organics	SS 5	2-2-6-8	8	▲			
10		Gray fine SAND	SS 6	8-7-8-9	15	▲			
16			SS 7	3-6-6	12	▲			
20		Brown fine SAND	SS 8	5-7-10	17	▲			
25			SS 9	4-3-6	9	▲			
		Bottom of hole at 25.0 feet.							

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# BORING NUMBER B-20

PAGE 1 OF 1

CLIENT 2209 N. 7th Avenue, LLC PROJECT NUMBER 18648.1  
PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida PROJECT NAME Proposed Processing Facility

DATE STARTED 3/21/19 COMPLETED 3/21/19 SURFACE ELEVATION REFERENCE Approx. @ Road Crown  
DRILLING METHOD Standard Penetration Boring GROUND WATER LEVELS:  
LOGGED BY T. Donovan CHECKED BY C. Gworek ☒ AT TIME OF DRILLING 2.5 ft  
APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL MC LL			
						20	40	60	80
						<input type="checkbox"/> FINES CONTENT (%) <input type="checkbox"/>			
						20	40	60	80
0		Gray to brown fine SAND, some debris (fill)	SS 1	2-2-2-3	4	▲			
			SS 2	5-7-8-7	15		▲		
5			SS 3	5-6-6-8	12		▲		
			SS 4	6-7-3-4	10		▲		
10		Brown fibrous PEAT and black SILT	SS 5	6-2-1-1	3	▲			
			SS 6	2-2-2-2	4	▲			
		Brown fine SAND	SS 7	2-3-5	8	▲			
15		Bottom of hole at 15.0 feet.							

TEST NUTTING BOREHOLE 1-18617.2 2209 N 7TH AVENUE LLC - PROPOSED PROCESSING FACILITY 2209 N 7TH AVENUE LAKE WORTH, FL GINT US, GDT 3/28/19

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# **BORING NUMBER B-21**

PAGE 1 OF 1

PROJECT NUMBER 18648.1  
CLIENT 2209 N. 7th Avenue, LLC PROJECT NAME Proposed Processing Facility  
PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida

DATE STARTED 3/21/19 COMPLETED 3/21/19 SURFACE ELEVATION REFERENCE Approx. @ Road Crown  
DRILLING METHOD Standard Penetration Boring GROUND WATER LEVELS:  
LOGGED BY T. Donovan CHECKED BY C. Gworek ▽ AT TIME OF DRILLING 3.0 ft  
APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL MC LL 20 40 60 80			
						<input type="checkbox"/> FINES CONTENT (%) <input type="checkbox"/> 20 40 60 80			
0		Gray to brown fine SAND, trace limestone fragments and debris (fill)	SS 1	2-5-7-8	12	▲			
			SS 2	5-8-7-6	15		▲		
5			SS 3	4-6-5-5	11		▲		
			SS 4	4-5-2-2	7	▲			
10			SS 5	2-2-3-3	5	▲			
		Bottom of hole at 10.0 feet.							

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# BORING NUMBER B-22

PAGE 1 OF 1

CLIENT 2209 N. 7th Avenue, LLC

PROJECT NUMBER 18648.1

PROJECT LOCATION 2209 North 7th Avenue, Lake Worth, Florida

PROJECT NAME Proposed Processing Facility

DATE STARTED 3/21/19 COMPLETED 3/21/19

SURFACE ELEVATION REFERENCE Approx. @ Road Crown

DRILLING METHOD Standard Penetration Boring

GROUND WATER LEVELS:

LOGGED BY T. Donovan CHECKED BY C. Gworek

▽ AT TIME OF DRILLING 1.0 ft

APPROXIMATE LOCATION OF BORING As located on site plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Blows	N-Value	▲ SPT N VALUE ▲			
						10	20	30	40
						PL	MC	LL	
						20	40	60	80
						□ FINES CONTENT (%) □			
						20	40	60	80
0		▽ Dk. gray fine SAND, some limestone fragments, trace organics (fill like material)	SS 1	2-2-2-4	4	▲			
			SS 2	8-10-17-7	27			▲	
5			SS 3	5-4-4-10	8	▲			
			SS 4	12-8-10-11	18		▲		
10			SS 5	11-12-9-8	21			▲	
		Bottom of hole at 10.0 feet.							

TEST NUTTING BOREHOLE 1-18617.2 2209 N 7TH AVENUE LLC - PROPOSED PROCESSING FACILITY 2209 N 7TH AVENUE LAKE WORTH, FL GINT US GDT 3/28/19

Disclaimer Nutting Engineers of Florida, Inc. accepts no liability for the consequences of the independent interpretation of drilling logs by others.

## Report of Exfiltration Test

Client: 2209 N. 7th Avenue, LLC Order No 18648.1  
 Project: Proposed Processing Facility Report No 1  
 Location: 2209 7th Avenue North Date: 3/22/19  
Lake Worth, Florida  
 Test: Usual Open Hole Exfiltration Test  
 Surface: \_\_\_\_\_  
 Elevation: Approx. @ Road Crown Water table from ground surface: 2'  
 Casing: \_\_\_\_\_  
 Diameter: 6"  
 Tube Depth: 6'

EXFIL NO. 1		One Minute Increme	Pump Rate in Gal/Min
Sample Location: <u>Approx. as located on site plan.</u>		1	5.0
		2	5.0
		3	5.0
		4	5.0
		5	5.1
		6	5.1
		7	5.1
		8	5.2
		9	5.2
		10	5.2

Material: 0-6' Gray to brown fine SAND, some debris (fill)

$$K = 7.04 \times 10^{-4} \text{ cfs/ft}^2\text{ft.head}$$

## Report of Exfiltration Test

Client: 2209 N. 7th Avenue, LLC Order No 18648.1  
 Project: Proposed Processing Facility Report No 2  
 Location: 2209 7th Avenue North Date: 3/26/19  
Lake Worth, Florida  
 Test: Usual Open Hole Exfiltration Test  
 Surface: \_\_\_\_\_  
 Elevation: Approx. @ Road Crown Water table from ground surface: 2'  
 Casing: \_\_\_\_\_  
 Diameter: 6"  
 Tube Depth: 6'

EXFIL NO. 2		One Minute Increme	Pump Rate in Gal/Min
Sample Location: <u>Approx. as located on site plan.</u>		1	5.0
		2	5.0
		3	5.0
		4	5.0
		5	5.1
		6	5.1
		7	5.1
		8	5.2
		9	5.2
		10	5.2
Material: <u>0-6'</u> <u>Gray to brown fine SAND and DEBRIS (fill)</u>			

$$K = 7.04 \times 10^{-4} \text{ cfs/ft}^2\text{ft.head}$$

# Moisture & Organics Worksheet

Client Name	_____	Date of Test: 4/1/2019
Project Name	PACU-151 study	Tested By: Marc G.
Site Address	1509 N. Ave. 15W	Date of Test
Sample Location	_____	Tested By: MG
Material Description #1	peat	Sampled By: CG
Material Description #2	peat	
Material Description #3	black organic silt	
Material Description #4	peat	
Material Description #5	black peat + silt	

Moisture Content			1	2	3	4	5
Boring #			B0	B3	B16	B17	B20
Depth			0-3	4-6	4-6	6-8	10-12
Can #			1	2	3	4	5
A	Wet Weight + Can		274.50	271.49	265.07	272.95	252.19
B	Dry Weight + Can		177.29	156.30	197.59	162.02	153.27
C	Tare Can		137.06	135.57	108.42	128.06	130.22
	Wet Weight Soil	= (A-C)	136.94	135.92	156.65	144.89	121.97
D	Dry Weight Soil	= (B-C)	40.23	20.73	89.17	33.96	23.05
E	Weight of Moisture	= (A-B)	96.71	115.19	67.48	110.93	98.92
	% Water Content	= (E/D)x100	240.35%	555.67%	75.68%	326.65%	429.15%

Organic Content			1	2	3	4	5
Can #							
A	Dry Weight + Container		177.29	156.30	197.59	162.02	153.27
B	Burn Weight + Container		163.48	140.59	180.47	150.65	141.13
C	Tare Can		137.06	135.57	108.42	128.06	130.22
D	Dry Weight	= (A-C)	40.23	20.73	89.17	33.96	23.05
	Burn Weight	= (B-C)	26.42	5.42	72.05	22.59	10.91
E	Organic Weight	= (A-B)	13.81	15.31	17.12	11.37	12.14
	% Organic Matter	= (E/D)x100	34.33%	73.85%	19.20%	33.48%	52.67%



## DOUBLE RING INFILTROMETER TEST - ASTM D3385

CLIENT: 2209 N 7th Ave N, LLC  
TEST : 1 TEST DATE: 3/26/2019 WEATHER: Sunny 80 Deg F  
PROJECT: Proposed Processing Facility DRILLER: Travis  
2209 7th Ave N Lake Worth, FL

SOIL DESCRIPTION: 0-1' Brown Fine Sand

NOTE: TEST PERFORMED AT EXISTING GRADE.

GROUNDWATER DEPTH: Not Measured USING 12" & 24" DIAMETER RINGS

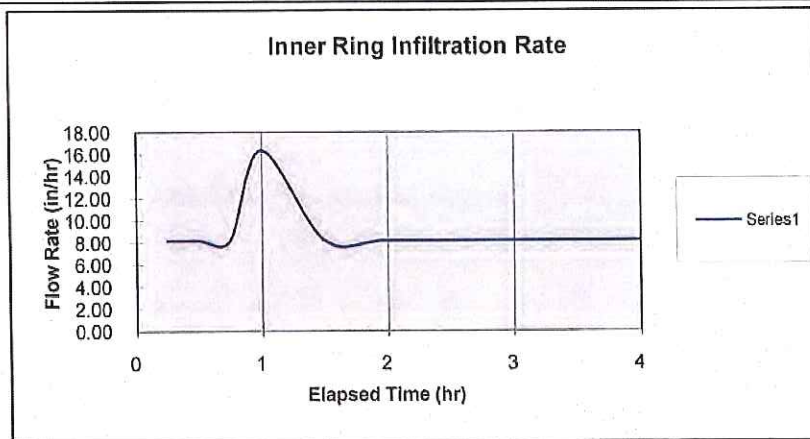
AREA: INNER RING: 113.1 IN<sup>2</sup> (729.7 CM<sup>2</sup>)  
ANNULAR RING: 339.3 IN<sup>2</sup> (2189.2 CM<sup>2</sup>)

Testing was performed according to procedures specified in ASTM D3385-09. Liquid used consisted of water with an approximate pH of 7.0.

As ASTM procedure recommends, data from inner ring was used to determine infiltration rate.

ELAPSED TIME (HR)	QUANTITY OF WATER INNER(in <sup>3</sup> )	RATE INNER (IN/HR)	QUANTITY OF WATER ANNULAR(in <sup>3</sup> )	RATE ANNULAR (IN/HR)
0.25	231	8.17	693	8.17
0.5	231	8.17	693	8.17
0.75	231	8.17	693	8.17
1	462	16.34	1386	16.34
1.5	462	8.17	1386	8.17
2	462	8.17	1386	8.17
3	924	8.17	2772	8.17
4	924	8.17	2772	8.17

STEADY STATE INFILTRATION RATE = 8.17 INCH/HOUR\*



\* As noted in Sec. 11.1 Precision and Bias of ASTM D3385-09 the recorded infiltration rate should be considered only as an index value

## DOUBLE RING INFILTROMETER TEST - ASTM D3385

CLIENT: 2209 N 7th Ave N, LLC  
TEST : 2 TEST DATE: 3/26/2019 WEATHER: Sunny 80 Deg F  
PROJECT: Proposed Processing Facility DRILLER: Travis  
2209 7th Ave N Lake Worth, FL

SOIL DESCRIPTION: 0-1' Brown Fine Sand

NOTE: TEST PERFORMED AT EXISTING GRADE.

GROUNDWATER DEPTH: Not Measured USING 12" & 24" DIAMETER RINGS

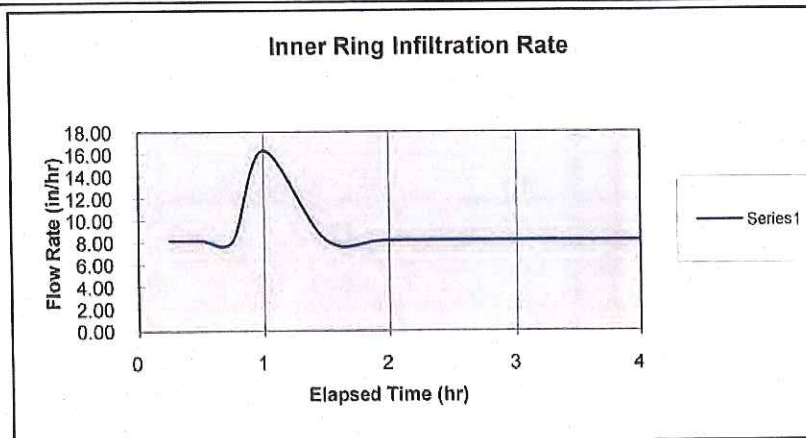
AREA: INNER RING: 113.1 IN<sup>2</sup> (729.7 CM<sup>2</sup>)  
ANNULAR RING: 339.3 IN<sup>2</sup> (2189.2 CM<sup>2</sup>)

Testing was performed according to procedures specified in ASTM D3385-09. Liquid used consisted of water with an approximate pH of 7.0.

As ASTM procedure recommends, data from inner ring was used to determine infiltration rate.

ELAPSED TIME (HR)	QUANTITY OF WATER INNER(in <sup>3</sup> )	RATE INNER (IN/HR)	QUANTITY OF WATER ANNULAR(in <sup>3</sup> )	RATE ANNULAR (IN/HR)
0.25	231	8.17	693	8.17
0.5	231	8.17	693	8.17
0.75	231	8.17	693	8.17
1	462	16.34	1386	16.34
1.5	462	8.17	1386	8.17
2	462	8.17	1386	8.17
3	924	8.17	2772	8.17
4	924	8.17	2772	8.17

STEADY STATE INFILTRATION RATE = 8.17 INCH/HOUR\*



\* As noted in Sec. 11.1 Precision and Bias of ASTM D3385-09 the recorded infiltration rate should be considered only as an index value

1310 Neptune Drive • Boynton Beach, Florida 33426 • (561) 736-4900 • Fax (561) 737-9975  
Broward (954) 941-8700 • Port St. Lucie (772) 408-1050 • Miami Dade (305) 824-0060

## DOUBLE RING INFILTROMETER TEST - ASTM D3385

**CLIENT:** 2209 N 7th Ave N, LLC  
**TEST : 3** **TEST DATE:** 3/26/2019 **WEATHER:** Sunny 80 Deg F  
**PROJECT:** Proposed Processing Facility **DRILLER:** Travis  
2209 7th Ave N Lake Worth, FL

**SOIL DESCRIPTION:** 0-1' Brown Fine Sand

**NOTE: TEST PERFORMED AT EXISTING GRADE.**

**GROUNDWATER DEPTH:** Not Measured USING 12" & 24" DIAMETER RINGS

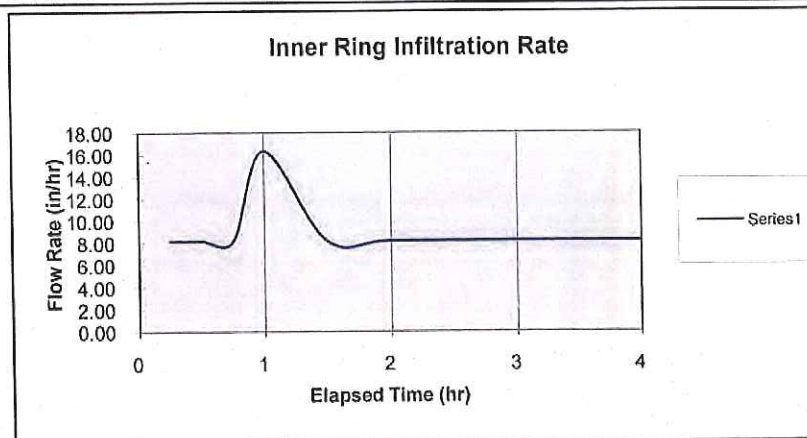
**AREA:** INNER RING: 113.1 IN<sup>2</sup> (729.7 CM<sup>2</sup>)  
ANNULAR RING: 339.3 IN<sup>2</sup> (2189.2 CM<sup>2</sup>)

Testing was performed according to procedures specified in ASTM D3385-09. Liquid used consisted of water with an approximate pH of 7.0.

As ASTM procedure recommends, data from inner ring was used to determine infiltration rate.

ELAPSED TIME (HR)	QUANTITY OF WATER INNER(in <sup>3</sup> )	RATE INNER (IN/HR)	QUANTITY OF WATER ANNULAR(in <sup>3</sup> )	RATE ANNULAR (IN/HR)
0.25	231	8.17	693	8.17
0.5	231	8.17	693	8.17
0.75	231	8.17	693	8.17
1	462	16.34	1386	16.34
1.5	462	8.17	1386	8.17
2	462	8.17	1386	8.17
3	924	8.17	2772	8.17
4	924	8.17	2772	8.17

STEADY STATE INFILTRATION RATE = 8.17 INCH/HOUR\*



\* As noted in Sec. 11.1 Precision and Bias of ASTM D3385-09 the recorded infiltration rate should be considered only as an index value

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## LIMITATIONS OF LIABILITY

### WARRANTY

We warrant that the services performed by Nutting Engineers of Florida, Inc. are conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession in our area currently practicing under similar conditions at the time our services were performed. **No other warranties, expressed or implied, are made.** While the services of Nutting Engineers of Florida, Inc. are a valuable and integral part of the design and construction teams, we do not warrant, guarantee or insure the quality, completeness, or satisfactory performance of designs, construction plans, specifications we have not prepared, nor the ultimate performance of building site materials or assembly/construction.

### SUBSURFACE EXPLORATION

Subsurface exploration is normally accomplished by test borings; test pits are sometimes employed. The method of determining the boring location and the surface elevation at the boring is noted in the report. This information is represented in the soil boring logs and/or a drawing. The location and elevation of the borings should be considered accurate only to the degree inherent with the method used and may be approximate.

The soil boring log includes sampling information, description of the materials recovered, approximate depths of boundaries between soil and rock strata as encountered and immediate depth to water data. The log represents conditions recorded specifically at the location where and when the boring was made. Site conditions may vary through time as will subsurface conditions. The boundaries between different soil strata as encountered are indicated at specific depths; however, these depths are in fact approximate and dependent upon the frequency of sampling, nature and consistency of the respective strata. Substantial variation between soil borings may commonly exist in subsurface conditions. Water level readings are made at the time and under conditions stated on the boring logs. Water levels change with time, precipitation, canal level, local well drawdown and other factors. Water level data provided on soil boring logs shall not be relied upon for groundwater based design or construction considerations.

### LABORATORY AND FIELD TESTS

Tests are performed in *general* accordance with specific ASTM Standards unless otherwise indicated. All criteria included in a given ASTM Standard are not always required and performed. Each test boring report indicates the measurements and data developed at each specific test location.

### ANALYSIS AND RECOMMENDATIONS

The geotechnical report is prepared primarily to aid in the design of site work and structural foundations. Although the information in the report is expected to be sufficient for these purposes, it shall not be utilized to determine the cost of construction nor to stand alone as a construction specification. Contractors shall verify subsurface conditions as may be appropriate prior to undertaking subsurface work.

Report recommendations are based primarily on data from test borings made at the locations shown on the test boring reports. Soil variations commonly exist between boring locations. Such variations may not become evident until construction. Test pits sometimes provide valuable supplemental information that derived from soil borings. If variations are then noted, the geotechnical engineer shall be contacted in writing immediately so that field conditions can be examined and recommendations revised if necessary.

The geotechnical report states our understanding as to the location, dimensions and structural features proposed for the site. ***Any significant changes of the site improvements or site conditions must be communicated in writing to the geotechnical engineer immediately*** so that the geotechnical analysis, conclusions, and recommendations can be reviewed and appropriately adjusted as necessary.

### CONSTRUCTION OBSERVATION

Construction observation and testing is an important element of geotechnical services. The geotechnical engineer's field representative (G.E.F.R.) is the "owner's representative" observing the work of the contractor, performing tests and reporting data from such tests and observations. ***The geotechnical engineer's field representative does not direct the contractor's construction means, methods, operations or personnel.*** The G.E.F.R. does not interfere with the relationship between the owner and the contractor and, except as an observer, does not become a substitute owner on site. The G.E.F.R. is responsible for his/her safety, but has no responsibility for the safety of other personnel at the site. The G.E.F.R. is an important member of a team whose responsibility is to observe and test the work being done and report to the owner whether that work is being carried out in general conformance with the plans and specifications. The enclosed report may be relied upon solely by the named client.

# SOIL AND ROCK CLASSIFICATION CRITERIA

## SAND/SILT

N-VALUE (bpf)	RELATIVE DENSITY
0 - 4	Very Loose
5 - 10	Loose
11 - 29	Medium
30 - 49	Dense
>50	Very dense
100	Refusal

## CLAY/SILTY CLAY

N-VALUE (bpf)	UNCONFINED COMP. STRENGTH (tsf)	CONSISTENCY
<2	<0.25	v. Soft
2 - 4	0.25 - 0.50	Soft
5 - 8	0.50 - 1.00	Medium
9 - 15	1.00 - 2.00	Soft
16 - 30	2.00 - 4.00	v. Stiff
>30	>4.00	Hard

## ROCK

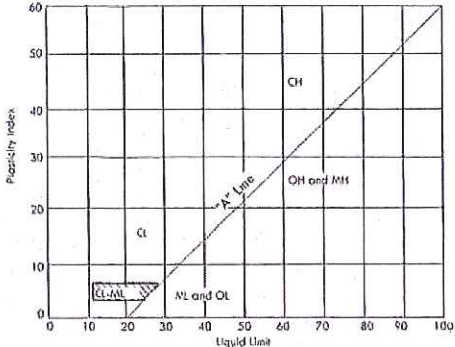
N-VALUE (bpf)	RELATIVE HARDNESS	ROCK CHARACTERISTICS
$N \geq 100$	Hard to v. hard	Local rock formations vary in hardness from soft to very hard within short vertical and horizontal distances and often contain vertical solution holes of 3 to 36 inch diameter to varying depths and horizontal solution features. Rock may be brittle to split spoon impact, but more resistant to excavation.
$25 \leq N \leq 100$	Medium hard to hard	
$5 \leq N \leq 25$	Soft to medium hard	

## PARTICLE SIZE

Boulder	>12 in.
Cobble	3 to 12 in.
Gravel	4.76 mm to 3 in.
Sand	0.074 mm to 4.76 mm
Silt	0.005 mm to 0.074 mm
Clay	<0.005 mm

## DESCRIPTION MODIFIERS

0 - 5%	Slight trace
6 - 10%	Trace
11 - 20%	Little
21 - 35%	Some
>35%	And

Major Divisions		Group Symbols	Typical names	Laboratory classification criteria			
Coarse-grained soils (More than half of material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3			
		GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	Not meeting all gradation requirements for GW			
		GW*	d	Silty gravels, gravel-sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.	
			u		Atterberg limits above "A" line with P.I. greater than 7		
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	SW	Well-graded sands, gravelly sands, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3			
		SP	Poorly graded sands, gravelly sands, little or no fines	Not meeting all gradation requirements for SW			
		SM*	d	Silty sands, sand-silt mixtures	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in hatched zone with P.I. between 4 and 7 are borderline cases requiring use of dual system.	
			u		Atterberg limits above "A" line with P.I. more than 7		
		SC	Clayey sands, sand-clay mixtures				
Fine-grained soils (More than half of material is smaller than No. 200 sieve size)	Silt and clays (Liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity				
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays				
		OL	Organic silts and organic silty clays of low plasticity				
	Silt and clays (Liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts				
		CH	Inorganic clays of high plasticity, fat clays				
		OH	Organic clays of medium to high plasticity, organic silts				
		PT	Peat and other highly organic soils				
	Highly organic soils						

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:  
  
Less than five percent.....GW, GP, SW, SP  
More than 12 percent.....GM, GC, SM, SC  
5 to 12 percent.....Borderline cases requiring dual systems\*\*

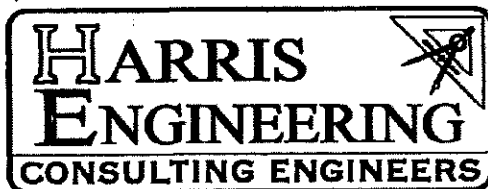
Plasticity index

Liquid Limit

Plasticity Chart

**APPENDIX D: PREVIOUSLY APPROVED SFWMD PERMIT FOR SITE**





HARRIS ENGINEERING, INC.  
CONSULTING ENGINEER  
2743 NW 19<sup>TH</sup> STREET  
POMPANO BEACH, FL 33069  
PHONE: 954-971-7200 FAX: 954-971-8200

080311-7 NO

**DISCHARGE, FLOOD PLAIN ENCROACHMENT,  
AND WATER QUALITY CALCULATIONS FOR**

**LAKE WORTH 10 ACRES, LLC**

**Package Includes:**

1. Pre-development storage calculations based on  
C-51 Basin Criteria (Sub-basin 33)
2. Post development land use and grading
3. Post development stage storage curve  
100 year – Zero Discharge stage
4. Cascade routing of 10year-3 day storm

**RECEIVED**

MAR 11 2008

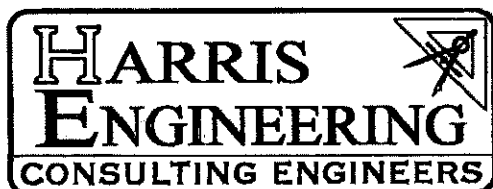
ENV RES REGULATION

A circular stamp containing a handwritten signature and the date "MAR-03-2008".

MAR-03-2008

**Prepared By:**

**David W. Harris, P.E. at  
HARRIS ENGINEERING, INC.**  
2743 NW 19<sup>th</sup> Street  
Pompano Beach, Florida 33069  
954-971-7200 Phone  
954-971-8200 Fax



**HARRIS ENGINEERING, INC.**

**CONSULTING ENGINEER**

**2743 NW 19<sup>TH</sup> STREET**

**POMPANO BEACH, FL 33069**

**PHONE: 954-971-7200 FAX: 954-971-8200**

**FLOOD ENCROACHMENT CALCULATIONS**  
**TRACK 66 AND PORTION OF TRACT 81**  
**AKA**  
**LAKE WORTH 10 ACRES**  
**February 2008**

Project Size	9.81 Acres
Average existing grade (including existing wetland)	12.0 Ft. NGVD
100-year Flood Stage per SFWMD C-51 Basin Study (sub-basin 33)	13.6 Ft. NGVD

**EXISTING CONDITIONS**

**A. On site runoff**

Existing Impervious Coverage ( <i>wetland</i> )	2.69 Acres
Average existing grade	12.0 Ft NGVD
Water Table Elevation	9.5 Ft NGVD
(Reference: <i>Marlin Industrial Park Permit</i> )	
Depth to Water Table	2.5 Ft
Soil Storage	Site has been previously cleared, therefore use compacted soil storage numbers for coastal soils

Un-compacted Soil Storage	4.55 Inches
Compacted Soil Storage	3.41 Inches
Equivalent Site Soil Storage	2.48 Inches

100-Year, 72-Hour Design Rainfall Depth	16.31 Inches
---	--------------

Runoff (SCS Equation)	13.67 Inches
Volume	11.17 Ac-Ft

Volume Stored on site at 100-year flood stage of 13.6' NGVD

$$(13.6 - 12.0) \times 9.81 \text{ Ac} = 15.7 \text{ Ac-Ft}$$

Volume Imported: 4.53 Ac-Ft

Project is an importer. Therefore, project design must accommodate runoff generated as a result of paving, plus 4.53 ac-ft of water from offsite in order to meet C-51 Flood Plain Encroachment criteria.

## **PROPOSED CONDITIONS AND PROJECT SUMMARY**

Building Footprints	2.04 Acres
Parking Areas	3.25 Acres
Walks & Curbs	0.20 Acres
Landscaping/Buffers	1.16 Acres

Total Developable Area      6.66 Acres  
(*not including lake or slopes*)

% Impervious      75%  
(See attached water quality and stage storage calculations)

### **Note:**

This project will require dry pre-treatment. It is intended to provide this pre-treatment within exfiltration trenches.

Water quality provided in exfiltration trenches = 0.31 Acre-Ft

100 year – Zero discharge storm event based on this proposed development requires 12.08 Acre-Ft of storage. Please note from the stage storage curve attached that this site also provides 17.38 Acre-Ft of storage at elevation 13.6. The stage storage table does not include storage in the proposed exfiltration trench.

This site therefore provides:

$17.38 + 0.31 = 17.69$  Acre-Ft of storage at elevation 13.6

$17.69 - 12.08 = 5.61$  Acre-Ft of imported storage available at elevation storage 13.6

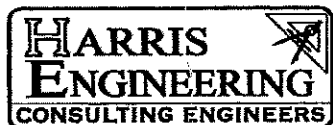
**Project meets all flood plain encroachment criteria**

Allowable discharge based on C-51 Criteria sub-basin 33:

Allowable discharge is based on 10 year-3 day storm of 35 CSM

This 9.81 Acre site has an allowable discharge of 0.54 CFS

Proposed control structure shall consist of a 3' sharp crested weir at elevation 10.8 and a minimum bleeder based on LWDD criteria (6" inverted triangle) see attached cascade routing program which provides a peak 10-yr, 3-day elevation of 10.78, with a peak discharge of 0.54 (Note: *Cascade program was run utilizing bleeder criteria based on SFWMD. Actual discharge will be slightly higher*).



**HARRIS ENGINEERING, INC.**  
**CONSULTING ENGINEERS**  
 2743 NW 19TH STREET  
 POMPANO BEACH, FL 33069-5232  
 PHONE (954) 971-7200 FAX (954) 971-8200

## WATER QUALITY AND STAGE /STORAGE CALCULATIONS

PROJECT: LAKE WORTH 10 ACRES  
 ENG. PROJECT #: 6156  
 ENG: DWH  
 DATE: Feb 26, 2008 REVISED: 29-Feb-08

### LAND USE AND SITE GRADING

DESCRIPTION	AREA (ACRE)	GRADING		REMARKS
		FROM	TO	
BUILDING	2.04	—	—	NO STORAGE
ROADS	0.00	13	14	LINEAR
WALKS & DRIVES	0.20	13	14	LINEAR
parking	3.25	12	14	LINEAR
OTHER PERV	0.00	12	13	LINEAR
GREEN	1.16	12.5	14	LINEAR
SLOPES	0.66	8.5	12.5	LINEAR
LAKE	2.50	8.5	UP	VERTICAL
DRY RETENTION	0.00	9.5	UP	VERTICAL
<b>TOTAL</b>	<b>9.81</b>			

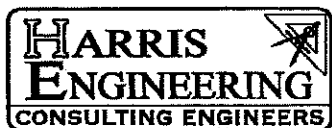
### SEE PAGE THREE FOR STAGE-STORAGE TABLE

### SOIL STORAGE

A. AVERAGE PERVIOUS ELEVATION=	12.25 ' NGVD
B. WATER TABLE ELEVATION=	8.50 ' NGVD
C. DEPTH TO WATER TABLE=	3.75 ' NGVD
D. PERVIOUS AREA SOIL STORAGE FOR	
FOR COMPACTED SOIL, PER SFWMD VOL IV	7.38 INCHES
E. SITE-WIDE SOIL STORAGE= S =	1.37 INCHES
F. TOTAL PERVIOUS AREA =	1.82 ACRES
G. TOTAL IMPERVIOUS AREA (INCLUDING LAKES) =	7.99 ACRES
H. % IMPERV. (EXCLUDING ROOFS AND LAKES) =	65.46 %

### WATER QUALITY

VOLUME FROM 1 INCH OF RUNOFF FROM THE SITE =	0.82 AC-FT
VOLUME FROM 2.5 INCHES OF RAINFALL TIMES THE % IMPERVIOUS SHOWN IN (H) =	1.34 AC-FT
WATER QUALITY VOLUME USED	1.34 AC-FT
WATER QUALITY STAGE (IF REQUIRED) Does not include exfiltration trench	9.03 NGVD
VOLUME NEEDED FOR ½" OF PRE-TREATMENT =	0.41 AC-FT
IF PRE-TREATMENT IS REQUIRED THEN STAGE IN DRY RETENTION AREA TO MEET PRE-TREATMENT : does not include exfiltration trench	8.66 NGVD
WATER QUALITY VOLUME STORED IN EXFILTRATION	0.41 AC-FT



HARRIS ENGINEERING, INC.  
CONSULTING ENGINEERS  
2743 NW 19TH STREET  
POMPANO BEACH, FL 33069-5232  
PHONE (954) 971-7200 FAX (954) 971-8200

#### RAINFALL

	1-DAY	3-DAY
10-YEAR STORM	7.50	—
25-YEAR STORM	9.00	12.23
100-YEAR STORM	12.00	16.31

#### RUN-OFF

$Q = (P - 0.2S)^2 / (P + 0.8S)$   
WHERE P = RAINFALL (INCHES),  
S = SITE WIDE SOIL STORAGE (INCHES), AND  
Q = RUN-OFF (INCHES)

FOR 10-YEAR, 1-DAY STORM

Q= 6.08 "  
V= 4.97 AF

FOR 25-YEAR, 3-DAY STORM

Q= 10.73 "  
V= 8.77 AF

FOR 100-YEAR, 3-DAY STORM

Q= 14.77 "  
V= 12.08 AF

#### STORM STAGE

FROM THE STAGE-STORAGE TABLE ON THE NEXT PAGE, THE STORMWATER STAGES ARE AS FOLLOWS:

EVENT	DAYS	STAGE	REMARK
10-YR	1-DAY	10.22	<b>BASED ON ZERO DISCHARGE</b>
25-YR	3-DAY	11.54	
100-YR	3-DAY	12.54	

**STAGE-STORAGE TABLE**

STAGE (FT)	STORAGE (AF)								TOTAL
	OTHER PERV	GREEN	WALKS & DRIVES	parking	ROADS	DRY RET	LAKE	SLOPE SIDES	
8.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.6	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.25
8.7	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50
8.8	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.01	0.76
8.9	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.01	1.01
9.0	0.00	0.00	0.00	0.00	0.00	0.00	1.25	0.02	1.27
9.1	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.03	1.53
9.2	0.00	0.00	0.00	0.00	0.00	0.00	1.75	0.04	1.79
9.3	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.05	2.05
9.4	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0.07	2.32
9.5	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0.08	2.58
9.6	0.00	0.00	0.00	0.00	0.00	0.00	2.75	0.10	2.85
9.7	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.12	3.12
9.8	0.00	0.00	0.00	0.00	0.00	0.00	3.25	0.14	3.39
9.9	0.00	0.00	0.00	0.00	0.00	0.00	3.50	0.16	3.66
10.0	0.00	0.00	0.00	0.00	0.00	0.00	3.75	0.19	3.94
10.1	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.21	4.21
10.2	0.00	0.00	0.00	0.00	0.00	0.00	4.25	0.24	4.49
10.3	0.00	0.00	0.00	0.00	0.00	0.00	4.50	0.27	4.77
10.4	0.00	0.00	0.00	0.00	0.00	0.00	4.75	0.30	5.05
10.5	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.33	5.33
10.6	0.00	0.00	0.00	0.00	0.00	0.00	5.25	0.36	5.61
10.7	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.40	5.90
10.8	0.00	0.00	0.00	0.00	0.00	0.00	5.75	0.44	6.19
10.9	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.48	6.48
11.0	0.00	0.00	0.00	0.00	0.00	0.00	6.25	0.52	6.77
11.1	0.00	0.00	0.00	0.00	0.00	0.00	6.50	0.56	7.06
11.2	0.00	0.00	0.00	0.00	0.00	0.00	6.75	0.60	7.35
11.3	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.65	7.65
11.4	0.00	0.00	0.00	0.00	0.00	0.00	7.25	0.69	7.94
11.5	0.00	0.00	0.00	0.00	0.00	0.00	7.50	0.74	8.24
11.6	0.00	0.00	0.00	0.00	0.00	0.00	7.75	0.79	8.54
11.7	0.00	0.00	0.00	0.00	0.00	0.00	8.00	0.84	8.84
11.8	0.00	0.00	0.00	0.00	0.00	0.00	8.25	0.90	9.15
11.9	0.00	0.00	0.00	0.00	0.00	0.00	8.50	0.95	9.45
12.0	0.00	0.00	0.00	0.00	0.00	0.00	8.75	1.01	9.76
12.1	0.00	0.00	0.00	0.01	0.00	0.00	9.00	1.07	10.08
12.2	0.00	0.00	0.00	0.03	0.00	0.00	9.25	1.13	10.41
12.3	0.00	0.00	0.00	0.07	0.00	0.00	9.50	1.19	10.76
12.4	0.00	0.00	0.00	0.13	0.00	0.00	9.75	1.25	11.13
12.5	0.00	0.00	0.00	0.20	0.00	0.00	10.00	1.32	11.52
12.6	0.00	0.00	0.00	0.29	0.00	0.00	10.25	1.39	11.93
12.7	0.00	0.02	0.00	0.40	0.00	0.00	10.50	1.45	12.37
12.8	0.00	0.03	0.00	0.52	0.00	0.00	10.75	1.52	12.82
12.9	0.00	0.06	0.00	0.66	0.00	0.00	11.00	1.58	13.30
13.0	0.00	0.10	0.00	0.81	0.00	0.00	11.25	1.65	13.81
13.1	0.00	0.14	0.00	0.98	0.00	0.00	11.50	1.72	14.34
13.2	0.00	0.19	0.00	1.17	0.00	0.00	11.75	1.78	14.90
13.3	0.00	0.25	0.01	1.37	0.00	0.00	12.00	1.85	15.48
13.4	0.00	0.31	0.02	1.59	0.00	0.00	12.25	1.91	16.09
13.5	0.00	0.39	0.02	1.83	0.00	0.00	12.50	1.98	16.72
13.6	0.00	0.47	0.04	2.08	0.00	0.00	12.75	2.05	17.38
13.7	0.00	0.56	0.05	2.35	0.00	0.00	13.00	2.11	18.07
13.8	0.00	0.65	0.06	2.63	0.00	0.00	13.25	2.18	18.78
13.9	0.00	0.76	0.08	2.93	0.00	0.00	13.50	2.24	19.52
14.0	0.00	0.87	0.10	3.25	0.00	0.00	13.75	2.31	20.28
14.1	0.00	0.99	0.12	3.57	0.00	0.00	14.00	2.38	21.06
14.2	0.00	1.10	0.14	3.90	0.00	0.00	14.25	2.44	21.83
14.3	0.00	1.22	0.16	4.22	0.00	0.00	14.50	2.51	22.61
14.4	0.00	1.33	0.18	4.55	0.00	0.00	14.75	2.57	23.39
14.5	0.00	1.45	0.20	4.87	0.00	0.00	15.00	2.64	24.16
14.6	0.00	1.57	0.22	5.20	0.00	0.00	15.25	2.71	24.94
14.7	0.00	1.68	0.24	5.52	0.00	0.00	15.50	2.77	25.72
14.8	0.00	1.80	0.26	5.85	0.00	0.00	15.75	2.84	26.50
14.9	0.00	1.91	0.28	6.17	0.00	0.00	16.00	2.90	27.27
15.0	0.00	2.03	0.30	6.50	0.00	0.00	16.25	2.97	28.05
15.1	0.00	2.15	0.32	6.82	0.00	0.00	16.50	3.04	28.83
15.2	0.00	2.26	0.34	7.15	0.00	0.00	16.75	3.10	29.60
15.3	0.00	2.38	0.36	7.47	0.00	0.00	17.00	3.17	30.38
15.4	0.00	2.49	0.38	7.80	0.00	0.00	17.25	3.23	31.16
15.5	0.00	2.61	0.40	8.12	0.00	0.00	17.50	3.30	31.93

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Project Name: Lake Worth 10 Acres

Reviewer: DWH

Project Number: 6156

Period Begin: Jan 01, 2000;0000 hr End: Jan 05, 2000;0000 hr Duration: 96 hr

Time Step: 0.2 hr, Iterations: 10

## Basin 1: main

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 3day

Design Frequency: 10 year

3 Day Rainfall: 10.2 inches

Area: 9.80999 acres

Ground Storage: 1.37 inches

Time of Concentration: 1 hours

Initial Stage: 8.5 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
8.50	0.00
10.00	3.94
11.00	6.77
12.00	9.76
13.00	13.81

## Offsite Receiving Body: Offsitel

Time (hr)	Stage (ft NGVD)
0.00	8.50
120.00	8.50

## Structure: 1

From Basin: main

To Basin: Offsitel

Structure Type: Gravity

Weir: Sharp Crested, Crest Elev = 10.8 ft NGVD, Length = 3 ft

Bleeder: Circular, Invert Elev = 8.5 ft NGVD, Diameter = 0.31 ft

Default Coefs: Weir Coef = 0.6, Orifice Coef = 0.6

Pipe: Diameter = 1.25 ft, Manning's n = 0.024, Length = 90 ft

US Invert Elev = 6 ft NGVD, DS Invert Elev = 6 ft NGVD, flap gate

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
0.00	0.00	0.00	0.00	0.00	8.50	8.50
2.00	0.09	0.00	0.00	0.00	8.50	8.50
4.00	0.18	0.00	0.00	0.00	8.50	8.50
6.00	0.27	0.00	0.00	0.00	8.50	8.50
8.00	0.37	0.03	0.00	0.00	8.50	8.50
10.00	0.46	0.08	0.00	0.00	8.50	8.50
12.00	0.55	0.12	0.00	0.00	8.51	8.50
14.00	0.64	0.15	0.00	0.00	8.52	8.50
16.00	0.73	0.18	0.00	0.00	8.53	8.50
18.00	0.82	0.21	0.00	0.00	8.54	8.50
20.00	0.91	0.23	0.01	0.00	8.56	8.50
22.00	1.00	0.25	0.01	0.00	8.57	8.50
24.00	1.10	0.27	0.01	0.00	8.59	8.50
26.00	1.23	0.40	0.02	0.01	8.61	8.50
28.00	1.36	0.44	0.03	0.01	8.63	8.50
30.00	1.50	0.46	0.04	0.02	8.66	8.50
32.00	1.63	0.48	0.06	0.03	8.68	8.50
34.00	1.76	0.50	0.08	0.04	8.71	8.50
36.00	1.90	0.51	0.09	0.05	8.74	8.50

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
38.00	2.03	0.53	0.11	0.07	8.76	8.50
40.00	2.16	0.54	0.13	0.09	8.79	8.50
42.00	2.29	0.55	0.15	0.11	8.82	8.50
44.00	2.43	0.56	0.16	0.14	8.84	8.50
46.00	2.56	0.56	0.17	0.16	8.87	8.50
48.00	2.69	0.57	0.18	0.19	8.89	8.50
50.00	2.84	0.64	0.19	0.22	8.92	8.50
52.00	3.03	0.82	0.20	0.25	8.95	8.50
54.00	3.32	1.27	0.21	0.29	9.00	8.50
56.00	3.72	1.82	0.24	0.33	9.09	8.50
58.00	4.29	2.65	0.27	0.37	9.21	8.50
60.00	7.62	21.87	0.35	0.42	9.58	8.50
62.00	8.83	6.99	0.47	0.49	10.36	8.50
64.00	9.30	2.86	0.51	0.57	10.59	8.50
66.00	9.57	1.52	0.52	0.66	10.67	8.50
68.00	9.84	1.34	0.52	0.74	10.72	8.50
70.00	10.02	0.94	0.53	0.83	10.76	8.50
72.00	10.20	0.89	0.53	0.92	10.78	8.50
74.00	10.20	0.12	0.53	1.00	10.77	8.50
76.00	10.20	0.02	0.53	1.09	10.74	8.50
78.00	10.20	0.00	0.52	1.18	10.71	8.50
80.00	10.20	0.00	0.52	1.26	10.68	8.50
82.00	10.20	0.00	0.51	1.35	10.65	8.50
84.00	10.20	0.00	0.51	1.43	10.62	8.50
86.00	10.20	0.00	0.51	1.52	10.59	8.50
88.00	10.20	0.00	0.50	1.60	10.56	8.50
90.00	10.20	0.00	0.50	1.68	10.53	8.50
92.00	10.20	0.00	0.49	1.76	10.50	8.50
94.00	10.20	0.00	0.49	1.85	10.48	8.50
96.00	10.20	0.00	0.49	1.93	10.45	8.50

## STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

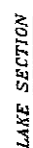
Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	0.53	72.60	0.00	0.00

## BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
main	10.78	72.60	8.50	0.00

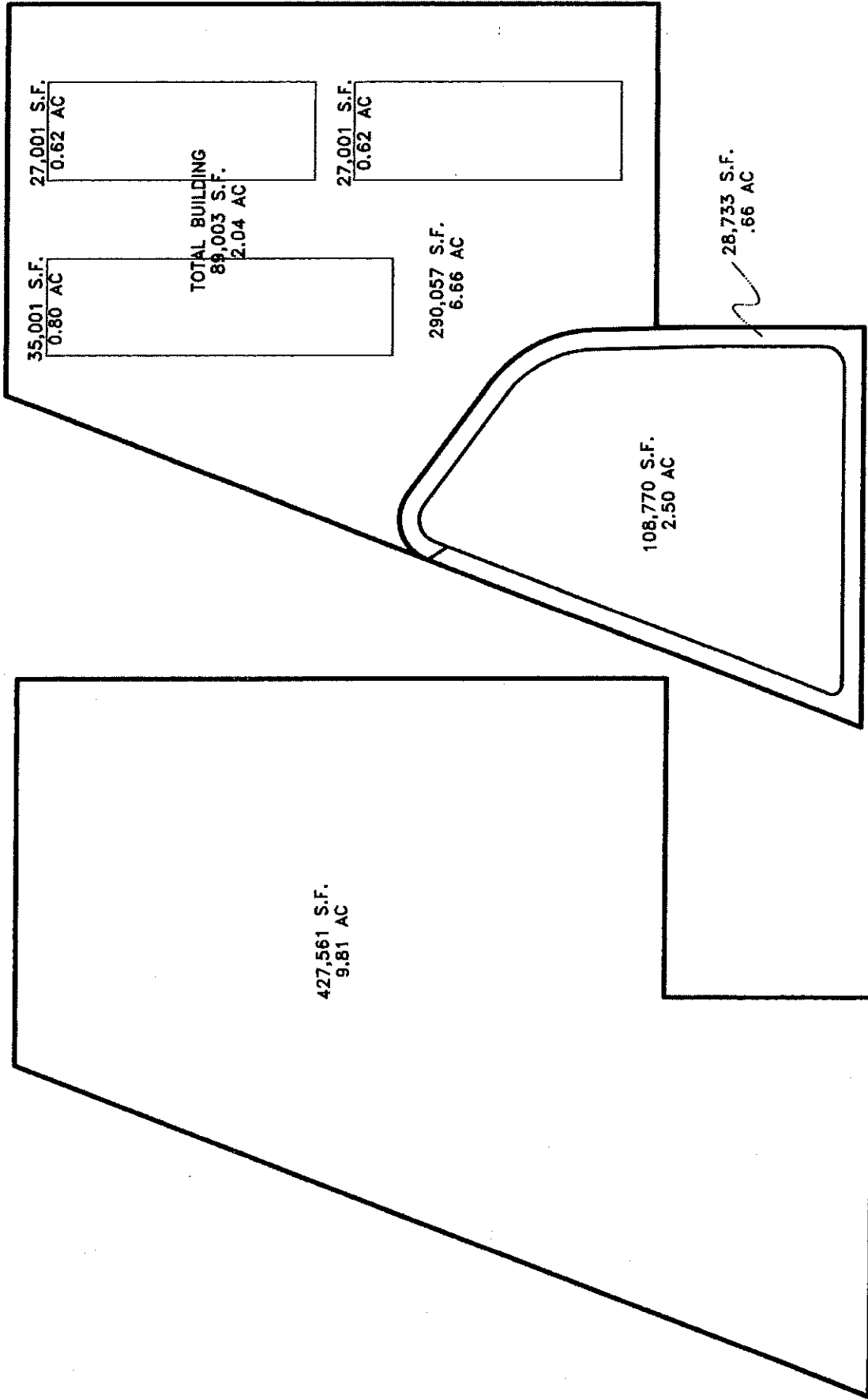
## BASIN WATER BUDGETS (all units in acre-ft)

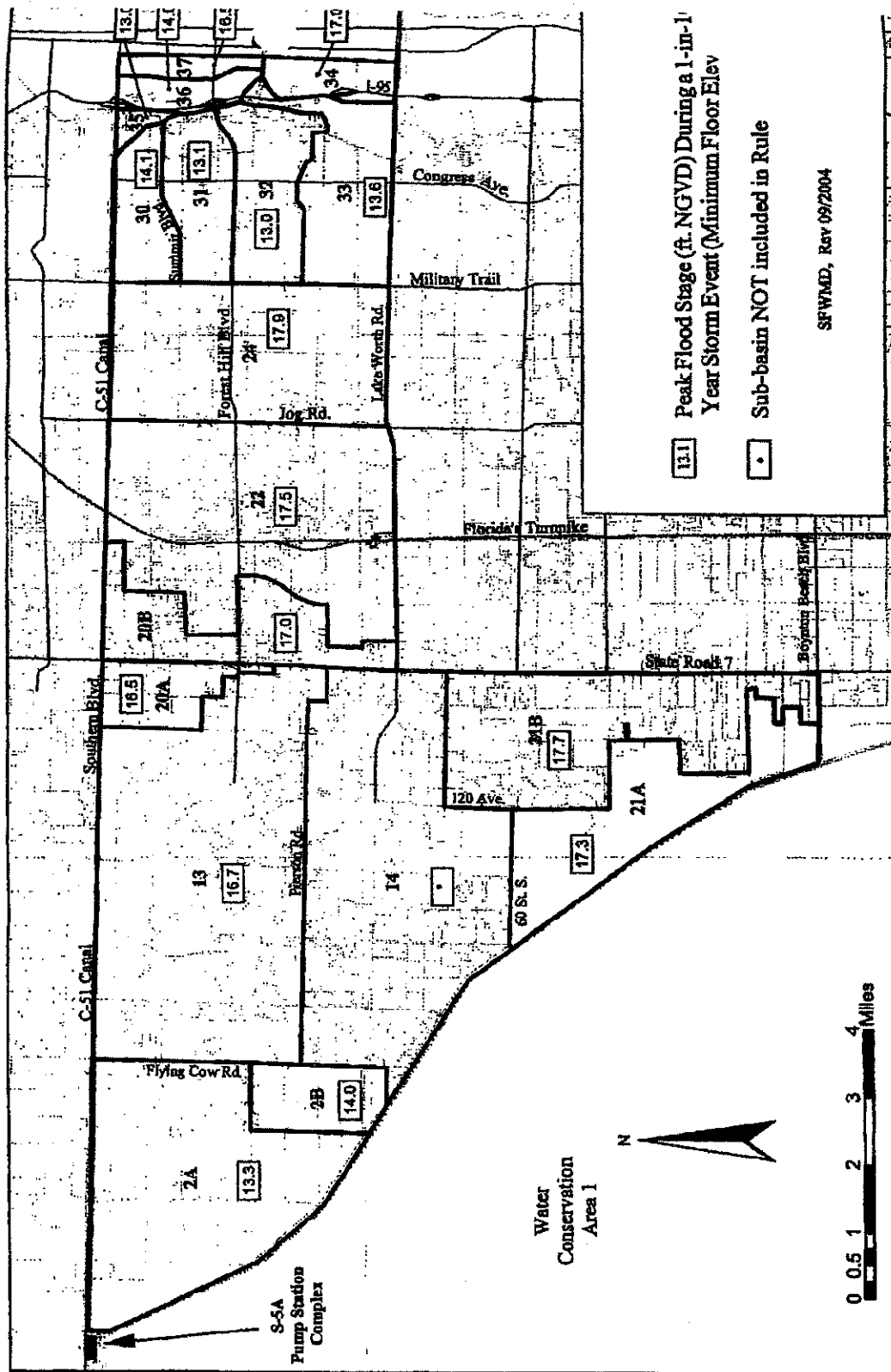
Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
main	7.13	0.00	1.92	0.00	5.21	0.00



**FUTURE OUT FALL AND  
CONTROL STRUCTURE**

6156 - LAKE WORTH 10 ACRES





Existing Conditions Model Peak Flood Stage (ft. NGVD) During a 1-In-100 Year Storm Event  
 Figure 1  
 Plate 2 of 2

SFWMD, Rev 09/2004

**APPENDIX E: CONSERVATION EASEMENT & SFWMD RELEASE OF  
CONSERVATION EASEMENT**



Return to: (enclose self-addressed stamped envelope)

Name:

Address:



CFN 20140070763  
OR BK 26636 PG 0070  
RECORDED 02/27/2014 13:14:45  
Palm Beach County, Florida  
Sharon R. Bock, CLERK & COMPTROLLER  
Pgs 0070 - 72; (3pgs)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

## Release of Conservation Easement

This Release of Conservation Easement ("Release") is made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by the South Florida Water Management District ("District") having an address of 3301 Gun Club Road, West Palm Beach, Florida 33406, and a mailing address of Post Office Box 24680, West Palm Beach, Florida 33416-4680.

### WITNESSETH:

WHEREAS, LW Industrial, LLC granted in favor of the District that certain Deed of Conservation Easement dated 03/01/2010, and recorded in Official Record Book 23717 at Page 0608 of the Public Records of Palm Beach County, Florida (hereinafter referred to as the "Conservation Easement") encumbering the real property described on Exhibit "A" attached hereto and made apart hereof (hereinafter referred to as the "Conservation Easement"); and

WHEREAS, the District has been requested to release the Conservation Easement; and

WHEREAS, the Conservation Easement may be released to the underlying fee owner; and

WHEREAS, the District is amenable to releasing the Conservation Easement.

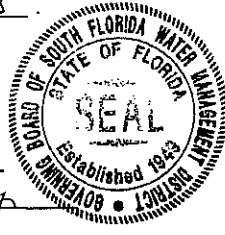
NOW, THEREFORE, for good and valuable consideration, the adequacy and receipt of which is hereby acknowledged, the District hereby discharges, terminates and releases the Conservation Easement.

IN WITNESS WHEREOF, the South Florida Water Management District has caused this Release of Conservation Easement to be executed in its name and its official seal affixed hereto by its Governing Board on this 14 day of November, 2013.

(Corporate Seal)

ATTEST:

Jackie McGarity  
District Clerk



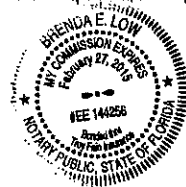
SOUTH FLORIDA WATER MANAGEMENT DISTRICT, BY ITS GOVERNING BOARD

By: Dan O'Keefe  
Chairperson

Legal form approved:  
Office of Counsel, April 2007

STATE OF FLORIDA  
COUNTY OF Palm Beach

The foregoing instrument was acknowledged before me this 14th day of November, 2013, by Dan O'Keefe, Chairperson of the South Florida Water Management District, a public corporation of the State of Florida, on behalf of the corporation, who is personally known to me.



Brenda E. Low  
Notary Public

Brenda E. Low  
Print Name

My Commission Expires: 2-27-2015

OWNER  
[Signature]  
Bill Cuthbertson  
Print Name  
K W Industrial LLC

WITNESSES:

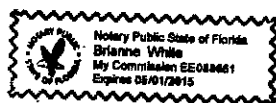
[Signature]  
THOMAS E. THIBEAUX  
Print Name

[Signature]  
ROSIE LOUVERTINE  
Print Name

STATE OF FLORIDA

COUNTY OF Broward

This foregoing instrument was acknowledged before me this 18 day of October, 20 13, by Bill Cuthbertson, who is personally known to me or who has produced personally known as identification.



Notary Public Brianne White  
Brianne White  
Print Name  
My Commission Expires: 5/1/2015

## EXHIBIT A

(Legal description attached to the original Conservation Easement as an Exhibit)

## Legal Description For Proposed Conservation Easement

A PORTION OF TRACT 66, "MODEL LAND CO. SUBDIVISION OF SECTION 20, TOWNSHIP 44 SOUTH RANGE 43 EAST", ACCORDING TO THE MAP OR PLAT THEREOF, AS RECORDED IN PLAT BOOK 5 PAGE 79, OF THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF THE NORTH 210.81 FEET OF TRACT 81 OF THE AFOREMENTIONED PLAT; THENCE NORTH 23 DEGREES 12 MINUTES 47 SECONDS EAST ALONG THE WESTERLY BOUNDARY LINE OF SAID TRACT 81 AND TRACT 66, AND THE EASTERLY RIGHT OF WAY OF E-4 CANAL 428.41 FEET; THENCE SOUTH 66 DEGREES 47 MINUTES 13 SECONDS EAST 20.00 FEET TO THE POINT OF BEGINNING; THENCE NORTH 23 DEGREES 12 MINUTES 47 SECONDS EAST ALONG A LINE 20.00 FEET EASTERLY OF AND PARALLEL WITH AS MEASURED AT RIGHT ANGLES TO THE WESTERLY BOUNDARY OF SAID TRACT 66 AND THE EASTERLY RIGHT OF WAY OF E-4 CANAL 482.37 FEET TO A POINT OF CURVATURE; THENCE 11.99 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 10.00 FEET, A CENTRAL ANGLE OF 68 DEGREES 40 MINUTES 44 SECONDS, A CHORD OF 11.28 FEET, A CHORD BEARING OF NORTH 57 DEGREES 33 MINUTES 09 SECONDS EAST; THENCE SOUTH 88 DEGREES 04 MINUTES 52 SECONDS EAST 81.87 FEET TO POINT 20.04 FEET SOUTH OF THE NORTH BOUNDARY LINE OF SAID TRACT 66; THENCE SOUTH 01 DEGREES 27 MINUTES 02 SECONDS WEST 19.96 FEET; THENCE SOUTH 38 DEGREES 10 MINUTES 14 SECONDS EAST 7.84 FEET; THENCE SOUTH 01 DEGREE 27 MINUTES 02 SECONDS WEST 440.24 FEET TO A POINT OF CURVATURE; THENCE 78.93 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 50.00 FEET, A CENTRAL ANGLE OF 90 DEGREES 27 MINUTES 08 SECONDS, A CHORD OF 70.99 FEET, A CHORD BEARING OF SOUTH 46 DEGREES 40 SECONDS 36 MINUTES WEST TO A POINT OF TANGENCY; THENCE NORTH 88 DEGREES 05 MINUTES 50 SECONDS WEST 148.22 FEET TO A POINT OF CURVATURE; THENCE 54.43 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 50.00 FEET, A CENTRAL ANGLE OF 62 DEGREES 22 MINUTES 17 SECONDS, A CHORD OF 51.78 FEET, A CHORD BEARING OF NORTH 56 DEGREES 54 MINUTES 41 SECONDS WEST TO A POINT OF TANGENCY; THENCE NORTH 25 DEGREES 43 MINUTES 33 SECONDS WEST 30.21 FEET; THENCE NORTH 66 DEGREES 47 MINUTES 13 SECONDS WEST 20.00 FEET TO THE POINT OF BEGINNING. SAID LANDS BEING AND SITUATE IN THE CITY OF LAKE WORTH, PALM BEACH COUNTY, FLORIDA. CONTAINING 98,149.63 SQUARE FEET, 2.25 ACRES MORE OR LESS.

BEARINGS MENTIONED ARE BASED ON PLAT MERIDIAN: CENTERLINE OF 7<sup>TH</sup> AVENUE NORTH = SOUTH 88 DEGREES 07 MINUTES 00 SECONDS EAST.



STATE OF FLORIDA • PALM BEACH COUNTY

I hereby certify that the foregoing is a true copy of the record in my office with redactions, if any as required by law.

THIS 27 DAY OF Feb 2014  
SHARON R. BOCK  
CLERK & COMPTROLLER

By [Signature]  
DEPUTY CLERK

CFN 20100077623  
OR BK 23717 PG 0608  
RECORDED 03/01/2010 15:50:22  
Palm Beach County, Florida  
AMT 10.00  
Doc Stamp 0.70  
Sharon R. Bock, CLERK & COMPTROLLER  
Pgs 0608 - 618; (11pgs)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

DEED OF CONSERVATION EASEMENT

Return recorded document to:  
South Florida Water Management District  
3301 Gun Club Road, MSC 4210  
West Palm Beach, FL 33406

THIS DEED OF CONSERVATION EASEMENT is given this  
10th day of November, 20 08, by

LW INDUSTRIAL, LLC

whose mailing address ("Grantor")  
is

720 SW 75 TERRACE  
PLANTATION, FL 33317

to the South Florida Water Management District ("Grantee"). As used herein, the term "Grantor" shall include any and all heirs, successors or assigns of the Grantor, and all subsequent owners of the "Property" (as hereinafter defined) and the term "Grantee" shall include any successor or assignee of Grantee.

WITNESSETH

WHEREAS, the Grantor is the owner of certain lands situated in  
Palm Beach County, Florida, and more specifically  
described in Exhibit "A" attached hereto and incorporated herein ("Property"); and

WHEREAS, the Grantor desires to construct  
Lake Worth 10 Acres ("Project") at a site in  
Palm Beach County, which is subject to the regulatory  
jurisdiction of South Florida Water Management District ("District"); and

WHEREAS, District Permit No. 50-09006-P ("Permit")  
authorizes certain activities which affect waters in or of the State of Florida; and

[sfwmd.gov](http://sfwmd.gov)

WHEREAS, this Permit requires that the Grantor preserve, enhance, restore and/or mitigate wetlands and/or uplands under the District's jurisdiction; and

WHEREAS, the Grantor, in consideration of the consent granted by the Permit, is agreeable to granting and securing to the Grantee a perpetual Conservation Easement as defined in Section 704.06, Florida Statutes, over the area described on Exhibit "B" ("Conservation Easement").

NOW, THEREFORE, in consideration of the issuance of the Permit to construct and operate the permitted activity, and as an inducement to Grantee in issuing the Permit, together with other good and valuable consideration, the adequacy and receipt of which are hereby acknowledged, Grantor hereby grants, creates, and establishes a perpetual Conservation Easement for and in favor of the Grantee upon the property described on Exhibit "B" which shall run with the land and be binding upon the Grantor, and shall remain in full force and effect forever.

The scope, nature, and character of this Conservation Easement shall be as follows:

1. Recitals. The recitals hereinabove set forth are true and correct and are hereby incorporated into and made a part of this Conservation Easement.

2. Purpose. It is the purpose of this Conservation Easement to retain land or water areas in their natural, vegetative, hydrologic, scenic, open, agricultural or wooded condition and to retain such areas as suitable habitat for fish, plants or wildlife. Those wetland and/or upland areas included in this Conservation Easement which are to be enhanced or created pursuant to the Permit shall be retained and maintained in the enhanced or created conditions required by the Permit.

To carry out this purpose, the following rights are conveyed to Grantee by this easement:

a. To enter upon the Property at reasonable times with any necessary equipment or vehicles to enforce the rights herein granted in a manner that will not unreasonably interfere with the use and quiet enjoyment of the Property by Grantor at the time of such entry; and

b. To enjoin any activity on or use of the Property that is inconsistent with this Conservation Easement and to enforce the restoration of such areas or features of the Conservation Easement that may be damaged by any inconsistent activity or use.

3. Prohibited Uses. Except for restoration, creation, enhancement, maintenance and monitoring activities, or surface water management improvements, or other activities described herein that are permitted or required by the Permit, the following activities are prohibited in or on the Conservation Easement:

- This is a General Order
- a. Construction or placing of buildings, roads, signs, billboards or other advertising, utilities, or other structures on or above the ground;
  - b. Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste, or unsightly or offensive materials;
  - c. Removal or destruction of trees, shrubs, or other vegetation, except for the removal of exotic or nuisance vegetation in accordance with a District approved maintenance plan;
  - d. Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface;
  - e. Surface use except for purposes that permit the land or water area to remain in its natural or enhanced condition;
  - f. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation including, but not limited to, ditching, diking and fencing;
  - g. Acts or uses detrimental to such aforementioned retention of land or water areas;
  - h. Acts or uses which are detrimental to the preservation of the structural integrity or physical appearance of sites or properties having historical, archaeological, or cultural significance.

4. Grantor's Reserved Rights. Grantor reserves all rights as owner of the Property, including the right to engage in uses of the Property that are not prohibited herein and which are not inconsistent with any District rule, criteria, permit and the intent and purposes of this Conservation Easement.

5. No Dedication. No right of access by the general public to any portion of the Property is conveyed by this Conservation Easement.

6. Grantee's Liability. Grantee shall not be responsible for any costs or liabilities related to the operation, upkeep or maintenance of the Property.

7. Property Taxes. Grantor shall keep the payment of taxes and assessments on the Easement Parcel current and shall not allow any lien on the Easement Parcel superior to this Easement. In the event Grantor fails to extinguish or obtain a subordination of such lien, in addition to any other remedy, the Grantee may, but shall not be obligated to, elect to pay the lien on behalf of the Grantor and Grantor shall reimburse Grantee for the amount paid by the Grantee, together with Grantee's reasonable attorney's fees and costs, with interest at the maximum rate allowed by law, no later than thirty days after such payment. In the event the Grantor does not so reimburse the Grantee, the debt owed to Grantee shall constitute a lien against the Easement Parcel which shall automatically relate back to the recording date of this

standard.gov



**Easement.** Grantee may foreclose this lien on the Easement Parcel in the manner provided for mortgages on real property.

8. **Enforcement.** Enforcement of the terms, provisions and restrictions of this Conservation Easement shall be at the reasonable discretion of Grantee, and any forbearance on behalf of Grantee to exercise its rights hereunder in the event of any breach hereof by Grantor, shall not be deemed or construed to be a waiver of Grantee's rights hereunder.

9. **Assignment.** Grantee will hold this Conservation Easement exclusively for conservation purposes. Grantee will not assign its rights and obligations under this Conservation Easement except to another organization or entity qualified to hold such interests under the applicable state laws.

10. **Severability.** If any provision of this Conservation Easement or the application thereof to any person or circumstances is found to be invalid, the remainder of the provisions of this Conservation Easement shall not be affected thereby, as long as the purpose of the Conservation Easement is preserved.

11. **Terms and Restrictions.** Grantor shall insert the terms and restrictions of this Conservation Easement in any subsequent deed or other legal instrument by which Grantor divests itself of any interest in the Conservation Easement.

12. **Written Notice.** All notices, consents, approvals or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor-in-interest.

13. **Modifications.** This Conservation Easement may be amended, altered, released or revoked only by written agreement between the parties hereto or their heirs, assigns or successors-in-interest, which shall be filed in the public records in County.

TO HAVE AND TO HOLD unto Grantee forever. The covenants, terms, conditions, restrictions and purposes imposed with this Conservation Easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with the Property.

Grantor hereby covenants with said Grantee that Grantor is lawfully seized of said Property in fee simple; that the Conservation Easement is free and clear of all encumbrances that are inconsistent with the terms of this Conservation Easement; and all mortgages and liens on the Conservation Easement area, if any, have been subordinated to this Conservation Easement; and that Grantor has good right and lawful authority to convey this Conservation Easement; and that it hereby fully warrants and defends the title to the Conservation Easement hereby conveyed against the lawful claims of all persons whomsoever.

This is not a deed

IN

WITNESS

WHEREOF,

LW INDUSTRIAL LLC  
(Grantor) has hereunto set its authorized hand this 26 day of February, 20 10.

LW INDUSTRIAL LLC  
a Florida corporation

By: [Signature]  
(Signature)

Name: Bill Cuthbertson  
(Print)

Title: REGISTERED AGENT

Signed, sealed and delivered in our presence as witnesses:

By: Amanda Langis By: Tina Beckner  
(Signature) (Signature)

Name: Amanda Langis Name: TINA Beckner  
(Print) (Print)

STATE OF FLORIDA

COUNTY OF Broward ) ss:

On this 26<sup>th</sup> day of Feb., 20 10 before me, the undersigned notary public, personally appeared Bill Cuthbertson, the person who subscribed to the foregoing instrument, as the registered agent (title), of LW Industrial LLC (corporation), a Florida corporation, and acknowledged that he/she executed the same on behalf of said corporation and the he/she was duly authorized to do so. He/She is personally known to me or has produced a N/A (state) driver's license as identification.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

NOTARY PUBLIC, STATE OF FLORIDA

[Signature]  
(Signature)

Name: Harmony Zurka  
(Print)

My Commission Expires: 11/15/13



[sfund.gov](http://sfund.gov)

This is a Notarized Copy

**MORTGAGEE JOINDER, CONSENT AND SUBORDINATION**

For Ten Dollars (\$10.00) and other good and valuable consideration, the adequacy and receipt of which are hereby acknowledged,

the owner and holder of a mortgage dated \_\_\_\_\_,  
in the original principal amount of \$ \_\_\_\_\_, given  
by \_\_\_\_\_,

("Grantor") to  
("Mortgagee"), encumbering the real property described on Exhibit "A" attached hereto  
("Property"), which is recorded in Official Records Book \_\_\_\_\_,  
at Page \_\_\_\_\_,  
(together with that certain Assignment of Leases and Rents recorded in Official Records  
Book \_\_\_\_\_, at Page \_\_\_\_\_  
and those certain UCC-1 Financing Statement(s) recorded  
in Official Records Book \_\_\_\_\_,  
at Page \_\_\_\_\_), all of the Public Records of

County, Florida (said  
mortgage, assignment of leases and rents, and UCC-1 Financing Statements, as  
modified, are hereinafter referred to as the "Mortgage"), hereby joins in, consents to and  
subordinates the lien of its Mortgage, as it has been, and as it may be, modified,  
amended and assigned from time to time, to the foregoing Conservation Easement,  
executed by \_\_\_\_\_,  
in favor of the South Florida Water Management District applicable to the Conservation  
Easement, as said Conservation Easement may be modified, amended and assigned  
from time to time, with the intent that the Mortgage shall be subject and subordinate to  
the Conservation Easement.

IN WITNESS WHEREOF, this Mortgagee Joinder, Consent and Subordination is  
made this \_\_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_.

By: \_\_\_\_\_  
(Signature) (Mortgagee)

Name: \_\_\_\_\_  
(Print)

Title:

WITNESSES:

By: \_\_\_\_\_ By: \_\_\_\_\_  
(Signature) (Signature)

Name: \_\_\_\_\_ Name: \_\_\_\_\_  
(Print) (Print)

STATE OF FLORIDA  
COUNTY OF

The foregoing instrument was acknowledged before me this  
day of , 20

by  
(print name),  
(title)

as  
of

(Grantor of Mortgage), on behalf of the  
(Mortgagee,

Grantor of the Conservation Easement). He/She is personally known to me or has  
produced a (state) driver's license as identification.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

NOTARY PUBLIC, STATE OF FLORIDA

(Signature)

Name:

(Print)

My Commission Expires:

This is Not  
Certified copy

**EXHIBIT A**

**[DESCRIPTION OF PROPERTY]**

MODEL LAND CO SUB TR 86 & N 210.81 FT OF TR 81  
PARCEL CONTROL NUMBER: 38-43-44-20-01-088-0010  
LOCATION ADDRESS 7TH AVENUE NORTH  
LAKE WORTH





# EXHIBIT "B"

SHEET 2 OF 3

This is not a contract

## LEGAL DESCRIPTION FOR PROPOSED CONSERVATION EASEMENT

A PORTION OF TRACT 66, "MODEL LAND CO. SUBDIVISION OF SECTION 20, TOWNSHIP 44 SOUTH, RANGE 42 EAST", ACCORDING TO THE MAP OR PLAT THEREOF, AS RECORDED IN PLAT BOOK 5, PAGE 79, OF THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF THE NORTH 210.81 FEET OF TRACT 81 OF THE AFOREMENTIONED PLAT; THENCE NORTH 23°12'47" EAST ALONG THE WESTERLY BOUNDARY LINE OF SAID TRACT 81 AND TRACT 66, AND THE EASTERLY RIGHT OF WAY OF E-4 CANAL 428.41 FEET; THENCE SOUTH 66°47'13" EAST 20.00 FEET TO THE POINT OF BEGINNING; THENCE NORTH 23°12'47" EAST ALONG A LINE 20.00 FEET EASTERLY OF AND PARALLEL WITH AS MEASURED AT RIGHT ANGLES TO THE WESTERLY BOUNDARY OF SAID TRACT 66 AND THE EASTERLY RIGHT OF WAY OF E-4 CANAL 482.37 FEET TO A POINT OF CURVATURE; THENCE 11.99 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 10.00 FEET, A CENTRAL ANGLE OF 68°40'44", A CHORD OF 11.28 FEET, A CHORD BEARING OF NORTH 57°33'09" EAST; THENCE SOUTH 88°04'52" EAST 81.87 FEET TO A POINT 20.04 FEET SOUTH OF THE NORTH BOUNDARY LINE OF SAID TRACT 66; THENCE SOUTH 01°27'02" WEST 19.96 FEET; THENCE SOUTH 38°10'14" EAST 7.84 FEET; THENCE SOUTH 01°27'02" WEST 440.24 FEET TO A POINT OF CURVATURE; THENCE 78.93 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 50.00 FEET, A CENTRAL ANGLE OF 90°27'08", A CHORD OF 70.99 FEET, A CHORD BEARING OF SOUTH 46°40'36" WEST TO A POINT OF TANGENCY; THENCE NORTH 88°05'50" WEST 148.22 FEET TO A POINT OF CURVATURE; THENCE 54.43 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 50.00 FEET, A CENTRAL ANGLE OF 62°22'17", A CHORD OF 51.78 FEET, A CHORD BEARING OF NORTH 56°54'41" WEST TO A POINT OF TANGENCY; THENCE NORTH 25°43'33" WEST 30.21 FEET; THENCE NORTH 66°47'13" WEST 20.00 FEET TO THE POINT OF BEGINNING. SAID LANDS BEING AND SITUATE IN THE CITY OF LAKE WORTH, PALM BEACH COUNTY, FLORIDA. CONTAINING 98,149.63 SQUARE FEET, 2.25 ACRES MORE OR LESS.

BEARINGS MENTIONED ARE BASED ON PLAT MERIDIAN: CENTERLINE OF 7th AVENUE NORTH = SOUTH 88°07'00" EAST.



PROFESSIONAL SURVEYING AND MAPPING  
**LANNES & GARCIA, INC.**  
LB # 2098

FRANCISCO F. FAJARDO PSM # 4767  
359 ALCAZAR AVENUE, CORAL GABLES, FLORIDA 33134  
PH (305) 866-7909 FAX (305) 558-3002

### SPECIFIC PURPOSE SURVEY

I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS (CHAPTER 61G17, FLORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 472.007, FLORIDA STATUTES).

PROFESSIONAL SURVEYOR AND MAPPER FLORIDA REG. NO. 4767

	PROPOSED CONSERVATION EASEMENT	EXHIBIT: B
DATE: 03-24-2009	PROJECT: LAKEWORTH 10 ACRES	SHEET: 2 OF 3
DRAWN BY: M. PIO	PREPARED FOR: LW INDUSTRIAL, LLC.	DRAWING No.: 213375A

**SHEET 3 OF 3**

This is not a certified copy

$R=10.00'$   
 $L=11.99'$   
 $Tan=6.83'$   
 $\Delta=68^{\circ}40'44''$   
 $CH=11.28'$   
 $CHB=N57^{\circ}33'09''E$

$S88^{\circ}01'$   
 $81'$

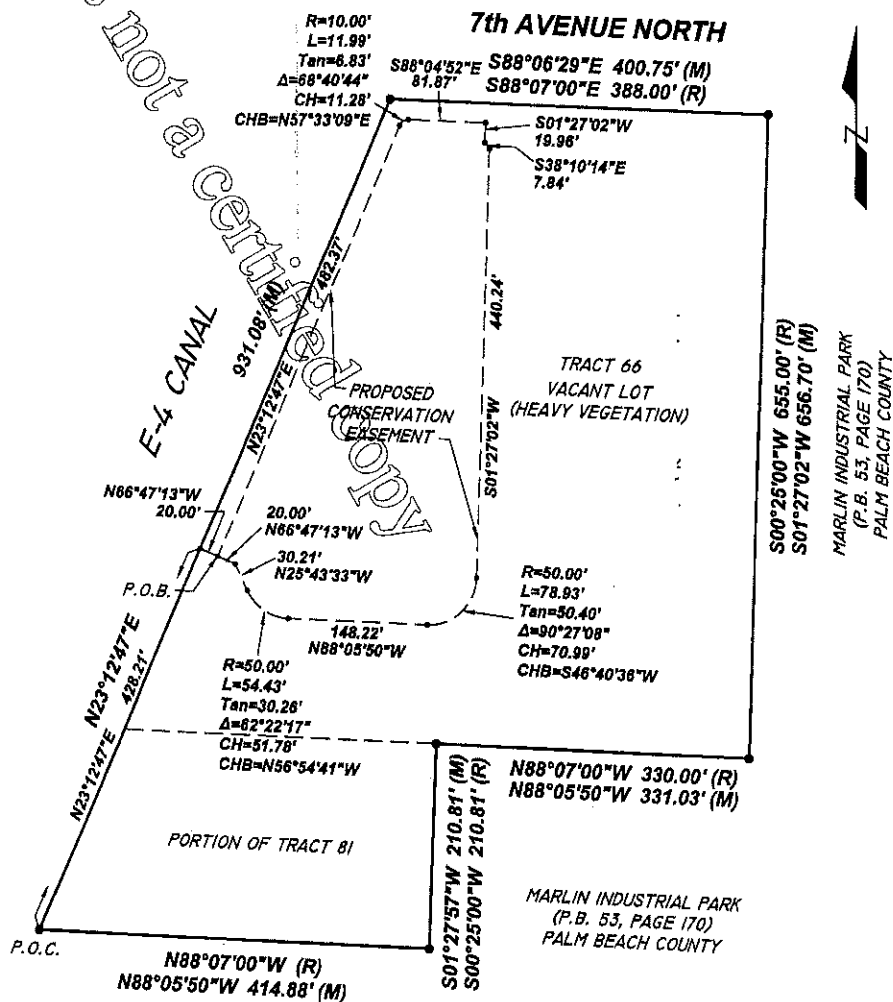
$931.08' (NO)$   
 $N23^{\circ}14'47''E$   
 $27402.33'$

**F-4 CANAL**

**PROPOSED  
CONSERVATION  
EASEMENT**

$N86^{\circ}47'13''W$   
 $20.00'$

$20.00'$   
 $N86^{\circ}47'13''W$



FRANCISCO F. FAJARDO PSM # 4767  
359 ALCAZAR AVENUE, CORAL GABLES, FLORIDA 33134  
PH (305) 666-7909 FAX (305) 559-3002

I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS IN CHAPTER 61017-6, FLORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 473-027, FLORIDA STATUTES

PROFESSIONAL SURVEYOR AND MAPPER FLORIDA REG. NO. 478

SCALE: 1" = 150'		PROPOSED CONSERVATION EASEMENT	EXHIBIT: B
DATE: 03-24-2009		PROJECT: LAKEWORTH 10 ACRES	SHEET: 3 OF 3
DRAWN BY: M. PIO		PREPARED FOR: LW INDUSTRIAL, LLC.	DRAWING No.: 242275A

## **APPENDIX F: SFWMD C-51 BASIN INFORMATION**

**ENVIRONMENTAL RESOURCE PERMIT APPLICANT'S HANDBOOK VOLUME II**  
**Effective: MAY 22, 2016**

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**Appendix A: SFWMD - ALLOWABLE DISCHARGE FORMULAS**

<u>Canal</u>	<u>Allowable Runoff</u>	<u>Design Frequency</u>
C-1	$Q = \frac{(112 + 31) A}{\sqrt{A}}$	10 year
C-2	Essentially unlimited inflow by gravity connections southeast of Sunset Drive: 54 CSM northwest of Sunset Drive	200 year +
C-4	Essentially unlimited inflow by gravity connections east of S.W. 87 <sup>th</sup> Avenue	200 year +
C-6	Essentially unlimited inflow by gravity connections east of FEC Railroad	200 year +
C-7	Essentially unlimited inflow by gravity connection	100 year +
C-8	Essentially unlimited inflow by gravity connection	200 year +
C-9	Essentially unlimited inflow by gravity connection east of Red Road; 20 CSM pumped, unlimited gravity with development limitations west of Red Road or Flamingo Blvd.	100 year +
C-10	-----	200 year +
C-11	20 CSM west of 13A; 40 CSM east of 13A	-----
C-12	90.6 CSM	25 year
C-13	75.9 CSM	25 year
C-14	69.2 CSM	25 year
C-15	70.0 CSM	25 year
C-16	62.6 CSM	25 year
C-17	62.7 CSM	25 year
C-18	41.6 CSM	25 year
C-19	57.8 CSM	-----
C-23	31.5 CSM	10 year
C-24	30.25 CSM	10 year
C-25	$Q = \frac{(47 + 28) A}{\sqrt{A}}$ (Under Review)	10 year
C-38	31.1 CSM (subject to restrictions of Basin Rule)	10 year
C-40, 41, 41A	35.4 CSM	10 year
Hillsboro Canal (east of S-39)	35 CSM	25 year
North New River (east of S-34)	70.8 CSM	25 year
Everglades Ag. Area (all canals)	20 CSM	5 year
L-28	11.8 CSM	-----
* C-51	35 CSM east of Turnpike; 27 CSM west of Turnpike (subject to restrictions of Basin Rule)	10 year
C-100, 100A, 100B, 100C, 100D:	$Q = \frac{(104 + 43) A}{\sqrt{A}}$	10 year
C-102	$Q = \frac{(119 + 25) A}{\sqrt{A}}$	10 year
C-103N, C103-S	$Q = \frac{(107 + 39) A}{\sqrt{A}}$	10 year

## C-51 BASIN RULE RE-EVALUATION

Table 39. Summary of Peak Stage Simulation Results for 2004 and 2015 Baseline

Sub-Basin ID	Area <sup>1</sup> (acres)	Existing Rule Peak Stage <sup>2</sup> (ft NGVD)	2004 100-yr, 72-hr Event			2015 100-yr, 72-hr Event		
			Peak Stage ft NGVD	Peak Flow (cfs)	Peak Stage Diff with Rule (ft)	Peak Stage ft NGVD	Peak Flow (cfs)	Peak Stage Diff with Rule (ft)
1	1253	14.2	14.2	48	0.0	20.8	48	6.6
2A	6663	13.3	-	-	-		--	--
2B	843	14.0	13.8	50	-0.2	15.4	66	0.9
3	446	15.8	15.8	26	0.0	16.1	26	0.3
4	500	16.6	16.6	29	0.0	17.1	29	0.5
5	1102	17.7	17.4	80	-0.3	18.8	107 465 <sup>3</sup>	1.1
6	674	19.2	19.2	67	0.0	18.8	67 673 <sup>4</sup>	-0.4
7	4109	19.9	19.9	226	0.0	19.2	84 3017 <sup>5</sup>	-0.7
8	4086	20.8	20.6	418	-0.2	20.1	831	-0.7
9	69	18.0	17.6	38	-0.4	18.8	57	0.8
10	190	18.3	18.3	17	0.0	19.2	61	0.9
11	7975	19.1	18.9	1424	-0.2	19.2	2856	0.1
12	74	17.9	17.5	52	-0.4	19.2	93	1.3
13	10486	16.7	16.6	406	-0.1	17.0	894	0.2
14	9235	-	-	-	-	17.0	--	
15A	5161	18.2	18.2	1000	0.0	18.4	1482	0.2
15B	8605	-	-	-	-	20.2	490 <sup>6</sup>	-
16A	920	17.1	16.8	508	-0.3	18.4	427	1.3
16B-1	1988	19.0	19.0	58	0.0	20.2 <sup>7a</sup>	65	1.2
16B-2	57					20.4 <sup>7b</sup>	8	1.4
16B-3	302					19.9 <sup>7c</sup>	74	0.9
17	1795	16.8	16.1	126	-0.7	16.1	615	-0.7
18	2309	16.0	16.6	534	0.6	16.1	446	0.1
20A	1011	16.5	15.7	431	-0.8	17.6	203	0.6
20B	2168	17.0	16.8	750	-0.2	17.1	706	0.0
21A	3535	17.3	17.3	0	0.0	18.0	0	0.7
21B	4915	17.7	17.7	143	0.0	18.2	177	0.6
22	7580	17.5	17.5	527	0.0	18.1	703	0.4
23	4049	17.1	17.1	849	0.0	17.4	921	0.3
24	5204	17.9	17.9	602	0.0	18.0	1421	0.0
25A	299	14.6	14.6	449	0.0	14.1	761	-0.4
25B	721	14.7	14.7	391	0.0	14.2	566	-0.5
26	332	13.8	13.8	320	0.0	14.0	320	0.2
27	753	13.2	13.2	320	0.0	14.3	320	1.1
28	201	12.4	12.3	428	-0.1	13.1	394	0.7
29A	1394	14.8	14.8	474	0.0	14.3	1245	-0.5
29B	566	15.2	15.2	830	0.0	15.0	770	-0.2
30	1121	14.1	14.1	268	0.0	13.5	679	-0.6
31	1433	13.1	13.1	670	0.0	12.7	1134	-0.4
32	1804	13.0	13.0	527	0.0	12.9	639	-0.1
33	2091	13.6	13.6	546	0.0	12.7	1286	-0.9
34	740	17.0	17.0	169	0.0	12.6	59 729 <sup>8</sup>	-4.4
35	166	13.0	13.0	45	-1.7	13.2	45	0.2
36	607	14.0	14.0	158	0.0	14.1	225	0.1
37	399	16.5	16.4	108	-0.1	16.5	140	0.0
38	1812	17.3	17.2	151	-0.1	19.0	165	1.8
39	552	14.8 <sup>9</sup>	---	---	---	13.5	374	---
Sect24	403	--			--	17.1	--	

1. 2015 Revised Sub-basins Areas

2. Peak stages from 2004 Interim Guidance Memorandum

3. Overbank flow from Sub-basin S5 to M-2 Canal

4. Overbank flow from Sub-basin S6 to M-2 Canal

5. Overbank flow from sub-basin S7 to sub-basin 6&amp;10

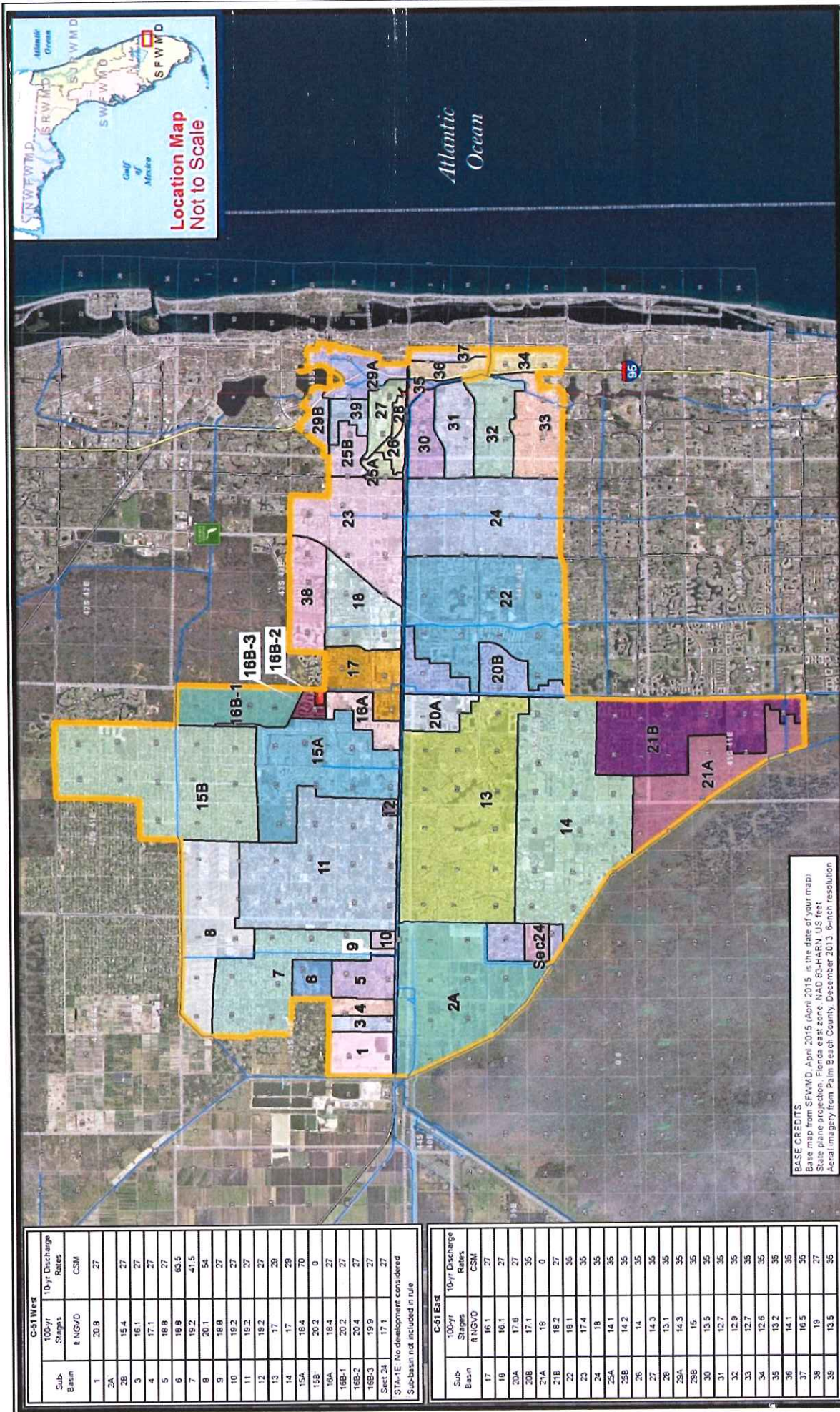
6. ITID off-peak release with on-peak release of 200 cfs

7a,7b,7c. Sub-basin 16B was sub-divided into sub-basins 16a-1, 16B-2 and 16B-3

8. Overbank flow from sub-basin 34 to C-51 Canal

9. Sub-basin 39 was part of original sub-basin 29A





**South Florida Water Management District**  
3301 Gun Club Road, West Palm Beach, Florida 33406  
561-686-8800 - FL WATS 1-800-432-2045

**MAILING ADDRESS:** P.O. Box 24680 - West Palm Beach, FL 33416-4680

**Figure 41-8 C-51 BASIN DESIGN CRITERIA**









Boutwell Industrial Park

7th Avenue North

Marlin Industrial Park

23rd Ave

SUBJECT PROPERTY

Englewood Manor

Oakwood Apartments

Marlin Commerce Center

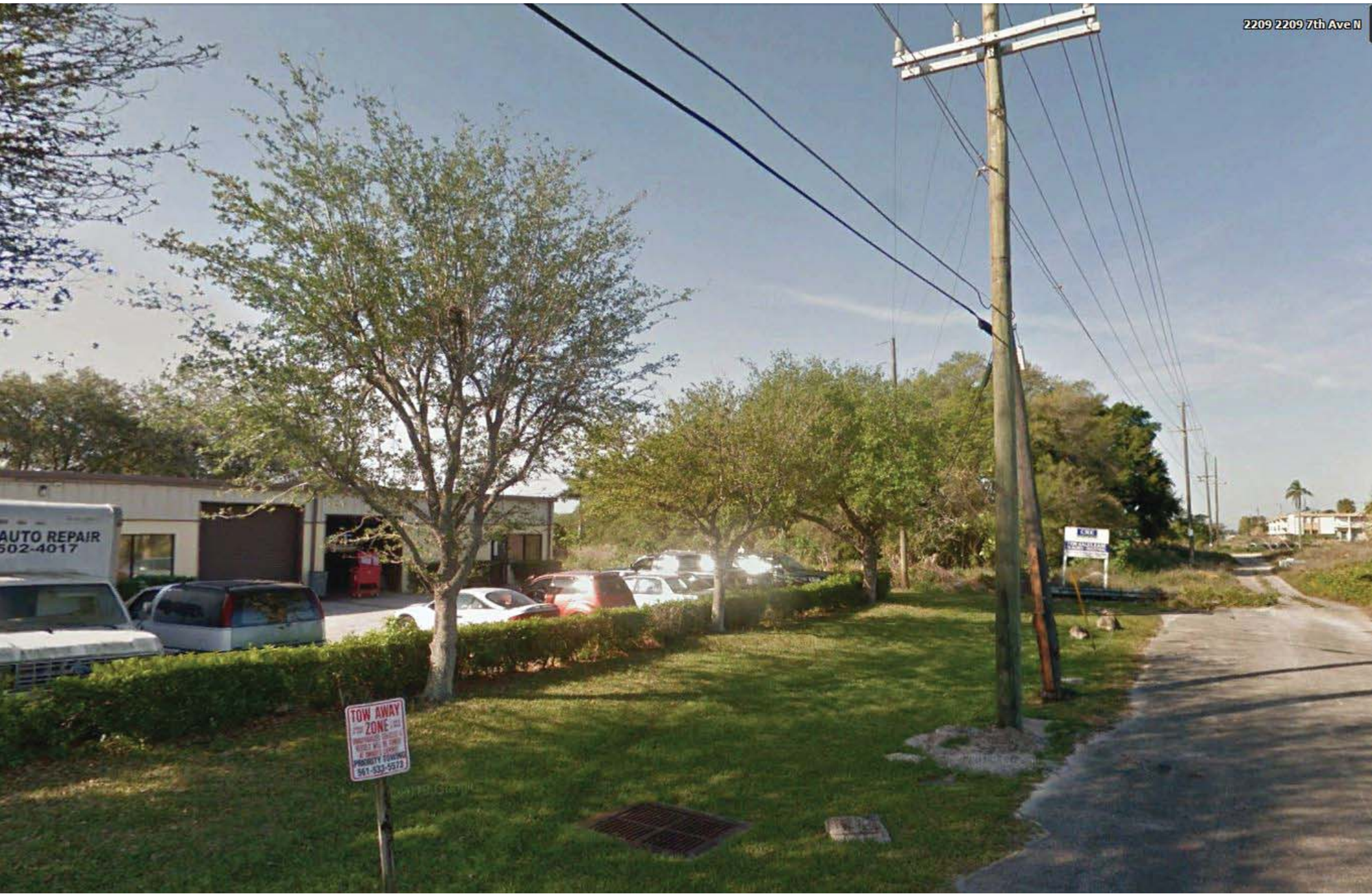




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United States, FL, Palm Beach  
Co., Lake Worth

Labels







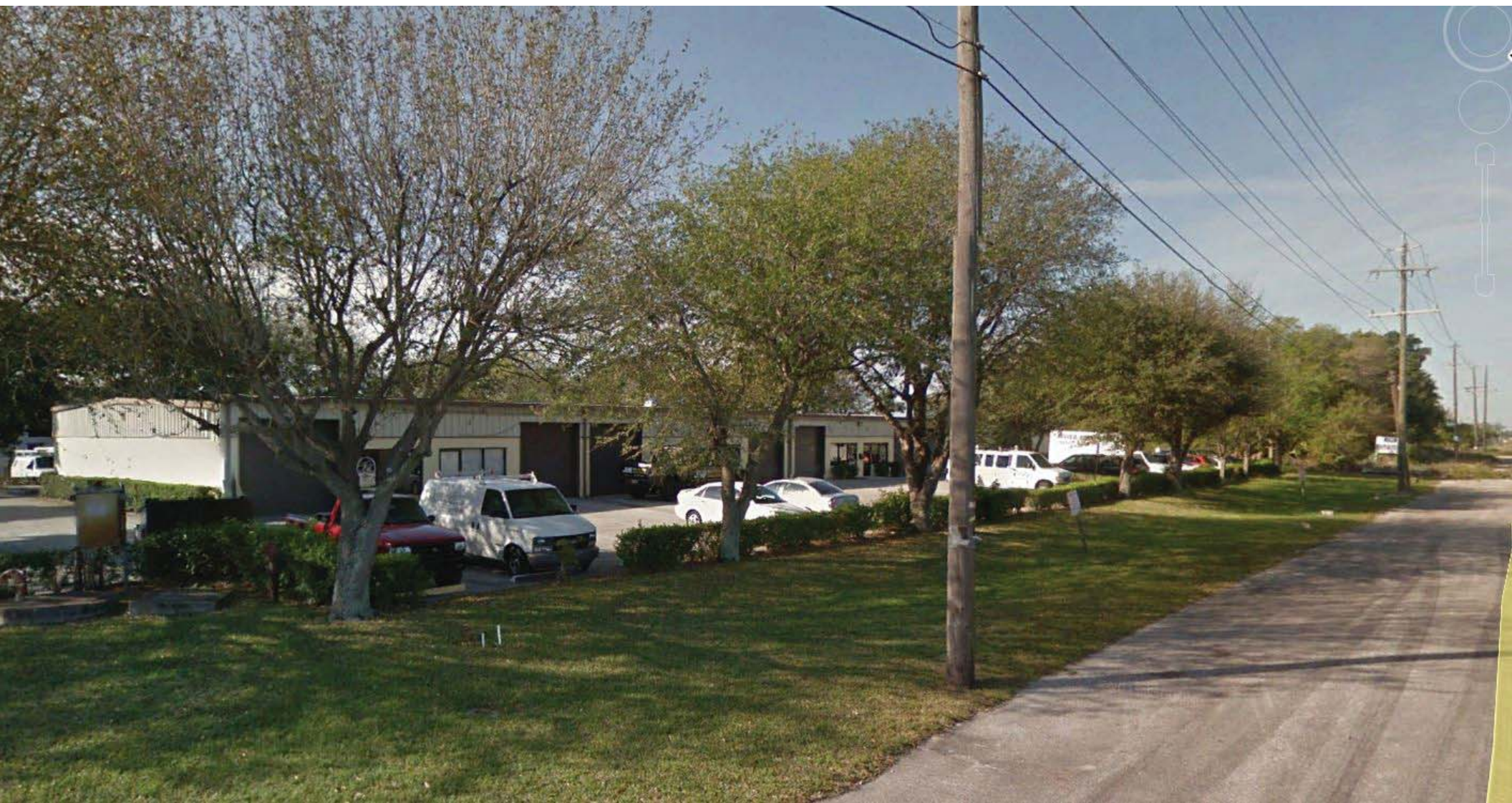




# 7TH AVENUE NORTH VIEWING NE - ADJACENT BOUTWELL INDUSTRIAL PARK















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Google Earth













BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN RE: **Umdasch Real Estate USA, Ltd.**

**Umdasch Real Estate Green Reuse Site aka Former Boutwell Road Trash  
Dump**

**2209 7<sup>th</sup> Avenue North, Lake Worth Beach, Florida 33461**

**Greater Lake Worth Park of Commerce Brownfield Area**

**Brownfield Area ID: BF500901000**

**Brownfield Site ID: BF500901001**

**FDEP Site/Facility ID: 94292 / ERIC\_15315**

**OGC Tracking Number: 20-1471**

BROWNFIELD SITE REHABILITATION AGREEMENT PURSUANT TO §376.80(5),  
Florida Statutes (F.S.)

WHEREAS, the Brownfields Redevelopment Act was enacted to reduce public health and environmental hazards on existing commercial and industrial sites by offering incentives to encourage responsible persons to voluntarily develop and implement cleanup plans; and

WHEREAS, the Department of Environmental Protection ("Department") is the administrative agency of the State of Florida having the power and duty to protect Florida's environment and to administer and enforce the provisions of Chapters 403 and 376, F.S., and the rules promulgated thereunder, Chapters 62-777 and 62-780, Florida Administrative Code (F.A.C.), as amended; and

WHEREAS, the Department has jurisdiction over the matters addressed in this Brownfield Site Rehabilitation Agreement ("BSRA"); and

WHEREAS, the Department has the authority, pursuant to §376.81, F.S., to establish by rule, criteria for determining the rehabilitation program tasks that comprise a site rehabilitation program and the level at which a rehabilitation program task and a site rehabilitation program may be deemed complete;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter contained, it is agreed as follows:

This BSRA is entered into between the Department and Umdasch Real Estate USA, Ltd., hereinafter the Person Responsible For Brownfield Site Rehabilitation ("PRFBSR") (collectively referred to as the "parties"), for the rehabilitation of a brownfield site within a designated brownfield area pursuant to §376.80(5), F.S. The Department and the PRFBSR agree to the following:



1. DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Department is the agency of the State of Florida with authority and power to enforce the provisions of Chapters 376 and 403, F.S.

2. PERSON RESPONSIBLE FOR BROWNFIELD SITE REHABILITATION

Umdasch Real Estate USA, Ltd. is the PRFBSR as defined in §376.79(15), F.S., for the real property described in the map and legal description in **Attachment A** (the "Brownfield Site"), incorporated herein, that has been designated by the City of Lake Worth Beach in Resolution Number 03-2009, approved on March 3, 2009, as a brownfield area as defined in §376.79(5), F.S. **Attachment A** is a composite exhibit that includes: (a) the legal description and map of the Brownfield Site; and (b) the city resolution(s) with all attachments including the map of the designated brownfield area. The brownfield site consists of 9.79 acres.

3. PRFBSR'S DUTIES

The PRFBSR agrees:

- (a) to conduct "site rehabilitation" of any "contaminated site(s)" as defined in §376.79, F.S., whose source originates on the real property described in **Attachment A as the Brownfield site**. If such contaminated site(s) extend(s) beyond the boundary of the Brownfield site, then PRFBSR agrees to conduct site rehabilitation to address the entire contaminated site;
- (b) to conduct site rehabilitation and submit technical reports and rehabilitation plans in a timely manner according to the attached brownfield site rehabilitation schedule agreed upon by the parties, **Attachment B** incorporated herein;
- (c) to conduct site rehabilitation activities under the observation of professional engineers or professional geologists, as applicable, who are registered in accordance with the requirements of Chapters 471 or 492, F.S., respectively. Submittals provided by the PRFBSR must be signed and sealed by a professional engineer registered under Chapter 471, F.S., or by a professional geologist registered under Chapter 492, F.S., as applicable, certifying that the submittal and associated work comply with the laws and rules of the Department and those governing the profession. Upon completion of the approved remedial action, a professional engineer registered under Chapter 471, F.S., or a professional geologist registered under Chapter 492, F.S., as applicable, must certify that the corrective action was, to the best of his or her knowledge, completed in substantial conformance with the plans and specifications approved by the Department;

- (d) to conduct site rehabilitation in accordance with Chapter 62-160, F.A.C., as the same may be amended from time to time;
- (e) to obtain any local, state or federal approvals or permits required for the site rehabilitation work and to conduct the necessary site rehabilitation consistent with local, state, and federal laws, rules and ordinances. All site rehabilitation shall be consistent with the cleanup criteria in §376.81, F.S., the requirements of Chapters 62-780, F.A.C., Contaminated Site Cleanup Criteria, and 62-777, F.A.C., Contaminant Cleanup Target Levels;
- (f) to allow access by the Department during the entire site rehabilitation process, as evidenced by the attached documentation, **Attachment C**, incorporated herein, establishing that such site access has been secured by agreement with the **real property owner**. Upon the transfer of any real property interest in any portion of the Brownfield Site before site rehabilitation is complete, the PRFBSR shall notify the Department within 15 days from the date that such an interest is effective. With notice the PRFBSR shall provide a copy of an access agreement in substantially the same form as that in **Attachment C** with any successor in interest to the **real property owner** of the Brownfield Site or with any party with a real property interest in the Brownfield Site after the effective date of this agreement, granting such access to the Department; and
- (g) to consider appropriate pollution prevention measures and to implement those that the PRFBSR determines are reasonable and cost-effective, taking into account the ultimate use or uses of the real property described in **Attachment A**. Local pollution prevention programs as well as state pollution prevention programs are available to assist in determining pollution reduction measures. The Department recommends that the PRFBSR contact the Department's Waste Reduction and Registration Program or Hazardous Waste Program and Permitting at the following websites: <https://floridadep.gov/waste/waste-reduction> and <https://floridadep.gov/waste/permitting-compliance-assistance/content/hazardous-waste-management-main-page> for recommendations on waste minimization and waste management and for assistance with pollution prevention measures. Such measures may include improved inventory or production controls and procedures for preventing loss, spills, and leaks of hazardous waste and materials, and include the goals for the reduction of releases of toxic materials.

#### 4. CERTIFICATION

The PRFBSR, in accordance with the provisions of § 376.80(5), F.S., certifies that it has consulted with the local government with jurisdiction over the brownfield area about the proposed redevelopment of the brownfield site, that the local government is in agreement with or approves the proposed redevelopment, and that the proposed redevelopment complies with applicable laws and requirements for such

redevelopment. Documentation that supports this certification is provided as **Attachment D**, incorporated herein.

5. SITE CONTRACTOR

The PRFBSR must ensure that the contractor who is performing the majority of the site rehabilitation program tasks pursuant to this BSRA or supervising the performance of such tasks by licensed subcontractors in accordance with the provisions of § 489.113(9), F.S., has provided certification to the Department that the contractor meets the requirements listed below. If the identity of the contractor is known at the time of the execution of this BSRA, a Brownfields Redevelopment Program Contractor Certification Form (CCF) shall be submitted as **Attachment E** to this BSRA, and incorporated herein. If the contractor has not yet been determined, the PRFBSR shall ensure that the CCF is submitted to the District Brownfield Coordinator and approved by the Department before the contractor begins performing any site rehabilitation tasks at the site.

The PRFBSR must submit to the Department documentation as **Attachment F**, incorporated herein, which shows a National Environmental Laboratory Accreditation Program (“NELAP”)-recognized authority has accredited the laboratory(s) that will perform the analyses required by this agreement.

Any contractor that performs site rehabilitation tasks at a contaminated site originating on the real property as described in **Attachment A** shall provide documentation in accordance with the provisions of the paragraph above and with **Attachments E and F**, if applicable, showing that any contractor that performs site rehabilitation tasks:

- (a) meets all certification and license requirements imposed by law; and
- (b) performs, or has laboratory analyses performed, pursuant to NELAP certification requirements and performs, or has field sampling work performed, in accordance with the Standard Operating Procedures provided in Chapter 62-160, F.A.C., as amended, if applicable to performance of site rehabilitation tasks.

6. CONTINUOUS COMPLIANCE

During the entire site rehabilitation process, the PRFBSR agrees to ensure that the contractor continues to comply with the requirements of **Paragraph 5** of this BSRA pursuant to the requirements of §376.80(6), F.S.



7. VOLUNTARY CLEANUP TAX CREDIT PROGRAM

Not all activities that are approved or performed in association with a BSRA are eligible for the state's Voluntary Cleanup Tax Credit (VCTC). In accordance with § 376.30781, F.S., only the costs of voluntary cleanup activity incurred and paid by the applicant that are integral to site rehabilitation or for solid waste removal are eligible for the VCTC. "Site rehabilitation" as defined in §376.79(19), F.S., means the assessment of site contamination and the remediation activities that reduce the levels of contaminants at a site through accepted treatment methods to meet the cleanup target levels established for that site. "Solid waste removal" as defined in §376.30781(3), F.S., means removal of solid waste from the land surface or excavation of solid waste from below the land surface and removal of the solid waste from the brownfield site.

Contamination assessment or remediation paid for by the State of Florida for a discharge that is eligible for a state-funded cleanup under the Drycleaning Solvent Cleanup Program (DSCP) or one of the Petroleum Restoration Program's (PRP) eligibility programs, may not be used to calculate a tax credit. Likewise, expenses incurred that are statutorily-required to participate in the DSCP (i.e., deductibles) or one of the PRP eligibility programs (i.e., deductibles, review fees, limited contamination assessment reports, and co-payments), are not eligible for the state's VCTC. Nothing contained herein is intended to limit the VCTC otherwise available to the PRFBSR under applicable law.

General information about the VCTC Program is available at <https://floridadep.gov/waste/waste-cleanup/content/voluntary-cleanup-tax-credit>. For specific questions regarding the VCTC Program, please contact the Department's Waste Cleanup Program at (850) 245-8958.

8. ADVISORY COMMITTEE

The PRFBSR shall establish an advisory committee pursuant to the requirements of §376.80(4), F.S., for the purpose of improving public participation and receiving public comments on rehabilitation and redevelopment of the brownfield area, future land use, local employment opportunities, community safety, and environmental justice. The advisory committee should include residents within or adjacent to the brownfield area, businesses operating within the brownfield area, and others deemed appropriate. However, if an appropriate local advisory committee already exists, this committee may be used for requesting public participation and for the purposes of complying with this paragraph.

The PRFBSR shall provide the advisory committee a copy of the final proposed draft BSRA, including attachments, and a copy of the executed BSRA. When the PRFBSR submits a site assessment report or the technical document containing the proposed course of action following site assessment to the Department or the local pollution control program for review, the PRFBSR shall hold a meeting or attend a regularly

scheduled meeting to inform the advisory committee of the findings and recommendations in the site assessment report or the technical document containing the proposed course of action following site assessment.

The names, addresses, contact information and applicable affiliation for each advisory committee member is included as **Attachment G**, incorporated herein.

9. INDEMNIFICATION

The PRFBSR shall save and hold harmless and indemnify the Department against any and all liability, claims, judgments or costs of whatsoever kind and nature for injury to, or death of any person or persons and for the loss or damage to any property resulting from the use, service, operation or performance of work under the terms of this BSRA and from the negligent acts or omissions of the PRFBSR or its employees, agents, contractors, subcontractors, or other representatives, to the extent allowed by law.

10. LIABILITY PROTECTION

The liability protection provided under §376.82, F.S., shall become effective upon execution of this BSRA and shall remain effective, provided the PRFBSR complies with the terms of this BSRA.

11. TERMINATION

Pursuant to §376.80(8), F.S., if the PRFBSR fails to comply with this BSRA, the Department shall notify the PRFBSR and allow 90 days for the PRFBSR to return to compliance with the provision at issue or to negotiate a modification to the BSRA with the Department for good cause shown. If an imminent hazard exists, the 90-day grace period shall not apply. If the project is not returned to compliance with this BSRA and a modification cannot be negotiated, the Department may terminate this BSRA.

The PRFBSR may terminate this BSRA at any time upon written notice to the Department.

Termination of this BSRA by either party will revoke the immunity provision of §376.82, F.S.

12. IMMINENT HAZARD

Nothing herein shall be construed to limit the authority of the Department to undertake any action in response to, or to recover the costs of responding to, conditions at or from the real property described in **Attachment A** that require the Department to take action to abate an imminent hazard to the public health, welfare or the environment.

13. RELEASE OF LIABILITY

Upon successful completion of this BSRA as evidenced by the issuance of a Site Rehabilitation Completion Order (SRCO) for each contaminated site originating from the real property described in **Attachment A**, the PRFBSR and his or her successors and assigns, shall be relieved from further liability for site rehabilitation as described in paragraph 3.a. of this BSRA to the Department and third parties and of liability in contribution to any other party who has or may incur cleanup liability for the contaminated site(s).

This release of liability is subject to the reopener provisions of §376.82(3), F.S.

14. GOVERNING LAW

This BSRA has been delivered in the State of Florida and shall be construed in accordance with the laws of Florida and any applicable local regulations. Wherever possible, each provision of this BSRA shall be interpreted in such manner as to be effective and valid under applicable law. If any provision of this BSRA shall be prohibited or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this BSRA. Any action hereon or in connection herewith shall be brought in Palm Beach County, Florida.

15. SUBMITTALS

The PRFBSR shall submit one hard (paper) copy or one electronic (digital) copy of any certifications or documentation required in **Paragraph 5** ("Site Contractor") above, and all data, reports, responses, addenda, or modifications to reports and plans required by this BSRA to:

**Chris Burroughs, P.G.**  
**Southeast District Brownfields Coordinator**  
**3301 Gun Club Road, MSC 7210-1**  
**West Palm Beach, Florida 33406**  
**(561) 681-6651**  
[Chris.Burroughs@floridadep.gov](mailto:Chris.Burroughs@floridadep.gov)

The Department encourages the submittal of documents for review in an electronic format rather than the submittal of paper copies. All electronic copies of documents shall be in the format listed in **Attachment H**, incorporated herein. Time frames for the Department's review of technical reports and plans and submittal of documents by the PRFBSR shall be governed by the schedule in **Attachment B**. After final Department approval of each report or plan, an electronic copy shall be submitted to the Department within 30 days. The electronic copy of the report shall be submitted in the format listed in **Attachment H**.

16. DOCUMENT REVIEW

During the site rehabilitation process, if the Department fails to complete the review of a technical document within the time frame specified in this BSRA, with the exceptions of “no further action proposals,” “monitoring only proposals,” and feasibility studies, which must be approved prior to implementation, the PRFBSR may proceed to the next site rehabilitation task. However, the PRFBSR does so at its own risk and may be required by the Department to complete additional work on a previous task.

17. ASSIGNMENT

The PRFBSR shall not assign any rights or responsibilities under this BSRA to any other party without the written consent of the Department and the local government with jurisdiction over the real property described in **Attachment A**. However, the Department shall not withhold its consent to such an assignment if: (a) the proposed assignee meets all of the eligibility criteria under §376.82, F.S.; (b) the proposed assignee has agreed, in writing, to assume all obligations of the PRFBSR under the terms of this BSRA; and (c) the assignment of PRFBSR obligations under any agreement with the local government with jurisdiction over the real property has been approved, in writing, by the local government.

18. WAIVER

By entering into this BSRA, the PRFBSR waives its right to challenge the contents of this BSRA in an administrative hearing afforded by §120.569 and §120.57, F.S., or an appeal afforded by the terms of §120.68, F.S. This BSRA does not deny the PRFBSR a right to challenge the Department’s actions taken pursuant to this BSRA. No delay or failure to exercise any right, power or remedy accruing to either party upon breach or default by either party under this BSRA, shall impair any such right, power or remedy of either party; nor shall such delay or failure be construed as a waiver of any such breach or default, or any similar breach or default thereafter.

19. EFFECTIVE DATE AND ADMINISTRATIVE HEARING

This BSRA (Order) is final and effective on the date of execution unless a timely petition for an administrative hearing is filed under §§120.569 and 120.57, F.S., within 21 days after the date of receipt of notice of agency action. Upon the timely filing of such petition, this BSRA will not be effective until further order of the Department. The liability protection for the PRFBSR pursuant to §376.82(2), F.S., becomes effective upon execution of the BSRA. The procedures for petitioning a hearing are set forth below.

Please be advised that mediation of this decision pursuant to §120.573, F.S., is not available.



How to Request an Extension of Time to File a Petition for Hearing:

For good cause shown, pursuant to Rule 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for hearing. Such a request shall be filed with (received by) the Agency Clerk of the Department in the Office of the General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within **21** days of receipt of this BSRA. Petitioner shall mail a copy of the request to the PRFBSR at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for administrative hearing must be made.

How to File a Petition for Administrative Hearing:

A person whose substantial interests are affected by this BSRA may petition for an administrative proceeding (hearing) under §§120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Agency Clerk of the Department in the Office of the General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within **21** days of receipt of this BSRA. Petitioner shall mail a copy of the petition to the PRFBSR at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right to request an administrative proceeding under Chapter 120, F.S.

Pursuant to §120.569(2), F.S., and Rule 28-106.201, F.A.C., a petition for administrative hearing shall contain the following information:

1. The name, address, any e-mail address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the PRFBSR's name and address; the Department's Brownfield Area and Brownfield Site Identification Numbers; and the name and address of the Brownfield Site; the name and address of each agency affected;
2. A statement of when and how each petitioner received notice of the Department's action or proposed action;
3. An explanation of how each petitioner's substantial interests will be affected by the Department's action or proposed action;
4. A statement of the disputed issues of material fact, or a statement that there are no disputed facts;
5. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;

6. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's action or proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and

7. A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this BSRA. Persons whose substantial interests will be affected by any such final decision of the Department have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

20. JUDICIAL REVIEW

Except for the PRFBSR, any party has the right to seek judicial review of this BSRA under §120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Agency Clerk of the Department in the Office of the General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice of appeal must be filed within **30** days after this BSRA is filed with the clerk of the Department (see below).

21. CONTACTS FOR GENERAL AND LEGAL QUESTIONS

Any questions about the content of this BSRA, the Department's review of the BSRA, or technical questions should be directed to the Department's District Brownfields Coordinator referenced in **Paragraph 15** of this BSRA or to the PRFBSR's representative at:

**Michael R. Goldstein, Esq.**  
**The Goldstein Environmental Law Firm, P.A.**  
**2100 Ponce de Leon Boulevard, Suite 710**  
**Coral Gables, Florida 33134**  
**(305) 777-1682**  
**[MGoldstein@goldsteinenvlaw.com](mailto:MGoldstein@goldsteinenvlaw.com)**

Questions regarding legal issues should be referred to the Department's Brownfields Program Attorney in the Office of General Counsel at (850) 245-2242. Contact with any of the above does not constitute a petition for administrative hearing or request for an extension of time to file a petition for administrative hearing.


22. ENTIRETY OF AGREEMENT

This BSRA represents the entire agreement of the parties. Any alterations, variations, changes, modifications or waivers of provisions of this BSRA shall only be valid when they have been reduced to writing, duly signed by each of the parties hereto, and attached to the original of this BSRA, unless otherwise provided herein.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, each of the parties has made and executed this Brownfield Site Rehabilitation Agreement on the date set forth for each signature of each representative below: Jason Andreotta, Director, Southeast District, State of Florida Department of Environmental Protection, and Umdasch Real Estate USA, Ltd., the Person Responsible for Brownfield Site Rehabilitation, signing by and through Michael Barrese, its Secretary, duly authorized to execute same.

STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

By:   
\_\_\_\_\_  
Jason Andreotta  
Director, Southeast District

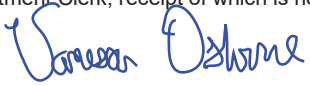
Date: 12-28-2020

Approved as to form and legality:

**Ronda Moore** Digitally signed by Ronda Moore  
Date: 2020.12.21 13:57:52 -05'00'

\_\_\_\_\_  
Ronni Moore, Brownfields Program Attorney

FILING AND ACKNOWLEDGMENT FILED, on this date,  
pursuant to §120.52 Florida Statutes, with the designated  
Department Clerk, receipt of which is hereby acknowledged.

  
\_\_\_\_\_  
Clerk (or Deputy Clerk)

Date: 12-28-2020

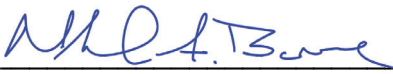
SIGNATURES CONTINUE ON NEXT PAGE



Umdasch Real Estate USA, Ltd.  
Brownfield Site Rehabilitation Agreement  
Brownfield Site ID # BF500901001

PERSON RESPONSIBLE FOR  
BROWNFIELD SITE REHABILITATION

By: Umdasch Real Estate USA, Ltd.,  
a New Jersey corporation

By:   
Michael Barrese  
Secretary

Date: December 21, 2020

Address: 214 Gates Road  
Little Ferry, New Jersey 07643

Phone: (201) 853-0594

cc: Kelly Crain, FDEP Brownfields Program Manager  
Justin Cross, FDEP Government Analyst II, Brownfields Program  
Megan Johnson, FDEP Environmental Consultant, Brownfields Program  
Ronni Moore, FDEP Brownfields Program Attorney  
Chris Burroughs, P.G., FDEP Southeast District Brownfields Coordinator

List of Attachments

Attachment A	Local Government Resolution for the Brownfield Area and Map and Legal Description of the Brownfield Site
Attachment B	Brownfield Site Rehabilitation Schedule
Attachment C	Site Access Agreement
Attachment D	Certification of Redevelopment Agreement
Attachment E	Contractor Certification Form
Attachment F	Quality Assurance Certificate
Attachment G	Advisory Committee Members
Attachment H	Format for Submittal of Technical Documents

# Attachment A

RESOLUTION NO. 03-2009 OF THE CITY OF LAKE WORTH, FLORIDA,  
DESIGNATING THE AREA WITHIN THE BOUNDARIES OF THE GREATER LAKE  
WORTH PARK OF COMMERCE A BROWNFIELD AREA; AND PROVIDING AN  
EFFECTIVE DATE.

WHEREAS, the Florida Brownfield's Redevelopment Act, Sec. 376.77 through 376.85, Fla. Stat. (2008) (the "Act") provides for local governments to designate by resolution areas consisting of one or more Brownfield sites as "Brownfield areas" for the purpose of environmental remediation, rehabilitation and economic redevelopment; and,

WHEREAS, the Lake Worth City Commission desires to designate, pursuant to the Act, the Lake Worth Park of Commerce as delineated in the attached map (Exhibit A), prepared by the City of Lake Worth Community Services Department, as a Brownfield area to secure the benefits accruing under the Act; and,

WHEREAS, the Brownfield area designation will enable property owners to voluntarily use State Brownfield Programs for environmental remediation, rehabilitation and economic development; and,

WHEREAS, the City has complied with the procedures outlined in the Act and has provided notice as required by Sec. 166.041(3)(c)(2), Florida Statutes; and

WHEREAS, the owner of property located at 1926 10th Avenue North has requested that this property not be included in the Brownfield area designation.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF LAKE WORTH, FLORIDA, that,

Section 1. The recital and findings set forth in the Preamble to this Resolution are hereby adopted into and are made a part of this resolution.

Section 2. Pursuant to the Act, the area depicted in Exhibit A, featuring the area within the boundaries of the Greater Lake Worth Park of Commerce, except for the property located at 1926 10th Avenue North, attached hereto and incorporated herein by reference, is hereby designated as a Brownfield area.

Section 3. The property located at 1926 10th Avenue North, legally described as the West half of Tract 5, less the South 20 feet thereof, SAWYER'S SUBDIVISION of the West half of Section 21, Township 44 South, Range 43 East, as recorded in Plat Book 5, Page 12, Public Records of Palm Beach County, Florida, less the West 25 feet thereof deeded to the City of Lake Worth, Florida, by instrument dated December 20, 1982, recorded January 17, 1983 in Official Record Book 3862, Page 1086, Public Records of Palm Beach County, Florida, is not included in the Brownfield area designation.

Section 4. This resolution shall become effective upon its adoption.

Section 5. The City shall notify the Florida Department of Environmental Protection of the decision to designate the Greater Lake Worth Park of Commerce as a Brownfield area.

The passage of this Resolution on first public hearing was moved by Commissioner Jennings, seconded by Commissioner Lowe, and upon being put to a vote, the vote was as follows:

Mayor Jeff Clemens	AYE
Vice Mayor Jo-Ann Golden	AYE
Commissioner Retha Lowe	AYE
Commissioner Cara Jennings	AYE
Commissioner Suzanne Mulvehill	AYE

The Mayor thereupon declared this Resolution duly passed on first public hearing on the 17th day of February, 2009.

The passage of this Resolution on second public hearing was moved by Commissioner Jennings, seconded by Commissioner Lowe, and upon being put to a vote, the vote was as follows:

Mayor Jeff Clemens	AYE
Vice Mayor Jo-Ann Golden	AYE
Commissioner Retha Lowe	NAY
Commissioner Cara Jennings	AYE
Commissioner Suzanne Mulvehill	AYE

The Mayor thereupon declared this Resolution duly passed and adopted on second public hearing this 3rd day of March 2009.

LAKE WORTH CITY COMMISSION

BY

  
Jeff Clemens, Mayor

ATTEST:

  
Pamela J. Lopez, City Clerk

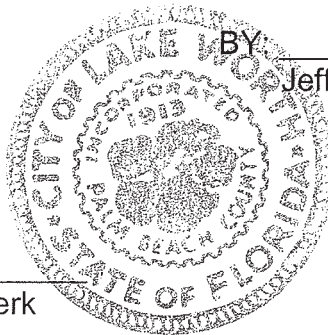
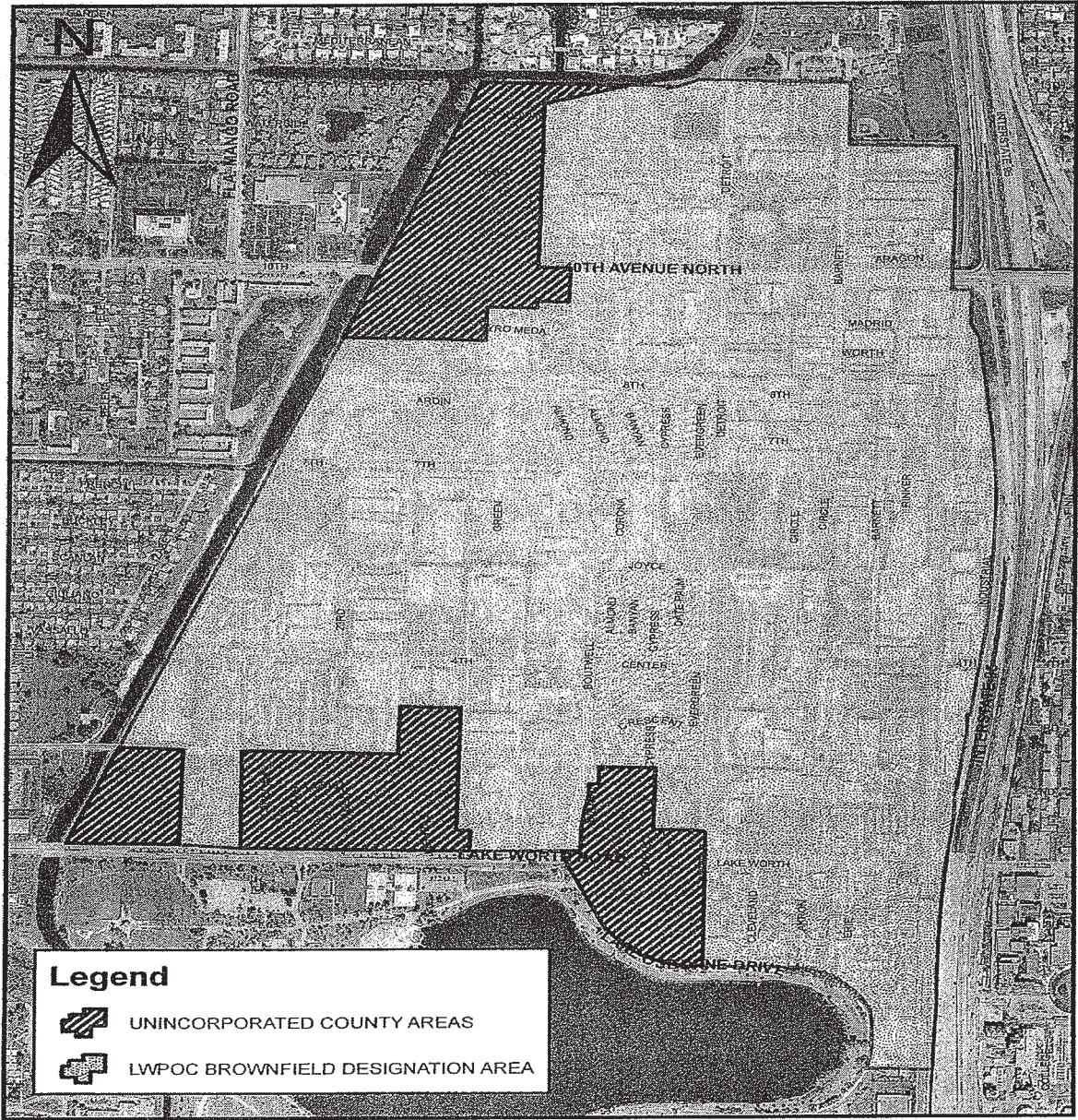




EXHIBIT A



# CITY OF LAKE WORTH LWPOC BROWNFIELD DESIGNATION







### **Legal Description**

Tract 66 and the north 210.81 feet of Tract 81, "Model Land Co. Subdivision of Section 20, Township 44 South, Range 43 East", according to the map or plat thereof, as recorded in Plat Book 5, Page 79, of the Public Records of Palm Beach County, Florida.

# Attachment B

**Attachment B**  
**Table I**  
**Brownfield Site Rehabilitation Schedule**

Type of Report or Activity	PRFBSR Action or Submittal Time Frames	Department Review or Comment Time frames
Notice of Interim Source Removal Action or Emergency Response Action situations.	Within 24 hours of initiation of the action.	No comment required.
Interim Source Removal Proposal	When seeking approval before implementation of an alternative product recovery method, groundwater recovery, soil treatment or disposal technique (see Rule 62-780.525, F.A.C.)	Within 30 days of receipt.
Interim Source Removal Plan	When seeking approval before implementation of an alternative product recovery method, groundwater recovery, soil treatment or disposal technique (62-780.525, F.A.C.)	Within 30 days of receipt.
Interim Source Removal Status Report	Within 60 days of completion of source removal activities and every 60 days thereafter or when the field activity is terminated, whichever occurs first.	No comment required.
Interim Source Removal Report	Within 60 days of completion of interim source removal activities.	Within 60 days of receipt.
Site Rehabilitation Plan (SRP) or Combined Document; (Optional submittal) (See Rule 62-780.450, F.A.C.)	Optional: SRP submitted within 270 days of executing BSRA. May include multiple tasks.	Within 60 days of receipt.
Site Assessment Report (SAR)	SAR submitted within 270 days of executing BSRA.	Within 60 days of receipt.
Risk Assessment Report (RAR)	Optional: (within 60 days of SAR approval.)	Within 90 days of receipt.
No Further Action (NFA) Proposal	When the site meets the criteria for NFA (See Rule 62-780.680, F.A.C.).	Within 60 days of receipt.
Well Survey and Sampling Results pursuant to paragraph 62-780.600(3)(h), F.A.C.	Within 60 days of discovery of contamination beyond the property boundaries	Within 60 days of receipt.
Natural Attenuation with Monitoring (NAM) Plan	When the site meets the criteria for Natural Attenuation with Monitoring (See Rule 62-780.690, F.A.C.).	Within 60 days of receipt.
Natural Attenuation with Monitoring (NAM) Report	Within 60 days of sample collection.	No comment required.
Remedial Action Plan (RAP)	Within 90 days of approval of a SRP, SAR or RAR.	Within 60 days of receipt.
As-Built Drawings	Within 120 days of initiating operation of the active remediation system.	No comment required.
Initiate Operation of Active Remedial Action	Within 120 days of RAP approval.	No comment required.
Proposals submitted pursuant to subsection 62-780.700(14), F.A.C.	Optional during active remediation	Within 60 days of receipt
Remedial Action Status Report (Monthly or quarterly status reports may be required for submittal - depending on site conditions and Advisory Committee.)	Within 60 days of the anniversary date of initiating operation of active remediation system.	No comment required.
Post Active Remediation Monitoring (PARM) Plan	When the site meets the criteria for NFA (see Rule 62-780.680) or Leveling-Off [see Rule 62-780.700(18)]	Within 60 days of receipt.



Type of Report or Activity	PRFBSR Action or Submittal Time Frames	Department Review or Comment Time frames
Post Active Remediation Monitoring (PARM) Report	Within 60 days of sample collection.	No comment required.
Leveling Off Determination	Within 60 days of sample collection.	Within 60 days of receipt.
Post Active Remediation Monitoring (PARM) Plan resampling proposal (Rule 62-780.750(4)(e), F.A.C.	Within 60 days of sample collection.	Within 60 days of receipt.
Site Rehabilitation Completion Report (SRCR)	Within 60 days of the final sampling event. If SRCR not approved then submit modifications, etc., within 60 days of Department's response.	Within 60 days of receipt. If the brownfield site meets the requirements of Chapter 62-780, F.A.C., for the issuance of an SRCO, then an SRCO will be issued.
Pilot Study Work Plan	When seeking approval before implementation of a Pilot Study pursuant to Rule 62-780.700(2), F.A.C.	Within 60 days of receipt.
Notices for Field Activities except for Start of Interim Source Removal or Emergency Response Action situations.	Within seven (7) days but not less than 24 hours prior notice to the Department to perform field activity.	No comment required.
Submittal to the Department of addenda, responses, or modification to plans or reports, pursuant to Chapter 62-780, F.A.C.	Within 60 days of receipt of the Department's response.	Within the same time frame for review of the original submittal.
Submittal of Form and Actual Notice required in subsection 62-780.220(2), F.A.C.	See text of rule for "Initial Notice of Contamination Beyond Property Boundaries" in subsection 62-780.220(2), F.A.C.	No comment required.
Submittal of Actual and Constructive Notice required in subsection 62-780.220(3), F.A.C.	See text of rule for "Subsequent Notice of Contamination Beyond Source Property Boundaries for Establishment of a Temporary Point of Compliance (TPOC)" in subsection 62-780.220(3), F.A.C.	No comment required.
Submittal of Notice required in subsection 62-780.220(7), F.A.C.	See text of rule for requirement that PRFBSR provide notice of Department's intent to approve site closure using institutional controls, institutional and engineering controls, or alternative cleanup target levels.	No comment required.

# Attachment C

**SITE ACCESS AGREEMENT  
PERMISSION TO ENTER PROPERTY  
BROWNFIELDS REDEVELOPMENT PROGRAM**

1. LW Industrial, LLC the real property owner ("undersigned" or "owner"), hereby grants permission to the State of Florida, Department of Environmental Protection ("Department") and its agents and subcontractors to enter the undersigned's property ("the property") located at 2209 7<sup>th</sup> Avenue North, Lake Worth Beach, Florida 33461, Parcel Control Number 38-43-44-20-01-066-0010 as described in **Attachment A** attached to the Brownfield Site Rehabilitation Agreement ("BSRA") for the brownfield site assigned the Brownfield Site Identification Number **BF500901001**, beginning on the date of execution of the BSRA and ending on such date as deemed appropriate by the Department or the successful completion of the BSRA, whichever occurs first.
2. This permission is contemplated to be used for the following activities that may be performed by the Department, its agents, representatives or subcontractors:
  - a. Having access to areas where contamination may exist.
  - b. Investigation of soil and groundwater including, but not limited to, the installation of groundwater monitoring wells, the use of geophysical equipment, the use of an auger for collection of soil and sediment samples, the logging of existing wells, videotaping, preparation of site sketches, taking photographs, any testing or sampling of groundwater, soil, surface water, sediments, air, and other materials deemed appropriate by the Department and the like.
  - c. Removal, treatment and/or disposal of contaminated soil and water, which may include the installation of recovery wells or other treatment systems.
3. Upon completion of the investigation, the Department will restore the property as near as practicable to its condition immediately prior to the commencement of such activities.
4. The granting of this permission by the undersigned is not intended, nor should it be construed, as an admission of liability on the part of the undersigned or the undersigned's successors and assigns for any contamination discovered on the property.
5. The Department, its agents, representatives or subcontractors may enter the property during normal business hours and may also make special arrangements to enter the property at other times after agreement from the undersigned.
6. The Department acknowledges and accepts any responsibility it may have under applicable law (Section 768.28, Florida Statutes) for damages caused by the acts of its employees acting within the scope of their employment while on the property.
7. In exercising its access privileges, the Department will take reasonable steps not to interfere with the Owner's operations, or the remediation and redevelopment activities pursuant to the BSRA.


  
Signature of Real Property Owner

Print Name: Bill Cuthbertson, Registered Agent, LW Industrial, LLC

Title, if applicable Manager

12/12/2020

Date

  
Signature of Witness

Print Name: RYAN E. WILLITS

12/12/2020

Date

**Site Access Agreement**  
**Brownfield Site ID #: BF500901001**  
**December 12, 2020**  
**Page 2 of 2**

Accepted by the Department by the following authorized agent:



\_\_\_\_\_  
Signature of Department representative

Print Name: Jason Andreotta

District Director

\_\_\_\_\_  
Title of Department representative

12-28-2020

\_\_\_\_\_  
Date



\_\_\_\_\_  
Signature of Witness

Print Name: Vanessa Osobrne

12-28-2020

\_\_\_\_\_  
Date

# Attachment D





City of  
**Lake Worth  
Beach**  
FLORIDA™

DEPARTMENT FOR COMMUNITY SUSTAINABILITY  
Planning Zoning Historic Preservation Division  
1900 2<sup>ND</sup> Avenue North  
Lake Worth Beach, FL 33461  
561-586-1687

October 5, 2020

Mr. Chris Burroughs, P.G.  
Brownfields Coordinator, FDEP Southeast District  
3301 Gun Club Road, MSC 7210-1  
West Palm Beach, Florida 33406

**Re: Brownfield Site Rehabilitation Agreement for Property Located at 2209 7<sup>th</sup> Avenue N., Lake Worth Beach, Florida 33461 (the "Subject Property"); Located in Greater Lake Worth Park of Commerce Brownfield Area, BF500901000**

Dear Mr. Burroughs:

The City of Lake Worth Beach (the "City") has been advised by Umdasch Real Estate USA, Ltd. ("Umdasch"), that it intends to enter into a Brownfield Site Rehabilitation Agreement with the Florida Department of Environmental Protection for rehabilitation and redevelopment of the Subject Property. The Subject Property is located in the Greater Lake Worth Park of Commerce Area, which the City designated as a brownfield area through Resolution Number 03-2009, approved on March 3, 2009.

Representatives for Umdasch have further advised the City that it intends to redevelop the Subject Property for uses that include the storage, repair and rental of construction equipment. The Subject Property is currently zoned I-POC with a future land use designation of Industrial and is located in an area of the City with harmonious uses. In concept, the City is supportive of this redevelopment; nevertheless, Umdasch will be required to continue working with the City to obtain all of the necessary and applicable land use, design, and construction approvals, permits, and licenses.

As of this week, representatives from DOKA have submitted a major site plan and conditional use application to the city for review and processing. It is anticipated that the application will go before the City's Planning & Zoning Board in December for entitlement approvals.

If you have questions or require additional information, please contact William Waters, Director, at [wwaters@lakeworthbeachfl.gov](mailto:wwaters@lakeworthbeachfl.gov) (561-586-1634) or Erin Fitzhugh Sita, Assistant Director at [esita@lakeworthbeachfl.gov](mailto:esita@lakeworthbeachfl.gov) (561-586-1617).

Sincerely,

Digitally signed by  
William Waters  
Date: 2020.10.05  
13:43:17 -04'00'

William Waters, AIA, NCARB, LEED AP BD+C, ID  
DCS Director

cc: Umdasch Real Estate USA, Ltd.

# Attachment E

## CONTRACTOR CERTIFICATION FORM Brownfields Redevelopment Program

Contractor Name Langan Engineering and Environmental Services, Inc. Date: September 17, 2020

Contractor Address: 110 E Broward Blvd., Suite 1500, Fort Lauderdale, FL 33301

Contact Name: Manivannan Nagaiah, P.E.

Phone No.: (954) 320-1212 Fax No.: (954) 320-2101

Brownfield Site ID #: BF500901001

CONTRACTOR CERTIFIES BY CHECKING ALL APPROPRIATE BOXES:	YES	NO
1. It meets all certification and license requirements imposed by law.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. It performs or contracts laboratory analysis pursuant to National Environmental Laboratory Accreditation Program certification requirements and performs or contracts field-sampling work in accordance with the Standard Operating Procedures for Field Activities pursuant to Chapter 62-160, Florida Administrative Code.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. It complies with all applicable OSHA regulations.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Has the capacity to perform the majority of the site rehabilitation program tasks pursuant to a brownfield site rehabilitation agreement or supervise the performance of such tasks by licensed subcontractors in accordance with Section 489.113(9), Florida Statutes (F.S.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The person named below by signing as an "Officer of the Company" hereby certifies to the Florida Department of Environmental Protection (FDEP) that the Contractor named above meets the requirements for contractors participating in the Brownfields Redevelopment Program [Section 376.80(6), F.S.]:

 9/17/2020 WILLIAM P. KRAEMEL  
Signature of Officer of the Company and Date Signed      Print Name of Officer of the Company

Treasurer  
Title of Officer of the Company

Contractors must immediately notify the FDEP (Brownfields District Coordinator, delegated local program) of any change in the above criteria. The FDEP may order a suspension or cessation of work for failure of a contractor to maintain their required certification.

# Attachment F



State of Florida  
Department of Health, Bureau of Public Health Laboratories  
This is to certify that



E83079

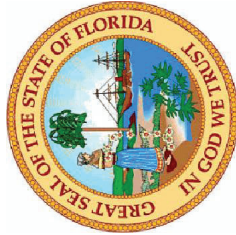
PACE ANALYTICAL SERVICES, LLC - ORMOND BEACH FL  
8 EAST TOWER CIRCLE  
ORMOND BEACH, FL 32174

has complied with Florida Administrative Code 64E-1,  
for the examination of environmental samples in the following categories

DRINKING WATER - GROUP I UNREGULATED CONTAMINANTS, DRINKING WATER - GROUP II UNREGULATED CONTAMINANTS, DRINKING WATER - OTHER REGULATED CONTAMINANTS, DRINKING WATER - GROUP III UNREGULATED CONTAMINANTS, DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, DRINKING WATER - RADIOCHEMISTRY, DRINKING WATER - SYNTHETIC ORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS, BIOLOGICAL TISSUE - METALS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2020      Expiration Date: June 30, 2021



Patty A. Lewandowski, MBA, MT (ASCP)  
Chief Bureau of Public Health Laboratories

DH Form 1697, 7/04

NON-TRANSFERABLE E83079-79-07/01/2020  
Supersedes all previously issued certificates



# Attachment G

## **Advisory Committee Members**

### **Ellen Smith**

Waste Management Inc. of Florida  
*Representative of Business Operating in the Brownfield Area*  
2700 North West 48th Street  
Coconut Creek, FL 33073  
(561) 312-0000  
[esmith13@wm.com](mailto:esmith13@wm.com)

### **Gary Hines**

Business Development Board of Palm Beach County  
*Local Government Official*  
310 Evernia street  
West Palm Beach, FL 33401  
(561) 835-1008  
[ghines@bdb.org](mailto:ghines@bdb.org)

### **William Waters, AIA, NCARB, LEED AP BD+C, ID, SEED**

Community Sustainability Director, City of Lake Worth Beach  
*Local Government Official*  
1900 Second Avenue North  
Lake Worth Beach, FL 33461  
(561) 586-1634  
[wwaters@lakeworthbeachfl.gov](mailto:wwaters@lakeworthbeachfl.gov)

# Attachment H

## **ATTACHMENT H - - FORMAT FOR SUBMITTAL OF TECHNICAL DOCUMENTS**

1. One hard copy or one electronic copy of each report or proposal and final reports shall be submitted to the Department or to the delegated local program.
2. Where an electronic format exists of the records it shall be used to transmit the data, file, report, document, map, plans, picture, record, or any other object that may be available in an electronic format. Electronic records shall be kept in industry standard non-proprietary formats: TIFF, GIF, JPEG, PDF, or in Microsoft Word, Microsoft Excel, and Microsoft Access not older than one (1) release behind the current.
3. Data requested shall be transmitted using available media such as E-mail, Compact Disc (CD), or File Transfer via an FTP site. Additional formats may be considered at the time of the request.
4. After final approval of each report, an electronic copy and one hard copy shall be submitted within 30 days.
5. The media shall include a file directory and specify the “naming convention”.
  - (a) Final reports (any text files) must be in one of the approved formats.
  - (b) Site maps and surveys shall be in TIFF, JPEG or “.pdf” format.
  - (c) Site-specific GIS data tables shall be in Excel or text (tab delimited) format.
  - (d) The cover of the media shall include the Site Name, Designated Brownfield Area, Date and Type of Report(s).
  - (e) The left inside cover of the media should list all the files located on the media.