506 WEST BERCKMAN STREET **PHONE: 352/ 360-6727**
FRUITLAND PARK, FL 34731 **FAX: 352/ 360-6652**

Board Members:	**Board Members:**
City Manager Gary La Venia, Chairman	Chief Eric Luce, Police Department, Vice Chair
City Engineer BESH	Chief Donald Gilpin, Fire Department
City Land Planner Greg Beliveau	Public Works Director Dale Bogle
Building Official Jeff Gerling	Code Enforcement Officer Lori Davis
Fire Inspector Dan Hickey	Lake County Public Works Department
CDD Tracy Kelley	

AGENDA
TECHNICAL REVIEW COMMITTEE
SEPTEMBER 10, 2019
10:00AM

I. MEETING CALLED TO ORDER:

II. MEMBERS PRESENT:

III. MINUTES FROM PREVIOUS MEETING: Approve meeting minutes from May 7, 2019

IV. OLD BUSINESS: NONE

V. NEW BUSINESS:

A. International Car Wash (Alt Keys 1170621 & 1699754)

Wicks Engineering submitted a new Site Plan application for a 3,200 square foot car wash facility on behalf of registered property owner. Existing zoning is C-2 General Commercial with a future land use of Commercial High Intensity.

MEMBERS' COMMENTS:

ADJOURNMENT:

506 WEST BERCKMAN STREET **PHONE: 352/ 360-6727**
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Dan Hickey, Fire Inspector	Lake County Public Works Department
Tracy Kelley, CDD	

MINUTES
TECHNICAL REVIEW COMMITTEE
MAY 7, 2019
10:00AM

I. MEETING CALLED TO ORDER: Meeting called to order 10:05 A.M.

II. MEMBERS PRESENT: Board members present with the exception of Jeff Gerling, Building Official, Chief Donald Gilpin, Fire Department, and Lori Davis, Code Enforcement. LPG Sherie Lindh attended on behalf of Greg Beliveau, City Land Planner, and Sargent David Cox attended on behalf of Chief Eric Luce, Police Department.

III. MINUTES FROM PREVIOUS MEETING: Motion to approve meeting minutes from March 5, 2019 by Public Works Director Dale Bogle. Second by City Engineer Brett Tobias, BESH. Approved.

IV. OLD BUSINESS: NONE

V. NEW BUSINESS:

A. Leesburg Fruit Company, Inc./Holloway Properties Inc.

Wicks Engineering submitted a rezoning application on behalf of registered property owners. The property is currently zoned CPUD with a current use of a plant nursery. The applicant is requesting rezoning to allow for a mixed use PUD as shown on the concept plan. The proposed PUD Zoning and Land Use Designation is intended to facilitate the development of a residential community with a commercial component.

Applicant Engineer Ted Wicks gave introduction to the application and assured all outstanding recreation comments would be addressed as provided by City Land Planner LPG. Engineer Wicks would like to revise the concept plan to include sixty (60') foot and seventy (70') foot lots. LPG Sherie Lindh stated a commitment on lot sizes is needed to retain mixed use PUD in compliance with the Comprehensive Plan policy. Engineer Wicks and Realtor Dan Tatro, also in attendance, discussed the possibility of incorporating forty (40') foot lots in the concept plan. LPG Lindh stated the City would like photos or renderings of exactly what the applicant is proposing on the lots and an area would have to be set aside for storage of extra vehicles to include boats and recreational vehicles as the small lot sizes will restrict parking. Engineer Wicks would like to market the smaller lots to seniors who do not prefer to live in a deed restricted community. Engineer Wicks asked if detached garages would be an option as opposed to attached garages. LPG Lindh replied the Land Development Regulations do not require garages so either attached or detached garages could be accepted. City Engineer Brett

Tobias, BESH, responded if garages are not afforded for the smaller lots then cars may end up being parked all along the street, restricting the flow of traffic. Chairman Gary La Venia, City Manager, stated offset garages may be a possibility. Tracy Kelley, Community Development Director, stated in other areas alleyways are utilized so cars are not parked in front of the home or along the road. Engineer Wicks stated if forty (40') foot lots are considered a conceptual plan will be submitted.

Community Development Director Kelley made applicants aware sidewalks, curbing, and lighting is required by the City. Engineer Wicks acknowledged requirements and stated they will be completing a street lighting plan with the City of Leesburg. Public Works Director Bogle responded the Home Owner's Association will be responsible for maintaining the street lights.

City Engineer Tobias stated the Ordinance needs to be revised to incorporate the connection to Martin Luther King Boulevard into Phase I of the project. LPG Lindh notified the board that the city has not received an approved school concurrency application from Lake County Schools. Engineer Wicks responded the application has been submitted and will forward upon receipt. LPG Lindh stated Master Development Agreement will include setbacks for mixed lot sizes with percentage requirements for each lot size. LPG Lindh stated if a waiver is needed for the thirty (30%) percent maximum building coverage it will need to be requested by the applicant prior to approval and the minimum living size is thirteen-hundred (1300') square feet per unit.

Applicant Holloway, Holloway Properties, Inc., stated the well on the property has usable water. City Engineer Tobias responded public use of the well, other than irrigation, is required to be permitted and monitored by St. John's River Water Management District as well as the city.

LPG Lindh stated an updated title report will be required with the Master Development Agreement. CDD Kelley made applicant aware all documents must be submitted to the City with all comments addressed prior to June 13, 2019 to be considered at the June 20, 2019 Planning and Zoning Board meeting. City Engineer Tobias stated connection to county roads will be permitted with Lake County Driveway Permits. CDD Kelley stated 911 addressing and road name reservations will be submitted to Lake County by the City with associated costs to be billed to the applicant. Applicant Holloway responded he would like road names to be family names and the north entrance has been lined up with the entrance to Mirror Lake Village subdivision. CDD Kelley stated at this time Lake County has not issued any formal comments and they will be contacted by our department to verify there are no additional comments.

MEMBERS' COMMENTS: No additional comments.

ADJOURNMENT: Meeting adjourned at 10:39 A.M.

City of Fruitland Park, Florida
Community Development Department
506 W. Berckman St., Fruitland Park, Florida 34731
Tel: (352) 360-6727 Fax: (352) 360-6652
www.fruitlandpark.org

Staff Use Only

Case No.: _____

Fee Paid: _____

Receipt No.: _____

Development Application

Contact Information:

Owner Name: Fruitland Park Holdings, LLC - Tejinder S. Grewall, Manager
Address: 1330 Saxon Blvd Orange City, FL 32763
Phone: 480-717-7100 Email: tj@tjoil.net

Applicant Name: Fruitland Park Holdings, LLC - Tejinder S. Grewall, Manager
Address: 1330 Saxon Blvd Orange City, FL 32763
Phone: 480-717-7100 Email: tj@tjoil.net

Engineer Name: Wicks Engineering Services, Inc - Ted Wicks, P.E.
Address: 225 W. Main Street Tavares, FL 32778
Phone: 352-343-8667 Email: 352-343-8665

Property and Project Information:

PROJECT NAME*: IC International Car Wash
*A project name is required for all submissions. Please choose a name representative of the project for ease of reference.

Property Address: 3438 US Hwy 27/441 Fruitland Park, FL 34731
Parcel Number(s): 10-19-24-0003-000-06800 / AK#1170621 Section: 10 Township: 19 Range 24
Area of Property: 1.7 +/- acres / 76,041 SF Nearest Intersection: CR 25A and US Hwy 27
Existing Zoning: General Commercial Existing Future Land Use Designation: Commercial (High Intensity)
Proposed Zoning: General Commercial Proposed Future Land Use Designation: Commercial (High Intensity)
The property is presently used for: Vacant
The property is proposed to be used for: Car Wash Facility
Do you currently have City Utilities? Central Water and Sewer are available - Fruitland Park

Application Type:

☐ Annexation	☐ Comp Plan Amendment	☐ Rezoning	☐ Planned Development
☐ Variance	☐ Special Exception Use	☐ Conditional Use Permit	☐ Final Plat
☐ Minor Lot Split	☐ Preliminary Plan	☐ Construction Plan	☐ ROW/Plat Vacate
☑ Site Plan	☐ Minor Site Plan	☐ Replat of Subdivision	

Please describe your request in detail: Site plan to construct a car wash facility to include site development grading, utilities, and stormwater retention

Required Data, Documents, Forms & Fees

Attached to this application is a list of **REQUIRED** data, documents and forms for each application type as well as the adopted fee schedule. These items must be included when submitting the application package. Failure to include the supporting data will deem your application package **INCOMPLETE** and will not be processed for review.

Signature: X _____ Date: 5/28/19

If application is being submitted by any person other than the legal owner(s) of the property, the applicant must have written authorization from the owner to submit application.

Development Application Checklist

The Following are Required for ALL Development Applications:

- [x] Legal Description (Word file req'd)
- [x] Current Deed
- [x] Aerial Photo
- [x] Property Appraiser Information
- [x] Electronic Copy of Application
- [x] Location Map

Pre-application conferences are strongly encouraged. Submit TWO CDs with ALL documents in pdf; those that are generated as CAD files should be submitted in pdf and dwg formats. . Legal Descriptions should also come with a MS Word file of the legal description. Most maps are accessible through www.lakecountyfl.gov/maps/. Note: All maps are required to depict adjacent properties at a minimum.

Failure to provide adequate maps may delay the application process.

Other Required Analyses and Maps:

Small Scale Comprehensive Plan Amendment Applications:

- [ ] Justification for Amendment
- [ ] Environmental Constraints Map
- [ ] Requested FLU Map

Large Scale Comprehensive Plan Amendment Applications:

Maps:
- [ ] Environmental Constraints
- [ ] Soils
- [ ] Requested FLUM Designation
- [ ] Requested Zoning Map Designation

Analyses:
- [ ] Environmental Assessment
- [ ] Utility Availability Analysis
- [ ] Urban Sprawl Analysis
- [ ] School Impact Analysis
- [ ] Traffic Impact Analysis
- [ ] Consistency with the Comp Plan
- [ ] Florida Master Site File sign-off or Archaeological Survey

Rezoning Applications:
- [ ] Requested Zoning Map
- [ ] Justification for Rezoning

Planned Development Applications:

Maps/Plans:
- [ ] Conceptual Plan as Described in LDRs Chapter 154, Section 154.030,10,G
- [ ] Environmental Constraints

Analyses:
- [ ] Environmental Assessment
- [ ] Traffic Impact Analysis
- [ ] Preliminary Concurrency Analysis

Variance Applications:
- [ ] Justification for Variance

Special Exception Use Applications:
- [ ] Justification for Special Exception Use
- [ ] Site Sketch
- [ ] List of Special Requirements as Described in LDRs, Chapter 155

Conditional Use Permit Applications:
- [ ] Proposed List of Conditions and Safeguards
- [ ] Site Plan as Described in LDRs, Chapter 155
- [ ] Written Statement as Described in LDRs, Chapter 155

Subdivision Applications:
(Preliminary Plan, Improvement Plan and Final Plat)
- [ ] As Described in LDRs, Chapter 157

Minor Subdivision Applications:
- [ ] As Described in LDRs, Chapter 157

Site Plan Applications:
- [x] As Described in LDRs, Chapter 160

OWNER'S AFFIDAVIT

STATE OF FLORIDA

COUNTY OF ~~LAKE~~ Seminole

BEFORE ME. The undersigned authority personal appeared Tejinder S. Grewal,

Who being by me first duly sworn on oath, deposes and says:

1. That he/she is the fee-simple owner of the property legally described and attached to this application.

2. That he/she desires a Development Approval to accomplish the above desired request, as stated on Page One of this Application.

3. That he/she has appointed Rick Hartenstein - Wicks Engineering Services, Inc to act as (Agent) and/or Applicant in their behalf to accomplish the above.

4. Permission is granted for staff to conduct a site visit for purpose of review of this plan or development plan.

X _____
(Owner's Signature)

STATE OF FLORIDA

COUNTY OF ~~LAKE~~ Seminole

The foregoing instrument was acknowledged before me this 28 day of May, 20 19, by Tejinder Singh Grewal, who is personally known to me or who has produced FL DL as identification and who did ___ or did not ___ take an oath.

(SEAL)

MICHAEL LOPEZ
Notary Public – State of Florida
Commission # GG 172126
My Comm. Expires May 16, 2021

_____
Notary Public (Signature)

May 16, 2021
My Commission Expires:

Sunbiz.org

Detail by Entity Name

Florida Limited Liability Company

FRUITLAND PARK HOLDINGS, LLC

Filing Information

Document Number	L17000086420
FEI/EIN Number	NONE
Date Filed	04/18/2017
State	FL
Status	ACTIVE

Principal Address

1330 SAXON BLVD.
ORANGE CITY, FL 32763

Mailing Address

1330 SAXON BLVD.
ORANGE CITY, FL 32763

Registered Agent Name & Address

NISHAD KHAN PL
617 E. COLONIAL DRIVE
ORLANDO, FL 32803

Authorized Person(s) Detail

Name & Address

Title MGR

GREWALL, TEJINDER S
1330 SAXON BLVD.
ORANGE CITY, FL 32763

Annual Reports

No Annual Reports Filed

Document Images

04/18/2017 -- Florida Limited Liability | View image in PDF format

IC Int. Carwash

AGENT/APLLICANT'S AFFIDAVIT

STATE OF FLORIDA

COUNTY OF LAKE

BEFORE ME, the undersigned authority personally appeared Rick Hartenstein, Wicks Engineering, who being first duly sworn on oath, deposes and says:

1. That he/she affirms and Certifies that he/she understands and will comply with all Ordinances, Regulations, and Provisions of Fruitland Park, and that all statements and diagrams submitted herewith and attached hereto, are true and accurate to the best of their knowledge and belief, and further, that this application and attachments shall become part of the Official Records of Fruitland Park, Florida, and are **NOT RETURNABLE**.
2. That he/she desires a Development Approval for the use of property as proposed, for the property legally described on this Application.

3. That the submittal requirements for this Application, which are attached hereto, have been completed and attached hereto as part of this Application.

(Agent / Applicant's Signature)

STATE OF FLORIDA

COUNTY OF LAKE

The foregoing instrument was acknowledged before me this 4th day of June, 2019, by Rick Hartenstein, who is personally known to me or who has produced _____ as identification and who did _____ or did not ✓ take an oath.

(SEAL)

Notary Public (Signature)

CHRISTINA K HENDERSON
MY COMMISSION # FF941316
EXPIRES January 01 2020
(407) 398-0153 FloridaNotaryService.com

My Commission Expires:

INSTRUMENT#: 2016052422 OR BK 4782 PG 1805 PAGES: 22 5/20/2016 1:26:36 PM
NEIL KELLY, LAKE COUNTY CLERK OF THE CIRCUIT COURT
REC FEES: $188.50 DEED DOC:$0.70

Prepared By and Record and Return to:

Danielle DeVito-Hurley, Esq.
Gunster, Yoakley & Stewart, P.A.
450 East Las Olas Blvd., Suite 1400
Fort Lauderdale, FL 33301

RETURN TO:
FIDELITY NATIONAL TITLE
ATTN: SUE ROBINSON
5690 W. Cypress Street, Suite A
Tampa, FL 33607
File No 16-23548

RECIPROCAL EASEMENT AGREEMENT

THIS RECIPROCAL EASEMENT AGREEMENT (this "Agreement") is made as of this 19 day of May, 2016, by **VAN MF FRUITLAND, LLC**, a Florida limited liability company ("Developer" or "Parcel A Owner" or "Parcel C Owner") and **EPIS INVESTMENTS, LLC**, a California limited liability company ("Parcel B Owner") (Parcel A Owner, Parcel B Owner and Parcel C Owner are collectively referred to as the "Owners" and, individually, as an "Owner").

WITNESSETH THAT:

A. Developer is the owner of those certain parcels of land situate, lying and being in the City of Fruitland Park, County of Lake, State of Florida and being more particularly described on **Exhibit A-1** attached hereto (the ".41 Acre Parcel" or "Parcel A") and **Exhibit A-2** attached hereto (the "1.71 Acre Parcel" or "Parcel C").

B. On or about the date hereof, Developer is conveying to Parcel B Owner that certain parcel of land situate, lying and being in the City of Fruitland Park, County of Lake, State of Florida and being more particularly described on **Exhibit B** attached hereto (the "1.01 Acre Parcel" or "Parcel B"), which is located adjacent to Parcel A and Parcel C (Parcel A, Parcel B and Parcel C are collectively referred to as the "Parcels" and, individually, as a "Parcel").

C. The parties hereto desire to impose certain easements upon the Parcels, and to establish certain covenants, conditions and restrictions with respect to said Parcels, for the mutual and reciprocal benefit and complement of Parcel A, Parcel B and Parcel C and the Owners thereof, together with the (i) the tenants and occupants of the Parcels, and (ii) the respective employees, agents, contractors, customers, invitees and licenses of the Owners and such tenants and occupants (collectively, the "Permittees"), subject to the terms and conditions hereinafter set forth.

NOW, THEREFORE, for Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Developer and

Parcel B Owner hereby agree that the above recitals are true and correct and incorporated herein and further agree as follows:

1. Access Easement.

a. Access Easement Area. Each Owner hereby grants to the other Owners and their respective Permittees, a non-exclusive, perpetual easement over and across that certain paved driveway as may exist from time to time and more particularly described on **Exhibit C** attached hereto (the "Driveway" or the "Access Easement Area") solely for the purposes of vehicular access by such Owners and Permittees. The rights granted herein shall be solely for the purposes described in the immediately preceding sentence and no Parcel Owner (or Permittee thereof) shall have any right to, among other things: (a) the use of any portion of any Parcel not owned by such Parcel Owner for parking or pedestrian ingress or egress; or (b) except as set forth in Section 8(b) below, maintain, repair, replace or in any way alter the improvements constructed within any portion of the Driveway not actually located on each Owner's Parcel.

b. Upon the development of Parcel A, the Parcel A Owner shall have the right to connect its driveway to the Driveway located on Parcel B, at the sole cost and expense of the Parcel A Owner, which shall include the right to construct a portion of the driveway on Parcel B in order to connect the driveway located on Parcel A to the Driveway located on Parcel B (the "Parcel A Connection"). The Parcel A Connection shall be located on Parcel B as required by law and upon completion of construction of the Parcel A Connection, the Access Easement Area shall be expanded to include the Parcel A Connection in order for Parcel A to have access over and across the Driveway on Parcel B and Parcel C.

c. In no event shall the Driveway be blocked, closed, altered, changed or removed without the prior written consent of all of the Owners (other than in connection with temporary closures for reasonable maintenance and repair or to reasonably avoid dedication to the public); provided that the access openings between the portion of the Driveway on Parcel C that connects to the portion of the Driveway on Parcel B may be relocated by Parcel C Owner in connection with the development of Parcel C). Each Owner shall maintain between the Parcels a smooth and level grade transition to allow the use of the Driveway for vehicular ingress and egress as set forth above.

d. Maintenance. Each Owner shall maintain the portion of the Driveway located on their respective Parcel in good condition and repair and in compliance with all applicable laws, rules and regulations, at its own expense; provided, however that if any Owner determines in its commercially reasonable discretion to repave the entire portion of the Driveway located on its respective Parcel from time to time due to wear and tear, then the actual, third-party reasonable costs incurred in connection with such repaving (the "Repaving Costs") shall be split among the three (3) Parcels based upon their Proportionate Share (defined below). Each Owner shall pay its Proportionate Share of any Repaving Costs within thirty (30) days after written notice from the repaving Owner together with copies of invoices and a calculation of the amount due.

e. The electricity for the lights located on the Driveway and the Sign (as defined below) is located in an electrical house panel on Parcel B (the "Electrical Panel"). Parcel A and Parcel C shall have a non-exclusive perpetual easement to receive electricity from the Electrical Panel to provide electrical power for the lights located on any portion of the Driveway located on their respective Parcel and for the Sign Panel (as defined below) on the Sign. Parcel B Owner shall maintain the Electrical Panel in good condition and repair and in compliance with all applicable laws, rules and regulations, which shall include the obligation to repair and/or replace the Electrical Panel as necessary. The costs of any such maintenance, repair or replacement shall be split among the three (3) Parcels based upon their Proportionate Share. Parcel A Owner and Parcel C Owner shall pay their proportionate share of any such costs within thirty (30) days after written notice from Parcel B Owner, together with copies of invoices and a calculation of the amount due. The electricity from the Electric Panel will be billed to each Parcel based upon their Proportionate Share, and shall be payable monthly. Until such time as Developer is not an owner of Parcel A or Parcel C, Developer shall be responsible for the monthly billing and collection of such electric use. Upon the sale of the last of Parcel A and Parcel C, such new Owner of the last of Parcel A and Parcel C shall thereafter be responsible for such billing and collection.

2. Drainage Easement.

a. Drainage Easement Area. Each Owner hereby grants to each other and their Permittees, a non-exclusive easement on, over, under and across the "Offsite Drainage Diversion Swale" as more particularly depicted on **Exhibit D** attached hereto (the "Drainage Easement Area") for drainage and retention of surface and storm water runoff from the Driveway.

b. Relocation. Upon redevelopment of Parcel A or Parcel C, Developer shall have the right, but not the obligation, to relocate the Drainage Easement Area entirely within the boundaries of Parcel A and/or Parcel C, at Developer's sole cost and expense, provided that such relocation does not materially impact the drainage and retention of surface and storm water runoff from the Driveway.

c. Maintenance. Each Owner shall maintain the portion of the Drainage Easement Area located on their respective Parcel in good condition and repair and in compliance with all applicable laws, rules and regulations, at its own expense. Should the relocation of the Drainage Easement Area cause the Drainage Easement Area to be located solely on a Parcel, then, in such an event, the cost of maintenance of the Drainage Easement Area shall remain the responsibility of the Parcels upon which it was originally located.

3. Sign Easement.

a. Sign Easement Area. Parcel B Owner hereby grants to the Developer, as the Owner of Parcel A and Parcel C, and their respective Permittees, a non-exclusive perpetual easement (the "Sign Easement") (i) to install, maintain, illuminate, repair and replace the lower panel on the existing illuminated pylon sign ("Sign Panel") located on Parcel B in the location depicted on **Exhibit E** attached hereto (the "Sign Easement Area") for the benefit of either

Parcel A or Parcel C (it being understood that prior to, concurrently with or after the development of Parcel A and/or Parcel C, Developer shall provide written notice to Parcel B Owner as to which Parcel shall receive the benefit of this Sign Easement as determined by Developer in its sole discretion (such Parcel hereinafter referred to as the "Benefited Parcel"), and the Owner thereof, its successors, assigns, tenants, agents, contractors, employees and invitees, and (ii) for reasonable access over, across, under and through such portions of Parcel B by the Owner of the Benefitted Parcel and its successors, assigns, tenants, agents, contractors, employees and invitees, to and from the Sign Easement Area, from time to time, as is reasonably necessary for the purposes of installing, illuminating, maintaining, repairing and replacing the Sign Panel.

b. Maintenance. Each Owner shall maintain their respective sign panel on the Sign in good condition and repair and in compliance with all applicable laws, rules and regulations at its own expense. Any maintenance, repair or replacement of the structure of the Sign shall be split equally among the Owners of the two (2) sign panels.

c. Alteration or Replacement. In no event shall the Sign or the Sign Panel be modified, altered, replaced and/or removed without the written consent of Parcel B Owner and the Owner of the Benefitted Parcel.

4. The Access Easement Area, Drainage Easement Area and Sign Easement Area are individually and collectively referred to herein as the "Easement Area(s)".

5. Proportionate Share: The Parcels' "Proportionate Share" is calculated by dividing the acreage of each Parcel by the total acreage of the three (3) Parcels (i.e., the proportionate share of Parcel A is thirteen percent (13%) (i.e., .41/3.13), Parcel B is thirty-two percent (32%) (i.e., 1.01/3.13) and Parcel C is fifty-five percent (55%) (i.e., 1.7.1/3.13). Notwithstanding the foregoing, (i) in no event shall Parcel A Owner or Parcel C Owner be responsible for their Proportionate Share hereunder until such time as a final certificate of occupancy is issued by the applicable governmental authority for the improvements to be constructed on Parcel A or Parcel C, respectively (provided, however that Parcel A Owner and/or Parcel C Owner shall be responsible for any uninsured damage to the Driveways caused by the negligent or willful act of any such Owner, its tenant(s) or tenant's agents, contractors, subtenants, licensees, employees or invitees prior to the issuance of a final certificate of occupancy for its respective Parcel); and (ii) in no event shall any Owner be responsible to pay for any maintenance or repair costs that are the result of (x) the failure of an Owner or its tenant(s) to properly maintain the improvements on such Owner's Tract, or (y) any uninsured damage caused by the negligent or willful act of any such Owner, its tenant(s) or tenant's agents, contractors, subtenants, licensees, employees or invitees.

6. Repair of Easement Areas. Except as set forth in Section 1(b) and 3(a) above and Section 10(b) below, no Owner shall have any right or obligation to, among other things, maintain, repair, replace or in any way alter the improvements constructed within the Easement Areas, unless such improvements are located within the portion of the Parcel owned by the applicable Owner.

7. Taxes and Assessments. Each Owner shall pay all taxes, assessments, or charges of any type levied or made by any governmental body or agency with respect to its Parcel.

8. Reasonable Use of Easements. The easements herein above granted shall be used and enjoyed by each Owner and its Permittees in such a manner so as not to unreasonably interfere with, obstruct or delay the use, enjoyment, or development of the Parcels, or the conduct and operations of the business of any other Owner or its Permittees at any time conducted on its Parcel, including, without limitation, public access to and from said businesses, and the receipt or delivery of merchandise in connection therewith.

9. Insurance. Each Owner hereby agrees to maintain, or cause any tenant on its Parcel to maintain in the alternative, commercial general liability insurance, with a contractual liability endorsement: (a) in an amount of not less than $2,000,000 combined single limit for personal injury, bodily injury or death, or property damage or destruction (including loss of use thereof) per occurrence caused by each Owner's or its tenants', subtenants', licensees', concessionaires', employees', mortgagees' in possession, independent contractors' and business invitees' use of the portion of the Easement Area(s) owned by such other Owner; (b) issued by responsible insurers with an A.M. best rating of at least A-/VIII in the then current edition of Best's Insurance Guide and shall be licensed in the State of Florida; and (c) which shall be evidenced by a certificate of insurance naming the other Owner as an additional insured. Each Owner agrees that all policies of insurance to be kept and maintained in force by the respective parties hereto, shall, unless prohibited by law or other regulation having the effect of law, contain provisions in which the rights of subrogation against the Parcel A Owner, Parcel B Owner and Parcel C Owner are waived by the insurance company or carriers insuring the Easement Area(s).

10. Remedies and Enforcement.

a. All Legal and Equitable Remedies Available. In the event any Owner fails to perform any of its obligations hereunder or otherwise breaches any of the terms, covenants, restrictions or conditions hereof, and said defaulting Owner fails to cure such default within thirty (30) days following written notice thereof by a non-defaulting Owner (unless, with respect to any such breach the nature of which cannot reasonably be cured within such 30-day period, the defaulting Owner commences such cure within such 30-day period and thereafter diligently prosecutes such cure to completion), the non-defaulting Owner shall be entitled forthwith to full and adequate relief by injunction and/or all such other available legal and equitable remedies from the consequences of such breach, including payment of any amounts due and/or specific performance.

b. Self-Help. In addition to all other remedies available at law or in equity, upon the failure of a defaulting Owner to cure a breach of this Agreement within the thirty (30) day period set forth in Section 10(a) above, the non-defaulting Owner shall have the right to perform such obligation contained in this Agreement on behalf of such defaulting Owner and be reimbursed by such defaulting Owner upon demand for the reasonable costs thereof together with interest at the prime rate published in the Wall Street Journal (the "Wall Street Journal Prime Rate") charged from time to time by (its successors or assigns), plus six percent (6%) (not to exceed the maximum rate of interest allowed by law). Notwithstanding the foregoing, in the

event of (i) an emergency, or (ii) blockage or material impairment of the easement rights which is not permitted by the terms of this Agreement, an Owner may immediately perform the obligations of the other Owner on behalf of such Owner and be reimbursed by the other Owner upon demand for the reasonable cost thereof together with interest at the Wall Street Journal Prime Rate, plus six percent (6%) (not to exceed the maximum rate of interest allowed by law).

c. Lien Rights. Any claim for reimbursement, including interest as aforesaid, and all costs and expenses including reasonable attorneys' fees awarded to any Owner in enforcing any payment in any suit or proceeding under this Agreement shall be assessed against the defaulting Owner in favor of the prevailing party and shall constitute a lien (the "Assessment Lien") against the Parcel of the defaulting Owner until paid, effective upon the recording of a notice of lien with respect thereto in the Office of the County Recorder of Lake County, Florida; provided, however, that any such Assessment Lien shall be subject and subordinate to (i) liens for taxes and other public charges which by applicable law are expressly made superior, (ii) all liens recorded in the Office of the County Recorder of Lake County, Florida prior to the date of recordation of said notice of lien, and (iii) all leases entered into, whether or not recorded, prior to the date of recordation of said notice of lien. All liens recorded subsequent to the recordation of the notice of lien described herein shall be junior and subordinate to the Assessment Lien. Upon the timely curing by the defaulting Owner of any default for which a notice of lien was recorded, the party recording same shall promptly record an appropriate release of such notice of lien and Assessment Lien.

d. Estoppel. From time to time, each Owner (the "Non-Requesting Owner"), shall, no later than thirty (30) days' following written notice from the other Owner (the "Requesting Owner"), execute and deliver to the Requesting Owner a statement in writing certifying: (i) that this Agreement is unmodified and in full force and effect (or if there shall have been any modification, that the same is in full force and effect as modified and stating the modification), (ii) there are no monies due from the Requesting Owner under this Agreement, (iii) whether or not the Requesting Owner is in default in the performance of any covenant, agreement, or condition contained in this Agreement on its part to be performed, and, if so, specifying each such default, and (iv) such other matters as may be reasonably required by institutional lenders in similar estoppels-type certificates.

e. Remedies Cumulative. The remedies specified herein shall be cumulative and in addition to all other remedies permitted at law or in equity.

f. No Termination For Breach. Notwithstanding the foregoing to the contrary, no breach hereunder shall entitle any Owner to cancel, rescind, or otherwise terminate this Agreement. No breach hereunder shall defeat or render invalid the lien of any mortgage or deed of trust upon any Parcel made in good faith for value, but the easements, covenants, conditions and restrictions hereof shall be binding upon and effective against any Owner of such Parcel covered hereby whose title thereto is acquired by foreclosure, trustees sale, or otherwise.

11. Term. The easements, covenants, conditions and restrictions contained in this Agreement shall be effective commencing on the date of recordation of this Agreement in the office of the Lake County Recorder and shall remain in full force and effect thereafter in

perpetuity, unless this Agreement is modified, amended, canceled or terminated by the written consent of all then record Owners of Parcel A, Parcel B and Parcel C. For the purposes of this Agreement, the term "Owners" includes Parcel A Owner, Parcel B Owner and Parcel C Owner and their respective successors in fee simple ownership of Parcel A, Parcel B and Parcel C.

12. Miscellaneous.

a. Amendments. The parties agree that the provisions of this Agreement may be modified or amended, in whole or in part, or terminated, only by the written consent of all record Owners of Parcel A, Parcel B and Parcel C, evidenced by a document that has been fully executed and acknowledged by all such record Owners and recorded in the official records of the County Recorder of Lake County, Florida.

b. Attorneys' Fees. In the event a party institutes any legal action or proceeding for the enforcement of any right or obligation herein contained, the prevailing party after a final adjudication shall be entitled to recover its costs and reasonable attorneys' fees incurred in the preparation and prosecution of such action or proceeding.

c. No Public Use. Nothing herein contained shall be deemed to be a gift or dedication of any portion of the Parcels described herein to the general public or for general public purposes whatsoever, it being the intention of the parties that this Agreement shall be strictly limited to and for the purposes herein expressed.

d. Severability. Each provision of this Agreement and the application thereof to Parcel A, Parcel B and Parcel C are hereby declared to be independent of and severable from the remainder of this Agreement. If any provision contained herein shall be held to be invalid or to be unenforceable or not to run with the land, such holding shall not affect the validity or enforceability of the remainder of this Agreement. In the event the validity or enforceability of any provision of this Agreement is held to be dependent upon the existence of a specific legal description, the parties agree to promptly cause such legal description to be prepared. Ownership of two (2) Parcels by the same person or entity shall not terminate this Agreement nor in any manner affect or impair the validity or enforceability of this Agreement.

e. Consents. Wherever in this Agreement the consent or approval of an Owner is required, unless otherwise expressly provided herein, such consent or approval shall not be unreasonably withheld, conditioned or delayed. Any request for consent or approval shall: (a) be in writing; (b) specify the section hereof which requires that such notice be given or that such consent or approval be obtained; and (c) be accompanied by such background data as is reasonably necessary to make an informed decision thereon. The consent of an Owner under this Agreement, to be effective, must be given, denied or conditioned expressly and in writing.

f. No Waiver. No waiver of any default of any obligation by any party hereto shall be implied from any omission by the other party to take any action with respect to such default.

g. No Agency. Nothing in this Agreement shall be deemed or construed by either party or by any third person to create the relationship of principal and agent or of limited or general partners or of joint venturers or of any other association between the parties.

h. Binding Effect. The rights contained within this Agreement shall run with the lands described herein and shall inure to and be for the benefit of Owners and their successors and assigns, and the tenants, subtenants, licensees, agents, concessionaires, employees, mortgagees in possession, independent contractors and business invitees thereof.

i. Grantee's Acceptance. The grantee of any Parcel or any portion thereof, by acceptance of a deed conveying title thereto or the execution of a contract for the purchase thereof, whether from an original party or from a subsequent owner of such Parcel, shall accept such deed or contract upon and subject to each and all of the easements, covenants, conditions, restrictions and obligations contained herein. By such acceptance, any such grantee shall for himself and his successors, assigns, heirs, and personal representatives, covenant, consent, and agree to and with the other party, to keep, observe, comply with, and perform the obligations and agreements set forth herein with respect to the property so acquired by such grantee.

j. Time of Essence. Time is of the essence of this Agreement.

k. Entire Agreement. This Agreement contains the complete understanding and agreement of the parties hereto with respect to all matters referred to herein, and all prior representations, negotiations, and understandings are superseded hereby.

l. Governing Law. The laws of the State in which the Parcels are located shall govern the interpretation, validity, performance, and enforcement of this Agreement.

m. Bankruptcy. In the event of any bankruptcy affecting any Owner of any Parcel, the parties agree that this Agreement shall, to the maximum extent permitted by law, be considered an agreement that runs with the land and that is not rejectable, in whole or in part, by the bankrupt person or entity.

n. Notices. Notices or other communication hereunder shall be in writing and shall be sent certified or registered mail, return receipt requested, or by other national overnight courier company, or personal delivery. Notice shall be deemed given upon receipt or refusal to accept delivery. Each party may change from time to time their respective address for notice hereunder by like notice to the other party. The notice addresses of the Developer and the Parcel B Owner are as follows

Developer: VAN MF FRUITLAND, LLC
c/o Vantage Properties
400 Carillon Parkway, Suite 230
St. Petersburg, Florida 33716
Attention: Greg Nowak
Phone: (727) 302-8040;
Email:gnowak@vantagellp.com & vnorman@vantagellp.com

with a copy to: Gunster, Yoakley & Stewart, P.A.
Las Olas Centre
450 Las Olas Boulevard, Suite 1400
Fort Lauderdale, FL 33301
Attention: Danielle DeVito-Hurley, Esq.
Phone: (954) 468-1328; Email: ddevito@gunster.com

Parcel B Owner: EPIS INVESTMENTS, LLC
8901 Earhart Ave.
Los Angeles, CA 90045
c/o Joanne Orenski
Phone: 310-384-7544 Email: JORENSKI@GMAIL.COM

with a copy to: Baker Monroe PLLC
1300 S. University, Suite 318
Fort Worth, Texas 76107
Attn: Justin P. Huston
Tel: (817) 632.6301; Email: jhuston@bamolaw.com

o. Subject to Matters. This Agreement is subject to all covenants, conditions, restrictions, reservations, rights-of-way, easements, liens, mortgages, limitations on title, if any, ad valorem taxes for the current year and subsequent years, and all other matters of record in the Public Records of Lake County, Florida.

[TEXT AND SIGNATURES FOLLOW]

IN WITNESS WHEREOF, Owners have caused this Agreement to be executed the day and year first above written.

WITNESSES:

Signature of Witness
Vanessa Norman
Printed Name

Signature of Witness
TIM HARVEY
Printed Name

DEVELOPER:

VAN MF FRUITLAND, LLC, a Florida limited liability company

By: _____
Name: Greg A. Nowak, Manager
Title: _____

[ADDITIONAL SIGNATURES FOLLOW]

WITNESSES:

Catherine A. Forton
Signature of Witness
Catherine A. Forton
Printed Name

Signature of Witness
Jennifer Mulligan
Printed Name

Signature of Witness

Printed Name

Signature of Witness

Printed Name

PARCEL B OWNER:

EPIS INVESTMENTS, LLC, a California limited liability company

By: David L. and Joanne Orenski Living Trust dated September 16, 2004-Member

By: David L. Orenski
David L. Orenski, Trustee

By:
Joanne Orenski, Trustee

By: Sally Daley Revocable Trust dated May 10, 2006-Member

By: _____
Sally Daley, Trustee

[ACKNOWLEDGMENTS FOLLOW]

WITNESSES:

PARCEL B OWNER:

EPIS INVESTMENTS, LLC, a California limited liability company

By: David L. and Joanne Orenski Living Trust dated September 16, 2004-Member

By: _____
David L. Orenski, Trustee

_____
Signature of Witness

_____
Printed Name

By: _____
Joanne Orenski, Trustee

_____
Signature of Witness

_____
Printed Name

By: Sally Daley Revocable Trust dated May 10, 2006-Member

By: _____
Sally Daley, Trustee

_____
Signature of Witness

ROBERT W. PATTERSON
Printed Name

_____
Signature of Witness

Melissa Macomb
Printed Name

[ACKNOWLEDGMENTS FOLLOW]

STATE OF Florida
COUNTY OF Pinellas

The foregoing instrument was acknowledged before me this 16th day of May, 2016, by Greg A. Nowak, as Manager of VAN MF FRUITLAND, LLC, a Florida limited liability company, on behalf of said national banking association. He is X personally known to me or ____ has produced _____ as identification.

[NOTARY SEAL]

NOTARY PUBLIC, STATE OF FLORIDA
Print Name: Vanessa M. Norman

VANESSA M. NORMAN
MY COMMISSION # FF925805
EXPIRES: October 08, 2019

STATE OF Florida
COUNTY OF Charlotte

The foregoing instrument was acknowledged before me this 18th day of May, 2016, by Sally Daley, Trustee of Sally Daley Revocable Trust dated May 10, 2006, Member of EPIS INVESTMENTS, LLC, a California limited liability company, on behalf of the trust. He/She/ is/ ___ personally known to me or X has produced FLDL and _____ as identification.

[NOTARY SEAL]

NOTARY PUBLIC, STATE OF Florida
Print Name: ROBERT W. PATTERSON

ROBERT W. PATTERSON
MY COMMISSION # EE 861981
EXPIRES: February 24, 2017
Bonded Thru Notary Public Underwriters

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2016, by David L. Orenski, Trustee, and Joanne Orenski, Trustee, of David L. and Joanne Orenski Living Trust dated September 16, 2004, Member of EPIS INVESTMENTS, LLC, a California limited liability company, on behalf of the trust. They are ___ personally known to me or ____ have produced _____ and _____ as identification.

[NOTARY SEAL]

NOTARY PUBLIC, STATE OF _____
Print Name: _____

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2016, by Sally Daley, Trustee of Sally Daley Revocable Trust dated May 10, 2006, Member of EPIS INVESTMENTS, LLC, a California limited liability company, on behalf of the trust. He/She/ is/ ___ personally known to me or ____ has produced _____ and _____ as identification.

[NOTARY SEAL]

_____
NOTARY PUBLIC, STATE OF _____
Print Name:_____

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2016, by David L. Orenski, Trustee, and Joanne Orenski, Trustee, of David L. and Joanne Orenski Living Trust dated September 16, 2004, Member of EPIS INVESTMENTS, LLC, a California limited liability company, on behalf of the trust. They are ___ personally known to me or ____ have produced _____ and _____ as identification.

[NOTARY SEAL]

See attached.
NOTARY PUBLIC, STATE OF _____
Print Name:_____

California All-Purpose Certificate of Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Los Angeles S.S.

On May 17, 2016 before me, J. Mulligan, Notary Public
Name of Notary Public, Title

personally appeared David L. Orenski &
Name of Signer (1)

Joanne Orenski
Name of Signer (2)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public

J. MULLIGAN
COMM. # 1981040
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
MY COMM. EXP. JULY 4, 2016

Seal

OPTIONAL INFORMATION

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this acknowledgment to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of _____

containing _____ pages, and dated _____.

The signer(s) capacity or authority is/are as:

- ☐ Individual(s)
- ☐ Attorney-in-fact
- ☐ Corporate Officer(s) _____
  Title(s)
- ☐ Guardian/Conservator
- ☐ Partner - Limited/General
- ☒ Trustee(s)
- ☐ Other: _____

representing: _____
Name(s) of Person(s) or Entity(ies) Signer is Representing

Additional Information

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:

☒ form(s) of identification ☐ credible witness(es)

Notarial event is detailed in notary journal on:

Page # _____ Entry # _____

Notary contact: _____

Other

☐ Additional Signer ☐ Signer(s) Thumbprints(s)

☐ _____

EXHIBIT A-1

PARCEL A-1

BEGINNING AT A POINT 566.5 FEET SOUTH AND 100 FEET EAST OF THE NORTHWEST CORNER OF THE SOUTHEAST ¼ OF SOUTHWEST ¼ OF SAID SECTION; RUN THENCE EAST 100 FEET; THENCE SOUTH 200 FEET TO THE NORTH LINE OF THE HIGHWAY; THENCE NORTHWESTERLY ALONG THE NORTH LINE OF THE HIGHWAY A DISTANCE OF 110.5 FEET TO A POINT SOUTH OF THE POINT OF BEGINNING; THENCE NORTH 152.1 FEET TO THE POINT OF BEGINNING.

EXHIBIT A-2

PARCEL A-2

THAT PART OF THE NORTH 229 FEET OF THE SOUTH 991 FEET OF THE SOUTHEAST ¼ OF THE SOUTHWEST ¼ OF SECTION 10, TOWNSHIP 19 SOUTH, RANGE 24 EAST, IN LAKE COUNTY, FLORIDA, LYING WEST OF THE WESTERLY LINE OF THE RIGHT OF WAY OF U.S. HIGHWAY NO 27.

EXHIBIT B

PARCEL B

BEGINNING 566.5 FEET SOUTH AND 200 FEET EAST OF THE NORTHWEST CORNER OF SOUTHEAST QUARTER OF SOUTHWEST QUARTER; RUN EAST 205.5 FEET, THENCE RUN SOUTH 24°36'EAST, 140 FEET; THENCE SOUTH 59°31 WEST 219 FEET, THENCE NORTHWESTERLY ALONG HIGHWAY. 84 FEET; THENCE NORTH 200 FEET TO THE POINT BEGINNING, IN SEC. 10, TOWNSHIP 19 SOUTH , RANGE 24 EAST, LYING AND BEING IN LAKE COUNTY, FLORIDA, LESS THAT PORTION THEREOF LYING WITHIN 100 FEET OF THE SURVEY LINE OF STATE ROAD 25-500, SECTION 1104.

EXHIBIT C

DRIVEWAY/ACCESS EASEMENT AREA

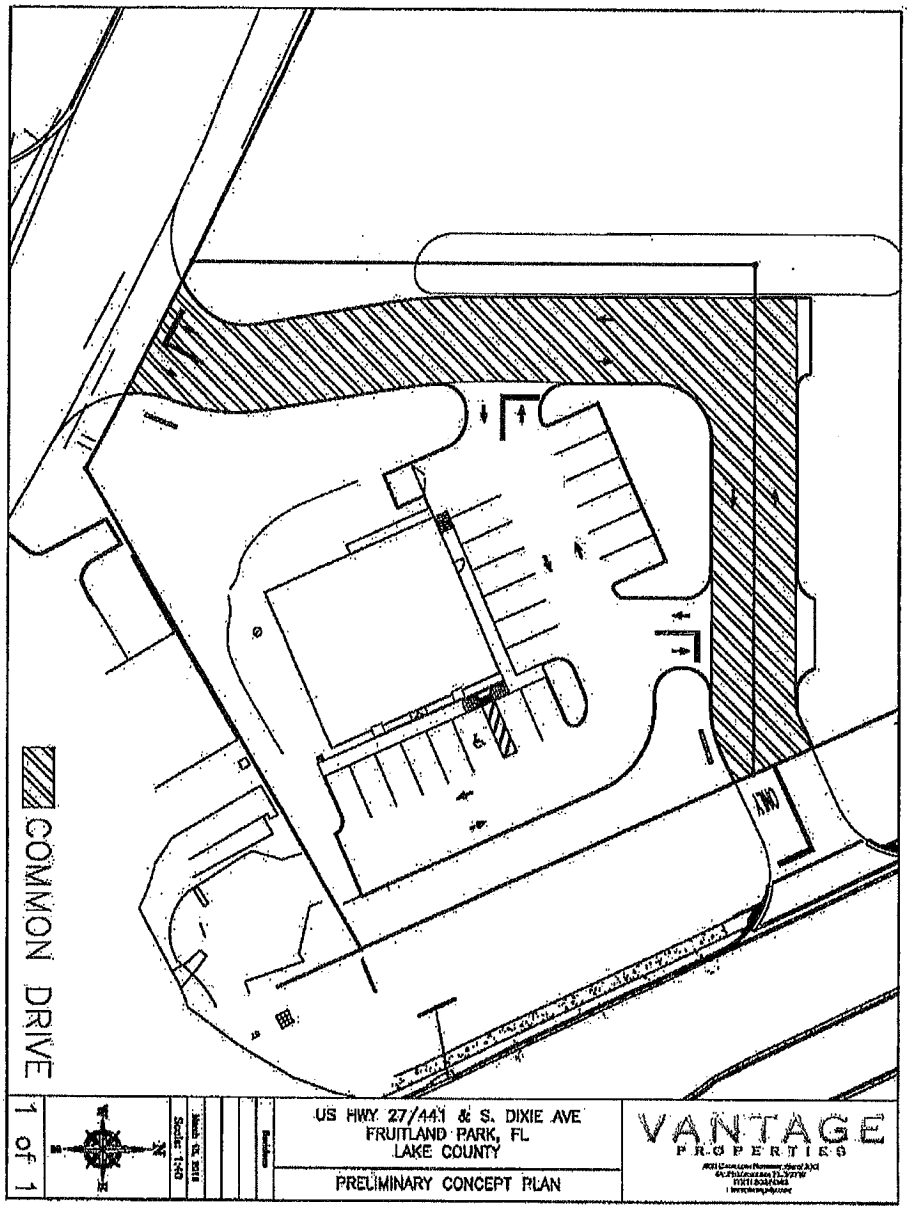


EXHIBIT D

DRAINAGE EASEMENT AREA

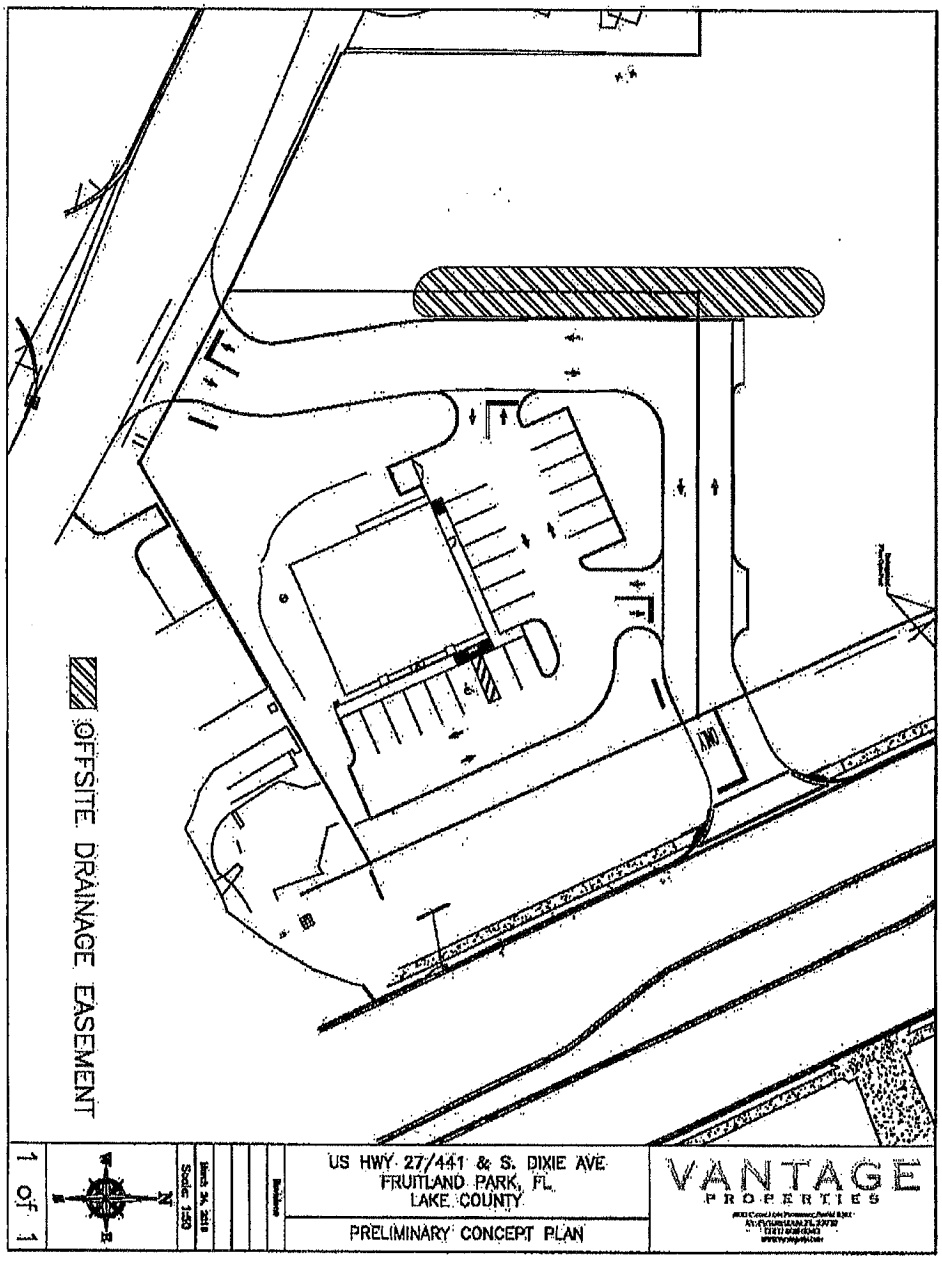
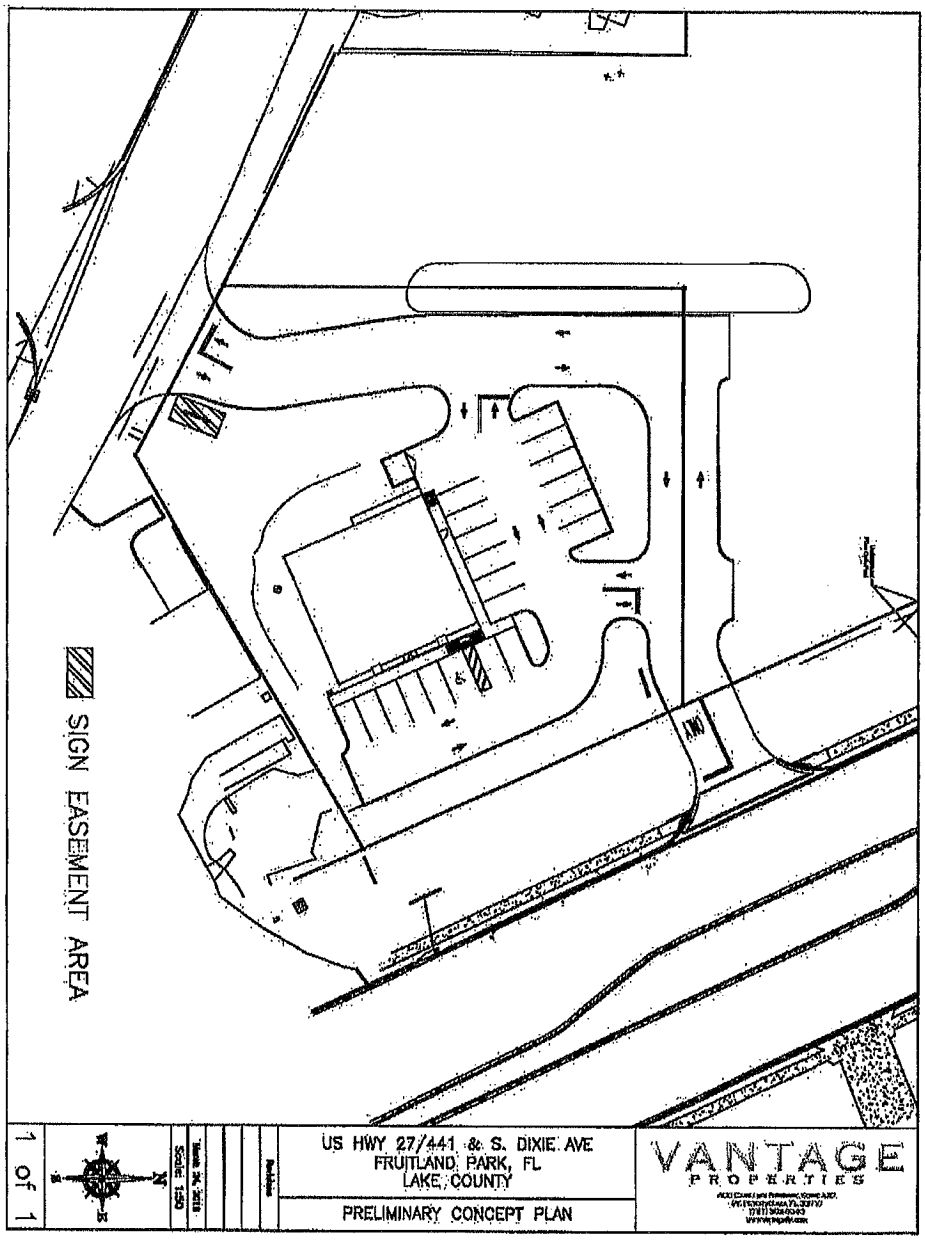


EXHIBIT E

SIGN EASEMENT AREA



Environmental
and
Natural Resource Assessment

Prepared for
Tejinder S. Grewal
1330 Saxon Blvd.
Orange City, FL 32763

Prepared by
Ray and Associates
Planning and Environmental
William (Bill) A. Ray, AICP & Environmental Specialist
352-425-8881

wrayassoc@aol.com

William A. Ray, AICP, Senior Environmental Specialist

April 25th, 2018
Updated October 18th, 2018 to include
Gopher Tortoise Survey
Sand Skink Pre-Consultation (Update November 1st, 2018)
Annual Update: 8.26.19

Table of Contents

I. Project Description

The subject 1.74$^{+/-}$ Acre Site is located in North Central Lake County, in the Town of Fruitland Park. The subject property is located in Section 10, Township 19 South, Range 24 East. The subject site is further identified by the Lake County Property Appraiser as;

Parcel Number	Alternate Key #	Acreage$^{+/-}$
10-19-24-0003-000-6800	1170621	1.74

(See Exhibit 1-Location Map and Exhibit 2-Site Aerial Map).

The total site area project consists of approximately 1.74$^{+/-}$ Acres. The subject site is surrounded suburban Residential and Commercial uses. The area is continuing to develop in an Urban / Commercial manner.

The Landowner/Developer proposes to clear, re-grade and construct improvements on the existing site in accordance with local land development regulations. Site development is proposed to accommodate adequate site construction, provision of utilities, site access, landscaping, proper site drainage and treatment of stormwater necessary to develop a Commercial use as detailed in site plans prepared by Wicks Engineering.

Land Use types adjacent the project area includes existing Commercial services to the North and East, and South. Medium Density North West. The project obtains primary access via US 27/441 and CR 25A.

To construct the project, the applicant proposes to clear and grade the site in a manner sufficient to accommodate adequate access and parking, landscaping, proper site drainage and treatment of stormwater. See *Site Plan* prepared by Wicks Engineering.

A "*Phase I Environmental Site Assessment"* may be completed by others. This report does not address CERCLA compliance or associated requirements.

Survey Methodology

Pedestrian Surveys were conducted based upon North-South Transects beginning on the south property line with a Total of 11 Transects. A Pedestrian Survey was conducted on April 25th of 2018.

Surveys began on site approximately 9:30AM and continued to 12:30:00 PM. Temperature ranged from approximately 69^{o} F to 72^{o} F and in an acceptable range for wildlife observations. Skies were mostly clear.

The approximate location of the Pedestrian Transects can be seen on Exhibit 4.

Current photos of the Site and existing use can be seen on Exhibit 3.
Update Photos can be seen on Exhibit 3.1: Photos 8.26.19

II. Site Description

A. SOILS

Soils on the Project Site are depicted on Exhibit 6. The soil conditions observed on site are dense and compact. Candler Sand, 0 to 5 percent slopes, is the predominate soil found on site.

The soil survey geological (SSURGO) database created by the Natural Resources Conservation Service (NRCS) for Lake County, Florida, identifies the following soil types as occurring within the project site:

8 - Candler sand 0% to 5% slopes

This is a gentle to moderate sloping, Type A, excessively well drained soil. This soil occurs as both small and large areas of the sandy uplands. Water table is typically at a depth of more than 72 inches. Native vegetation typically is comprised of Live Oaks, Laurel Oaks, Pines, native grasses and shrubs.

B. PLANT COMMUNITETIES and FLORIDA LAND USE, COVER and FORMS CLASSIFICATION

Land use types located within the proposed Project Site were identified through a review of color aerials and site investigations. The on-site land use forms were classified using the Florida Land Use, Cover and Forms Classification System (FLUCFCS)) as defined by the Florida Department of Transportation (FDOT, 1999) and the Florida Land Use Cover Classification System (FLUCCS) as defined by the Florida Department of Environmental Protection (FDEP 2004-2011), see Exhibit 6 – FLUCCS Map.

General:
Site conditions are typical of those found in Lake County and Central Florida. The site was historically cleared and improved for the planting of Citrus. Overtime citrus uses either died off due to disease or freezing temperatures. Through the process of natural succession various trees, shrubs and herbaceous vegetation have obtained dominance.

The site is surrounded on the

East:	Highway and Low Density/Commercial,
South:	Commercial,
West:	Upland Mixed – Coniferous / Hardwood,
North:	Commercial

The region is continuing to develop in a suburban/urban manner. There is 1 Land Use Cover identified on the subject site.

Based on information obtained from FDEP, field observations and aerial interpretation, the following land use classifications (FLUCCS) best describe the vegetative communities present on-site and adjacent to the subject site:

Subject site:

1. FLUCCS – 4340, Upland Mixed Coniferous/Hardwood
This class is reserved for those forested areas in which neither upland conifers nor hardwoods achieve a 66 percent crown canopy dominance.

Surrounding and Adjacent Land Use:

1. FLUCCS – 1100: Low density<2 dwelling units/acre
This land use identified to the east and north west the subject site.

2. FLUCCS - 1400, Commercial and Services
This land use is identified to the North and South of the subject site.

3. FLUCCS – 4340, Upland Mixed Coniferous/Hardwood
This land use is identified to the west of the subject site.

The site is located in a suburban area of Lake County that is converting to more Urban and suburban uses. The biggest threat to the development of any high-quality wildlife habitat or sustainable natural ecosystem is primarily caused by fire exclusion. Vacant or Open lands become progressively less suitable for wildlife habitat as more non-fire resistant plants have established dominance over with time. In addition, the soil has been historically altered and compacted over time through management and normal site maintenance.

The subject is has a minimally maintained shrub/shrub understory with a dominate tree canopy of Oaks, Golden rain tree (*Koelreuteria elegans)* China Berry (*Melia azedarach; both are invasive and non-native*) and an understory dominated by Various shrubs, grapevines and grasses typically associated with Central Florida urban wooded areas.

Trees & Shrubs

Live oak	*(Q. virginiana)*,
Laurel oak	*(Q. laurifolia)*
Chickasaw Plumb	*(Prunus angustifolia*
Carolina Laurel Cherry	*(Prunus caroliniana)*
Red Bay	*(Persea borbonia)*
Cabbage Palm	*(Sabal palmetto*),
Saw Palmetto	*(Serenoa repens)*
Common Persimmon	(*Diospyros virginiana*)

The groundcover and majority of the site is dominated by;

Bahiagrass	(*Paspalum sp*.),
Bermudagrass	*(Cynodon sp.)*
Centipedegrass	*(Eremochloa ophiuroides)*
Switchgrass	*(Panicum virgatum)*
Florida Paspalum	*(Paspalum floridanum)*
Sunflowers	*(Helianthus spp.)*
Tickseeds	(*Coreopsis spp.*)
Horsemint	*(Monarda punctata)*
Broomsedge	*(Andropogon virginicus)*
Greenbrier	(*Smilax* sp.)
Grapevine	(*Vitis* sp.),
Goldenrod	(*Solidago* sp.)
Bluestem	(*Schizachyrium sp*),
Blackberry	(*Rubus* spp.)
Dogfennel	(*Eupatorium capillifolium*)
Variable witchgrass	*(Dichanthelium commutatum),*
Hairy Indigo	(*Indigofera hirsute*)
Pusley	(*Richardia scabra* L.)
Poaceae	*(Saccharum alopecuroides*)
Lantana	(*Lantana camara*),
Cactus	(*Opuntia* spp.)

Non-Native / Invasive

Chinaberry	(*Melia azedarach)*
Golden rain tree	(*Koelreuteria elegans)*
Camphor	(*Cinnamomum camphora)*
St. Augustine Grass	*(Stenotaphrum secundatum)*

This is not intended to be a 100% vegetative survey but rather provide a general acknowledgement of existing vegetation sufficient to provide a understanding of the existing site conditions.

In the natural condition for Florida, periodic fire is important in setting back plant succession and maintaining viable ecosystems. There was no evidence observed on site to indicate any periodic or previous fires.

The portion of the subject site that is proposed for development is surrounded by development or public streets to the North, South and East. The site is located in a sub-urbanizing area of Lake County. The absence of periodic fires has allow the ecosystem to change and various non-fire tolerant plant species to become established, exhibits low biodiversity and contains no scrub/shrub xeric plant communities of any significance.

Due to the size of the upland portion of the site and the fact that it is isolated from any other upland habitats, and not part of ant regional upland wildlife corridor or ecosystem there is minimal ecological habitat value provided by the subject site.

There are no other Land Uses associated with the subject site. The existing Land Cover is not Rare, Endangered or ecological unique to central Florida or the Region.

C. TOPOPGRAPGY

The Topography of the subject site can be seen on Exhibit 7. Elevation on site is generally uniform sloping from the east to west and south. Information obtained from FDEP indicates elevations between $96^{+/-}$ in the south west area to an elevation of approximately 79' in the eastern portion of the site. General contours can be seen on Exhibit 7.

D. WETLANDS

The subject site was evaluated for the presence of jurisdictional wetlands. General methodology detailed in Chapter 62-340 of the Florida Administrative Code and the 1987 US Army Corps of Engineers Wetland Delineation Manual was followed. Soils, Flood Planes, Vegetation and other historical information was researched and analyzed during the site investigation.

A review FDEP and the National Wetlands Inventory (NWI) together with Lake County's GIS data base do not indicate the presence of jurisdictional wetlands on the subject site. Site investigation and field evaluation on April 25th, 2018 confirm the absence of Jurisdictional wetland on the subject site.

See Exhibit 8 for the general location of the jurisdictional wetlands within the region based upon NWI mapping.

E. THREANTEND and ENDANGERED SPECIES

A literature review as well as professional experience and knowledge of the region was utilized to identify federally or state listed species most likely to be found within Lake County, Florida. The Project Site was then evaluated for the presence of those listed species identified by the United States Fish and Wildlife Service (USFWS) and/or the Florida Fish and Wildlife Conservation Commission (FWC). Site reviews were conducted by a Ray and Associates biologist on April 25th, 2018 to evaluate the property for potential presence of wildlife listed for protection.

The USFWS identifies the subject site as a Tier 5 Habitat. Tier 5 Habitats are those where we may have a measurable workload and little resource payoff. In the regulatory arena, these could be considered personnel "sinks". However, they may also present restoration opportunities to higher value habitats. These include:

- Agriculture

- Canal/Ditch
- Disturbed Transitional
- Urban/Developed

The subject project does not propose development of any identified "higher value habitats" by the Florida Natural Area Inventory (FNAI) or Strategic Habitat Conservation Areas as identified by FDEP.

The observation of potential habitat for 3 species listed for protection, or their habitat, was identified on the subject site. These species and the results of regulatory analysis are found below.

Gopher Tortoise, *Gopherus polyphemus*

Active, Potentially Occupied and Abandoned, Gopher Tortoise burrows were not observed on the project site. Gopher tortoises are a threatened wildlife species by the Florida Fish and Wildlife Conservation Commission (FWC) and are protected by state law, Chapter 68A–27, Florida Administrative Code. In accordance with the requirements of Rules 68A-25.002 and 68A-27.004 (F.A.C.), a permit for a gopher tortoise capture/relocation/release activity must be secured from FWC before initiating any relocation work. Gopher tortoises must be relocated or impacts to their burrows avoided in accordance with FWC Guidelines before any land clearing for development takes place. Property owners must obtain permits from the Florida Fish and Wildlife Conservation Commission before they can move or relocate any Gopher Tortoises.

It is recommended that 90 days prior to construction and site disturbance of those lands to be developed a physical survey for the Presence/Absence of Active, Inactive/Potential Occupied, or Abandoned Gopher Tortoise Borrows be completed in accordance with FWC Gopher Tortoise Guidelines. If Active or Potentially Active Gopher Tortoise Burrows are identified FWC regulations governing Gopher Tortoise protection, burrow excavation, relocation and mitigation are to be complied with.

Update: 100% of the subject site was surveyed for the presence of Active/ potentially Active and abandoned Gopher tortoise burrows in accordance with FWC Guidelines and regulations.

No active or potentially active burrows were located or identified on the subject site. The Survey results are shown on Exhibit 10.

Eastern Indigo Snake, *Drymarchon corais couperi*

During site surveys conducted for Active, Inactive/Potential Occupied or Abandoned Gopher Tortoise Burrows in compliance with the most current FWC Gopher Tortoise Permitting Guidelines, a pedestrian survey for Eastern Indigo Snakes should also be completed following the FWS **September 2011 Survey Protocol for the Eastern Indigo Snake, *Drymarchon couperi,* in North and Central Florida**.

At least 30 days prior to any clearing/land alteration activities and/or during any excavation activities associated with Gopher Tortoise relocation, if necessary, it is recommended the applicant agree to implement the **AUGUST 12, 2013, STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE** on the subject site.

SAND SKINK (*Neoseps reynoldsi*)

The Sand Skink is listed as "Threatened" by the USFWS and is endemic to the sandy ridges of central Florida, occurring in Highlands, Lake, Marion, Orange, Osceola, Polk, and Putnam counties (Christman, 1988).

Principal populations occur on the Lake Wales and Winter Haven Ridges in Highlands, Lake, and Polk counties. The sand skink is uncommon on the Mount Dora Ridge, including sites within the Ocala NF (Christman, 1970, 1992). As of 1997, there were 114 locality records for the sand skink, most of which are found within the Lake Wales Ridge.

The density of the sand skink varies considerably (Sutton 1996), attributing differences in abundance to habitat suitability. Seasonally, sand skinks are most active from mid-February through mid-May and again in late summer-early fall. Activity patterns suggest sand skinks are active during the morning and evening (Andrews 1994).

A review of the 2012 Sand Skink Species Consultation Area Map, site elevation and mapped soil types on-site, would suggest that appropriate habitat may be present for the Sand Skinks. It should be noted that all lands in Lake County comprised of well drained soil and are above elevation 82' are identified by USFWS as potential Sand Skink Habitat, regardless of prior site alterations or existing uses.

Sand Skinks prefer areas free of abundant plant roots, with open canopies, scattered shrubby vegetation, and patches of bare sand (Christman, 1978, 1992). Past disturbance, lack of any managed or prescribed fire program due to location within the City limits, density of grass root zone, continual agricultural maintenance, and extensive vegetation root system could exclude the area from being potentially occupied or utilized by sand skinks.

Habitat:

The sand skink is a unique lizard adapted to an underground existence. The sand skink inhabits loose sands of sand pine-rosemary scrub, less often longleaf pine-turkey oak (sandhill) or turkey oak "barrens" adjacent to scrub, especially high pine-scrub ecotones (Telford, 1998). Sometimes this lizard occurs in areas with dense undergrowth and extensive canopy closure (Mushinsky, 1998). It is basically fossorial (usually within 8 cm of surface) but sometimes can be found under logs, leaf litter, and other surface debris (Bartlett and Bartlett, 1999). Well-drained sands in open glades free of rooted plants are optimal, whereas dry, porous sands are unfavorable; moisture under leaf litter is important in regulation of body temperature (thermoregulation), successful egg

incubation and conditions favorable for the skink's prey (Telford, 1959). The sand skink eats mainly beetle larvae and termites, also adult beetles, spiders, caterpillars, and larval antlions (Telford, 1969; Sutton, 1996).

During the inspection and evaluation of lands associated with development and alteration no field evidence suggesting the presence of Sand Skinks was observed.

Prior to development it is recommended that Pre-Consultation occur with USFWS and the results of that consultation be complied with.

UPDATE: *On October 18th 2018 the subject site was evaluated for the presence of Sand Skink Habitat.*

Survey Methodology:

Investigative field surveys for Sand Skinks were conducted by William (Bill) A. Ray, AICP / Environmental Specialist. 100% of the suitable upland habitat for Sand Skinks was surveyed via pedestrian transects with approximate 50-Meter Spacing on April 25th of 2018 and again on October 18th, 2018.

Sand skink survey Protocols identified and described in the USFWS document Sand Skink Survey Protocols; April 11th, 2011 were followed. Specific attention was given to searching for the "sinusoidal ("S"-shaped) track at the soil surface which can be readily identified through the visual pedestrian survey. The few areas of minimal vegetation or bare soil were examined for evidence of sand skinks.

The location of Pedestrian Transects can be found on Exhibit 4.

Approximately 1.2+/- acres of the 1.74 Acre site is above elevating 82' in an area of Candler Sands and is therefore is mapped within the FWS Sand Skink consultation area. The lack of potentially suitable habitat associated with dense Tree / Vegetation cover, the absence of any open sandy areas, dense vegetation and root density, and lack of connectivity to additional habitat could exclude the area from being potentially occupied or utilized by sand skinks.

The dominate site characteristics such as thick tree and vegetation cover, tight compacted soils combined with an absence of open sandy areas of soil are not generally associated with Sand Skink Habitat. No areas loose sands of sand pine-rosemary scrub, longleaf pine-turkey oak (sandhill) or turkey oak "barrens" adjacent to scrub, especially high pine-scrub ecotones are identified or observed on or adjacent to the subject site.

Recent site investigations and pedestrian surveys on October 18th, 2018 did not observe the presence of Sand Skinks. No sand skinks, sand skink sign or evidence to suggest the presence of sand skinks was observed on-site during field investigations.

No other protected animal species were observed or identified on the subject site. No Critical or Essential Habitat of a Listed Species was identified on the subject site. No evidence observed in the field indicated the presence of:

Florida Scrub Jay	*Aphelocoma coerulescens*	ST
Florida Sandhill Crane	Grus canadensis pratensis	ST
Florida mouse	Peromyscus floridanus	SSC
Short-tailed snake	Stilosome extenuatum	ST
Florida Pine snake	Pituophis melanoleucus mugitus	SSC
Red Rat snake	Elaphe guttata	SSC
Burrowing Owl	Athene cuniculari	SSC
Red-cockaded woodpecker	Picoides borealis	FE

The location of Pedestrian Transects can be found on Exhibit 4.

III. Conclusions and Recommendations

The Project Site is bounded on the north, east and south by existing roads, Medium density and Rural development and to the west by developed disturbed lands.

On-site upland habitat type is an urban wooded "Lot" with various scattered temperate deciduous trees and associated shrubs. (see Site Photos Exhibit 3). China berry and golden raintree, both invasive exotic species, are establishing canopy dominance. There was no evidence observed to suggest prescribed burning or historic fires on site. Based upon the proximity to existing Commercial and Residential development combined with the general urbanizing trend of the area it is highly unlikely that prescribed burning will ever be allowed as a site management tool.

The on-site uplands that are proposed for in-fill development contain dense and extensive vegetation root structure. There are no areas of open sandy soil or Xeric plant communities, which are indicators of Sand Skink habitat, located on the subject site.

August 26, 2019 Update

Pedestrian Surveys were conducted based upon North-South Transects beginning on the south property line with a Total of 11 Transects. A Current Pedestrian Survey was conducted on August 26th of 2019. No additional or new information was observed.

October 18th, 2018 Update

The Project Site is mapped within the USFWS Sand Skink Consultation area. The subject site could be excluded from being potentially occupied or utilized by Sand Skinks due to;

1. *Lack of connectivity to appropriate upland soils,*
2. *The absence of potentially suitable habitat on-site,*
3. *The total absence of any site burning activities,*
4. *The subject site contains no significant stands or concentrations of native scrub/shrub or forest communities and*

5. *Extensive vegetation, closed canopy and dense vegetation root system*

The site located within an area of Lake County that generally surrounded by either existing sub-urban or urbanizing development on 4 sides.

See Site Photos Exhibit 3. There was no evidence observed to suggest prescribed burning or historic fires on site. Based upon the proximity to existing Residential and sub-urban development combined with the general urbanizing trend of the area it is highly unlikely that prescribed burning will ever be allowed as a site management tool.

The obstructions observed in the field prevent habitat and soil continuity to adjacent Candler and Sand mapped areas. It is important to note that all these adjacent soils on site are highly altered and currently developed, compacted and do not support native habitat. It has been determined by the FWS that such physical barriers (e.g., canals, paved roads, development, etc.) preclude skinks from accessing suitable soils (FWS Survey Protocol, 2011).

The density of the tree/shrub/grass community also contributes to the density of the root system below the ground. Areas containing excessive rooted vegetation that may preclude sand skink movement are less likely to be used by skinks (FWS Survey Protocol 2002). Sand skinks prefer areas free of abundant plant roots, with open canopies, scattered shrubby vegetation, and patches of bare sand (Christman, 1978, 1992). None of these conditions are found or observed on the subject site.

After a thorough review of the proposed development plan and the evaluation of the subject site it is recommended a determination be issued by USFWS that the subject site does not contain Sand Skink Habitat and development of the subject site as proposed will have "No Effect" upon Sand Skinks. **See Exhibit 11 for USFWS Concurrence with these findings.**

At the time of the original and this updated survey No active or potentially active Gopher Tortoise burrows were observed on the subject site.

Habitat observed on the subject site is not typically occupied by Gopher tortoises.

The subject site development does not propose impact to any unique or ecologically significant area of vegetation of Habitat.

August 26, 2019 Update

It is the recommendation of Ray and Associates that the subject site plan be approved for development as proposed provided there is demonstration of compliance with Local, State and Federal regulations.

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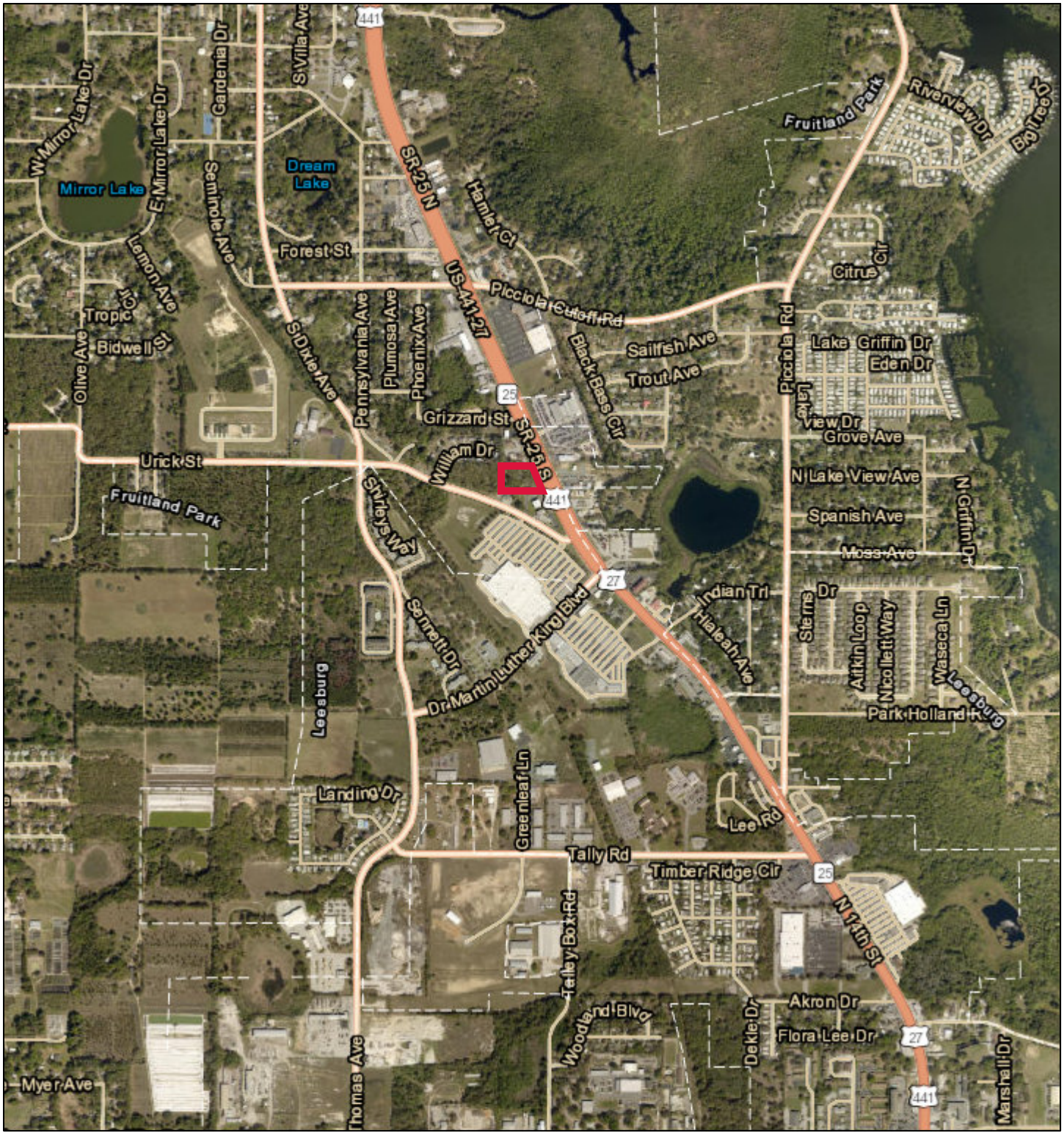
Ray and Associates: Exhibit 1: Location



April 24, 2018

1:18,056

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Ray and Associates: Exhibit 2: Aerial

April 24, 2018

1:1,128

0 0.0075 0.015 0.03 mi

0 0.015 0.03 0.06 km

Eagle Nesting

Cadastral 2017 (Property Appraiser Parcels) - Public View

Esri, HERE, Garmin, © OpenStreetMap contributors
Florida Fish and Wildlife Conservation Commission - Fish and Wildlife Research Institute
FDEP
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South Property Line: East view

North Property Line: West view: Northern View

East Property line: North view

West Property Line: South view

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Exhibit 3: Site Photos 4.25.2018
Tejinder Grewal property / $1.74^{+/-}$ Acres / Sec10, Tw 19S, Rng 24E
Fruitland Park, Lake County, Florida.

Typical Eastern Area; Western View

Typical Central Area: Western view

Typical Central Area; Northern View

Typical Ground Cover: Eastern View

South Property Line: Northwest view

East Property Line: West view

East Property line: North view

Central Property: South view

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Exhibit 3.1: Update Site Photos 8.26.2019
Tejinder Grewal property / $1.74^{+/-}$ Acres / Sec10, Tw 19S, Rng 24E
Fruitland Park, Lake County, Florida.

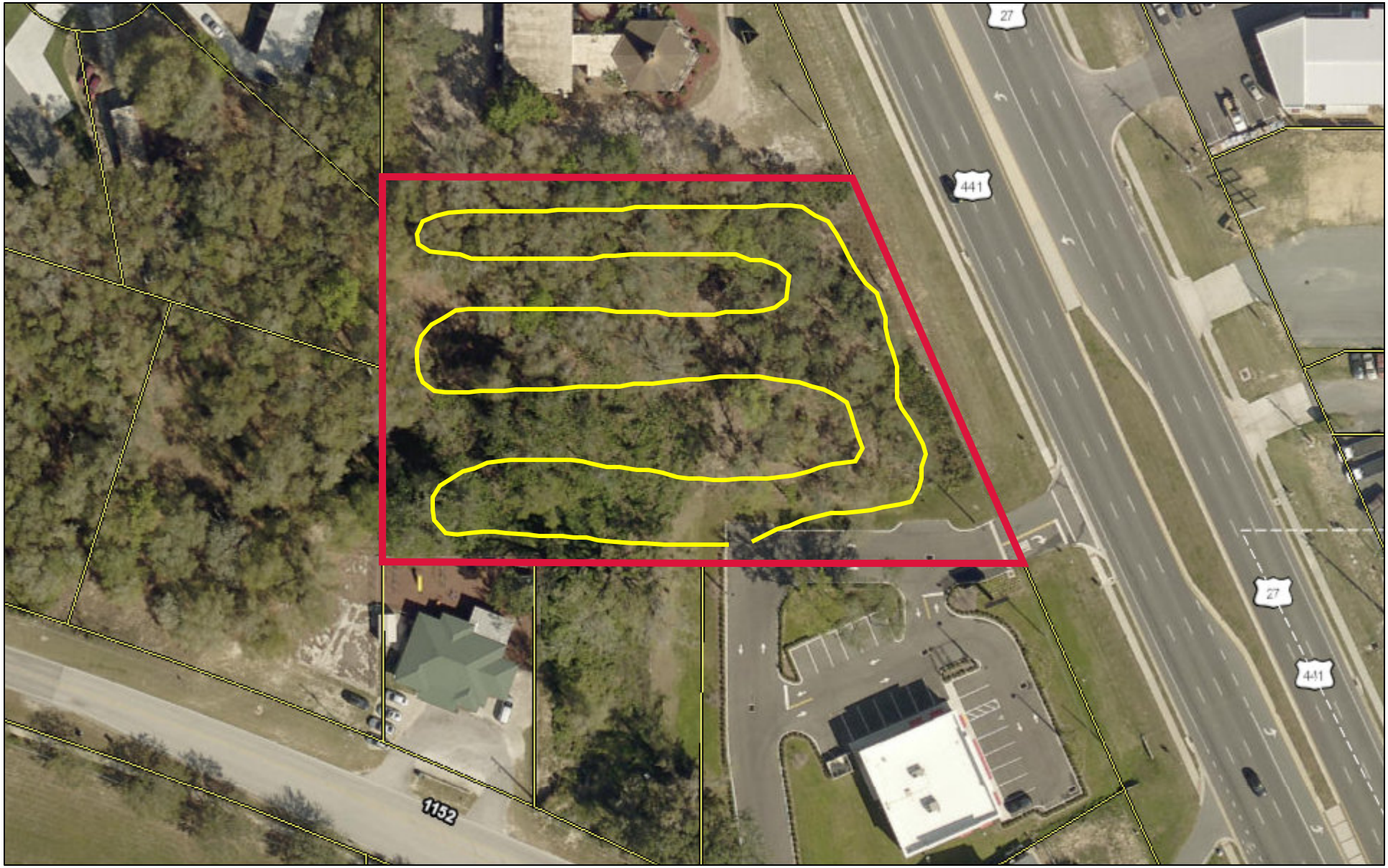
Typical Eastern Area; Western View

Typical Central Area: Western view

Typical Central Area; Northern View

Typical Ground Cover: Central West: Southern View

Ray and Associates: Exhibit 4: Transects



April 24, 2018

Cadastral 2017 (Property Appraiser Parcels) - Public View

1:1,128

0 0.0075 0.015 0.03 mi

0 0.015 0.03 0.06 km

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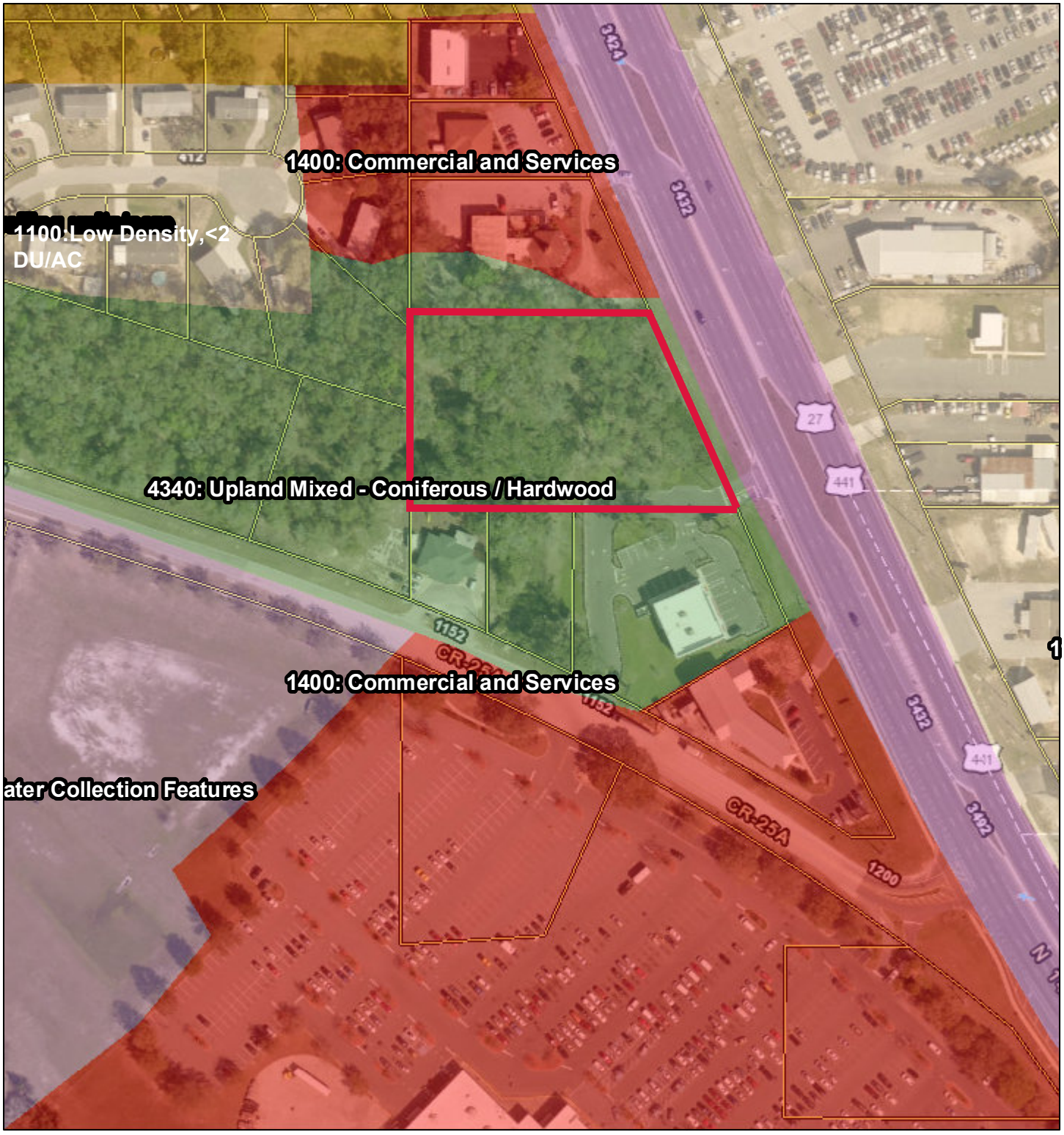
FDEP

Map created by Map Direct, powered by ESRI.

Ray and Associates: Exhibit 5: FLUCFCS



April 24, 2018

1:2,257

Eagle Nesting

0 0.0175 0.035 0.07 mi

0 0.03 0.06 0.12 km

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FDEP
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Ray and Associates: Exhibit 6: Soils

April 24, 2018

1:2,257

0 0.0175 0.035 0.07 mi

0 0.03 0.06 0.12 km

Eagle Nesting

Florida SSURGO

- Alfisols
- Bodies of Water
- Data Not Available
- Entisols
- Histosols
- Inceptisols
- Mollisols
- No Soil
- Spodosols
- Ultisols
- Vertisols
- Cadastral 2017 (Property Appraiser Parcels) - Public View

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Map created by Map Direct, powered by ESRI.

Ray and Associates: Exhibit 7: Topo

April 24, 2018

1:1,128

0 0.0075 0.015 0.03 mi

0 0.015 0.03 0.06 km

Eagle Nesting

Elevation Contours and Depressions

- 0 - 10
- 10 - 20
- 20 - 30
- 30 - 40
- 40 - 50
- 50 - 60
- 60 - 70
- 70 - 80
- 80 - 90
- 90 - 100
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- 275 - 300
- 300 - 350

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Map created by Map Direct, powered by ESRI.

ray and Associates: Exhibit 8: Wetlands

April 24, 2018

Eagle Nesting

1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

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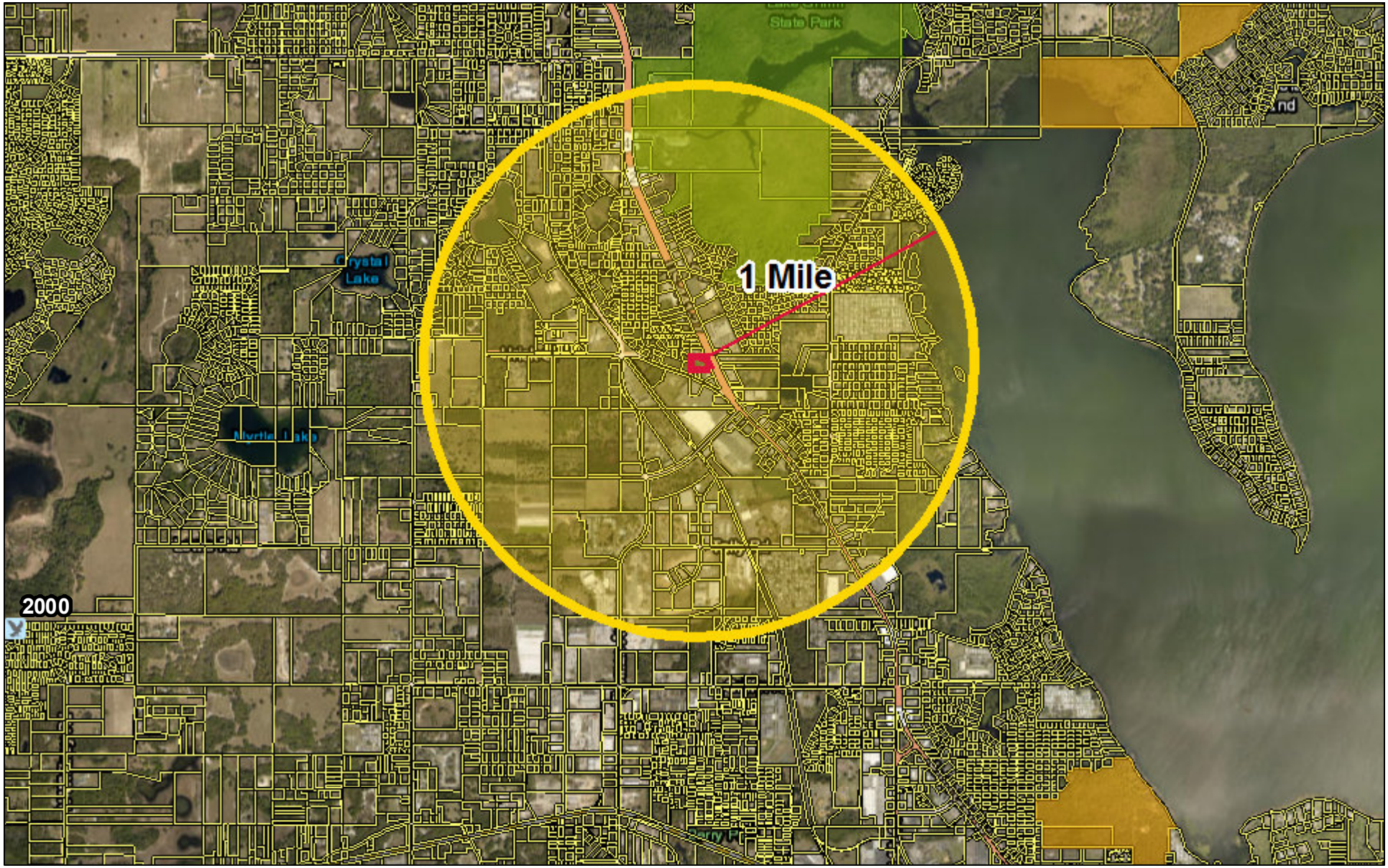
Florida Fish and Wildlife Conservation Commission - Fish and Wildlife

Map created by Map Direct, powered by ESRI.

Ray and Associates: Exhibit 9: FWC Bald Eagle Nests



April 24, 2018

Eagle Nesting

Cadastral 2017 (Property Appraiser Parcels) - Public View

1:36,112

0 0.3 0.6 1.2 mi

0 0.5 1 2 km

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Florida Fish and Wildlife Conservation Commission - Fish and Wildlife

Map created by Map Direct, powered by ESRI.

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Exhibit 1: Gopher Tortoise Survey
Tejinder Grewal 1.74 Acre site. Alt Key: 1170621 / 10-19-24-0003-000-6800
Fruitland Park, Lake County

Subject: Gopher Tortoise Survey: 1.74 Acre site; Alt Key# 1170621 / Parcel # 10-19-25-0003-000-6800

On October 18th, 2018 Ray and Associates competed a Gopher Tortoise survey in accordance with FWC Regulations and Requirements on the subject lots. The purpose of the survey was to identify and locate Active/Potentially Active/Abandoned Gopher Tortoise Burrows on or within 25' of the subject sites. FWC Protocols outlining Gopher Tortoise Surveys were followed and conducted by FWC Authorized Gopher Tortoise Agent, Mike Howe.

No Active or Potentially Active Burrous were located on or within 25' of subject site

4 mammal burrows were identified and require no additional action or permitting.

This survey is valid for 90 days.

Ray and Associates: Exhibit 11: USFWS Concurance on "No Habitat" "No Effect".

wrayassoc@aol.com

From: Erin Gawera <erin_gawera@fws.gov>
Sent: Monday, October 29, 2018 1:22 PM
To: wrayassoc@aol.com
Subject: RE: [EXTERNAL] Pre Consultation Grewal Tract Lake County Fruitland park, FL

Hi Bill,

Thank you for your comprehensive, detailed, and easy to read report. The Service agrees with you and does not believe a cover board survey will be necessary. The photos and site description clearly show that the property is covered in thick vegetation and does not have any suitable habitat for sand skinks on site. We do not believe sand skinks will be impacted by development of this property.

I hope you are having a great week and are doing well,

Erin

****

Erin M. Gawera, Fish and Wildlife Biologist
US Fish and Wildlife Service
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904/731-3336 (main)
Fax: 904/731-3045 or 3048

From: wrayassoc@aol.com <wrayassoc@aol.com>
Sent: Monday, October 29, 2018 12:24 PM
To: Erin Gawera <erin_gawera@fws.gov>
Subject: [EXTERNAL] Pre Consultation Grewal Tract Lake County Fruitland park, FL

Erin, Attached please find an updated Biological/ Natural resource Site Assessment for a 1.74 Acre Site in Fruitland Park, Florida.
We conducted Site investigations on April 25th and again on October 18th for the purpose if completing and Updating the subject property.
100% of the site was site surveyed.

During the investigations no evidence of Sand skink habitat was observed.
The site is densely vegetated with extensive ground cover and a predominantly closed tree canopy. There were no areas of open sand or native Xeric upland scrub observed on site.

It is our recommendation that the USFWS concur with the findings of our report that the subject site does not contain Sand Skink Habitat and that development of the subject site will have “No effect” upon Sand Skinks.

Do not hesitate to contact me if you have any questions or require additional information

Thank you,
Bill

William (Bill) A. Ray, AICP
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Andreyev Engineering, Inc.

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Sanford, Florida 32771
407-330-7763
Fax: 407-330-7765

▼ Groundwater ▼ Environmental ▼ Geotechnical ▼ Construction Materials Testing

November 29, 2017
GPGT-17-132

To: **Mr. Tejinder S. Grewal**
1330 Saxon Boulevard
Orange City, Florida 32763

C/O: **Wicks Engineering Services, Inc.**
225 West Main Street
Tavares, Florida 32778
Attention: Mr. Rick Hartenstein

Subject: **Geotechnical Investigation, Proposed Building Area, Stormwater Retention/Exfiltration Areas, and Paved Parking/Drive Areas, Proposed IC International Carwash, Fruitland Park, Lake County, Florida**

Dear Mr. Grewal:

Andreyev Engineering, Inc. (AEI) has completed a geotechnical investigation for the above referenced project location. We understand that the subject development will include one carwash building with paved parking/drive areas. Stormwater runoff from the site improvements will be routed to one proposed on-site stormwater retention area and one stormwater exfiltration area.

This report presents the results of our geotechnical investigation along with an evaluation of the soil and groundwater conditions encountered. In addition, it provides geotechnical engineering recommendations for site preparation, foundation design, pavement section design, and recommendations for stormwater retention system design.

SITE LOCATION AND DESCRIPTION

The subject site is located within Section 10, Township 19 South, and Range 24 East, along the west side of U.S. Highway 27/441, in Fruitland Park, Lake County, Florida. We have included the U.S.G.S. Topographic Map, which depicts the location of the site, on the attached **Figure 1**. In addition, the Natural Resources Conservation Service (NRCS) Soil Map, which depicts the location and general soil types of the subject site, and is presented on the attached **Figure 2**.

PURPOSE AND SCOPE OF SERVICES

The purpose of this study was to explore subsurface soil and groundwater conditions at this site for foundation support of the proposed building on shallow foundations and provide aquifer parameters for the stormwater retention pond system design. We understand that the proposed site improvements, will route stormwater into one proposed stormwater retention pond area and one stormwater exfiltration area.

The scope of this investigation included:

- Drilled two (2) Standard Penetration Test (SPT) borings, designated as TB-1 and TB-2, to a depth of 20 feet below ground surface, within the proposed building foundation area, for general foundation evaluation.

- Drilled three (3) machine auger borings, designated as AB-1 through AB-4, to a depth of 15 feet, within the proposed dry stormwater retention pond and exfiltration system areas.

- Collected four (4) undisturbed permeability tube samples from the proposed retention pond and exfiltration system areas and conducted laboratory permeability testing on the undisturbed permeability tube samples to assess soil hydraulic conductivity.

- Drilled three (3) manual auger borings, designated as HA-1 through HA-3, to a depth of 7 feet, within the proposed paved parking/drive areas.

- Estimated normal seasonal high groundwater table levels.

Samples were recovered from the borings and returned to AEI's laboratory for visual classification and stratification. Soil strata were classified according to the Unified Soil Classification System (USCS). Approximate boring locations are shown on **Figure 3**, results of the Standard Penetration Test (SPT) borings and auger borings, in profile form, are presented on **Figure 4**. On the profiles, horizontal lines designating the interface between differing materials represent approximate boundaries. The actual transition between layers is typically gradual.

NATURAL RESOURCES CONSERVATION SERVICE SOIL SURVEY

The publication titled "Soil Survey of Lake County, Florida" published by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) was reviewed. For your reference, we have included a portion of the NRCS Soil Map which depicts the location of the subject site on the attached **Figure 2**. The two soil map units for the subject project location are identified as:

Soil Map Unit 8: ***Candler Sand, 0 to 5 Percent Slopes***

Brief Description: "This soil is nearly level to gently sloping, excessively drained soil found on rolling uplands of the central ridge. The surface layer of this soil type generally consists of dark gray sand about 6 inches thick. The next layer is sand about 57 inches thick. The subsurface layer is sand about 17 inches thick. The water table for this soil type is at a depth of more than 80 inches. Available water capacity is very low and permeability is considered to be rapid to very rapid."

Soil Map Unit 9: ***Candler Sand, 5 to 12 Percent Slopes***

Brief Description: "This soil is a sloping to strongly sloping, excessively drained soil found on rolling uplands of the central ridge. Typically, the surface layer of this soil type consists of sand about 5 inches thick. The next layer is sand about 62 inches thick followed by a layer of sand about 13 inches thick. The water table for this soil type is at a depth of more than 80 inches. Available water capacity is very low and permeability is considered to be rapid to very rapid throughout the profile of this soil type."

SOIL AND GROUNDWATER CONDITIONS

Soil samples recovered from the borings were visually and tactually classified and stratified in the laboratory using the Unified Soil Classification System (USCS) and the interpretation of the field logs by a geotechnical engineer. The USCS classifications are presented adjacent to respective depths and soil profiles on **Figure 4**. Standard Penetration Test (SPT) borings measure soil density using a split spoon sampler advanced by a 140-pound hammer dropped repeatedly a distance of 30 inches. The N-value, which is shown next to the corresponding depths of the boring profile, is the number of blows by the hammer required to advance the split spoon sampler one (1) foot. Split spoon sampling was conducted continuously in the upper 10 feet and at 5-foot intervals thereafter. Also included, adjacent to the SPT borings, are the blow counts or "N" values. The "N" values have been empirically correlated with various soil properties and are considered to be indicative of the relative density of cohesionless soils and the consistency of cohesive material. Upon completion of drilling, the SPT boreholes were backfilled with additional bentonite and soil materials.

The results of this investigation indicate the site soil conditions at Standard Penetration Test (SPT) boring locations TB-1 and TB-2, drilled within the proposed building foundation area, encountered Stratum 1 fine sand extending from the ground surface to depths of 8 to 13.5 feet, underlain by Stratum 2 slightly clayey to clayey fine sand to the termination depth of drilling of 20 feet.

The "N" values, which represent the relative density of the encountered soils, indicate that the granular soils generally exist in a loose condition from the ground surface to depths of 8 to 9 feet, increasing to medium dense conditions, to the termination depth of drilling of 20 feet, at TB-1 and TB-2.

Correlation of the SPT-N values with relative density, unconfined compressive strength and consistency are provided in the following table:

Coarse-Grained Soils		**Fine Grained Soils**		
Penetration Resistance N (blows/ft)	Relative Density of Sand	Penetration Resistance N (blows/ft)	Unconfined Compressive Strength of Clay (tons/ft^2)	Consistency of Clay
0-4	Very Loose	<2	<0.25	Very Soft
4-10	Loose	2-4	0.25-0.50	Soft
10-30	Medium-Dense	4-8	0.50-1.00	Medium
30-50	Dense	8-15	1.00-2.00	Stiff
>50	Very Dense	15-30	2.00-4.00	Very Stiff
		>30	>4.00	Hard

Machine auger borings AB-1 through AB-4, drilled within the proposed stormwater retention pond area and exfiltration system area, generally encountered Strata 1, 2, and 3 fine sand, slightly clayey to clayey fine sand, and slightly silty fine sand from the ground surface to the termination depth of drilling of 20 feet.

Manual auger borings HA-1, HA-2, and HA-3, drilled within the proposed paved parking and drive areas, encountered Stratum 1 fine sand extending from the ground surface to the termination depth of drilling of 7 feet.

Groundwater Conditions

Groundwater was not encountered between the ground surface and a depth of 10 feet at TB-1 and TB-2. Groundwater levels were not measured below the 10 foot depth at TB-1, due to the drilling method mud rotary, which uses a thick bentonite drilling slurry to maintain an open borehole. In addition, groundwater was not encountered between the ground surface and depths of 7 to 15 feet at HA-1 through HA-3 and at AB-1 through AB-4.

Based on the encountered subsurface conditions, our local experience, and antecedent rainfall conditions, the normal seasonal high groundwater level is estimated to exist in a temporary perched condition, slightly above the Stratum 2 slightly clayey to clayey fine sand during periods of heavy or extended rainfall at TB-1, TB-2, AB-1, and AB-2. At AB-3 and AB-4,the normal seasonal high groundwater level is estimated to exist slightly above the termination depth of drilling of 15 feet, and at HA-1 through HA-3, the normal seasonal high groundwater level is estimated to exist below the termination depth of drilling of 7 feet.

Laboratory Permeability Test Results

Laboratory permeability testing was conducted on the undisturbed tube samples that were collected from retention pond and exfiltration system borings AB-1 though AB-4. The results of the laboratory tests indicate a vertical coefficient of permeability of 32.6 feet per day, 29.5 feet per day, 19.2 feet per day, and 24.3 feet per day at AB-1, AB-2, AB-3 and AB-4, respectively. The results of the laboratory tests are shown adjacent to the tested depth and corresponding soil profile on **Figure 4**.

EVAULATION AND RECOMMENDATIONS

General

Based on the results of this investigation and our evaluation of the encountered subsurface conditions, it is our opinion that the site soils are suitable to support the proposed building as planned, provided that proper site soil preparation and soil densification are carried out. It is critical that site preparation and soil densification procedures are thorough to ensure consistent and uniform support conditions for the proposed site improvements.

Conventional pavement section design and construction using a flexible pavement section will also be possible at this site.

The proposed stormwater retention area, located in the vicinity of AB-1 and AB-2, appears suitable for shallow dry stormwater retention system design. Also, the proposed stormwater exfiltration area, located in the vicinity of AB-3 and AB-4, appears suitable for exfiltration system design. The on-site Stratum 1 sandy soils, excavated from the proposed retention pond area and exfiltration system area, should be suitable for general fill purposes.

More specific recommendations for the building area, paved parking/drive areas, stormwater retention pond area, and exfiltration system area are provided below.

Site Preparation

The building area and parking/drive areas, plus a minimum margin of 5 feet beyond their outer lines, should be cleared and stripped to remove all surface vegetation, roots, topsoil, organic debris, or any other encountered deleterious materials. After clearing, grubbing, and any necessary additional site preparation efforts, the exposed soils for the building area should then be proof rolled and compacted to a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Specification D-1557 before any fill material is placed. Compaction should be completed to a depth of 2 feet below exposed subgrade. The exposed subgrade within pavement areas should be proof rolled and compacted to a minimum of 95% of the soil's modified Proctor maximum dry density to a depth of 1 foot. All fill required to bring the site to final grade should be inorganic, non-plastic, granular soil (clean sands) with less than 10% passing a U.S #200 sieve. In structural areas, the fill should be placed in level lifts not to exceed 12 inches loose and should be compacted to a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Specification D-1557. In-place density tests should be performed on each lift by an experienced engineering technician working under the direction of a registered geotechnical engineer to verify that the recommended degree of compaction has been achieved. We suggest a minimum testing frequency of one (1) test per lift per 2,500 square feet of area within structural limits and one (1) test per lift per 10,000 square feet in pavement areas. This fill should extend a minimum of 5 feet beyond building lines to prevent possible erosion or undermining of footing bearing soils. Further, fill slopes should not exceed 2 horizontal to 1 vertical (2H: 1V). All fill placed in utility line trenches and adjacent to footings beneath slabs on grade should also be properly placed and compacted to the specifications stated above. However, in these restricted working areas, compaction should be accomplished with lightweight, hand-guided compaction equipment and lift thicknesses should be limited to a maximum of 4 inches loose thickness.

Foundation Design

Once the existing subgrade and new fill soils in the proposed structural support areas have been prepared in accordance with the preceding recommendations, the proposed building can be constructed on a system of conventional shallow spread or strip footings bearing at minimum depths below the finished floor elevations. Footings, which bear in densified existing soils or in new structural fill, may be designed based on a maximum allowable bearing pressure of 2,500 pounds per square foot. Minimum footing dimensions of 18 inches for strip footings and 24 inches for column footings should be used even though the maximum allowable bearing pressures may not be fully developed in all cases. Footings should bear at least 18 inches below finished exterior grades. Footing subgrade soils should be approved by the geotechnical engineer prior to placement of concrete and steel. As a minimum acceptance criterium, the footing subgrade soils should be compacted to a minimum density of 95% of the soils modified Proctor maximum dry density for a depth of 24 inches.

Paved Areas

In general, the compacted subsurface soils will be suitable for support of a limerock or crushed concrete type pavement base after subgrade preparation.

Typical flexible pavement sections are as follows:

Limerock Base

1-1/2" to 2-1/2" asphaltic concrete wearing surface

8" to 10" limerock base course, quality of limerock to be in accordance with current Florida Department of Transportation specifications and compacted to a minimum density equivalent to 98 percent of the modified Proctor maximum density (AASHTO T-180).

12" stabilized subbase with minimum Limerock Bearing Ratio (LBR) of 40 percent. The subbase should be compacted to a minimum density equivalent to 98 percent of the modified Proctor maximum density (AASHTO T-180). The subgrade material, below the subbase, shall be compacted to minimum density of 98% of the modified Proctor maximum density of the soil.

Crushed Concrete Base

1-1/2" to 2-1/2" asphaltic concrete wearing surface

8" to 10" crushed concrete base designed and constructed in accordance with current FDOT recommended standards and compacted to achieve a Limerock Bearing Ratio (LBR) of 120 percent.

12" subgrade consisting of free draining natural fine sand or fine sand fill with less than 7 percent passing a U.S. #200 sieve. Subgrade to be compacted to a minimum density of 98 percent of the modified Proctor maximum density (AASHTO T-180).

Type of Development	ADT (average daily traffic)	Base Thickness	Wearing Surface Thickness
Commercial	< 1,500	8"	1 ½"
	>1,500	10"	2 ½"

As a possible pavement section design alternative, AEI presents recommendations for a rigid pavement section as follows:

Rigid Pavement

6" reinforced concrete wearing surface: Designed to withstand the design traffic loads and jointed to reduce the chances for crack development. The concrete should have a minimum unconfined compressive strength of 3,000 psi.

12" subgrade: consisting of free draining natural fine sand or fine sand fill. Subgrade to be compacted to a minimum density equivalent to 98 percent of the modified Proctor maximum density (AASHTO T-180).

The pavement section should be designed based on expected traffic including truck loads. Traffic should not be allowed on the subgrade prior to placement of the base to avoid rutting. The final pavement thickness design should be checked by the project civil engineer using data contained in this report and anticipated traffic conditions.

Stormwater Retention Pond and Exfiltration System Area

Based on the results of the borings and permeability tests, the proposed stormwater retention area, located in the vicinity of AB-1 and AB-2, appears suitable for dry stormwater retention. In addition, the proposed stormwater exfiltration area, located in the vicinity of AB-3 and AB-4, appears suitable for exfiltration system design. The on-site Stratum 1 sandy soils, excavated from the proposed retention pond and exfiltration system areas, should be suitable for general fill purposes.

For analysis and design purposes the following aquifer characteristics should be used. These aquifer characteristics were determined from the results of the field and laboratory investigations, adjusting for depth and soil variability:

Boring Location (Averaged values)	Bottom of Aquifer (ft bls)*	Avg. Unsat. Vertical Hydraulic Conductivity (ft/day)	Avg. Horizontal Hydraulic Conductivity (ft/day)	Seasonal High Groundwater Level (ft bls)*	Soil Storage Coefficient
AB-1 and AB-2	5.5	20.7	46.5	5.0	0.25
AB-3 and AB-4	15.0	12.0	29.4	14.5	0.25

*- Feet below land surface

The permeability rate of the Stratum 3 soil is estimated based on our visual and tactile classification and experience with similar soil types. Factors of safety have not been applied to the above weighted average permeability values. For the purpose of recovery analysis in accordance with water management district rules, a factor of safety of 2 should be applied to the unsaturated vertical permeability to account for long-term performance and siltation of the pond bottom.

AB-1 and AB-2:

Unsaturated Vertical Hydraulic Conductivity
Kv unsat = 5.0 ft / (5.0 ft./31.1 ft./day) X 2/3 = 20.7 ft./day

Horizontal Hydraulic Conductivity
Kh = (5.5 ft. x 31.1 ft./day / 5.5 ft.) X 1.5 = 46.5 ft/day

AB-3 and AB-4:

Unsaturated Vertical Hydraulic Conductivity
Kv unsat = 14.5 ft / (12.5 ft./21.8 f.t/day + 2.0 ft./8.5 ft./day) X 2/3 = 12.0 ft./day

Horizontal Hydraulic Conductivity
Kh = (12.5 ft. x 21.8 ft./day + 2.5 ft. x 8.5 ft./day / 15.0 ft.) X 1.5 = 29.4 ft./day

The following formulas were used in the calculation of both the weighted average vertical and horizontal weighted average permeability values.

$$\text{Weighted Average Vertical Permeability} = \frac{\sum L}{\frac{L_1}{Kv_1} + \frac{L_2}{Kv_2} + \frac{L_3}{Kv_3} + \ldots\ldots\ldots \frac{L_n}{Kv_n}}$$

$$\text{Weighted Average Horizontal Permeability} = \frac{Kh_1.L_1 + Kh_2.L_2 + Kh_3.L_3 + \ldots.Kh_n.L_n}{\sum L}$$

Excavations

Any and all excavations should be constructed in accordance with applicable local, state and federal regulation including those outlined by the Occupational Safety and Health Administration (OSHA). It is the contractor's sole responsibility for designing and constructing safe and stable excavations. Excavations should be sloped, benched or braced as required to maintain stability of the excavation sides and bottoms. Excavations should take into account loads resulting from equipment, fill stockpiles and existing construction. Any shoring need to maintain a safe excavation should be designed by a professional engineer registered in the State of Florida in accordance with local, state and federal guidelines.

LIMITATIONS

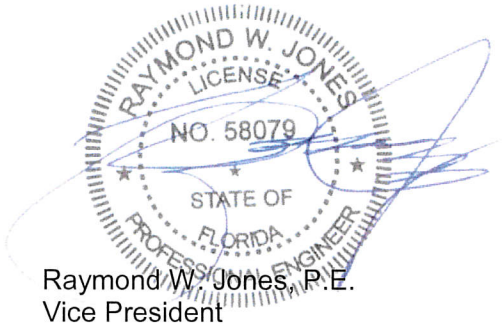
This report has been prepared for the exclusive use of Wicks Engineering Services, Inc., and its designers, based on our understanding of the project as stated in this report. Any modifications in design concepts from the description stated in this report should be made known to AEI for possible modification of recommendations presented in this report. This exploration was performed in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made as to the professional advice presented herein. Statements regarding all geotechnical recommendations are for use by the designers and are not intended for use by potential contractors. The geotechnical exploration and recommendations submitted herein are based on the data obtained from the soil borings presented on **Figure 4**. The report does not reflect any variations which may occur adjacent to, between, or away from the borings. The nature and extent of the variations between the borings may not become evident until during construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations presented in this report. An on-site visit may be required by a geotechnical engineer to note the characteristics of the variations during the construction period. This geotechnical study investigated the soil conditions within the building area to drilled depth of 20 feet below ground surface and was not intended to investigate deeper soil conditions with regard to the presence or absence of Karst activity.

CLOSURE

AEI appreciates the opportunity to participate in this project, and we trust that the information herein is sufficient for your immediate needs. If you have any questions or comments concerning the contents of this report, please do not hesitate to contact the undersigned.

Sincerely,

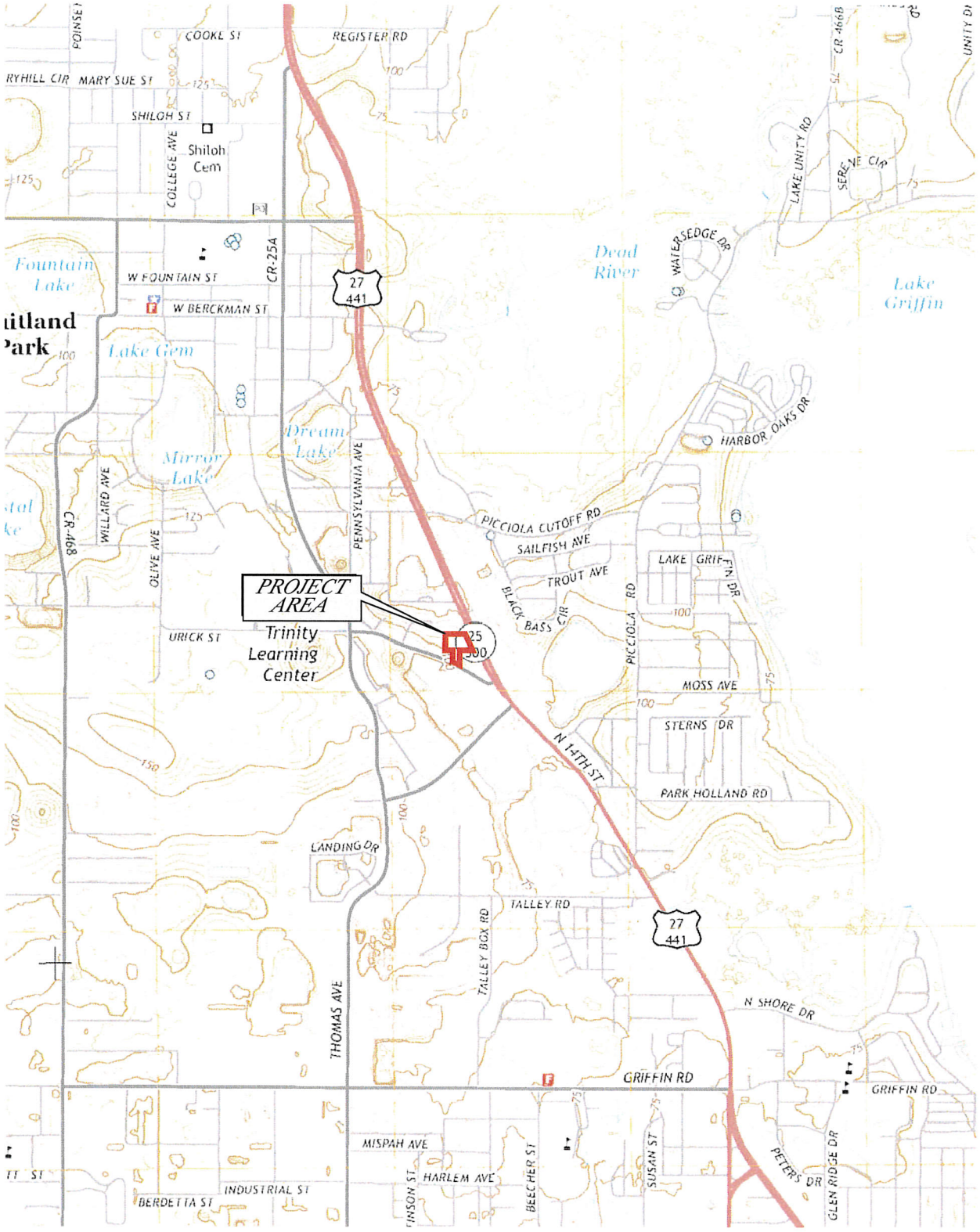
ANDREYEV ENGINEERING, INC.



Mark L. Jung
Senior Project Manager

Raymond W. Jones, P.E.
Vice President
Florida Registration No.58079

FIGURES



REFERENCE:
U.S.G.S. LEESBURG WEST, FLA.
QUADRANGLE MAP
DATED 2015
SECTION 10
TOWNSHIP 19 SOUTH
RANGE 24 EAST

Andreyev Engineering, Inc.

GEOTECHNICAL INVESTIGATION
PROPOSED BUILDING AREA, STORMWATER RETENTION/EXFILTRATION AREAS & PAVED PARKING/DRIVE AREAS

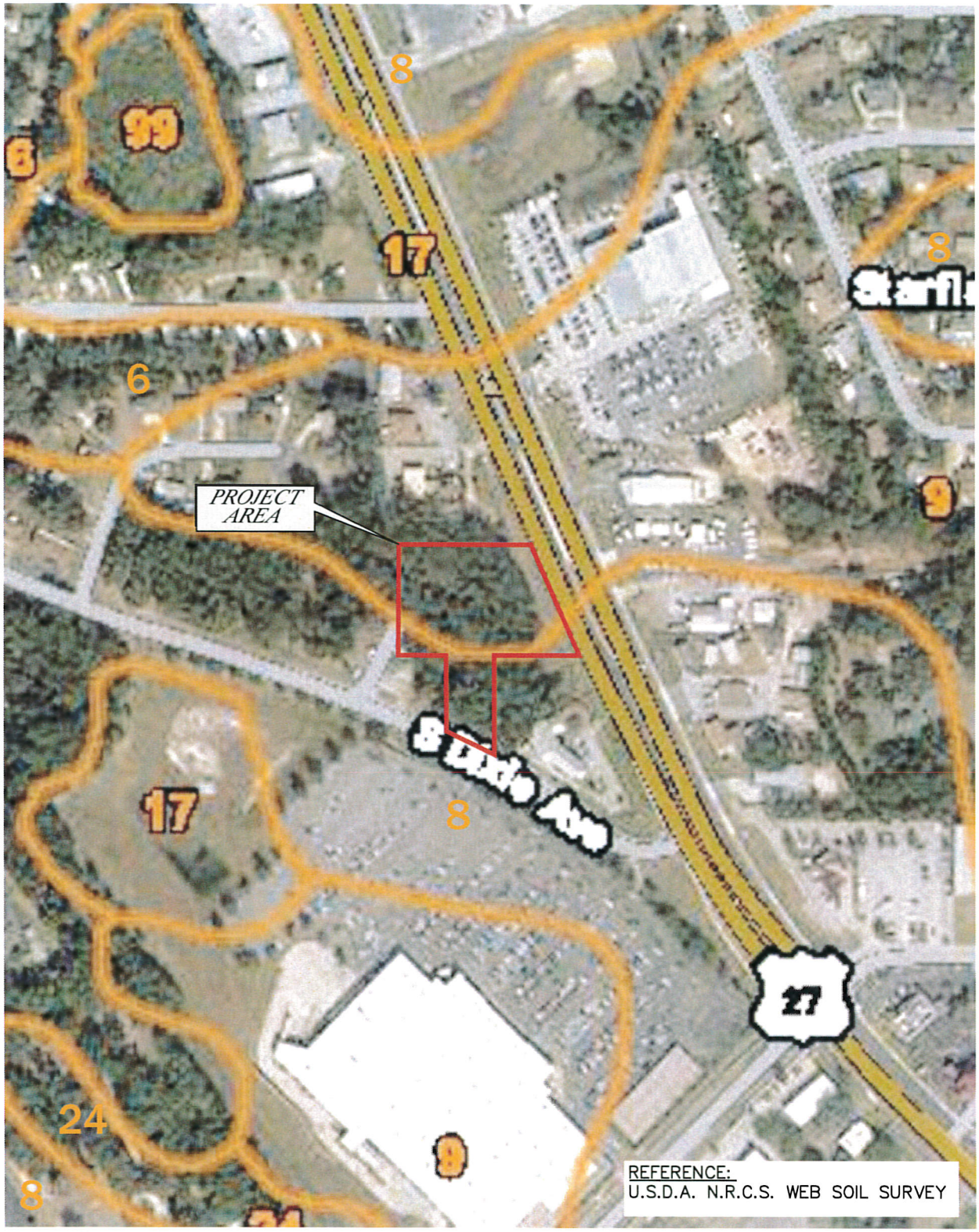
IC INTERNATIONAL CAR WASH

US HIGHWAY 27/441
FRUITLAND PARK, LAKE COUNTY, FL

APPROXIMATE SCALE:	DATE: 11/28/17	ENGINEER: RJ
1"=2000'	PN: GPGT-17-132	DRAWN BY: DLS

U.S.G.S. TOPOGRAPHIC MAP

FIGURE 1



LEGEND:

6	APOPKA SAND
8	CANDLER SAND 0 TO 5% SLOPES
9	CANDLER SAND 5 TO 12% SLOPES
17	ARENTS
24	KENDRICK SAND
99	WATER

Andreyev Engineering, Inc.

GEOTECHNICAL INVESTIGATION
PROPOSED BUILDING AREA, STORMWATER RETENTION/EXFILTRATION AREAS & PAVED PARKING/DRIVE AREAS

IC INTERNATIONAL CAR WASH

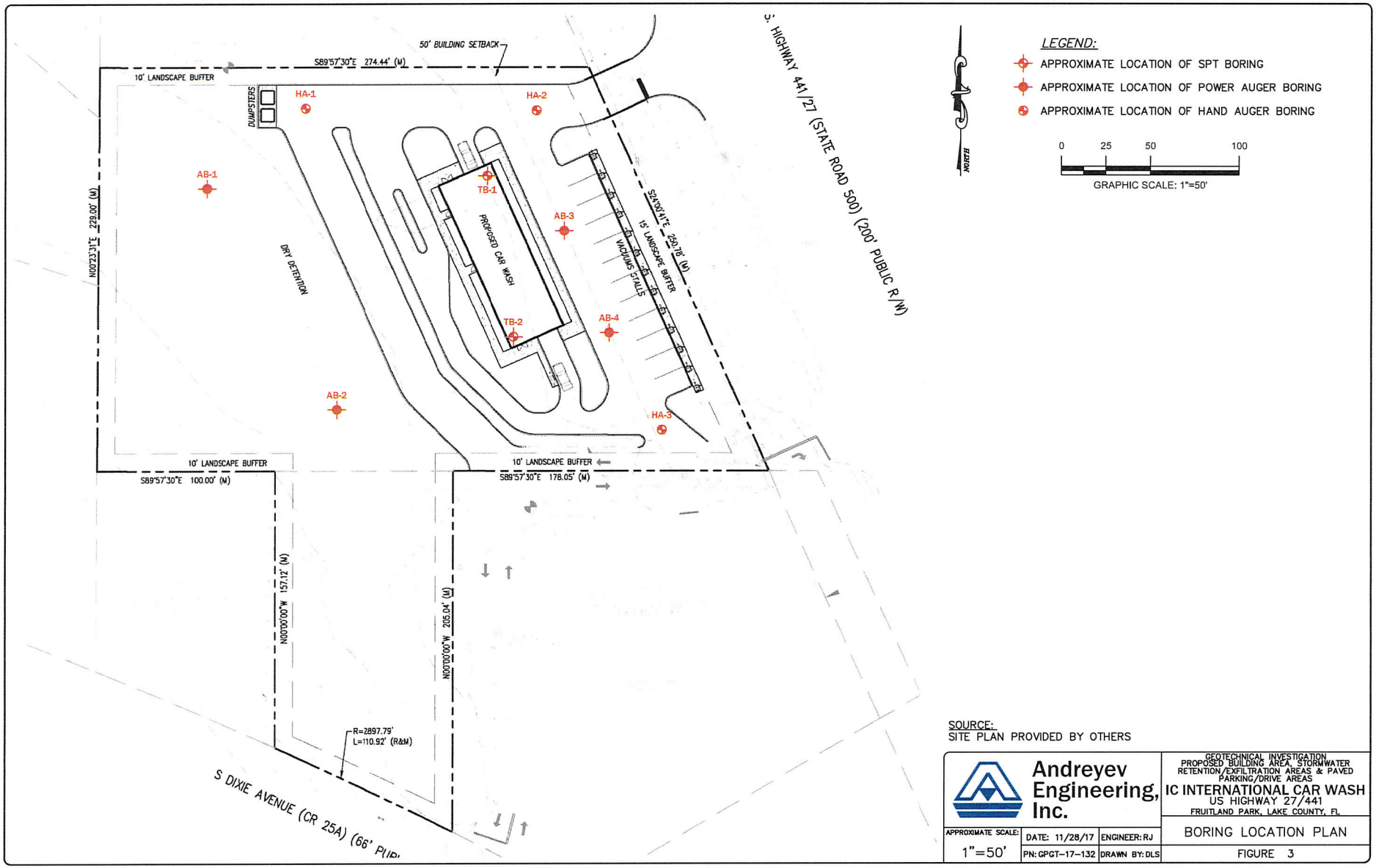
US HIGHWAY 27/441

FRUITLAND PARK, LAKE COUNTY, FL

APPROXIMATE SCALE:	DATE: 11/28/17	ENGINEER: RJ
1"=300'	PN: GPGT-17-132	DRAWN BY: DLS

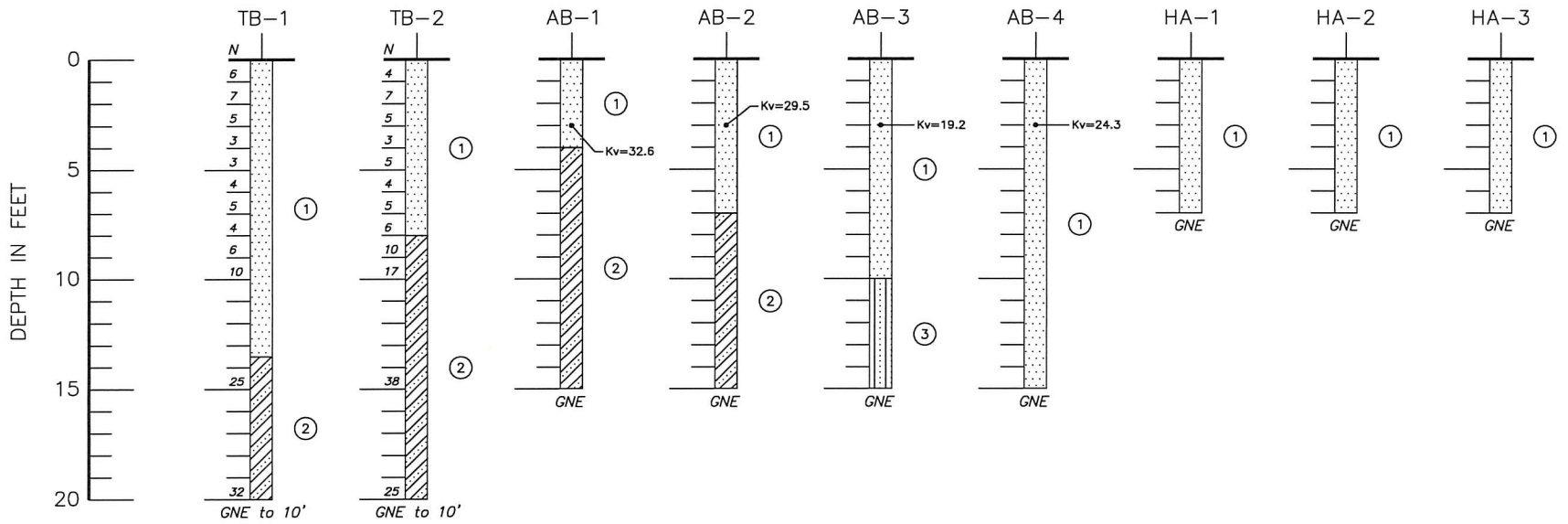
N.R.C.S. SOIL SURVEY MAP

FIGURE 2



SOURCE:
SITE PLAN PROVIDED BY OTHERS

Andreyev Engineering, Inc.			GEOTECHNICAL INVESTIGATION PROPOSED BUILDING AREA, STORMWATER RETENTION/EXFILTRATION AREAS & PAVED PARKING/DRIVE AREAS IC INTERNATIONAL CAR WASH US HIGHWAY 27/441 FRUITLAND PARK, LAKE COUNTY, FL.
APPROXIMATE SCALE: 1"=50'	DATE: 11/28/17	ENGINEER: RJ	BORING LOCATION PLAN
	PN: GPGT-17-132	DRAWN BY: DLS	FIGURE 3



LEGEND:

(1) BROWN TO YELLOWISH BROWN TO GRAYISH BROWN FINE SAND (SP)

(2) YELLOWISH BROWN SLIGHTLY CLAYEY TO CLAYEY FINE SAND (SP–SC)(SC)

(3) YELLOWISH BROWN SLIGHTLY SILTY FINE SAND (SP–SM)

(SP) UNIFIED SOIL CLASSIFICATION SYSTEM GROUP SYMBOL

GNE GROUNDWATER NOT ENCOUNTERED

N STANDARD PENETRATION RESISTANCE, IN BLOWS PER FOOT

Kv VERTICAL COEFFICIENT OF PERMEABILITY, IN FEET PER DAY

Andreyev Engineering, Inc.

GEOTECHNICAL INVESTIGATION
PROPOSED BUILDING AREA, STORMWATER RETENTION/EXFILTRATION AREAS & PAVED PARKING/DRIVE AREAS
IC INTERNATIONAL CAR WASH
US HIGHWAY 27/441
FRUITLAND PARK, LAKE COUNTY, FL

APPROXIMATE SCALE:	DATE: 11/30/17	ENGINEER: RJ
1"=5'	PN: GPGT–17–132	DRAWN BY: DLS

SOIL PROFILES

FIGURE 4

DRIVEWAY CONNECTION PERMIT FOR ALL CATEGORIES

PART 1: PERMIT INFORMATION

APPLICATION NUMBER: 2018-A-592-051

Permit Category: B - 21 to 600 VTPD Access Classification: 5

Project: International Carwash

Permittee: Ted Wicks

Section/Mile Post: 11040000 / 5.886 State Road:

Section/Mile Post: / State Road:

PART 2: PERMITTEE INFORMATION

Permittee Name: Ted Wicks

Permittee Mailing Address: 225 West Main Street

City, State, Zip: Tavares, Florida 32778

Telephone: (352) 343-8667 ext. _____

Engineer/Consultant/or Project Manager: Ted Wicks

Engineer responsible for construction inspection: Ted Wicks (NAME) 33274 (P.E. #)

Mailing Address: 225 West Main Street

City, State, Zip: Tavares, Florida 32778

Telephone: FAX, Mobile Phone, etc. Fax: / Mobile:

PART 3: PERMIT APPROVAL

The above application has been reviewed and is hereby approved subject to all Provisions as attached.

Permit Number: 2018-A-592-051
Department of Transportation

Signature: Todd Croft Title: MAINTENANCE MANAGER/CONTRACTS & PERMITS

Department Representative's Printed Name Todd Croft

Temporary Permit ☐ YES ☑ NO (If temporary, this permit is only valid for 6 months)

Special provisions attached ☐ YES ☑ NO

Date of Issuance: 4/3/2019

If this is a normal (non-temporary) permit it authorizes construction for one year from the date of issuance. This can only be extended by the Department as specified in 14-96.007(6).

Approved
2018-A-592-051
Todd Croft
4/3/2019

See following pages for General and Special Provisions

PART 4: GENERAL PROVISIONS

1. Notify the Department of Transportation Maintenance Office at least 48 hours in advance of starting proposed work.
   Phone: 3523267777 , Attention: David Mcdonald
2. A copy of the approved permit must be displayed in a prominent location in the immediate vicinity of the connection construction.
3. Comply with Rule 14-96.008(1), F.A.C., Disruption of Traffic.
4. Comply with Rule 14-96.008(7), F.A.C., on Utility Notification Requirements.
5. All work performed in the Department's right of way shall be done in accordance with the most current Department standards, specifications and the permit provisions.
6. The permittee shall not commence use of the connection prior to a final inspection and acceptance by the Department.
7. Comply with Rule 14-96.003(3)(a), F.A.C., Cost of Construction.
8. If a Significant Change of the permittee's land use, as defined in Section 335.182, Florida Statutes, occurs, the Permittee must contact the Department.
9. Medians may be added and median openings may be changed by the Department as part of a Construction Project or Safety Project. The provision for a median might change the operation of the connection to be for right turns only.
10. All conditions in NOTICE OF INTENT WILL APPLY unless specifically changed by the Department.
11. All approved connection(s) and turning movements are subject to the Department's continuing authority to modify such connection(s) or turning movements in order to protect safety and traffic operations on the state highway or State Highway System.
12. **Transportation Control Features and Devices in the State Right of Way.** Transportation control features and devices in the Department's right of way, including, but not limited to, traffic signals, medians, median openings, or any other transportation control features or devices in the state right of way, are operational and safety characteristics of the State Highway and are not means of access. The Department may install, remove or modify any present or future transportation control feature or device in the state right of way to make changes to promote safety in the right of way or efficient traffic operations on the highway.
13. The Permittee for him/herself, his/her heirs, his/her assigns and successors in interest, binds and is bound and obligated to save and hold the State of Florida, and the Department, its agents and employees harmless from any and all damages, claims, expense, or injuries arising out of any act, neglect, or omission by the applicant, his/her heirs, assigns and successors in interest that may occur by reason of this facility design, construction, maintenance, or continuing existence of the connection facility,except that the applicant shall not be liable under this provision for damages arising from the sole negligence of the Department.
14. The Permittee shall be responsible for determining and notify all other users of the right of way.
15. Starting work on the State Right of Way means that I am accepting all conditions on the Permit.

PART 5: SPECIAL PROVISIONS

NON-CONFORMING CONNECTIONS: ☑ YES ☐ NO

If this is a non-conforming connection permit, as defined in Rule Chapters 14-96 and 14-97, then the following shall be a part of this permit.

1. The non-conforming connection(s) described in this permit is (are) not permitted for traffic volumes exceeding the Permit Category on page 1 of this permit, or as specified in "Other Special Provisions" below.

2. All non-conforming connections will be subject to closure or relocation when reasonable access becomes available in the future.

OTHER SPECIAL PROVISIONS:

• Prior to completing the permitted work, the Permittee shall deliver all signs, sign posts, and sign bases removed as part of the permitted work to FDOT Leesburg Operations, 1405 Thomas Avenue, Leesburg, FL 34748. (If applicable)

• Upon finishing the permitted work and site restoration, permittee shall certify the construction completion using the OSP system.

PART 6: APPEAL PROCEDURES

You may petition for an administrative hearing pursuant to sections 120.569 and 120.57, Florida Statutes. If you dispute the facts stated in the foregoing Notice of Intended Department Action (hereinafter Notice), you may petition for a formal administrative hearing pursuant to section 120.57 (1), Florida Statutes. If you agree with the facts stated in the Notice, you may petition for an informal administrative hearing pursuant to section 120.57(2), Florida Statutes. You must file the petition with:

Clerk of Agency Proceedings
Department of Transportation
Haydon Burns Building
605 Suwannee Street, M.S. 58
Tallahassee, Florida 32399-0458

The petition for an administrative hearing must conform to the requirements of Rule 28-106.201(2) or Rule 28-106.301(2), Florida Administrative Code, and be filed with the Clerk of Agency Proceedings by 5:00 p.m. no later than 21 days after you received the Notice. The petition must include a copy of the Notice, be legible, on 8 1/2 by 11 inch white paper, and contain:

1. Your name, address, telephone number, any Department of Transportation identifying number on the Notice, if known, the name and identification number of each agency affected, if known, and the name, address, and telephone number of your representative, if any, which shall be the address for service purposes during the course of the proceeding.
2. An explanation of how your substantial interests will be affected by the action described in the Notice;
3. A statement of when and how you received the Notice;
4. A statement of all disputed issues of material fact. If there are none, you must so indicate;
5. A concise statement of the ultimate facts alleged, including the specific facts you contend warrant reversal or modification of the agency's proposed action, as well as an explanation of how the alleged facts relate to the specific rules and statutes you contend require reversal or modification of the agency's proposed action;
6. A statement of the relief sought, stating precisely the desired action you wish the agency to take in respect to the agency's proposed action.

If there are disputed issues of material fact a formal hearing will be held, where you may present evidence and argument on all issues involved and conduct cross-examination. If there are no disputed issues of material fact an informal hearing will be held, where you may present evidence or a written statement for consideration by the Department.

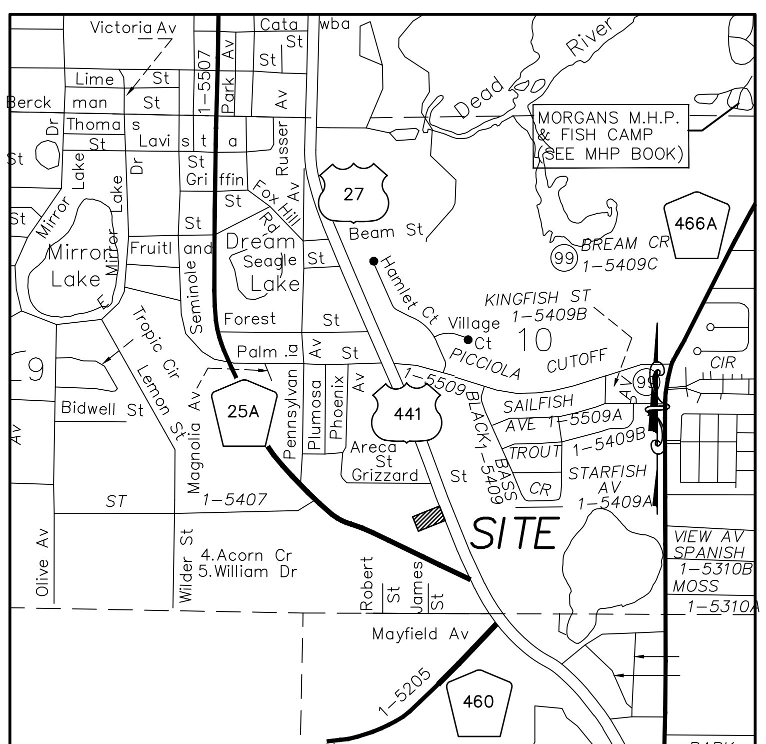
Mediation, pursuant to section 120.573, Florida Statutes, may be available if agreed to by all parties, and on such terms as may be agreed upon by all parties. The right to an adminstrative hearing is not affected when mediation does not result in a settlement.

Your petition for an administrative hearing shall be dismissed if it is not in substantial compliance with the above requirements of Rule 28-106.201(2) or Rule 28-106.301(2), Florida Administrative Code. If you fail to timely file your petition in accordance with the above requirements, you will have waived your right to have the intended action reviewed pursuant to chapter 120, Florida Statutes, and the action set forth in the Notice shall be conclusive and final.

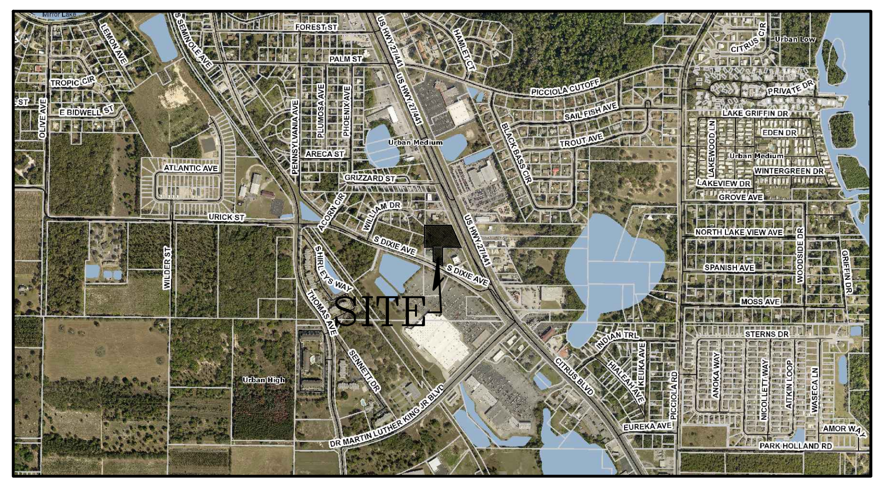
IC International Carwash
US Highway 27/441
Fruitland Park, Fl. 34731

OWNER:
Fruitland Park Holdings, LLC.
Tejinder S. Greenwall
1330 Saxon Blvd.
Orange City, Florida 33473

ALTERNATE KEY #1170621



LOCATION MAP
1"=1000'



VICINITY MAP
1"=2000'

LEGAL DESCRIPTION

A part of Southeast 1/4 of Southwest 1/4 of Section 10, Township 19 South, Range 24 East, in Lake County, Florida, bounded and described as follows:

Beginning at a point 566.5 feet South and 100 feet East of the Northwest corner of the Southeast 1/4 of Southwest 1/4 of said Section; run thence East 100 feet; thence South 200 feet to the North line of the Highway; thence Northwesterly along the North line of the Highway, a distance of 110.5 feet to a point South of the Point of Beginning; thence North 153.1 feet to the Point of Beginning.

AND:

That part of the North 229 feet of the South 991 feet of the Southeast 1/4 of the Southwest 1/4 of Section 10, Township 19 South, Range 24 East, in Lake County, Florida, lying West of the Westerly line of the right of way of U.S. Highway No. 27.

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

INDEX OF SHEETS

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

Owner:
Fruitland Park Holdings, LLC
Tejinder S. Greenwall
1330 Saxon Blvd.
Orange City, FL.
32763

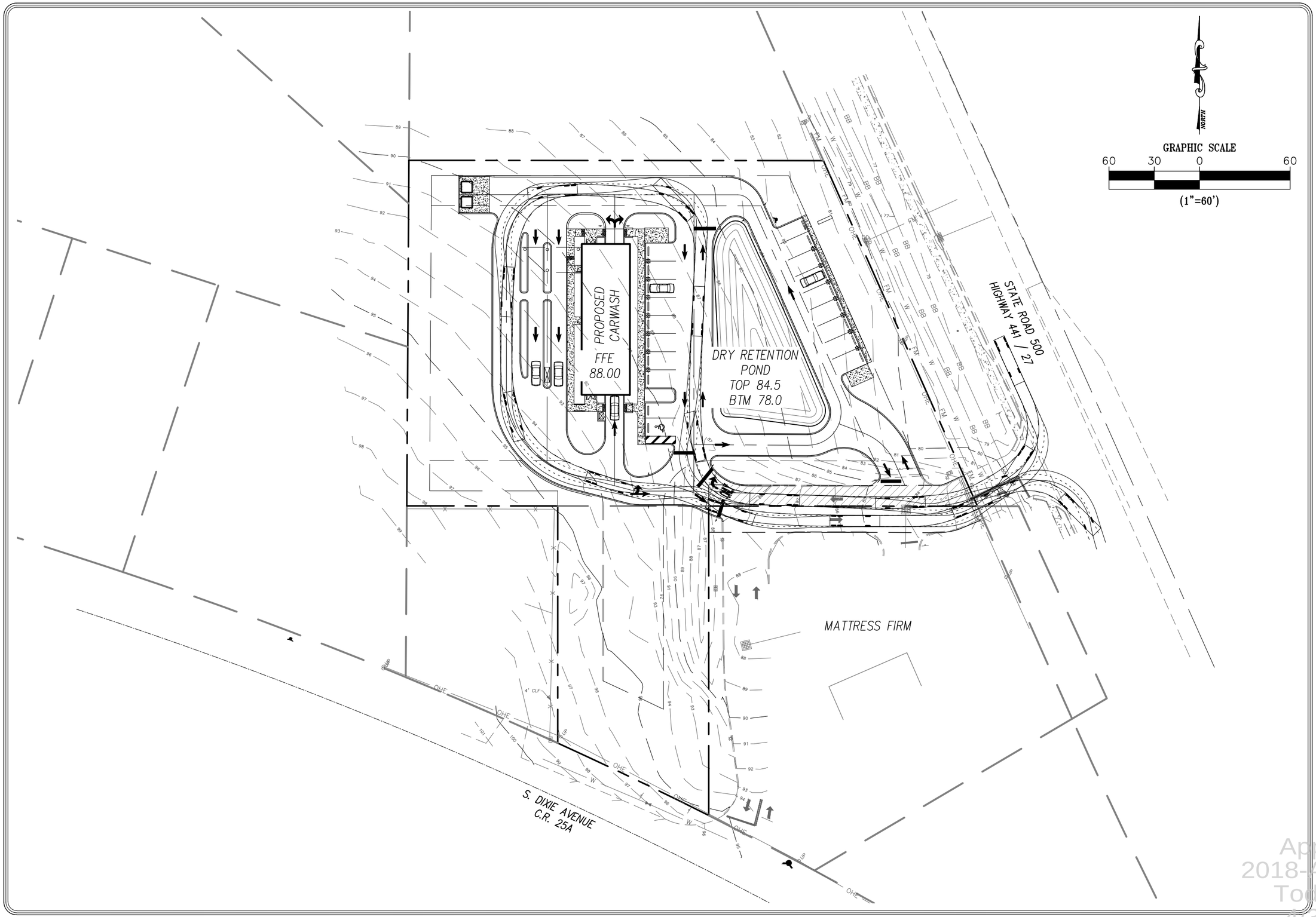
IC International Carwash
Cover Sheet
Fruitland Park, Florida

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

Drawn: NSR
Checked: TL
Date: 10-25-17
Scale: AS SHOWN
File No.: 17136

REVISION:	DATE:
FDOT COMMENTS	11-02-18
FDOT COMMENTS	01-09-19
FDOT COMMENTS	02-10-19
PLAN REVISION	02-25-19
PLAN REVISION	03-29-19

Sheet: 1 Of 7



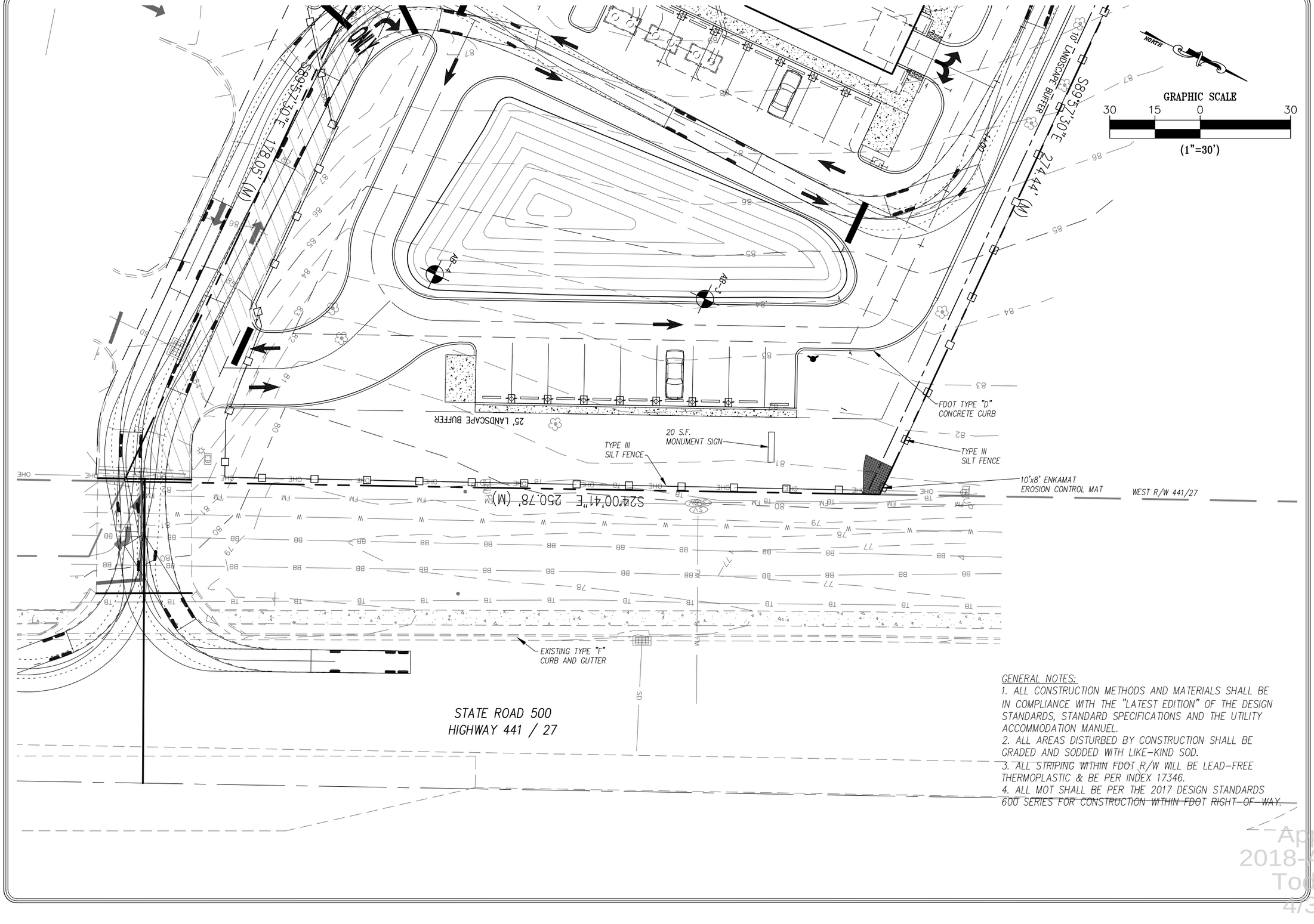
Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

Owner:
Fruitland Park Holdings, LLC
Tejinder S. Greenwall
1330 Saxon Blvd.
Orange City, FL. 32763

IC International Carwash
MASTER PLAN
Fruitland Park, Florida

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

Drawn: NJR	REVISION: DATE:
Checked: TL	FDOT COMMENTS 11-02-18
Date: 10-20-17	FDOT COMMENTS 01-09-19
Scale: AS SHOWN	FDOT COMMENTS 02-10-19
File No.: 17136	PLAN REVISION 02-25-19
Sheet: 2 Of 7	PLAN REVISION 03-29-19



GENERAL NOTES:

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL BE IN COMPLIANCE WITH THE "LATEST EDITION" OF THE DESIGN STANDARDS, STANDARD SPECIFICATIONS AND THE UTILITY ACCOMMODATION MANUEL.
2. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED AND SODDED WITH LIKE-KIND SOD.
3. ALL STRIPING WITHIN FDOT R/W WILL BE LEAD-FREE THERMOPLASTIC & BE PER INDEX 17346.
4. ALL MOT SHALL BE PER THE 2017 DESIGN STANDARDS 600 SERIES FOR CONSTRUCTION WITHIN FDOT RIGHT-OF-WAY.

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

Owner:
Fruitland Park Holdings, LLC
Tejinder S. Greenwall
1330 Saxon Blvd.
Orange City, FL. 32763

IC International Carwash
DEMOLITION & SITE PLAN
Fruitland Park, Florida

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

REVISION:	DATE:
FDOT COMMENTS 11-02-18	
FDOT COMMENTS 01-09-19	
FDOT COMMENTS 02-10-19	
PLAN REVISION 02-25-19	
PLAN REVISION 03-29-19	

Drawn: NSR
Checked: TL
Date: 10-20-17
Scale: AS SHOWN
File No.: 17136
Sheet: 3 Of 7

CONTROL STRUCTURE
TYPE "D" INLET
GRATE EL. 88.70
4'1" SLOT SW INV. 87.00
INV. 85.78

S89°57'30"E 180.05' (M)

S89°57'30"E 274.44' (M)

25' LANDSCAPE BUFFER

25' LANDSCAPE BUFFER

S24°00'41"E 250.78' (M)

STATE ROAD 500
HIGHWAY 441 / 27

NORTH

GRAPHIC SCALE
30 15 0 30
(1"=30')

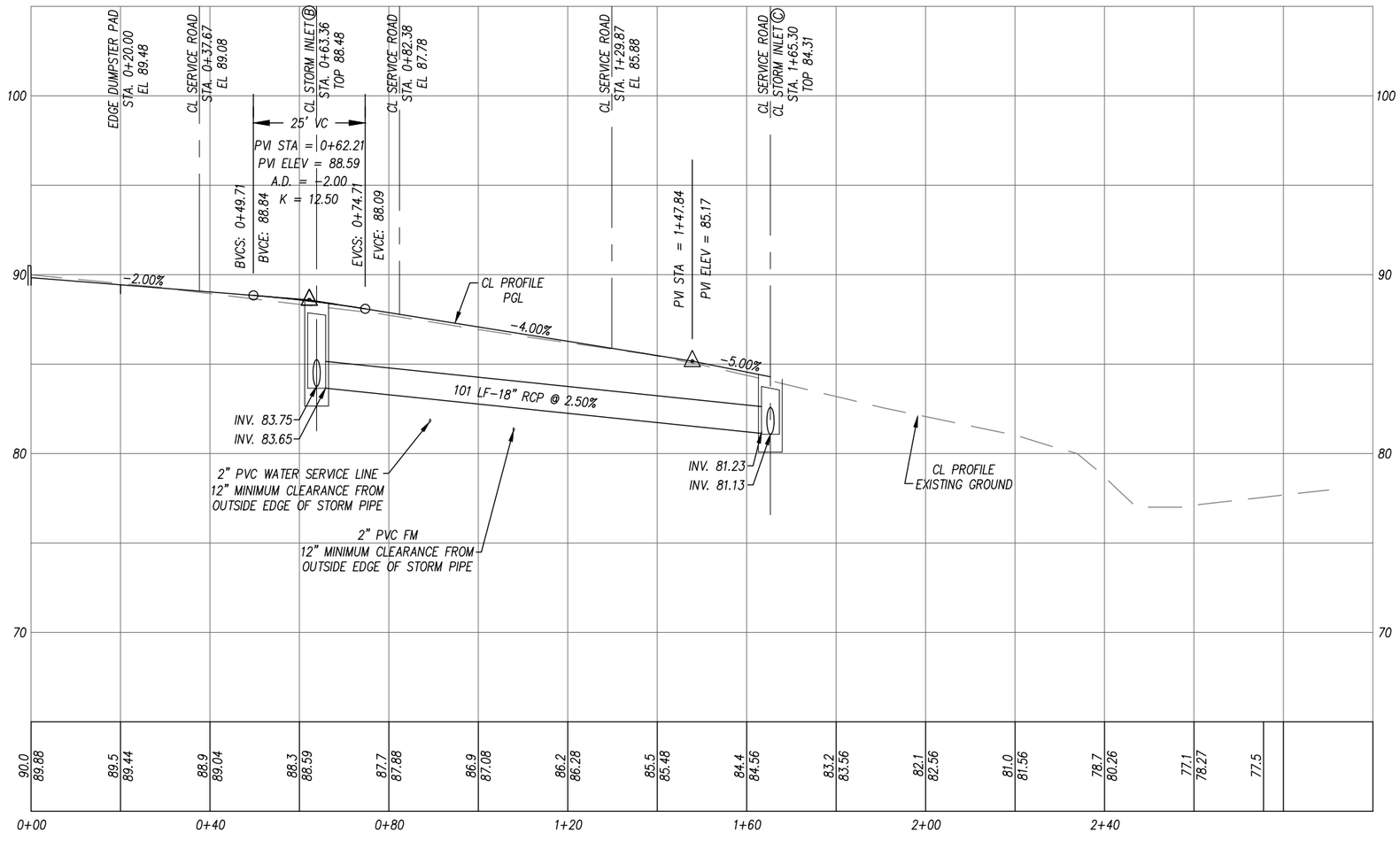
Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

Owner:
Fruitland Park Holdings, LLC
Tejinder S. Greenwall
1330 Saxon Blvd.
Orange City, FL. 32763

IC International Carwash
DRAINAGE PLAN
Fruitland Park, Florida

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

Drawn: NJR	REVISION:	DATE:
Checked: TL	FDOT COMMENTS	11-02-18
Date: 10-29-17	FDOT COMMENTS	01-09-19
Scale: AS SHOWN	FDOT COMMENTS	02-10-19
	PLAN REVISION	02-25-19
File No.: 17136	PLAN REVISION	03-29-19
	Sheet: 4 Of 7	



DATUM ELEV
65.00

GRAPHIC SCALE
30 15 0 30
1"=30' HORZ.
1"= 7.5' VERT.

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

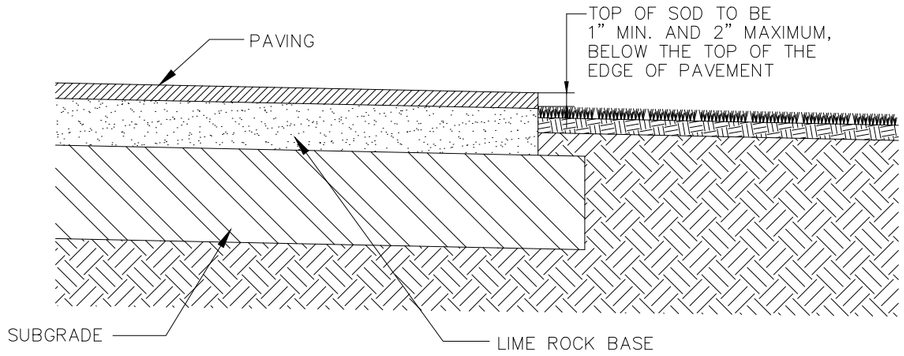
Owner:
Fruitland Park Holdings, LLC
Tejinder S. Greenwall
1330 Saxon Blvd.
Orange City, FL. 32763

IC International Carwash
DRAINAGE PLAN & PROFILE
Fruitland Park, Florida

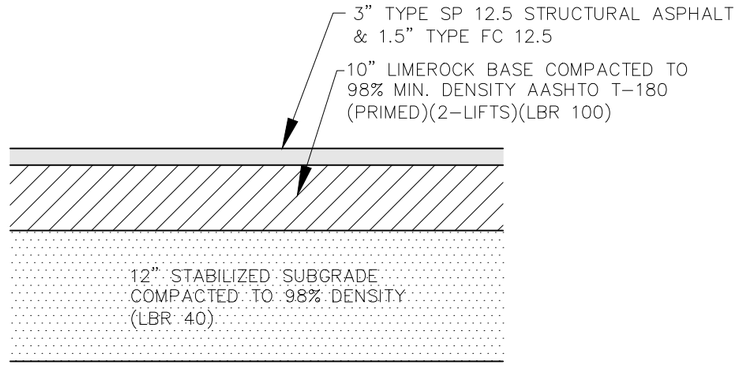
KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

REVISION:	DATE:
FDOT COMMENTS	11-02-18
FDOT COMMENTS	01-09-19
FDOT COMMENTS	02-10-19
PLAN REVISION	02-25-19
PLAN REVISION	03-29-19

Drawn: NSR
Checked: TL
Date: 10-23-17
Scale: AS SHOWN
File No.: 17136
Sheet: 5 Of 7



SOD PLANTING
N.T.S.



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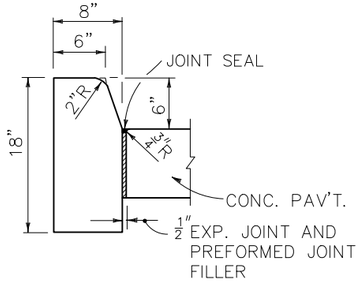
N.T.S.



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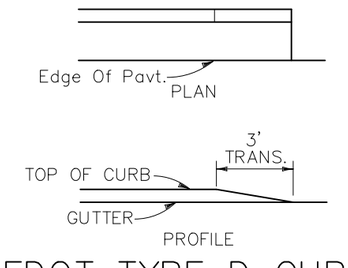
N.T.S.



FDOT TYPE D CURB TRANSITION
N.T.S.

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

Owner:
Fruitland Park Holdings, LLC
Tejinder S. Greenwall
1330 Saxon Blvd.
Orange City, FL. 32763

IC International Carwash
DETAILS
Fruitland Park, Florida

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

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Checked: TL	FDOT COMMENTS	11-02-18
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Sheet: 6 Of 7

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

Owner:
Fruitland Park Holdings, LLC
Tejinder S. Greenwall
1330 Saxon Blvd.
Orange City, FL. 32763

IC International Carwash
NEIGHBORING PLAN PER FAC 14.96
Fruitland Park, Florida

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

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	PLAN REVISION 02-25-19	
File No.: 17136	PLAN REVISION 03-29-19	
	Sheet: 7 Of 7	

Fruitland Park Holdings, LLC
1330 Saxon Blvd
Orange City, FL 32763
t: 386.917.0004
f: 386.917.0005

Fruitland Park Holdings

23 May 2018

State of Florida

Department of Transportation

Re: Driveway/ Access Connection Application

Drainage Application

Utility Application

Dear Sir/Madam:

I hereby authorize Mr. Ted Wicks, P.E., to handle/represent/file the required FDOT applications noted above, on behalf of Fruitland Park Holdings, LLC. His contact information is:

Kenneth R. "TED" Wicks, P.E.

Wicks Engineering Services, Inc.

225 West Main Street

Tavares FL 32778

(352) 343-8667 V (352) 343-8665 F

Attention: Kay Henderson, Project Coordinator

Very truly yours,

Fruitland Park Holdings, LLC

By: _____

Title: MGR MEMBER

STATE OF FLORIDA)

COUNTY OF Orange)

The foregoing instrument was acknowledged before me this 24 day of May, 2018 by Rajinder Grewal as MGR of Fruitland Park Holdings, LLC, a Florida limited liability company, on behalf of the company, and he stated under oath that he was authorized to execute the above document. He/she is personally known to me or has produced _____ _____ as identification and did ❑ (did not) ❑ take an oath.

Sworn and Subscribed to before me on this May 24, 2018.

Notary Public _____

Print: Michelle G. Hinden

My Commission Expires: August 26, 2020

Michelle G. Hinden
Commission # FF992104
Expires: August 26, 2020
Bonded thru Aaron Notary

SEAL

Approved
2018-A-592-051
Todd Croft
4/3/2019

INSTRUMENT#: 2017090332 OR BK 4989 PG 2022 PAGES: 3 8/21/2017 11:34:06 AM
NEIL KELLY, LAKE COUNTY CLERK OF THE CIRCUIT COURT
REC FEES: $27.00 DEED DOC:$3150.00

THIS INSTRUMENT WAS PREPARED BY:
Danielle DeVito-Hurley, Esq.
Gunster, Yoakley & Stewart, P.A.
450 E. Las Olas Blvd., Suite 1400
Ft. Lauderdale, FL 33301

SPECIAL WARRANTY DEED

THIS INDENTURE, made this 21 day of July, 2017, between Van MF Fruitland, LLC, a Florida limited liability company, whose address is 400 Carillon Parkway, Suite 230, St. Petersburg, Florida 33716 ("Grantor"), and Fruitland Park Holdings, LLC a Florida limited liability company, whose address is 1330 Saxon Blvd. Orange City, FL 32763 ("Grantee"):

WITNESSETH THAT:

Grantor, for and in consideration of the sum of Ten and No/100 U.S. Dollars ($10.00), lawful money of the United States of America, to it in hand paid by the Grantee, at or before the ensealing and delivery of these presents, the receipt of which is hereby acknowledged, has granted, bargained, sold, alienated, remised, released, conveyed and confirmed and by these presents does grant, bargain, sell, alien, remise, release, convey and confirm unto the Grantee and its/his/her heirs or successors and assignees forever, the following parcel of land, situate, lying and being in Lake County, Florida, and more particularly described as follows:

SEE **EXHIBIT A** ATTACHED HERETO AND MADE A PART HEREOF (the "Land").

SUBJECT TO AND TOGETHER WITH, HOWEVER, THE FOLLOWING:

1. Real property taxes and assessments for the year 2017 and for subsequent years.

2. Zoning and other regulatory laws and ordinances affecting the Land.

3. Easements, reservations, restrictions, rights of way, and other matters of record, if any, without re-imposing the same.

TOGETHER with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in any way appertaining.

TO HAVE AND TO HOLD the same in fee simple forever.

AND the Grantor hereby covenants with said Grantee that it is lawfully seized of the Land hereby conveyed in fee simple; that it has good right and lawful authority to sell and convey said Land; that it hereby specially warrants the title to said Land and will defend the same against the lawful claims of any persons claiming by, through or under the said Grantor but against no others.

IN WITNESS WHEREOF, Grantor has caused these presents to be signed in its name by its proper officers, and its corporate seal to be affixed, the day and year first above written.

Van MF Fruitland, LLC, a Florida limited liability company

By: _____
R. Scott Collins, as Manager

_____
Witness
Vanessa Norman
Printed Name of Witness

_____
Witness
Franco Mirasola Jr.
Printed Name of Witness

STATE OF Florida)
) ss.:
COUNTY OF Pinellas)

The foregoing Special Warranty Deed was acknowledged before me this 27 day of July, 2017, by R. Scott Collins, as Manager of Van MF Fruitland, LLC, a Florida limited liability company, on behalf of the company, who (X) is personally known to me, or ( ) produced _____ as identification.

NOTARY PUBLIC STATE OF FLORIDA
VANESSA M. NORMAN
MY COMMISSION # FF925805
EXPIRES: October 08, 2019

_____
Signature of Notary Public
Vanessa M. Norman
Printed Name of Notary Public

Approved
2018-A-592-051
Todd Croft
4/3/2019

EXHIBIT A

Parcel 1:

A PART OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 10, TOWNSHIP 19 SOUTH, RANGE 24 EAST, IN LAKE COUNTY, FLORIDA, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 566.5 FEET SOUTH AND 100 FEET EAST OF THE NORTHWEST CORNER OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION: RUN THENCE EAST 100 FEET; THENCE SOUTH 200 FEET TO THE NORTH LINE OF THE HIGHWAY; THENCE NORTHWESTERLY ALONG THE NORTH LINE OF THE HIGHWAY, A DISTANCE OF 110.5 FEET TO A POINT SOUTH OF THE POINT OF BEGINNING; THENCE NORTH 153.1 FEET TO THE POINT OF BEGINNING.

Parcel 2:

THAT PART OF THE NORTH 229 FEET OF THE SOUTH 991 FEET OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 10, TOWNSHIP 19 SOUTH, RANGE 24 EAST, IN LAKE COUNTY, FLORIDA, LYING WEST OF THE WESTERLY LINE OF THE RIGHT OF WAY OF U.S. HIGHWAY NO. 27.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
STORMWATER MANAGEMENT CALCULATIONS

FOR

IC International Carwash

Prepared For:

Fruitland Park Holdings, LLC
Tejinder S. Greewall
1330 Saxon Boulevard
Orange City, Florida 32763

Prepared By:

Wicks Engineering Services, Inc.
225 West Main Street ♦ Tavares, Florida 32778
P (352) 343-8667 F (352) 343-8665
CERT. OF AUTHORIZATION #30062

08-08-19

IC International Carwash

TABLE OF CONTENTS

TAB 1

Scope of Project and Basis of Analysis

IC INTERNATIONAL CARWASH

FRUITLAND PARK
LAKE COUNTY, FLORIDA
STORMWATER MANAGEMENT STUDY

SCOPE OF PROJECT:

This report contains drainage basin calculations for a 1.70 acre proposed carwash business. The project discharges to an existing roadside swale along SR 441 / 27 then ultimately to Lake Griffin. The proposed project consist of a new 3,200 SF building, paved parking & drive lanes and the construction of a dry retention pond to treat and attenuate post developed discharge rates.

BASIS OF ANALYSIS:

A. RUNOFF CURVE NUMBERS

Soil Conservation Service (SCS) runoff Curve Numbers (CN), were developed considering soil types and land use. The soil type for this development consist of entirely Type "A" soils and consist of Candler sand. The existing land cover is open space / wooded. The post-developed curve numbers are based on the proposed land uses within each drainage basin and take into account any directly connected impervious areas. (DCIA).

B. WATER QUALITY REQUIREMENTS

The site is less than 40 acres and contains more than 50% impervious surfaces, so the water quality requirement is 1.25 inches of runoff from impervious surfaces or 0.50 inches over the drainage area, whichever is greater and for on-line treatment systems an additional 0.50 inches of runoff from the drainage area must be retained and treated on-site and these volumes must recover within 72 hours.

C. S.J.R.W.M.D. DESIGN REQUIREMENT

The site is less than 40 acres and contains more than 50% impervious surfaces, so the water quality requirement is 1.25 inches of runoff from impervious surfaces or 0.50 inches over the drainage area, whichever is greater and for on-line treatment systems an additional 0.50 inches of runoff from the drainage area. The stormwater treatment system for the proposed project is designed to drain to a dry retention system and is required to recover the water quality volume and Wekiva recharge volume in 72 hours. The project has been designed to retain the entire post-developed stormwater runoff from a 100 year – 24 hour storm event on-site and the system recovers this volume in 71.8 hours.

FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN REQUIREMENT

The Departments "Peak Discharge" approach is used for the critical duration analysis. This project will not discharge to the FDOT right-of-way for the FDOT design storms and within this drainage package are the stormwater calculations showing that we retain the runoff from the entire 100 year – 24 hour storm event (10.00 inches of rainfall)

D. STORMWATER DESIGN SUMMARY

BASIN B-1

1. 100 Year – 24 Hour Flood Elevation 89.00
2. Recovery Time 48.4 Hours

BASIN B-2

1. Water Quality Required 0.1593 Ac-Ft
   Water Quality Provided 0.463 Ac-Ft (TOB of Pond B-2 Elev. 84.50)
   Water Quality Recovery Time 71.8 hours

2. Basin B-2 - 100 year 24 hour flood elevation - 83.46

TAB 2

Basin B-1 100 Year-24 Hour

DRAINAGE BASIN B-1
POST DEVELOPED
CURVE NUMBER CALCULATIONS

Total Area:	**0.85**	**AC**
Total DCIA Area:	**0.10**	**AC**
Percent (%) DCIA of Area:	**11.76%**	
Total Weighted CN Area:	**0.75**	**AC**
Weigthed Curve Number:	**33.60**	

Land Use Description	Area		% DCIA	% Impervious	% Pervious
Type "A" soil - Residential 1/2 Acre	0.40	AC	25%	0%	75%
Type "A" soil - Commercial	0.00	AC	60%	0%	40%
Type "A" soil - Offsite Undeveloped Wooded	0.45	AC	0%	0%	100%
Impervious area	0.00	AC	100%	0%	0%
Type "A" soil - (open space)	0.00	AC	0%	0%	100%
Type "B" soils (open space)	0.00	AC	0%	0%	100%
Detention Pond	0.00	AC	100%	0%	0%
TOTAL AREA -------->	**0.85**	**AC**			

	% LAND USED	DCIA AREA (AC)	C.N.	
Type "A" soil - Residential 1/2 Acre	25%	0.10	98	
Type "A" soil (Commercial)	60%	0.00	98	
Type "A" soil - Offsite Undeveloped Wooded	0%	0.00	98	
Impervious area	100%	0.00	98	
Detention Pond	100%	0.00	98	**Percent (%) DCIA of Area = 11.76%**
TOTAL --->		**0.10**		

WEIGHTED C.N.

	% LAND USED	AREA (AC)	% AREA	C.N.	%XC.N.
Type "A" soil - Residential 1/2 Acre	75%	0.30	40.0%	39	15.60
Type "A" soil - Commercial	40%	0.00	0.0%	39	0.00
Type "A" soil - Offsite Undeveloped Wooded	100%	0.45	60.0%	30	18.00
Impervious area	0%	0.00	0.0%	98	0.00
Type "A" soil - (open space)	100%	0.00	0.0%	39	0.00
Type "B" soils (open space)	100%	0.00	0.0%	92	0.00
TOTAL ---------->		**0.75**	**100%**		**33.60**

100YR, 24HR

STORM RUNOFF CALCULATIONS

Total Runoff Volume =	**0.17**	**ac-ft**
Rainfall Intensity =	**10.00**	**inches**
Total DCIA Area =	**0.10**	**AC**
Total Weighted CN Area:	**0.75**	**AC**
Weigthed Curve Number:	**33.60**	

DCIA Runoff Volume in Acre-Feet

V = 0.10 x 10.00 1/12 inches/ft

V = 0.08 acre-feet

Based on SCS Runoff Curve Number Method

Runoff in Inches

$$S = \frac{1{,}000}{33.60} - 10 \qquad S = 19.76$$

$$Q = \left[\frac{10.00 - 0.2 \times 19.76}{10.00 + 0.8 \times 19.76} \right]^2$$

Q = 1.42 inches

Runoff Volume in Acre-feet

V = 0.75 x 1.42 1/12 inches/ft

V = 0.09 acre-feet

DCIA Runoff Volume =	0.08	acre-feet
Runoff Volume =	0.09	acre-feet
Total Runoff Volume ac-ft =	**0.17**	**acre-feet**

DRY RETENTION POND B-1
POST - DEVELOPED
AREA & STAGE-STORAGE VOLUME

Stage (ft)	Area (ac)	Stor. Vol. (ac-ft)	
87.00	0.065	0.000	BTM
88.00	0.089	0.077	
89.00	0.114	0.179	TOB

MODRET

SUMMARY OF UNSATURATED & SATURATED INPUT PARAMETERS

PROJECT NAME : IC Carwash Basin B-1
POLLUTION VOLUME RUNOFF DATA USED
UNSATURATED ANALYSIS INCLUDED

Pond Bottom Area	2,831.40 ft²
Pond Volume between Bottom & DHWL	7,797.24 ft³
Pond Length to Width Ratio (L/W)	3.00
Elevation of Effective Aquifer Base	84.00 ft
Elevation of Seasonal High Groundwater Table	84.50 ft
Elevation of Starting Water Level	87.00 ft
Elevation of Pond Bottom	87.00 ft
Design High Water Level Elevation	89.00 ft
Avg. Effective Storage Coefficient of Soil for Unsaturated Analysis	0.25
Unsaturated Vertical Hydraulic Conductivity	20.70 ft/d
Factor of Safety	2.00
Saturated Horizontal Hydraulic Conductivity	40.00 ft/d
Avg. Effective Storage Coefficient of Soil for Saturated Analysis	0.25
Avg. Effective Storage Coefficient of Pond/Exfiltration Trench	1.00

Hydraulic Control Features:

	Top	Bottom	Left	Right
Groundwater Control Features - Y/N	N	N	N	N
Distance to Edge of Pond	0.00	0.00	0.00	0.00
Elevation of Water Level	0.00	0.00	0.00	0.00
Impervious Barrier - Y/N	N	N	N	N
Elevation of Barrier Bottom	0.00	0.00	0.00	0.00

MODRET

TIME - RUNOFF INPUT DATA

PROJECT NAME: IC CARWASH BASIN B-1

STRESS PERIOD NUMBER	INCREMENT OF TIME (hrs)	VOLUME OF RUNOFF (ft^3)
Unsat	1.45	1,769.62
1	1.00	6,027.62
2	8.69	0.00
3	8.69	0.00
4	8.69	0.00
5	8.69	0.00
6	8.69	0.00
7	8.69	0.00
8	8.69	0.00
9	8.69	0.00

MODRET

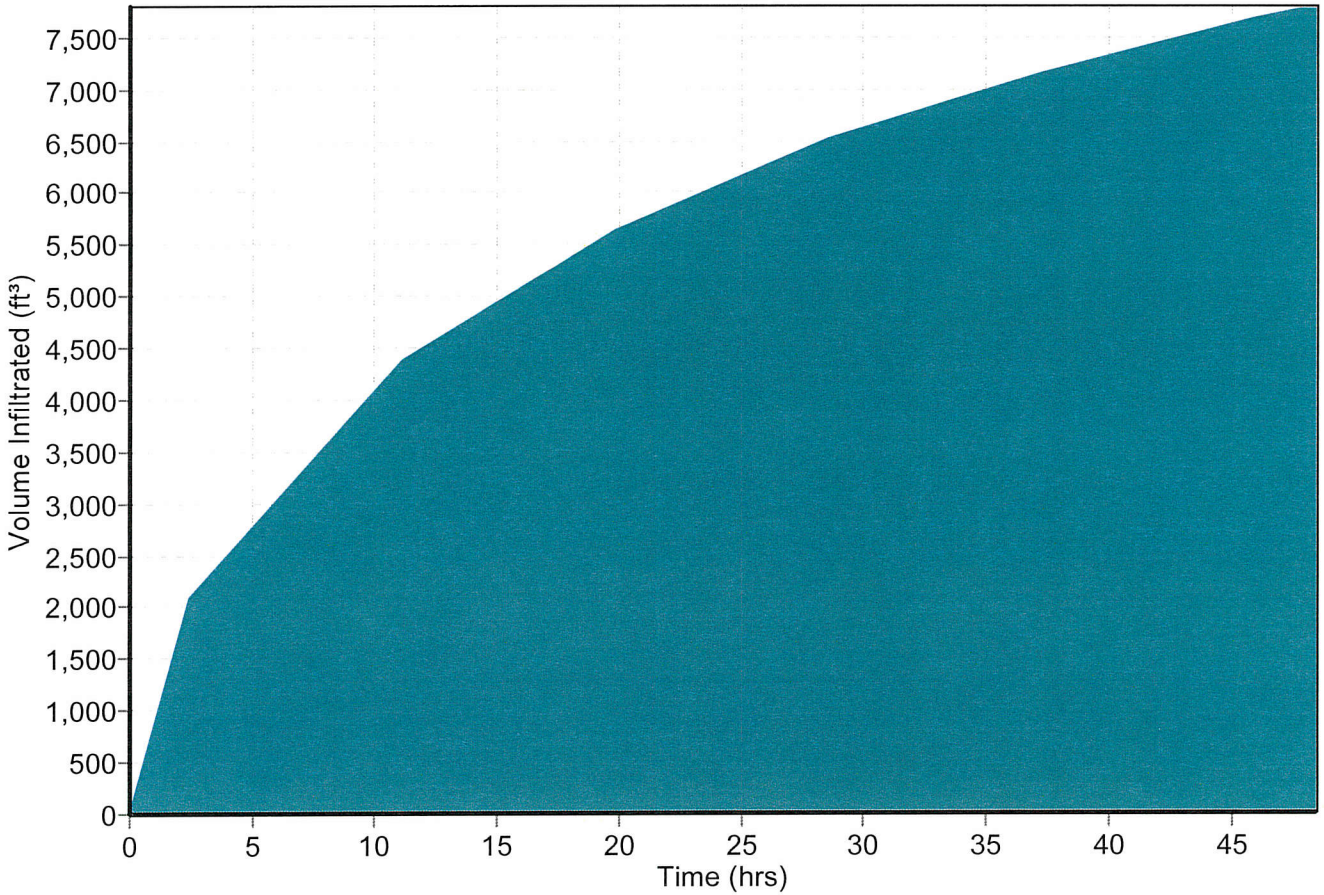
SUMMARY OF RESULTS

PROJECT NAME : IC Carwash Basin B-1

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft^3)
00.00 - 0.00	84.500	0.000 *		
			0.00000	
0.00	84.500	0.27205		
			0.23619	
2.45	88.466	0.20033		0.00
			0.07306	
11.14	87.879	0.05694		0.00
			0.04082	
19.84	87.552	0.03415		0.00
			0.02748	
28.53	87.331	0.02406		0.00
			0.02064	
37.22	87.165	0.01861		0.00
			0.01657	
45.92	87.032	0.01522		0.00
			0.01386	
48.44	87.000	0.01288		0.00
			0.01190	
63.31	86.825	0.01115		0.00
			0.01040	
72.00	86.742			0.00

Maximum Water Elevation: 88.466 feet @ 2.45 hours Recovery @ 48.438 hours
* Time increment when there is no runoff
Maximum Infiltration Rate: 5.234 ft/day

INFILTRATION : IC CARWASH BASIN B-1



Total Volume Infiltrated = 7,797 ft³

TAB 3

Basin B-2 (Basin Data)

DRAINAGE BASIN B-2
POST DEVELOPED
CURVE NUMBER CALCULATIONS

Total Area:	1.70	AC
Total DCIA Area:	0.85	AC
Percent (%) DCIA of Area:	50.00%	
Total Weighted CN Area:	0.85	AC
Weigthed Curve Number:	39.00	

Land Use Description	Area		% DCIA	% Impervious	% Pervious
Type "A" soil - Residential	0.00	AC	38%	0%	62%
Type "A" soil - Commercial	0.00	AC	60%	0%	40%
Type "A" soil - Offsite Undeveloped	0.00	AC	0%	0%	100%
Impervious area	0.85	AC	100%	0%	0%
Type "A" soil - (open space)	0.85	AC	0%	0%	100%
Type "B" soils (open space)	0.00	AC	0%	0%	100%
Detention Pond	0.00	AC	100%	0%	0%
TOTAL AREA ------->	1.70	AC			

	% LAND USED	DCIA AREA (AC)	C.N.	
Type "A" soil - Residential	38%	0.00	98	
Type "A" soil (Commercial)	60%	0.00	98	
Type "A" soil - Offsite Undeveloped	0%	0.00	98	
Impervious area	100%	0.85	98	
Detention Pond	100%	0.00	98	Percent (%) DCIA of Area = 50.00%
TOTAL --->		0.85		

WEIGHTED C.N.

	% LAND USED	AREA (AC)	% AREA	C.N.	%XC.N.
Type "A" soil - Residential	0%	0.00	0.0%	98	0.00
Type "A" soil - Residential	62%	0.00	0.0%	39	0.00
Type "A" soil - Commercial	40%	0.00	0.0%	39	0.00
Type "A" soil - Offsite Undeveloped	100%	0.00	0.0%	39	0.00
Impervious area	0%	0.00	0.0%	98	0.00
Type "A" soil - (open space)	100%	0.85	100.0%	39	39.00
Type "B" soils (open space)	100%	0.00	0.0%	92	0.00
TOTAL ---------->		0.85	100%		39.00

100YR, 24HR

STORM RUNOFF CALCULATIONS

Total Runoff Volume =	**0.86**	**ac-ft**
Rainfall Intensity =	**10.00**	**Inches**
Total DCIA Area =	**0.85**	**AC**
Total Weighted CN Area:	**0.85**	**AC**
Weigthed Curve Number:	**39.00**	

DCIA Runoff Volume in Acre-Feet

V = 0.85 x 10.00 1/12 Inches/ft

V = 0.71 acre-feet

Based on SCS Runoff Curve Number Method

Runoff in Inches

$$S = \frac{1{,}000}{39.00} - 10 \qquad S = 15.64$$

$$Q = \left[\frac{10.00 - 0.2 \times 15.64}{10.00 + 0.8 \times 15.64} \right]^2$$

Q = 2.10 Inches

Runoff Volume in Acre-feet

V = 0.85 x 2.10 1/12 Inches/ft

V = 0.15 acre-feet

DCIA Runoff Volume =	0.71	acre-feet
Runoff Volume =	0.15	acre-feet
Total Runoff Volume ac-ft =	**0.86**	**acre-feet**

DRY RETENTION POND (BASIN B-2)
POST - DEVELOPED
AREA & STAGE-STORAGE VOLUME

Stage (ft)	Area (ac)	Stor. Vol. (ac-ft)	
78.00	0.007	0.000	BTM
79.00	0.018	0.012	
80.00	0.035	0.039	
81.00	0.058	0.086	
82.00	0.085	0.157	
83.00	0.114	0.257	
84.00	0.145	0.387	
84.50	0.159	0.463	

TAB 4

Water Quality Requirements Summary

IC International Carwash
Water Quality Treatment Volume
Fruitland Park, Florida

Basin ID	Impervious Area (ac)	Total Area (ac)	1.25" from Impervious Area (af)	0.50" Runoff Entire Basin (af)	Additional 0.50" Runoff from Entire Basin (af)	Required Volume (af)
B-2	0.85 (50.0%)	1.70	0.0885	0.0708	0.0708	0.1593
Total	0.85	1.70	0.0855	0.0708	0.0708	0.1593

Required Water Quality - 0.1593 Ac. / Ft.

Provided Water Quality - 0.463 Ac . / Ft. (At Elev. 84.50)

TAB 5

Basin B-2 100 Year – 24 Hour MODRET Runoff & Recovery Analysis

MODRET

HYDROGRAPH DATA INPUT - SCS UNIT METHOD

Project Name : ic carwash
Rainfall Distribution : SCS Type II (24 hrs)

Contributing Basin Area	1.70 ac.
SCS Curve Number	39.00
Time of Concentration	10.00 min.
Rainfall Depth	10.00 in.
Shape Factor	484
Percent DCIA	50.00 %

MODRET

SUMMARY OF UNSATURATED & SATURATED INPUT PARAMETERS

PROJECT NAME : ic carwash
HYDROGRAPH RUNOFF DATA USED
UNSATURATED ANALYSIS INCLUDED

Pond Bottom Area	305.00 ft²
Pond Volume between Bottom & DHWL	20,168.28 ft³
Pond Length to Width Ratio (L/W)	3.00
Elevation of Effective Aquifer Base	69.00 ft
Elevation of Seasonal High Groundwater Table	69.50 ft
Elevation of Starting Water Level	78.00 ft
Elevation of Pond Bottom	78.00 ft
Design High Water Level Elevation	83.50 ft
Avg. Effective Storage Coefficient of Soil for Unsaturated Analysis	0.25
Unsaturated Vertical Hydraulic Conductivity	12.00 ft/d
Factor of Safety	2.00
Saturated Horizontal Hydraulic Conductivity	29.40 ft/d
Avg. Effective Storage Coefficient of Soil for Saturated Analysis	0.25
Avg. Effective Storage Coefficient of Pond/Exfiltration Trench	1.00
Time Increment During Storm Event	2.00 hrs
Time Increment After Storm Event	12.00 hrs
Total Number of Increments After Storm Event	6.00

Runoff Hydrograph File Name: SCS1.SCS

Time of Peak Runoff: 12.03 hrs

Rate of Peak Runoff: 8.10 cfs

Hydraulic Control Features:

	Top	Bottom	Left	Right
Groundwater Control Features - Y/N	N	N	N	N
Distance to Edge of Pond	0.00	0.00	0.00	0.00
Elevation of Water Level	0.00	0.00	0.00	0.00
Impervious Barrier - Y/N	N	N	N	N
Elevation of Barrier Bottom	0.00	0.00	0.00	0.00

MODRET

SUMMARY OF RESULTS

PROJECT NAME : ic carwash

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft^3)
00.00 - 0.03	69.500	0.000 *		
			0.00000	
0.03	69.500	-0.31697		
			0.06886	
10.50	78.937	0.45469		0.00
			0.52876	
12.51	82.935	0.50470		0.00
			0.48064	
14.52	83.462	0.44493		0.00
			0.40922	
16.53	83.294	0.38398		0.00
			0.35874	
18.54	83.064	0.33711		0.00
			0.31547	
20.55	82.814	0.29709		0.00
			0.27871	
22.56	82.568	0.26339		0.00
			0.24808	
24.57	82.312	0.23331		0.00
			0.14511	
36.57	80.603	0.12127		0.00
			0.09743	
48.57	79.455	0.08437		0.00
			0.07130	
60.57	78.615	0.06350		0.00
			0.05571	
71.82	78.000	0.05059		0.00
			0.04548	
84.57	77.423	0.04181		0.00

MODRET

SUMMARY OF RESULTS

PROJECT NAME : ic carwash

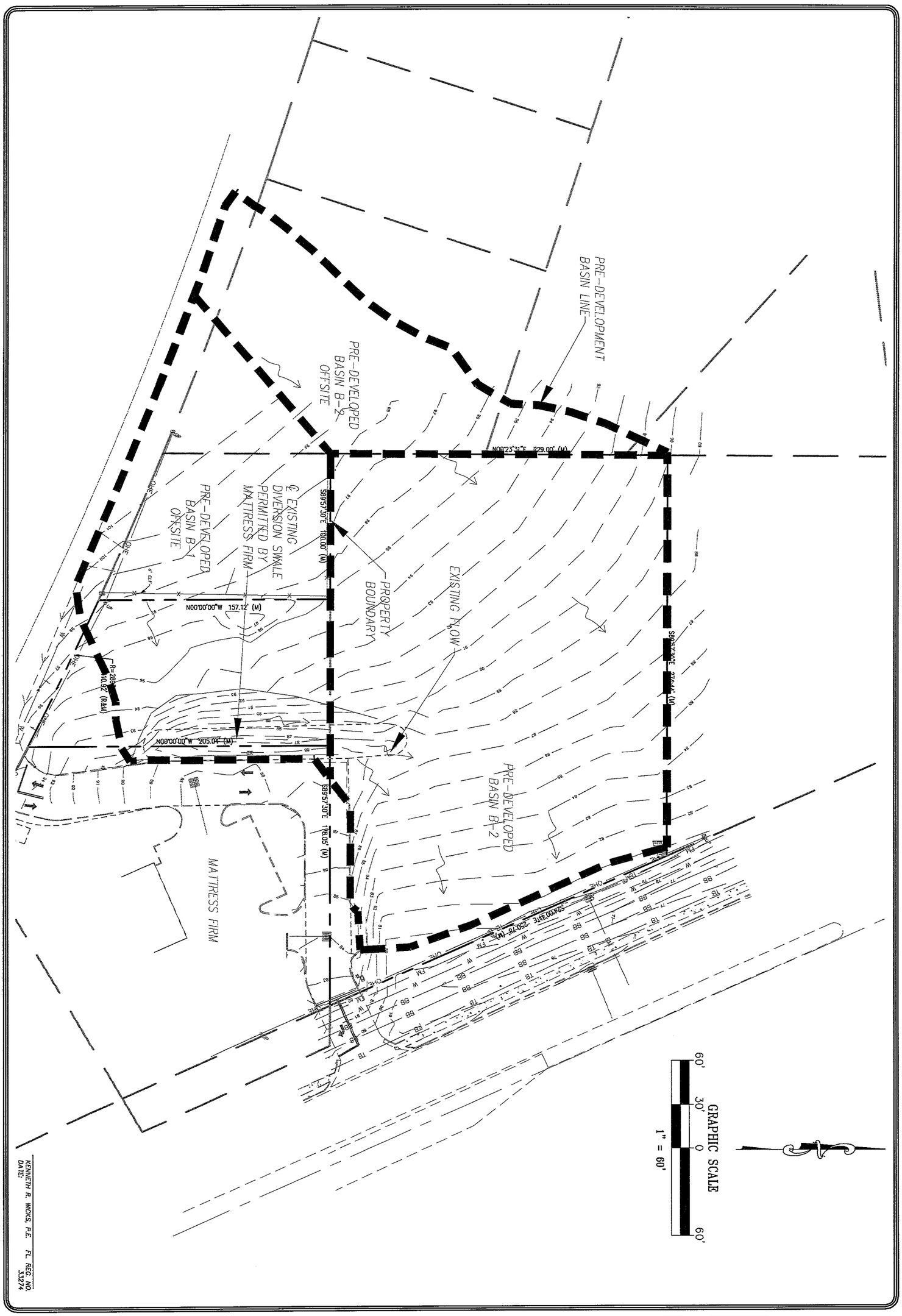
CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft^3)
			0.03814	
96.57	76.974			0.00

Maximum Water Elevation: 83.462 feet @ 14.52 hours Recovery @ 71.815 hours

TAB 6

Pre & Post Developed Drainage Maps

Z:\acad drawings 1\Wicks\Jobs\19119 Fr Park Car Wash RE-DESIGN\Plans\19119 Car Wash Total.dwg, 8/8/



KENNETH R. WICKS, P.E. FL. REG. NO. 53274
DATE:

Drawn: CADD	REVISION:	DATE:
Checked: TL		
Date: 05/06/19		
Scale: As Shown		
File No.: 19119		
Sheet: 1 OF 1		

IC International Carwash
Pre-Development Basin Map
Fruitland Park, Florida

FRUITLAND PARK HOLDINGS, LLC
TEJINDER S. GREENWALL
1330 SAXON BOULEVARD
ORANGE CITY, FL. 32763

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8657
C.A. #30062

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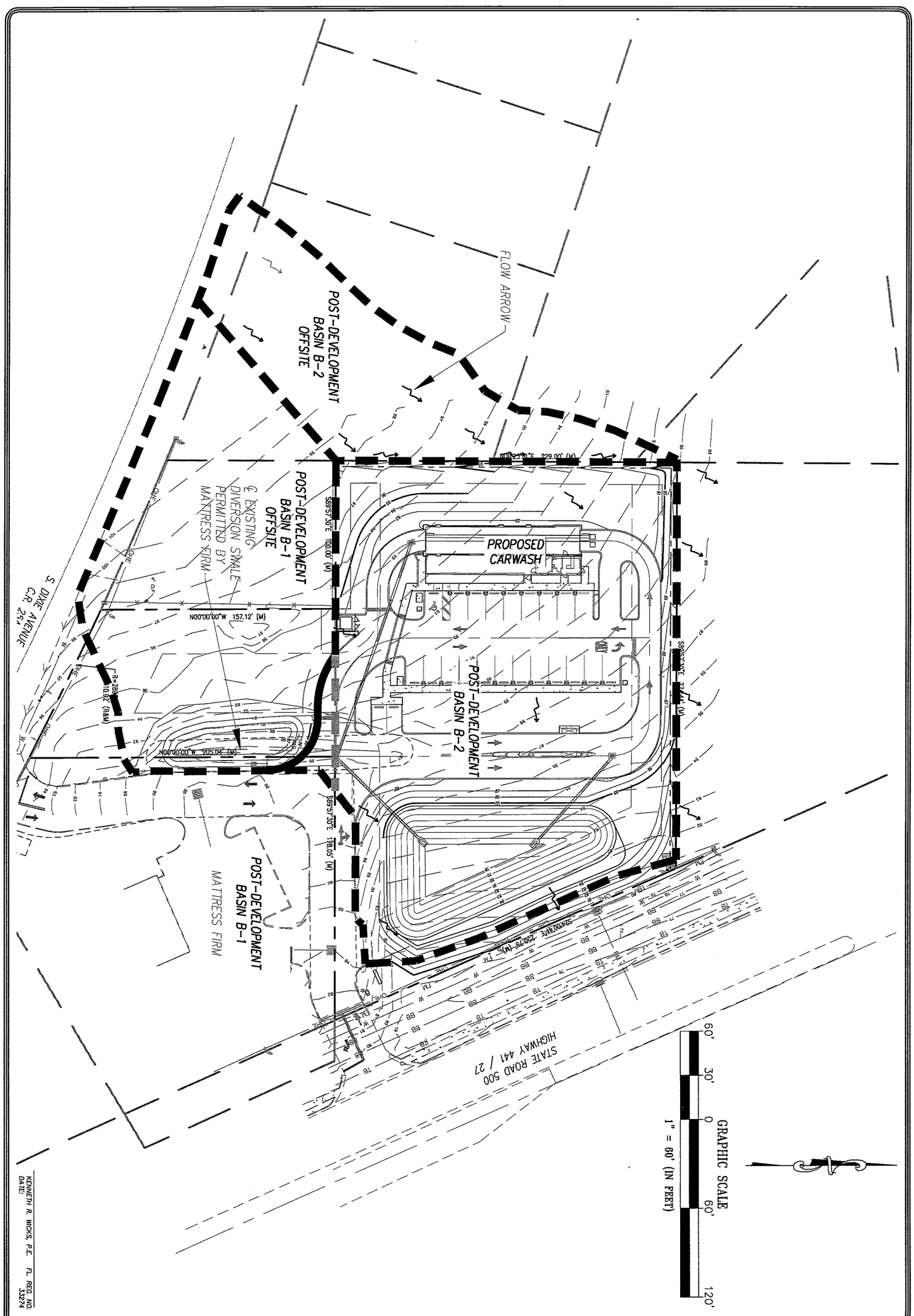


KENNETH R. WICKS, P.E. FL. REG. NO. 53274
DATE:

Drawn: CADD	REVISION:	DATE:
Checked: TL		
Date: 05/06/19		
Scale: As Shown		
File No.: 19119		
Sheet: 1 OF 1		

IC International Carwash
Post-Development Basin Map
Fruitland Park, Florida

FRUITLAND PARK HOLDINGS, LLC
TEJINDER S. GREENWALL
1330 SAXON BOULEVARD
ORANGE CITY, FL. 32763

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

TAB 7

USDA Soils Map

USDA United States Department of Agriculture
Natural Resources Conservation Service

Web Soil Survey

Search

Map Unit Legend

Lake County Area, Florida (FL607)

Lake County Area, Florida (FL607)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Candler sand, 0 to 5 percent slopes	0.6	25.4%
9	Candler sand, 5 to 12 percent slopes	1.7	74.6%
Totals for Area of Interest		**2.2**	**100.0%**

Soil Map

Scale (not to scale)

Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that

TAB 8

Geotechnical Report

Andreyev Engineering, Inc.

SANFORD OFFICE
4055 St. John's Parkway
Sanford, Florida 32771
407-330-7763
Fax: 407-330-7765

▼ Groundwater ▼ Environmental ▼ Geotechnical ▼ Construction Materials Testing

November 29, 2017
GPGT-17-132

To: **Mr. Tejinder S. Grewal**
1330 Saxon Boulevard
Orange City, Florida 32763

C/O: **Wicks Engineering Services, Inc.**
225 West Main Street
Tavares, Florida 32778
Attention: Mr. Rick Hartenstein

Subject: **Geotechnical Investigation, Proposed Building Area, Stormwater Retention/Exfiltration Areas, and Paved Parking/Drive Areas, Proposed IC International Carwash, Fruitland Park, Lake County, Florida**

Dear Mr. Grewal:

Andreyev Engineering, Inc. (AEI) has completed a geotechnical investigation for the above referenced project location. We understand that the subject development will include one carwash building with paved parking/drive areas. Stormwater runoff from the site improvements will be routed to one proposed on-site stormwater retention area and one stormwater exfiltration area.

This report presents the results of our geotechnical investigation along with an evaluation of the soil and groundwater conditions encountered. In addition, it provides geotechnical engineering recommendations for site preparation, foundation design, pavement section design, and recommendations for stormwater retention system design.

SITE LOCATION AND DESCRIPTION

The subject site is located within Section 10, Township 19 South, and Range 24 East, along the west side of U.S. Highway 27/441, in Fruitland Park, Lake County, Florida. We have included the U.S.G.S. Topographic Map, which depicts the location of the site, on the attached **Figure 1**. In addition, the Natural Resources Conservation Service (NRCS) Soil Map, which depicts the location and general soil types of the subject site, and is presented on the attached **Figure 2**.

PURPOSE AND SCOPE OF SERVICES

The purpose of this study was to explore subsurface soil and groundwater conditions at this site for foundation support of the proposed building on shallow foundations and provide aquifer parameters for the stormwater retention pond system design. We understand that the proposed site improvements, will route stormwater into one proposed stormwater retention pond area and one stormwater exfiltration area.

The scope of this investigation included:

- Drilled two (2) Standard Penetration Test (SPT) borings, designated as TB-1 and TB-2, to a depth of 20 feet below ground surface, within the proposed building foundation area, for general foundation evaluation.
- Drilled three (3) machine auger borings, designated as AB-1 through AB-4, to a depth of 15 feet, within the proposed dry stormwater retention pond and exfiltration system areas.
- Collected four (4) undisturbed permeability tube samples from the proposed retention pond and exfiltration system areas and conducted laboratory permeability testing on the undisturbed permeability tube samples to assess soil hydraulic conductivity.
- Drilled three (3) manual auger borings, designated as HA-1 through HA-3, to a depth of 7 feet, within the proposed paved parking/drive areas.
- Estimated normal seasonal high groundwater table levels.

Samples were recovered from the borings and returned to AEI's laboratory for visual classification and stratification. Soil strata were classified according to the Unified Soil Classification System (USCS). Approximate boring locations are shown on **Figure 3**, results of the Standard Penetration Test (SPT) borings and auger borings, in profile form, are presented on **Figure 4**. On the profiles, horizontal lines designating the interface between differing materials represent approximate boundaries. The actual transition between layers is typically gradual.

NATURAL RESOURCES CONSERVATION SERVICE SOIL SURVEY

The publication titled "Soil Survey of Lake County, Florida" published by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) was reviewed. For your reference, we have included a portion of the NRCS Soil Map which depicts the location of the subject site on the attached **Figure 2**. The two soil map units for the subject project location are identified as:

Soil Map Unit 8: ***Candler Sand, 0 to 5 Percent Slopes***

Brief Description: "This soil is nearly level to gently sloping, excessively drained soil found on rolling uplands of the central ridge. The surface layer of this soil type generally consists of dark gray sand about 6 inches thick. The next layer is sand about 57 inches thick. The subsurface layer is sand about 17 inches thick. The water table for this soil type is at a depth of more than 80 inches. Available water capacity is very low and permeability is considered to be rapid to very rapid."

Soil Map Unit 9: ***Candler Sand, 5 to 12 Percent Slopes***

Brief Description: "This soil is a sloping to strongly sloping, excessively drained soil found on rolling uplands of the central ridge. Typically, the surface layer of this soil type consists of sand about 5 inches thick. The next layer is sand about 62 inches thick followed by a layer of sand about 13 inches thick. The water table for this soil type is at a depth of more than 80 inches. Available water capacity is very low and permeability is considered to be rapid to very rapid throughout the profile of this soil type."

SOIL AND GROUNDWATER CONDITIONS

Soil samples recovered from the borings were visually and tactually classified and stratified in the laboratory using the Unified Soil Classification System (USCS) and the interpretation of the field logs by a geotechnical engineer. The USCS classifications are presented adjacent to respective depths and soil profiles on **Figure 4**. Standard Penetration Test (SPT) borings measure soil density using a split spoon sampler advanced by a 140-pound hammer dropped repeatedly a distance of 30 inches. The N-value, which is shown next to the corresponding depths of the boring profile, is the number of blows by the hammer required to advance the split spoon sampler one (1) foot. Split spoon sampling was conducted continuously in the upper 10 feet and at 5-foot intervals thereafter. Also included, adjacent to the SPT borings, are the blow counts or "N" values. The "N" values have been empirically correlated with various soil properties and are considered to be indicative of the relative density of cohesionless soils and the consistency of cohesive material. Upon completion of drilling, the SPT boreholes were backfilled with additional bentonite and soil materials.

The results of this investigation indicate the site soil conditions at Standard Penetration Test (SPT) boring locations TB-1 and TB-2, drilled within the proposed building foundation area, encountered Stratum 1 fine sand extending from the ground surface to depths of 8 to 13.5 feet, underlain by Stratum 2 slightly clayey to clayey fine sand to the termination depth of drilling of 20 feet.

The "N" values, which represent the relative density of the encountered soils, indicate that the granular soils generally exist in a loose condition from the ground surface to depths of 8 to 9 feet, increasing to medium dense conditions, to the termination depth of drilling of 20 feet, at TB-1 and TB-2.

Correlation of the SPT-N values with relative density, unconfined compressive strength and consistency are provided in the following table:

Coarse-Grained Soils		**Fine Grained Soils**		
Penetration Resistance N (blows/ft)	Relative Density of Sand	Penetration Resistance N (blows/ft)	Unconfined Compressive Strength of Clay (tons/ft^2)	Consistency of Clay
0-4	Very Loose	<2	<0.25	Very Soft
4-10	Loose	2-4	0.25-0.50	Soft
10-30	Medium-Dense	4-8	0.50-1.00	Medium
30-50	Dense	8-15	1.00-2.00	Stiff
>50	Very Dense	15-30	2.00-4.00	Very Stiff
		>30	>4.00	Hard

Machine auger borings AB-1 through AB-4, drilled within the proposed stormwater retention pond area and exfiltration system area, generally encountered Strata 1, 2, and 3 fine sand, slightly clayey to clayey fine sand, and slightly silty fine sand from the ground surface to the termination depth of drilling of 20 feet.

Manual auger borings HA-1, HA-2, and HA-3, drilled within the proposed paved parking and drive areas, encountered Stratum 1 fine sand extending from the ground surface to the termination depth of drilling of 7 feet.

Groundwater Conditions

Groundwater was not encountered between the ground surface and a depth of 10 feet at TB-1 and TB-2. Groundwater levels were not measured below the 10 foot depth at TB-1, due to the drilling method mud rotary, which uses a thick bentonite drilling slurry to maintain an open borehole. In addition, groundwater was not encountered between the ground surface and depths of 7 to 15 feet at HA-1 through HA-3 and at AB-1 through AB-4.

Based on the encountered subsurface conditions, our local experience, and antecedent rainfall conditions, the normal seasonal high groundwater level is estimated to exist in a temporary perched condition, slightly above the Stratum 2 slightly clayey to clayey fine sand during periods of heavy or extended rainfall at TB-1, TB-2, AB-1, and AB-2. At AB-3 and AB-4,the normal seasonal high groundwater level is estimated to exist slightly above the termination depth of drilling of 15 feet, and at HA-1 through HA-3, the normal seasonal high groundwater level is estimated to exist below the termination depth of drilling of 7 feet.

Laboratory Permeability Test Results

Laboratory permeability testing was conducted on the undisturbed tube samples that were collected from retention pond and exfiltration system borings AB-1 though AB-4. The results of the laboratory tests indicate a vertical coefficient of permeability of 32.6 feet per day, 29.5 feet per day, 19.2 feet per day, and 24.3 feet per day at AB-1, AB-2, AB-3 and AB-4, respectively. The results of the laboratory tests are shown adjacent to the tested depth and corresponding soil profile on **Figure 4**.

EVAULATION AND RECOMMENDATIONS

General

Based on the results of this investigation and our evaluation of the encountered subsurface conditions, it is our opinion that the site soils are suitable to support the proposed building as planned, provided that proper site soil preparation and soil densification are carried out. It is critical that site preparation and soil densification procedures are thorough to ensure consistent and uniform support conditions for the proposed site improvements.

Conventional pavement section design and construction using a flexible pavement section will also be possible at this site.

The proposed stormwater retention area, located in the vicinity of AB-1 and AB-2, appears suitable for shallow dry stormwater retention system design. Also, the proposed stormwater exfiltration area, located in the vicinity of AB-3 and AB-4, appears suitable for exfiltration system design. The on-site Stratum 1 sandy soils, excavated from the proposed retention pond area and exfiltration system area, should be suitable for general fill purposes.

More specific recommendations for the building area, paved parking/drive areas, stormwater retention pond area, and exfiltration system area are provided below.

Site Preparation

The building area and parking/drive areas, plus a minimum margin of 5 feet beyond their outer lines, should be cleared and stripped to remove all surface vegetation, roots, topsoil, organic debris, or any other encountered deleterious materials. After clearing, grubbing, and any necessary additional site preparation efforts, the exposed soils for the building area should then be proof rolled and compacted to a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Specification D-1557 before any fill material is placed. Compaction should be completed to a depth of 2 feet below exposed subgrade. The exposed subgrade within pavement areas should be proof rolled and compacted to a minimum of 95% of the soil's modified Proctor maximum dry density to a depth of 1 foot. All fill required to bring the site to final grade should be inorganic, non-plastic, granular soil (clean sands) with less than 10% passing a U.S #200 sieve. In structural areas, the fill should be placed in level lifts not to exceed 12 inches loose and should be compacted to a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Specification D-1557. In-place density tests should be performed on each lift by an experienced engineering technician working under the direction of a registered geotechnical engineer to verify that the recommended degree of compaction has been achieved. We suggest a minimum testing frequency of one (1) test per lift per 2,500 square feet of area within structural limits and one (1) test per lift per 10,000 square feet in pavement areas. This fill should extend a minimum of 5 feet beyond building lines to prevent possible erosion or undermining of footing bearing soils. Further, fill slopes should not exceed 2 horizontal to 1 vertical (2H: 1V). All fill placed in utility line trenches and adjacent to footings beneath slabs on grade should also be properly placed and compacted to the specifications stated above. However, in these restricted working areas, compaction should be accomplished with lightweight, hand-guided compaction equipment and lift thicknesses should be limited to a maximum of 4 inches loose thickness.

Foundation Design

Once the existing subgrade and new fill soils in the proposed structural support areas have been prepared in accordance with the preceding recommendations, the proposed building can be constructed on a system of conventional shallow spread or strip footings bearing at minimum depths below the finished floor elevations. Footings, which bear in densified existing soils or in new structural fill, may be designed based on a maximum allowable bearing pressure of 2,500 pounds per square foot. Minimum footing dimensions of 18 inches for strip footings and 24 inches for column footings should be used even though the maximum allowable bearing pressures may not be fully developed in all cases. Footings should bear at least 18 inches below finished exterior grades. Footing subgrade soils should be approved by the geotechnical engineer prior to placement of concrete and steel. As a minimum acceptance criterium, the footing subgrade soils should be compacted to a minimum density of 95% of the soils modified Proctor maximum dry density for a depth of 24 inches.

Paved Areas

In general, the compacted subsurface soils will be suitable for support of a limerock or crushed concrete type pavement base after subgrade preparation.

Typical flexible pavement sections are as follows:

Limerock Base

1-1/2" to 2-1/2" asphaltic concrete wearing surface

8" to 10" limerock base course, quality of limerock to be in accordance with current Florida Department of Transportation specifications and compacted to a minimum density equivalent to 98 percent of the modified Proctor maximum density (AASHTO T-180).

12" stabilized subbase with minimum Limerock Bearing Ratio (LBR) of 40 percent. The subbase should be compacted to a minimum density equivalent to 98 percent of the modified Proctor maximum density (AASHTO T-180). The subgrade material, below the subbase, shall be compacted to minimum density of 98% of the modified Proctor maximum density of the soil.

Crushed Concrete Base

1-1/2" to 2-1/2" asphaltic concrete wearing surface

8" to 10" crushed concrete base designed and constructed in accordance with current FDOT recommended standards and compacted to achieve a Limerock Bearing Ratio (LBR) of 120 percent.

12" subgrade consisting of free draining natural fine sand or fine sand fill with less than 7 percent passing a U.S. #200 sieve. Subgrade to be compacted to a minimum density of 98 percent of the modified Proctor maximum density (AASHTO T-180).

Type of Development	ADT (average daily traffic)	Base Thickness	Wearing Surface Thickness
Commercial	< 1,500	8"	1 ½"
	>1,500	10"	2 ½"

As a possible pavement section design alternative, AEI presents recommendations for a rigid pavement section as follows:

Rigid Pavement

6" reinforced concrete wearing surface: Designed to withstand the design traffic loads and jointed to reduce the chances for crack development. The concrete should have a minimum unconfined compressive strength of 3,000 psi.

12" subgrade: consisting of free draining natural fine sand or fine sand fill. Subgrade to be compacted to a minimum density equivalent to 98 percent of the modified Proctor maximum density (AASHTO T-180).

The pavement section should be designed based on expected traffic including truck loads. Traffic should not be allowed on the subgrade prior to placement of the base to avoid rutting. The final pavement thickness design should be checked by the project civil engineer using data contained in this report and anticipated traffic conditions.

Stormwater Retention Pond and Exfiltration System Area

Based on the results of the borings and permeability tests, the proposed stormwater retention area, located in the vicinity of AB-1 and AB-2, appears suitable for dry stormwater retention. In addition, the proposed stormwater exfiltration area, located in the vicinity of AB-3 and AB-4, appears suitable for exfiltration system design. The on-site Stratum 1 sandy soils, excavated from the proposed retention pond and exfiltration system areas, should be suitable for general fill purposes.

For analysis and design purposes the following aquifer characteristics should be used. These aquifer characteristics were determined from the results of the field and laboratory investigations, adjusting for depth and soil variability:

Boring Location (Averaged values)	Bottom of Aquifer (ft bls)*	Avg. Unsat. Vertical Hydraulic Conductivity (ft/day)	Avg. Horizontal Hydraulic Conductivity (ft/day)	Seasonal High Groundwater Level (ft bls)*	Soil Storage Coefficient
AB-1 and AB-2	5.5	20.7	46.5	5.0	0.25
AB-3 and AB-4	15.0	12.0	29.4	14.5	0.25

*- Feet below land surface

The permeability rate of the Stratum 3 soil is estimated based on our visual and tactile classification and experience with similar soil types. Factors of safety have not been applied to the above weighted average permeability values. For the purpose of recovery analysis in accordance with water management district rules, a factor of safety of 2 should be applied to the unsaturated vertical permeability to account for long-term performance and siltation of the pond bottom.

AB-1 and AB-2:

Unsaturated Vertical Hydraulic Conductivity
Kv unsat = 5.0 ft / (5.0 ft./31.1 ft./day) X 2/3 = 20.7 ft./day

Horizontal Hydraulic Conductivity
Kh = (5.5 ft. x 31.1 ft./day / 5.5 ft.) X 1.5 = 46.5 ft/day

AB-3 and AB-4:

Unsaturated Vertical Hydraulic Conductivity
Kv unsat = 14.5 ft / (12.5 ft./21.8 f.t/day + 2.0 ft./8.5 ft./day) X 2/3 = 12.0 ft./day

Horizontal Hydraulic Conductivity
Kh = (12.5 ft. x 21.8 ft./day + 2.5 ft. x 8.5 ft./day / 15.0 ft.) X 1.5 = 29.4 ft./day

The following formulas were used in the calculation of both the weighted average vertical and horizontal weighted average permeability values.

$$\text{Weighted Average Vertical Permeability} = \frac{\sum L}{\frac{L_1}{Kv_1} + \frac{L_2}{Kv_2} + \frac{L_3}{Kv_3} + \ldots\ldots\ldots \frac{L_n}{Kv_n}}$$

$$\text{Weighted Average Horizontal Permeability} = \frac{Kh_1.L_1 + Kh_2.L_2 + Kh_3.L_3 + \ldots . Kh_n.L_n}{\sum L}$$

Excavations

Any and all excavations should be constructed in accordance with applicable local, state and federal regulation including those outlined by the Occupational Safety and Health Administration (OSHA). It is the contractor's sole responsibility for designing and constructing safe and stable excavations. Excavations should be sloped, benched or braced as required to maintain stability of the excavation sides and bottoms. Excavations should take into account loads resulting from equipment, fill stockpiles and existing construction. Any shoring need to maintain a safe excavation should be designed by a professional engineer registered in the State of Florida in accordance with local, state and federal guidelines.

LIMITATIONS

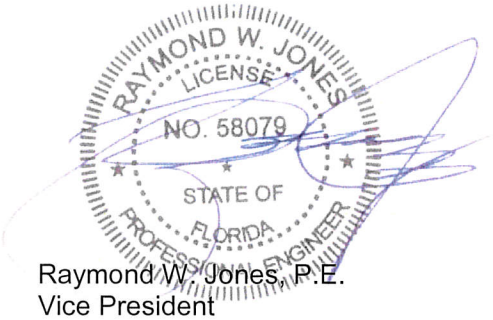
This report has been prepared for the exclusive use of Wicks Engineering Services, Inc., and its designers, based on our understanding of the project as stated in this report. Any modifications in design concepts from the description stated in this report should be made known to AEI for possible modification of recommendations presented in this report. This exploration was performed in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made as to the professional advice presented herein. Statements regarding all geotechnical recommendations are for use by the designers and are not intended for use by potential contractors. The geotechnical exploration and recommendations submitted herein are based on the data obtained from the soil borings presented on **Figure 4**. The report does not reflect any variations which may occur adjacent to, between, or away from the borings. The nature and extent of the variations between the borings may not become evident until during construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations presented in this report. An on-site visit may be required by a geotechnical engineer to note the characteristics of the variations during the construction period. This geotechnical study investigated the soil conditions within the building area to drilled depth of 20 feet below ground surface and was not intended to investigate deeper soil conditions with regard to the presence or absence of Karst activity.

CLOSURE

AEI appreciates the opportunity to participate in this project, and we trust that the information herein is sufficient for your immediate needs. If you have any questions or comments concerning the contents of this report, please do not hesitate to contact the undersigned.

Sincerely,

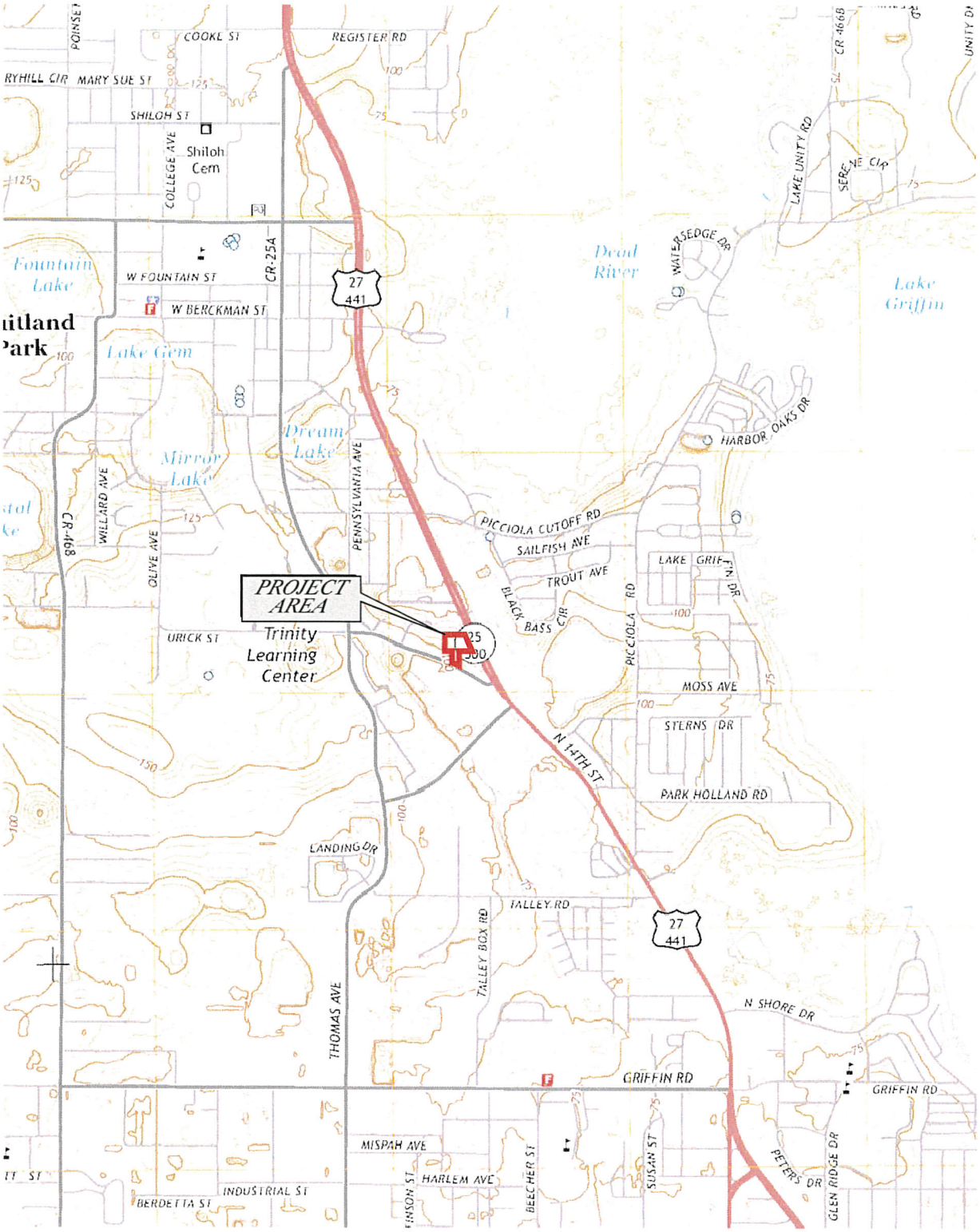
ANDREYEV ENGINEERING, INC.



Mark L. Jung
Senior Project Manager

Raymond W. Jones, P.E.
Vice President
Florida Registration No.58079

FIGURES



REFERENCE:
U.S.G.S. LEESBURG WEST, FLA.
QUADRANGLE MAP
DATED 2015
SECTION 10
TOWNSHIP 19 SOUTH
RANGE 24 EAST

Andreyev Engineering, Inc.

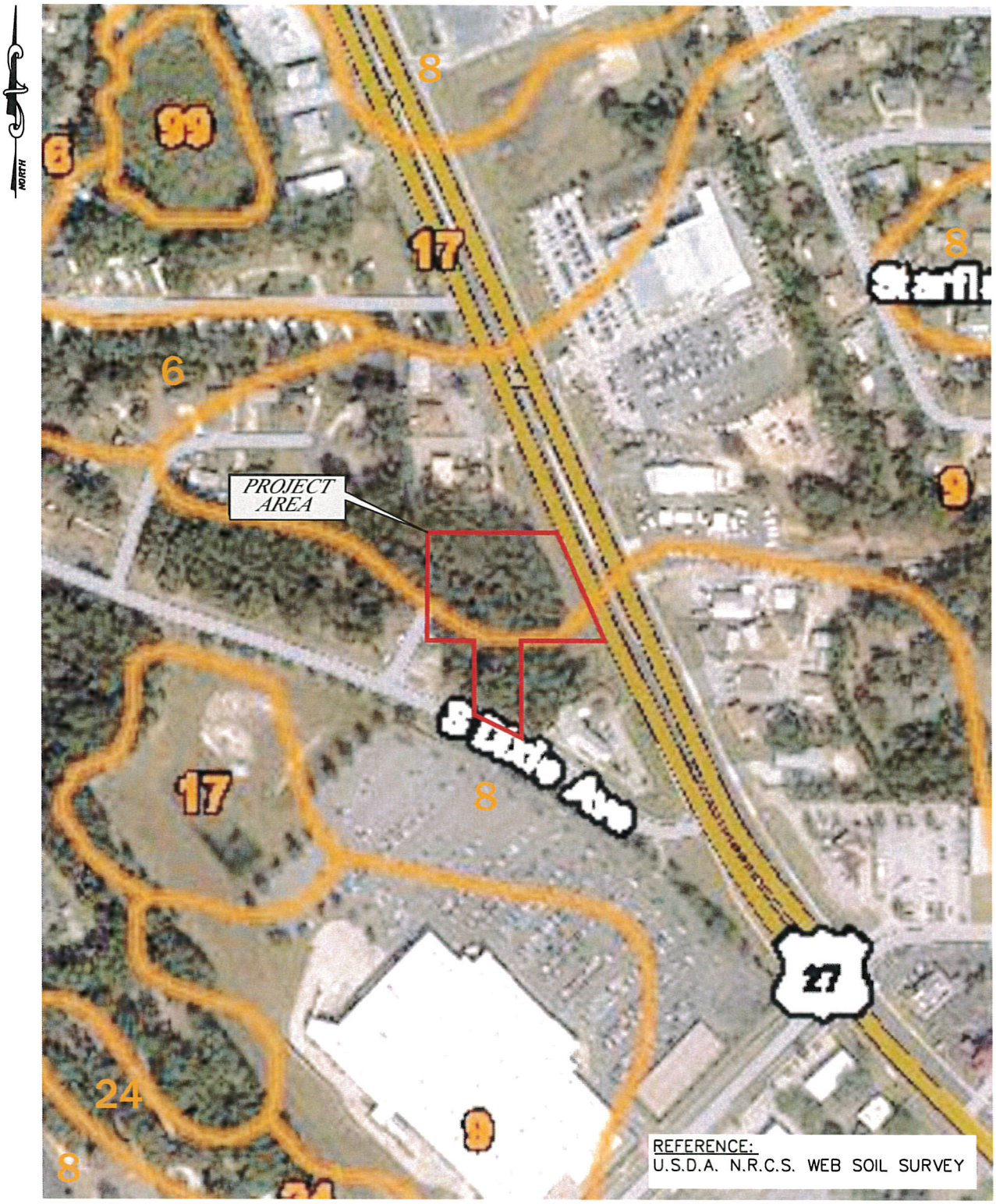
GEOTECHNICAL INVESTIGATION
PROPOSED BUILDING AREA, STORMWATER RETENTION/EXFILTRATION AREAS & PAVED PARKING/DRIVE AREAS

IC INTERNATIONAL CAR WASH
US HIGHWAY 27/441
FRUITLAND PARK, LAKE COUNTY, FL

APPROXIMATE SCALE:	DATE: 11/28/17	ENGINEER: RJ
1"=2000'	PN: GPGT-17-132	DRAWN BY: DLS

U.S.G.S. TOPOGRAPHIC MAP

FIGURE 1



LEGEND:

6	APOPKA SAND
8	CANDLER SAND 0 TO 5% SLOPES
9	CANDLER SAND 5 TO 12% SLOPES
17	ARENTS
24	KENDRICK SAND
99	WATER

Andreyev Engineering, Inc.

APPROXIMATE SCALE: 1"=300'	DATE: 11/28/17	ENGINEER: RJ
	PN: GPGT-17-132	DRAWN BY: DLS

GEOTECHNICAL INVESTIGATION
PROPOSED BUILDING AREA, STORMWATER RETENTION/EXFILTRATION AREAS & PAVED PARKING/DRIVE AREAS

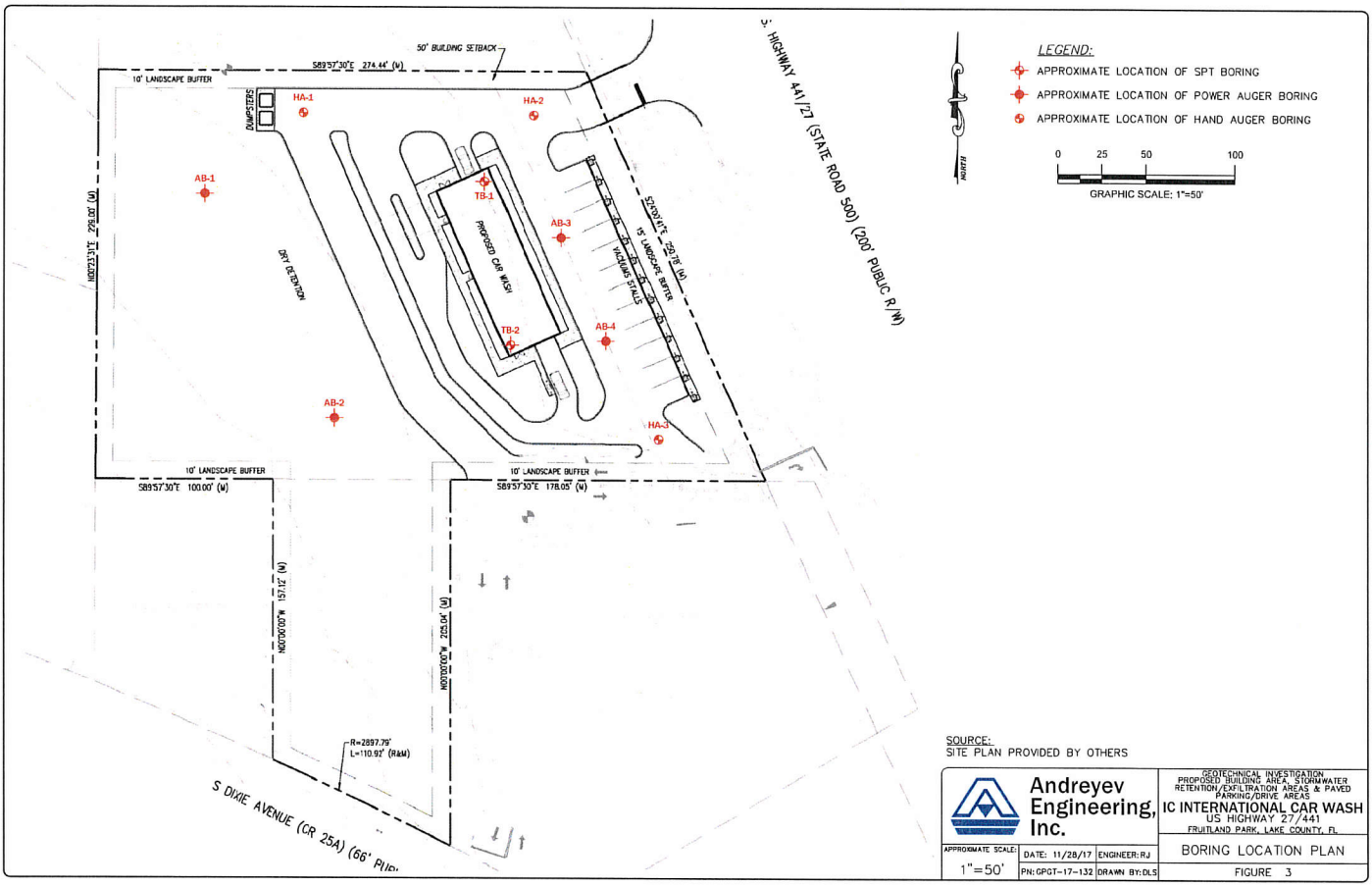
IC INTERNATIONAL CAR WASH

US HIGHWAY 27/441

FRUITLAND PARK, LAKE COUNTY, FL

N.R.C.S. SOIL SURVEY MAP

FIGURE 2



SOURCE:
SITE PLAN PROVIDED BY OTHERS

Andreyev Engineering, Inc.

APPROXIMATE SCALE:	DATE: 11/28/17	ENGINEER: RJ
1"=50'	PN: GPGT-17-132	DRAWN BY: DLS

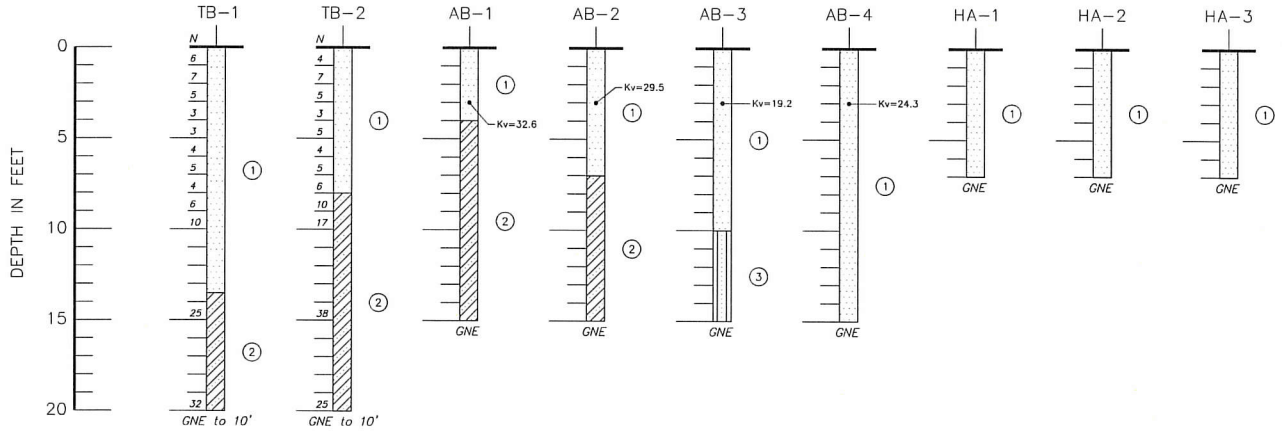
GEOTECHNICAL INVESTIGATION
PROPOSED BUILDING AREA, STORMWATER RETENTION/EXFILTRATION AREAS & PAVED PARKING/DRIVE AREAS

IC INTERNATIONAL CAR WASH

US HIGHWAY 27/441
FRUITLAND PARK, LAKE COUNTY, FL.

BORING LOCATION PLAN

FIGURE 3



LEGEND:

- ① BROWN TO YELLOWISH BROWN TO GRAYISH BROWN FINE SAND (SP)
- ② YELLOWISH BROWN SLIGHTLY CLAYEY TO CLAYEY FINE SAND (SP-SC)(SC)
- ③ YELLOWISH BROWN SLIGHTLY SILTY FINE SAND (SP-SM)

(SP) UNIFIED SOIL CLASSIFICATION SYSTEM GROUP SYMBOL

GNE GROUNDWATER NOT ENCOUNTERED

N STANDARD PENETRATION RESISTANCE, IN BLOWS PER FOOT

Kv VERTICAL COEFFICIENT OF PERMEABILITY, IN FEET PER DAY

Andreyev Engineering, Inc.

GEOTECHNICAL INVESTIGATION
PROPOSED BUILDING AREA, STORMWATER RETENTION/EXFILTRATION AREAS & PAVED PARKING/DRIVE AREAS
IC INTERNATIONAL CAR WASH
US HIGHWAY 27/441
FRUITLAND PARK, LAKE COUNTY, FL

APPROXIMATE SCALE:	DATE: 11/30/17	ENGINEER: RJ
1"=5'	PN: GPGT-17-132	DRAWN BY: DLS

SOIL PROFILES

FIGURE 4

TAB 9

Swale Conveyance Calculations

SWALE CONVEYANCE CAPACACITY & VELOCITY CALCULATIONS

BASIN B-2 OFFSITE (0.54 Ac. OPENSPACE)

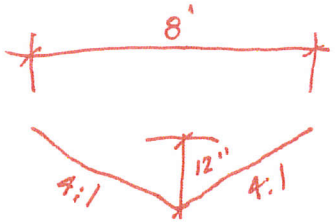
$Q = CIA$ (25 YEAR $I = 8.4"$)

$Q = 0.20 \times 8.4 \times 0.54$

$Q = 0.91$ CFS (RUNOFF 25 YEAR)

BASIN B-2 OFFSITE OUTFALL SWALE CALCULATION

$Q = \frac{1.49}{n} AR^{2/3} S^{1/2}$ $R = A/P$ $P = 8.24$

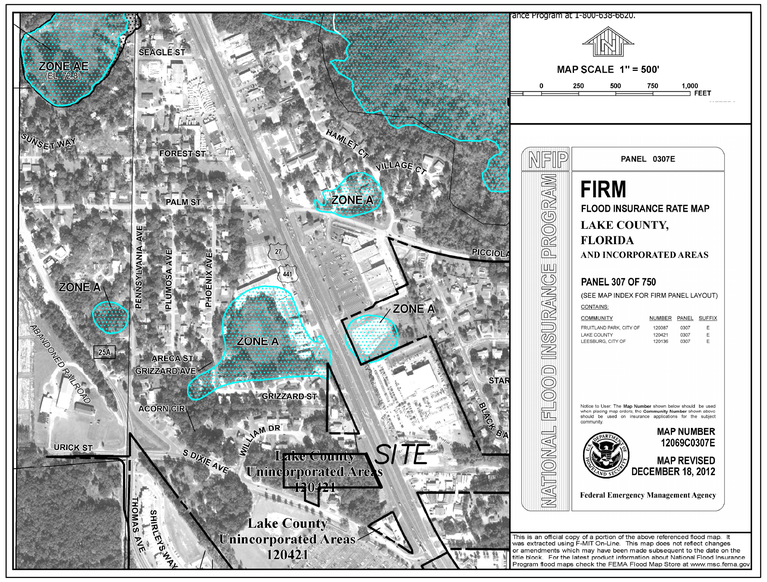


$Q = \frac{1.49}{0.20}$ 14.0 $0.49^{2/3}$ $0.04^{1/2}$

$Q = 3.7$ CFS. (SWALE CAPACITY)

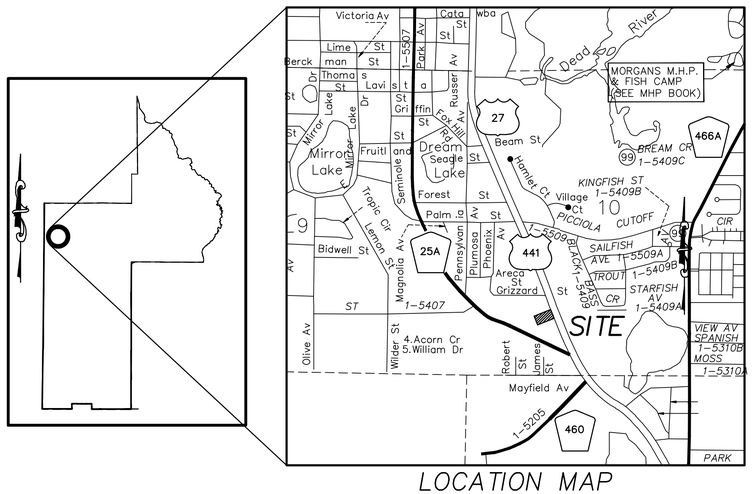
$V = 0.92$ FPS (SWALE VELOCITY)

IC INTERNATIONAL
CAR WASH
FRUITLAND PARK, FLORIDA 34731



FEMA MAP 12069C0307E
nts

AERIAL MAP
ALTERNATE KEY #1170621
SCALE: 1"=200'



LOCATION MAP
N.T.S.

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

INDEX OF SHEETS

OWNER: FRUITLAND PARK HOLDINGS, LLC.
TEJINDER GREWALL, MANAGER
1330 SAXON BLVD.
ORANGE CITY, FL. 32763
PHONE: 480-717-7100
EMAIL: TJ@TJOIL.NET

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
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FRUITLAND PARK HOLDINGS, LLC
TEJINDER S. GREENWALL
1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

IC INTERNATIONAL CARWASH
COVER SHEET
US HWY 27/441 FRUITLAND PARK FL. 34731

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

Drawn:	WSR
Checked:	KRW
Date:	05-06-19
Scale:	AS SHOWN
File No.:	19119
REVISION:	DATE:

Sheet: 1 of 17

Z:\acad drawings 1\Wicks\Jobs\19119 Fr Park Car Wash RE-DESIGN\Plans\19119 Car Wash Total.dwg, 8/9/2019 7:37:32 AM, DWG To PDF.pc3

GENERAL NOTES

1. ANY DIFFERING SITE CONDITIONS FROM THAT WHICH IS REPRESENTED HEREON, WHETHER ABOVE, ON OR BELOW THE SURFACE OF THE GROUND, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER IN WRITING, WITHIN 48 HOURS OF DISCOVERY. NO CLAIM FOR EXPENSES INCURRED BY THE CONTRACTOR DUE TO SUCH DIFFERING CONDITIONS WILL BE ALLOWED IF HE OR SHE FAILS TO PROVIDE WRITTEN NOTIFICATION.
2. THE BOUNDARY AND TOPOGRAPHIC SURVEYS FOR THIS PROJECT WERE PERFORMED BY OTHERS AND WICKS CONSULTING SERVICES, INC. ASSUMES NO RESPONSIBILITY, IN WHOLE OR IN PART, FOR THE COMPLETENESS AND ACCURACY OF THE SURVEYS. WICKS CONSULTING SERVICES, INC. HAS RELIED UPON THE SURVEYS IN PREPARING THE CIVIL ENGINEERING DESIGN SHOWN IN THESE DRAWINGS. THE CONTRACTOR SHALL VERIFY THE EXISTING TOPOGRAPHIC DATA, THE LOCATION OF EXISTING SITE FEATURES, UTILITIES AND ALL OTHER SITE CONDITIONS SHOWN ON THE DRAWINGS PRIOR TO COMMENCING WORK. DIFFERING SITE CONDITIONS SHALL BE DISCLOSED AS DESCRIBED IN GENERAL NOTE NUMBER 1.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL REQUIRED CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCING WORK.
4. ALL MATERIALS, INSTALLATION, AND TESTING SHALL BE IN ACCORDANCE WITH LOCAL JURISDICTIONS AND FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. WHERE THE SPECIFICATIONS CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
5. THE SUBSURFACE INFORMATION FOR THIS PROJECT WAS OBTAINED FOR DESIGN PURPOSES AND MAY NOT BE AN ADEQUATE REPRESENTATION OF ACTUAL CONDITIONS FOR PROJECT CONSTRUCTION. INFORMATION SHOWN, INCLUDING GROUND WATER LEVELS, REPRESENTS EXISTING CONDITIONS AT THE SPECIFIC BORING LOCATIONS AT THE TIME THE BORINGS WERE MADE. DIFFERING SITE CONDITIONS SHALL BE DISCLOSED AS DESCRIBED IN GENERAL NOTE NUMBER 1.
6. THE SITE IS CLASSIFIED AS ZONE "X", PER FEMA FLOOD MAP PANEL 12069C0307E DATED DECEMBER 18, 2012
7. THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL NECESSARY TRAFFIC CONTROL AND SAFETY DEVICES IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION "ROADWAY DESIGN STANDARDS"
8. ALL HANDICAP ACCESSIBLE CURB RAMPS SHALL BE CONSTRUCTED (INCLUDING THE WALKING SURFACE) IN COMPLIANCE WITH THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, SECTION 11 AND THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) INDEX 304.
9. THE CONTRACTOR SHALL COORDINATE CIVIL DRAWINGS WITH ALL TRADES, INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, IRRIGATION, FIRE SYSTEMS. IF ANY DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING IMMEDIATELY.
10. SIGNAGE AND STRIPING SHALL CONFORM TO THE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD). SIGNS SHALL BE ERECTED ACCORDING TO THE REFERENCE NUMBERS DESIGNATED BY THE FDOT OR THE MUTCD.
11. ALL WORK SHALL BE OPEN TO AND SUBJECT TO INSPECTION BY AUTHORIZED PERSONNEL OF THE OWNER, INVOLVED UTILITY COMPANIES, PROJECT ENGINEER AND REGULATORY AGENCIES. ENGINEER SHALL BE NOTIFIED 48 HOURS PRIOR TO REQUIRED INSPECTIONS.
12. ALL RECOMMENDATIONS AND REQUIREMENTS OF INSPECTION PERSONNEL SHALL BE REPORTED TO ENGINEER/OWNER PRIOR TO IMPLEMENTATION. COMPENSATION WILL NOT BE ALLOWED FOR WORK WHICH IS NOT AUTHORIZED BY ENGINEER/OWNER.
13. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR ENGINEERING AND AGENCY APPROVAL PRIOR TO PROCUREMENT OF MATERIALS.
14. CONTRACTOR TO SUBMIT COPIES OF ALL TESTING REPORTS TO THE OWNER AND ENGINEER FOR ACCEPTANCE AND CERTIFICATIONS.
15. ANY PUBLIC LAND CORNER, WITHIN THE LIMITS OF CONSTRUCTION, IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT YET BEEN PROPERLY REFERENCED, THE CONTRACTOR SHALL NOTIFY THE OWNER, ENGINEER & SURVEYOR WITHOUT DELAY. DISTURBED MONUMENTATION SHALL BE RESTORED BY A FLORIDA LICENSED LAND SURVEYOR AT CONTRACTOR'S EXPENSE.
16. ALL AREAS WHERE PAVEMENT, BUILDING SLABS, FOUNDATIONS, UTILITIES, CONDUITS, AND/OR UTILITY STRUCTURES HAVE BEEN REMOVED SHALL BE BACKFILLED WITH SELECT BACKFILL MATERIAL. ALL SELECT BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED PER THE REQUIREMENTS OF THE LOCAL JURISDICTION.
17. REFER TO F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS INDEX FOR CONSTRUCTION OF SITE ITEMS.
18. CONTRACTOR SHALL MEET ALL LOCAL STANDARDS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE OF TRAFFIC (MOT) PLANS & SIGNAGE THAT WILL BE REQUIRED FOR THIS PROJECT AND SHALL BE INCLUDED IN THE BID FOR THIS PROJECT.
19. ACCESS ROADS AND A SUITABLE TEMPORARY OR PERMANENT SUPPLY OF WATER ACCEPTABLE TO THE FIRE DEPARTMENT SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PERIOD.
20. *UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL PROVIDE FOR THE LAYOUT OF ALL OF THE WORK TO BE CONSTRUCTED. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.*
21. ALL TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR AND THE ENGINEER. TESTING REQUIREMENTS ARE TO BE IN ACCORDANCE WITH THE OWNER/OPERATOR'S SPECIFICATIONS AND REQUIREMENTS. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS. CONTRACTOR SHALL PROVIDE TESTING SERVICES THROUGH A FLORIDA LICENSED GEOTECHNICAL ENGINEERING FIRM ACCEPTABLE TO THE OWNER AND ENGINEER. CONTRACTOR TO SUBMIT TESTING FIRM TO OWNER FOR APPROVAL PRIOR TO COMMENCING TESTING. TESTING OF SUB GRADE, BASE, AND ASPHALT FOR THICKNESS AND DENSITY SHALL BE PERFORMED AT NO MORE THAN 200' INTERVALS.
22. *SHOP DRAWINGS AND CERTIFICATIONS FOR ALL STORM DRAINAGE, WATER SYSTEM, SEWER SYSTEM, AND PAVING SYSTEM MATERIALS AND STRUCTURES ARE REQUIRED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION.*
23. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL TAKE SPECIAL CARE AND PROVIDE ADEQUATE PROTECTION IN ORDER TO MINIMIZE DAMAGE TO VEGETATION, SURFACED AREAS, AND STRUCTURES WITHIN RIGHT-OF-WAY, EASEMENTS AND ON CONSTRUCTION SITE, AND TAKE FULL RESPONSIBILITY FOR THE REPLACEMENT OR REPAIR THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL MAKE GOOD ALL DAMAGE TO PAVEMENT, BUILDINGS, TELEPHONE OR OTHER CABLES, SANITARY PIPES, OR OTHER STRUCTURES BEYOND THE LIMITS OF THIS PROJECT WHICH MAY BE ENCOUNTERED, WHETHER OR NOT SHOWN ON THE DRAWINGS.
24. TEMPORARY FACILITIES: THE CONTRACTOR SHALL FURNISH WATER AND ELECTRIC POWER AS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL TEMPORARY CONNECTIONS AND FOR REMOVING SAME AFTER CONSTRUCTION HAS BEEN COMPLETED. THE CONTRACTOR SHALL PROVIDE TEMPORARY TOILET FACILITIES AND ENCLOSURES FOR THE USE OF ALL WORKMAN, AT A LOCATION ON THE PROJECT WHICH SHALL BE APPROVED BY THE JURISDICTION. SUCH FACILITIES SHALL COMPLY WITH ALL LOCAL CODES AND SHALL BE MAINTAINED IN SANITARY CONDITION AT ALL TIMES. NO WORK SHALL BE STARTED UNTIL THESE FACILITIES ARE ON THE JOB SITE.

GENERAL NOTES (CONT)

25. MAINTENANCE OF TRAFFIC: THE CONTRACTOR SHALL BE RESPONSIBLE, DURING THE COURSE OF CONSTRUCTION, FOR PROPER MAINTENANCE, CONTROL, AND DETOUR OF TRAFFIC IN THE AREA OF CONSTRUCTION. ALL TRAFFIC CONTROL AND MAINTENANCE PROCEDURES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION INDEX #600 AND LAKE COUNTY, FLORIDA, WITHIN THEIR RESPECTIVE AREAS OF JURISDICTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY, AS BIDDER, PRIOR TO SUBMITTING HIS BID, TO DETERMINE THE REQUIREMENTS OF THESE AGENCIES SO THAT HIS PROPOSAL REFLECTS ALL COSTS TO BE INCURRED. NO CLAIMS FOR ADDITIONAL PAYMENT SHALL BE CONSIDERED FOR COSTS INCURRED DUE TO THE PROPER MAINTENANCE, CONTROL, DETOUR, AND PROTECTION OF TRAFFIC.
26. FILL MATERIALS PLACED UNDER ROADWAYS SHALL BE COMPACTED TO AT LEAST 98% OF THE MAXIMUM DENSITY AS SPECIFIED IN AASHTO T-180. ALL OTHER FILL AREAS ARE TO BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DENSITY AS SPECIFIED IN AASHTO T-180. FILL MATERIALS SHALL BE PLACED AND COMPACTED IN A MAXIMUM OF 12" LIFTS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AND OWNER WITH ALL (PASSING AND FAILING) TESTING RESULTS. RESULTS SHALL BE PROVIDED ON A TIMELY AND REGULAR BASIS PRIOR TO CONTRACTOR'S PAY REQUEST SUBMITTAL FOR THE AFFECTED WORK.
27. ALL AREAS WITHIN RIGHT-OF-WAY SHALL BE FINISH GRADED WITH A SMOOTH TRANSITION INTO EXISTING GROUND. ALL SWALES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING. ALL DISTURBED AREAS SHALL BE RAKED CLEAN OF ALL LIMEROCK AND ROCKS AND SODDED AFTER FINAL GRADING IN ACCORDANCE WITH THE CONSTRUCTION PLANS PRIOR TO FINAL INSPECTION. ALL GRASSING SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL ACCEPTANCE BY THE OWNER.

DEMOLITION AND EARTHWORK NOTES

1. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION ACTIVITY FOR DIG PERMITS, ELECTRICAL PERMITS OR OTHER PERMITS AS APPLICABLE. CONTRACTOR IS TO COORDINATE FULLY WITH UTILITY COMPANIES ON EXACT LOCATION OF UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
2. ALL DEBRIS AND WASTE MATERIALS GENERATED BY DEMOLITION OR SUBSEQUENT CONSTRUCTION ACTIVITIES SHALL BE DISPOSED OFF-SITE IN A LEGAL MANNER AT AN APPROVED DISPOSAL FACILITY. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED FOR DEMOLITION, CONSTRUCTION WORK AND HAULING WASTE MATERIAL. ALL ASSOCIATED COSTS AND PERMIT FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PAVEMENT REPAIRS AND/OR RESURFACING TO ALL EXISTING ROADS WHICH ARE SAW-CUT OR DAMAGED DURING CONSTRUCTION.
4. ANY ENCOUNTERED CONTAMINATED MATERIALS SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER IN ACCORDANCE WITH FEDERAL STATE, AND LOCAL REGULATIONS. (REFER TO TREE PROTECTION REQ.)
5. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE, AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR FIELD VERIFICATION OF THE EXISTING UTILITIES. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING ANY UNDERGROUND UTILITY TO ENSURE THE INTEGRITY OF THE SYSTEM.
6. PRIOR TO DEMOLISHING UTILITY LINES, CONTRACTOR SHALL VERIFY FLOW DIRECTIONS FROM EXISTING BUILDINGS WHICH ARE TO REMAIN. IF DEMOLITION WILL CUT OFF THESE FACILITIES, THE ENGINEER, ARCHITECT, OWNER (AND/OR OWNERS REPRESENTATIVE) SHALL BE CONTACTED IMMEDIATELY.

EARTHWORK

7. THE CONTRACTOR SHALL PERFORM HIS OWN INVESTIGATIONS AND CALCULATIONS AS NECESSARY TO ASSURE HIMSELF OF EARTHWORK QUANTITIES. THERE IS NO IMPLICATION THAT EARTHWORK BALANCES, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY IMPORT FILL NEEDED, OR FOR REMOVAL AND DISPOSAL OF EXCESS MATERIALS.
8. AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. REPAIR OR RECONSTRUCTION OF DAMAGED AREAS ON SURROUNDING PROPERTIES SHALL BE PERFORMED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING AND GRUBBING FOR SITE CONSTRUCTION INCLUDING CLEARING FOR PAVING, UTILITIES, DRAINAGE FACILITIES AND BUILDING CONSTRUCTION. ALL AREAS TO BE CLEARED SHALL BE FIELD STAKED AND REVIEWED BY THE OWNER AND ENGINEER PRIOR TO ANY CONSTRUCTION.
10. WHEN CLEARING LAND FOR THE PROJECT, A BURN PERMIT MUST BE OBTAINED FROM THE JURISDICTION AND THE DEPARTMENT OF FORESTRY PRIOR TO BURNING ANY MATERIAL.
11. THE FIRE DEPARTMENT WILL ISSUE A BURNING PERMIT TO ALLOW BURNING OF CLEARED MATERIAL ONLY IF THE FOLLOWING CONDITIONS ARE MET:
    A. AN AIR CURTAIN INCINERATOR PROCESS IS USED DURING THE BURNING PROCESS.
    B. THE BURN PIT IS AT LEAST 300 FEET AWAY FROM ANY STRUCTURE.
    C. THE BURN PIT IS AT LEAST 100 FEET AWAY FROM THE ROAD.
12. ALL MATERIALS EXCAVATED SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STOCKPILED AT ON-SITE LOCATIONS AS SPECIFIED BY THE OWNER. MATERIALS SHALL BE STOCKPILED SEPARATELY AS TO USABLE (NON ORGANIC) FILL STOCKPILES AND ORGANIC (MUCK) STOCKPILES IF MUCK IS ENCOUNTERED. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL UNSUITABLE FILL MATERIALS FROM THE SITE. ALL CLAY ENCOUNTERED SHALL BE EXCAVATED OUT AND REPLACED WITH CLEAN GRANULAR FILL MATERIALS.
13. ALL FILL MATERIALS SHALL CONTAIN NO MUCK, STUMPS, ROOTS, BRUSH, VEGETATIVE MATTER, RUBBISH OR OTHER MATERIAL THAT WILL NOT COMPACT INTO A SUITABLE AND ENDURING BACKFILL. FILL SHALL BE CLEAN, NON-ORGANIC, GRANULAR MATERIAL WITH NOT MORE THAN 10% PASSING THE NO. 200 SIEVE.

EROSION & SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR: (NPDES) PERMITTING:
    A. PREPARING AND SUBMITTING FDEP NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) APPLICATIONS AND FORMS.
    B. FDEP NOTICE OF INTENT APPLICATION FEES.
    C. PREPARING THE FDEP STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
2. PRIOR TO EARTH WORK OR CONSTRUCTION, THE CONTRACTOR SHALL POST A COPY OF THE COMPLETED FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NPDES NOTICE OF INTENT (NOI) FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES AT THE SITE.
3. THE CONTRACTOR SHALL OBTAIN COPIES OF THE APPROPRIATE WATER MANAGEMENT DISTRICT PERMITS PRIOR TO COMMENCING WORK FOR THIS PROJECT AND HAVE POSTED AT CONSTRUCTION SITE.
4. SILT SCREENS AND TURBIDITY BARRIERS MUST REMAIN IN PLACE AND BE MAINTAINED IN GOOD CONDITION AT ALL LOCATIONS SHOWN UNTIL CONSTRUCTION IS COMPLETE, SOILS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.
5. THE EROSION CONTROL MEASURES SHOWN HEREON ARE INTENDED AS MINIMUM STANDARDS. ANY EROSION CONTROL REQUIRED BEYOND THAT SPECIFIED TO MAINTAIN SITE EROSION SHALL BE CONSIDERED AS INCLUDED WITHIN THIS CONTRACT.

EROSION & SEDIMENT CONTROL NOTES (CONT)

6. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO THE LOCAL WATER MANAGEMENT DISTRICT, AND FLORIDA DEPT. OF ENVIRONMENTAL PROTECTION STANDARDS, FDOT INDEX #102 AND BEST MANAGEMENT PRACTICES. HAY BALES ARE NOT ACCEPTABLE. COCONUT FIBER MATERIALS ARE ACCEPTED.
7. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN CONSTRUCTION.
8. ALL PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, AND ANY DISTURBED LAND AREAS SHALL BE COMPLETED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING. ALL TEMPORARY PROTECTION SHALL BE MAINTAINED UNTIL PERMANENT MEASURES ARE IN PLACE AND ESTABLISHED.
9. PRIOR TO INITIATING CONSTRUCTION OF PLANNED IMPROVEMENTS, ALL WRA'S WILL BE EXCAVATED AND ROUGH GRADED TO PROVIDE SEDIMENT AND RUNOFF CONTROL DURING CONSTRUCTION.
10. ALL DISTURBED AREAS WILL BE BROUGHT TO FINAL GRADE AND SEEDED AND MULCHED AS SOON AS POSSIBLE.
11. AREAS WHICH MAY ERODE DUE TO SLOPES OR CONCENTRATED RUNOFF DURING CONSTRUCTION WILL BE TREATED. TEMPORARY SLOPE DRAIN PROTECTION WILL BE PROVIDED PER FDOT ROAD DESIGN STANDARD INDEX NO. 100.
12. OFF SITE DISCHARGE OF UNTREATED STORMWATER WILL BE PREVENTED USING TEMPORARY BERMS AND DIKES WHERE NEEDED.
13. INSPECTIONS SHALL BE MADE IN ACCORDANCE WITH THE NPDES PERMIT BY THE CONTRACTOR TO DETERMINE THE EFFECTIVENESS OF EROSION/SEDIMENT CONTROL EFFORTS. ANY NECESSARY REMEDIES AND MAINTENANCE SHALL BE PERFORMED WITHOUT DELAY.
14. ALL MUD, DIRT OR OTHER MATERIALS TRACKED OR SPILLED ONTO EXISTING PUBLIC ROADS AND FACILITIES, DUE TO CONSTRUCTION SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
15. EROSION AND SEDIMENT MATERIALS FROM THIS PROJECT SHALL BE CONTAINED ON-SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. THESE INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL DEWATERING PERMITS.

STORMWATER AND GRADING NOTES

1. ALL OPEN DRAINAGE SWALES SHALL BE GRASSED OR LINED WITH APPROVED REINFORCED EARTH MATTING. APPROVED RIP RAP PER FDOT INDEX #100 MUST BE PLACED AS NECESSARY TO CONTROL EROSION.
2. BENCHMARK LOCATIONS AND ELEVATIONS ARE AS REPRESENTED BY THE SURVEYOR AT THE TIME OF THE SURVEY. CONTRACTOR SHALL VERIFY ITS CORRECTNESS AT TIME OF CONSTRUCTION.
3. SPOT ELEVATIONS SHOWN FOR INLETS AND MANHOLES ARE AT TOP OF RIM.
4. ALL GRADING AND SITE PREPARATION SHALL CONFORM TO THE LOCAL JURISDICTION'S CODE.
5. ALL OPEN AREAS WITHIN LIMITS OF CONSTRUCTION AND CONSTRUCTION EASEMENTS SHALL BE SODDED WITH BAHIA SOD BY CONTRACTOR UNLESS OTHERWISE NOTED ON PLANS.
6. ALL CONCRETE PIPE JOINTS SHALL BE WRAPPED WITH 4' OF FILTER FABRIC CENTERED ON EACH JOINT.
7. CONTRACTOR SHALL DEWATER WHERE REQUIRED TO MEET TECHNICAL REQUIREMENTS.
8. ALL CONCRETE STORM SEWER PIPE TO BE REINFORCED CONCRETE PIPE CLASS III, EXCEPT WHERE OTHERWISE NOTED ON THE PLANS OR REQUIRED BY JURISDICTION. HDPE STORM PIPE SHALL BE APPROVED BY JURISDICTION AND ENGINEER AND SHALL MEET ASTM-477. PVC STORM PIPE SHALL BE ADS OR APPROVED EQUAL.
9. GEOTECHNICAL SERVICES HAVE BEEN PROVIDED AS REFERENCED BELOW. GEOTECHNICAL RECOMMENDATIONS ARE NOT THE RESPONSIBILITY OF WICKS CONSULTING SERVICES, INC. AND HAS RELIED ON THE BELOW REFERENCED GEOTECHNICAL REPORT'S IN PREPARATION OF THE DRAWINGS. ANY CONFLICT BETWEEN INFORMATION WITHIN THE REPORT AND THESE DRAWINGS SHALL BE REPORTED TO ENGINEER/OWNER. WICKS CONSULTING SERVICES, INC. ASSUMES NO RESPONSIBILITY FOR THE CORRECTNESS, COMPLETENESS OR ACCURACY OF GEOTECHNICAL INFORMATION.
10. GEOTECHNICAL REPORT PREPARED BY: ANDREYEV ENGINEERING, INC.
    REPORT #:GPGT-17-132; REPORT DATE: NOVEMBER 29, 2017
11. ALL OFF-SITE DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION, OR BETTER.
12. ALL STORM STRUCTURES SHALL CONFORM WITH FDOT STANDARD INDEX DRAWINGS AND SPECIFICATIONS EXCEPT THAT DITCH BOTTOM INLETS IN PAVED AREAS SHALL HAVE TRAVERSABLE, TRAFFIC BEARING GRATES SUPPORTED BY STEEL ANGLE SEATS OR SUPPORTED ON FOUR SIDES. GRATES SHALL BE STEEL UNLESS OTHERWISE SPECIFIED OR APPROVED.
13. EXISTING TOPOGRAPHY BASED ON DRAWING PREPARED BY:
    SURVEYOR: ALTAMAX SURVEYING
    DRAWING DATED: FEBRUARY 03, 2017
    PROJECT NUMBER: 901692
14. ALL STORMWATER STRUCTURES SHALL HAVE CEMENT BENCHING FROM THE BOTTOM OF THE STRUCTURE TO THE LOWEST PIPE INVERT AND SHALL BE SLOPED TO PROVIDE POSITIVE DRAINAGE UNLESS OTHERWISE NOTED.
15. ALL DISTURBED AREAS ON-SITE SHALL BE SODDED WITH SOD OF LIKE TYPE AND QUALITY TO MATCH EXISTING. ALL DISTURBED AREAS OFF-SITE SHALL BE SODDED WITH ARGENTINA BAHIA. ALL SOD SHALL BE NON-MUCK FARM GROWN.

ROUTINE MAINTENANCE -- STORMWATER

1. AFTER COMPLETION OF CONSTRUCTION, WRA'S WILL BE MOWED AND MAINTAINED AS PART OF THE NORMAL LAWN AND OPEN SPACE MAINTENANCE.
2. TRASH AND DEBRIS THAT ACCUMULATES WITHIN THE WRA'S, SWALES, PIPES, AND INLETS WILL BE MANUALLY COLLECTED AND DISPOSED OF WITH OTHER NORMAL SOLID WASTE.
3. ANY EROSION, LOSS OF GRASS, ETC., WILL BE REPAIRED OR REPLACED ROUTINELY AND AS NEEDED.
4. PIPES, INLETS, FLUMES, AND OTHER CONTROL DEVICES WILL BE INSPECTED ANNUALLY AND REPAIRS MADE AS NEEDED.
5. BEST MANAGEMENT PRACTICES SHALL BE USED TO ASSURE EROSION AND SEDIMENT IS CONTROLLED. ADDITIONAL MEASURES MAY BE REQUIRED DURING CONSTRUCTION.

TREE PROTECTION REQUIREMENTS

1. PROTECT DESIGNATED EXISTING TREES AGAINST:
    - UNNECESSARY CUTTING, BREAKING, OR SKINNING OF ROOTS
    - SKINNING AND BRUISING OF BARK
    - SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION OR EXCAVATION MATERIALS WITHIN DRIP-LINE
    - EXCESS FOOT OR VEHICULAR TRAFFIC
    - PARKING VEHICLES WITHIN DRIP-LINE
2. ERECT TEMPORARY TREE PROTECTION FENCING AS SHOWN ON THE DETAIL SHEETS. BEFORE COMMENCEMENT OF ANY SITE CLEARING OR GRADING. ALL FENCING SHOULD BE A MINIMUM OF 10' CLEAR DISTANCE FROM THE FACE OF ANY TREES AND SHALL FULLY ENCLOSE ALL TREES SCHEDULED TO REMAIN. NOTHING SHALL BE PLACED INSIDE OF PROTECTIVE BARRICADES, INCLUDING BUT NOT LIMITED TO CONSTRUCTION MATERIAL, MACHINERY, CHEMICALS, OR TEMPORARY SOIL DEPOSITS. ON TREES LARGER THAN 20' DBH, BARRICADES SHALL BE NO CLOSER THAN 15' FROM FACE OF TREE. WHEN PAVING, EXCAVATION OR HARDSCAPE MUST BE DONE WITHIN BARRICADES, BARRICADES SHALL BE MOVED BACK TO A SECONDARY LOCATION AT EDGE OF WORK. EXTRA CARE MUST BE TAKEN AT THIS TIME BY THE CONTRACTOR TO ENSURE THAT NO DAMAGE TO THE TREE OCCURS.
3. PROVIDE WATER TO TREES AS REQUIRED TO MAINTAIN THEIR HEALTH DURING CONSTRUCTION WORK.
4. WHEN NECESSARY TO CUT ROOT OVER 1-1/2" DIAMETER OF TREES TO REMAIN, CUT MUST BE A CLEAN CUT, COAT CUT FACES OF ROOTS WITH AN EMULSIFIED ASPHALT OR OTHER ACCEPTABLE COATING FORMULATED FOR USE ON DAMAGED PLANT TISSUE. TEMPORARILY COVER EXPOSED ROOTS WITH WET BURLAP TO PREVENT DRYING AND COVER WITH EARTH AS SOON AS POSSIBLE.
5. NO GRADE CHANGES ARE TO BE MADE WITHIN THE BARRICADES WITHOUT PRIOR APPROVAL OF THE OWNER OR HIS DESIGNATED REPRESENTATIVE.
6. INTERFERING BRANCHES MAY BE REMOVED AT THE DIRECTION OF THE OWNER OR HIS DESIGNATED REPRESENTATIVE BY A QUALIFIED TREE SURGEON.
7. REPAIR OR REPLACE TREES INDICATED TO REMAIN, WHICH ARE DAMAGED IN THE CONSTRUCTION OPERATIONS, IN A MANNER ACCEPTABLE TO THE OWNER. EMPLOY A QUALIFIED TREE SURGEON TO REPAIR MAJOR DAMAGES TO TREES AND SHRUBS, PROMPTLY, TO PREVENT PROGRESSIVE DETERIORATION'S CAUSED BY THE DAMAGE.
8. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF TREES DAMAGED BEYOND REPAIR WITH 3 TREES OF SIMILAR QUALITY AND SPECIES, SIZED TO MATCH THE LARGEST TREES OF THAT SPECIES BEING PLANTED AS PER THE LANDSCAPE PLANS. IF TREES ARE HARMED THROUGH LACK OF PROTECTION OR THROUGH NEGLIGENCE ON THE PART OF THE CONTRACTOR, THE CONTRACTOR SHALL BEAR THE BURDEN OF THE COST OF REPAIR OR REPLACEMENT.

RECORD DRAWINGS

1. THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD WITH RECORD SURVEYS OF THE INSTALLED WATER, RECLAIM, WASTEWATER AND STORMWATER SYSTEMS.
    REQUIREMENTS ARE AS FOLLOWS:
    a. PERFORMED BY A FLORIDA REGISTERED LAND SURVEYOR.
    b. SIX SIGNED AND SEALED RECORD DRAWINGS SHALL BE PROVIDED TO THE ENGINEER OF RECORD.
    c. ELECTRONIC FORMATS OF THE RECORD DRAWINGS SHALL BE IN AUTOCAD 2000 OR HIGHER. A COPY OF THE ELECTRONIC FILES SHALL BE PROVIDED TO THE ENGINEER OF RECORD. IT IS PREFERRED TO USE THE APPROVED PLANS WITH STRIKE THROUGH CORRECTIONS.
2. REQUIRED RECORD DRAWING DATA:
    a. WATER, FORCEMAIN & RECLAIMED WATER LINE LOCATIONS, SIZE AND MATERIALS.
    b. LOCATION OF WATER, FORCEMAIN, RECLAIMED WATER & SEWER VALVES AND APPURTENANCES
    c. MANHOLE TOP AND INVERT ELEVATIONS
    d. DEPICT POTABLE WATER LINE CROSSING AND PROVIDE ACTUAL SEPARATION DISTANCES
    e. SAMPLE POINT LOCATIONS IN ACCORDANCE WITH THE FDEP PERMIT.
    f. GRAVITY STORM AND SEWER LOCATIONS, INVERTS, PIPE SIZE AND MATERIALS.
    g. PHOTOS OF ALL UTILITIES CROSSING AND WATER MAINS SHALL BE TAKEN AT THE TIME OF CONSTRUCTION PRIOR TO BACKFILLING.
    h. ALL STORMWATER MANAGEMENT AREAS SHALL BE DETAILED WITH CROSS SECTIONS AND/OR CONTOURS PROVING FINISH GRADE ELEVATIONS.
    i. ALL OUTFALL STRUCTURES SHALL BE VERIFIED WITH SPECIFIC DESIGN ELEVATIONS AS SHOWN ON THE PLANS. (ie. TOPS, WEIRS, ORIFICE AND SKIMMERS SHOULD ALL BE VERIFIED.
    j. FINISHED GRADES AT HIGH POINTS AND GRADE BREAKS IN PAVEMENT CENTERLINE AND EDGE OF PAVEMENT AT 100' INTERVALS, LOT GRADES, BUILDING PADS OR FINISH FLOOR ELEVATIONS.

STANDARD ABBREVIATIONS

ARV	AIR RELEASE VALVE	HP	HIGH POINT
BFP	BACKFLOW PREVENTER	HR	HANDICAPPED RAMP
BOC	BACK OF CURB	INV	INVERT
BTM	BOTTOM	LF	LINEAR FEET
BV	BALL VALVE	LP	LOW POINT
℄	CENTER LINE	LS	LIFT STATION
CMP	CORRUGATED METAL PIPE	MES	MITERED END SECTION
CO	CLEANOUT	MH	MANHOLE
CONC	CONCRETE	NWL	NORMAL WATER LEVEL
DCDVA	DOUBLE CHECK DETECTOR VALVE ASSEMBLY	PIV	POST INDICATOR VALVE
		ℙ	PROPERTY LINE
DIP	DUCTILE IRON PIPE	PV	PLUG VALVE
DHWL	DESIGN HIGH WATER LEVEL	PVC	POLYVINYL CHLORIDE PIPE
EL	ELEVATION	RCP	REINFORCED CONCRETE PIPE
EOP	EDGE OF PAVEMENT	RWM	RECLAIMED/REUSE WATER MAIN
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE	R/W	RIGHT OF WAY
		SAN	SANITARY
FDC	FIRE DEPARTMENT CONNECTION	SHWT	SEASONAL HIGH WATER TABLE
FFE	FINISHED FLOOR ELEVATION	SP	SAMPLE POINT
FH	FIRE HYDRANT	TOB	TOP OF BANK
FM	FORCE MAIN	TOS	TOE OF SLOPE
GV	GATE VALVE	TYP	TYPICAL
HDPE	HIGH DENSITY POLYETHYLENE	WM	WATER MAIN
DDCA	DOUBLE DETECTOR CHECK ASSEMBLY	RPZ	REDUCED PRESSURE ZONE BACKFLOW DEVICE

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IC INTERNATIONAL CARWASH
GENERAL NOTES
US HWY 27/441 FRUITLAND PARK FL. 34731

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

Drawn: WSR	REVISION:	DATE:
Checked: KRW		
Date: 05-06-19		
Scale: AS SHOWN		
File No.: 19119		

FDEP SEPARATION REQUIREMENTS

under 62-555.314 Effective 8-28-2003

HAZARD	HORIZONTAL SEPARATION	VERTICAL SEPARATION	
		WATER ABOVE	WATER BELOW
STORM SEWER	3FT MIN	12"PREF, 6"MIN	12" MIN
STORM FORCE MAIN	3FT MIN	12" MIN	12" MIN
RECLAIMED WATER (REQ'D UNDER 62-610)	3FT MIN	12" MIN	12" MIN
RECLAIMED WATER (NOT UNDER 62-610)	10FT PREF, 6FT MIN	12" MIN	12" MIN
VACUUM SANITARY SEWER	10FT PREF, 3FT MIN	12" PREF, 6" MIN	12" MIN
GRAVITY SANITARY SEWER	10FT PREF, 6FT MIN*	12" PREF, 6" MIN	12" MIN
SANITARY SEWER FORCE MAIN	10FT PREF, 6FT MIN	12" MIN	12" MIN
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM 10FT MIN (NO ALTERNATIVES)			

* 3FT MINIMUM IF BOTTOM OF WATER MAIN IS 6" ABOVE THE GRAVITY SEWER MAIN

- THESE TABLES ARE NOT COMPREHENSIVE AND ARE NOT A SUBSTITUTE FOR THE TEXT IN 62-555.314. (SEE TEXT BELOW)
- THIS TABLE WAS CREATED BY A PRIVATE INDIVIDUAL AND IS NOT AN OFFICIAL FDEP TABLE.
- ALL DISTANCES ARE MEASURED OUTSIDE TO OUTSIDE.
- IT IS PREFERABLE TO LAY THE WATER PIPE ABOVE THE HAZARD PIPE.
- WATER MAINS CANNOT COME INTO CONTACT WITH ANY HAZARD STRUCTURES WITHOUT PRIOR APPROVAL BY FDEP.
- EXCEPTIONS ARE ONLY ALLOWED ON A CASE-BY-CASE BASIS WITH JUSTIFICATION TO FDEP BEFORE INSTALLATION.

"AT CROSSINGS, CENTER WATER PIPE ON CROSSING OR MAINTAIN THE FOLLOWING JOINT SPACING:"

HAZARD	ALTERNATIVE JOINT SPACING
STORM SEWER	3FT MIN
STORM FORCE MAIN	3FT MIN
RECLAIMED WATER (REQ'D UNDER 62-610)	3FT MIN
RECLAIMED WATER (NOT UNDER 62-610)	6FT MIN
VACUUM SANITARY SEWER	3FT MIN
GRAVITY SANITARY SEWER	6FT MIN
SANITARY SEWER FORCE MAIN	6FT MIN
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	N/A

62-555.314 LOCATION OF PUBLIC WATER SYSTEM MAINS TEXT.

FOR THE PURPOSE OF THIS SECTION, THE PHRASE WATER MAINS SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT ARE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER.

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

(C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY-OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY-OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(C) AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES.

(A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.

(B) EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THIS REQUIREMENT (I.E., WHERE THERE IS A CONFLICT IN THE ROUTING OF A WATER MAIN AND A STORM SEWER AND WHERE ALTERNATIVE ROUTING OF THE WATER MAIN OR THE STORM SEWER IS NOT TECHNICALLY FEASIBLE OR IS NOT ECONOMICALLY SENSIBLE), THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THIS REQUIREMENT (I.E, THE DEPARTMENT SHALL ALLOW CONSTRUCTION OF CONFLICT MANHOLES), BUT SUPPLIERS OF WATER OR PERSONS PROPOSING TO CONSTRUCT CONFLICT MANHOLES MUST FIRST OBTAIN A SPECIFIC PERMIT FROM THE DEPARTMENT IN ACCORDANCE WITH PART V OF THIS CHAPTER AND MUST PROVIDE IN THE PRELIMINARY DESIGN REPORT OR DRAWINGS, SPECIFICATIONS, AND DESIGN DATA ACCOMPANYING THEIR PERMIT APPLICATION THE FOLLOWING INFORMATION:

1. TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH CONFLICT MANHOLE.
2. A STATEMENT IDENTIFYING THE PARTY RESPONSIBLE FOR MAINTAINING EACH CONFLICT MANHOLE.
3. ASSURANCE OF COMPLIANCE WITH THE DESIGN AND CONSTRUCTION REQUIREMENTS IN SUB-SUBPARAGRAPHS A. THROUGH D. BELOW.

A. EACH WATER MAIN PASSING THROUGH A CONFLICT MANHOLE SHALL HAVE A FLEXIBLE, WATERTIGHT JOINT ON EACH SIDE OF THE MANHOLE TO ACCOMMODATE DIFFERENTIAL SETTLING BETWEEN THE MAIN AND THE MANHOLE.

B. WITHIN EACH CONFLICT MANHOLE, THE WATER MAIN PASSING THROUGH THE MANHOLE SHALL BE INSTALLED IN A WATERTIGHT CASING PIPE HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE).

C. EACH CONFLICT MANHOLE SHALL HAVE AN ACCESS OPENING, AND SHALL BE SIZED, TO ALLOW FOR EASY CLEANING OF THE MANHOLE.

D. GRATINGS SHALL BE INSTALLED AT ALL STORM SEWER INLETS UPSTREAM OF EACH CONFLICT MANHOLE TO PREVENT LARGE OBJECTS FROM ENTERING THE MANHOLE.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS. NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SEX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.00S, F.A.C. (UPDATED 6-15-04)

UTILITY NOTES

1. SHOULD ANY DISCREPANCIES BE DISCOVERED THAT WOULD PREVENT CONSTRUCTION OF NEW IMPROVEMENTS AS SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER WITHIN 48 HOURS FOR A DETERMINATION AS TO THE DISPOSITION OF THE DISCREPANCIES. NO CLAIM WILL BE ALLOWED BY THE CONTRACTOR SHOULD HE FAIL TO PROVIDE THE REQUIRED NOTIFICATION PRIOR TO CONSTRUCTION.
2. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE, AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR FIELD VERIFICATION OF THE EXISTING UTILITIES. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING ANY UNDERGROUND UTILITY TO ENSURE THE LOCATION AND INTEGRITY OF THE SYSTEM.
3. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION ACTIVITY FOR DIG PERMITS, ELECTRICAL PERMITS OR OTHER PERMITS AS APPLICABLE. CONTRACTOR IS TO COORDINATE FULLY WITH UTILITY COMPANIES ON EXACT LOCATION OF UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
4. ALL PIPING TO HAVE A MINIMUM OF 3' COVER UNLESS OTHERWISE NOTED ON THE PLANS.
5. WHERE PAVEMENT IS REMOVED, THE SURFACING MATERIAL SHALL BE MECHANICAL SAW-CUT PRIOR TO TRENCH EXCAVATION, LEAVING A UNIFORM AND STRAIGHT EDGE, WITH MINIMUM DISTURBANCE TO THE REMAINING ADJACENT SURFACING. IMMEDIATELY FOLLOWING THE SPECIFIED BACKFILLING AND COMPACTION, A TEMPORARY SAND SEAL COAT SURFACE SHALL BE APPLIED TO THE CUT AREAS AND CONTINUE TO PROVIDE A SMOOTH TRAFFIC SURFACE WITH THE EXISTING ROADWAY AND SHALL BE MAINTAINED UNTIL FINAL RESTORATION.
6. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL TAKE SPECIAL CARE AND PROVIDE ADEQUATE PROTECTION IN ORDER TO MINIMIZE DAMAGE TO VEGETATION, SURFACED AREAS, AND STRUCTURES WITHIN RIGHT-OF-WAY EASEMENT ON SITE, AND TAKE FULL RESPONSIBILITY FOR THE REPLACEMENT OR REPAIR THEREOF.

WATER DISTRIBUTION

1. EXCAVATED TRENCH BOTTOM(S) SHALL BE FREE OF STICKS, ROOTS, STUMPS, STONES, BOULDERS AND ALL DEBRIS, AND SHALL BE GRADED AND SHAPED FOR CONTINUOUS BEARING OF THE BOTTOM OF THE PIPE SYSTEM WITH ALLOWANCE FOR VALVES, FITTINGS, AND COUPLINGS.
2. UNLESS OTHERWISE SHOWN ON THE PLANS, PIPE SHALL BE MANUFACTURED FROM POLYVINYL CHLORIDE RESIN CONFORMING TO ASTM DESIGNATION D 1784. THE PIPE SHALL BEAR THE NATIONAL SANITATION FOUNDATION (NSF) SEAL FOR POTABLE WATER PIPE. PIPE SHALL MEET THE REQUIREMENTS OF AWWA C900, (D.R. 18) "STANDARD FOR POLYVINYL CHLORIDE (PVC) PRESSURE PIPE, 4 INCHES THROUGH 12 INCHES FOR WATER" AND SHALL BE FURNISHED IN CAST IRON PIPE EQUIVALENT OUTSIDE DIAMETERS WITH RUBBER GASKETED JOINTS AS LISTED C900 STANDARD. DI PIPE SHALL CONFORM WITH AWWA C-150/C-151. POLYVINYL CHLORIDE PIPE LESS THAN 4 INCHES IN DIAMETER SHALL BE IN ACCORDANCE WITH ASTM 1785 (SCHEDULE 40, 80, 120) OR ASTM 2241 (SDR 21, PC 200). DR 14 SHALL BE USED FOR FIRE LINES AND INSTALLED IN ACCORDANCE W/ NFPA 24, 1995.
3. CONNECTIONS FOR PIPE 2" IN DIAMETER AND LARGER SHALL BE RUBBER COMPRESSION RING TYPE. PIPE SHALL BE EXTRUDED WITH INTEGRAL THICKENED WALL BELLS WITHOUT INCREASE IN SDR. RUBBER RING GASKETS SHALL CONSIST OF SYNTHETIC COMPOUNDS MEETING THE REQUIREMENTS OF ASTM DESIGNATION D1869, AND SUITABLE FOR THE DESIGNATED SERVICE. OTHER CONNECTIONS FOR PIPE; SOLVENT WELDED SLEEVE TYPE JOINT. FITTINGS FOR 2 INCH AND SMALLER PIPE SHALL BE P.V.C. SOLVENT WELDED JOINTS. FITTINGS FOR USE WITH P.V.C. PIPE WILL BE CAST IRON OR DUCTILE IRON WITH MECHANICAL JOINT RUBBER COMPRESSION RING TYPE JOINTS. WHERE MECHANICAL JOINT IRON FITTINGS OR DUCTILE IRON PIPE ARE TO INTERFACE WITH PVC PIPE, A TRANSITION GASKET, CLOW F-6340 OR EQUAL, SHALL BE USED. NO P.V.C. FITTINGS WILL BE ALLOWED EXCEPT ON PIPE AND FITTINGS SMALLER THAN 3 INCHES.
4. PVC PIPE CONNECTED TO HEAVY FITTINGS AND/OR RIGID STRUCTURES SHALL BE SUPPORTED SO THAT NO SUBSEQUENT RELATIVE MOVEMENT BETWEEN THE PVC PIPE AT THE JOINT AND THE RIGID STRUCTURE IS POSSIBLE.
5. RESTRAINED JOINTS SHALL BE USED AT ALL BENDS & TEES.
6. BACKFILLING OF THE TRENCH FROM THE BOTTOM UP TO TWELVE (12)INCHES OVER THE TOP OF THE PIPE SHALL BE COMPACTED IN SIX (6) INCH LAYERS USING DRY FRIABLE SOIL (MAXIMUM PARTICLE OR FRAGMENT DIMENSION 1") TO NINETY-FIVE (95) PERCENT MAXIMUM DENSITY. THE REMAINDER OF THE TRENCH SHALL BE BACKFILLED WITH EXCAVATED EARTH MATERIAL (MAXIMUM ROCK OR FRAGMENT DIMENSION 6") IN NINE (9) INCH LAYERS COMPACTED TO NINETY FIVE (95) PERCENT MAXIMUM DENSITY, NINETY-EIGHT (98) PERCENT UNDER AREAS TO BE PAVED. DENSITY DETERMINATIONS SHALL BE MADE IN ACCORDANCE WITH AASHTO SPECIFICATION T-180. MINIMUM COVER OVER THE TOP OF THE PIPE SHALL BE THIRTY-SIX (36) INCHES UNLESS OTHERWISE SHOWN. IF POSSIBLE, JOINTS SHOULD BE LEFT UNCOVERED UNTIL AFTER TESTING HAS BEEN SATISFACTORILY COMPLETED.
7. THE PIPE SYSTEM SHALL BE TESTED AND EXAMINED FOR LEAKAGE IN SECTIONS NOT EXCEEDING 1,000 FEET, AT NOT LESS THAN 150 PSI STATIC PRESSURE, IN ACCORDANCE WITH AWWA C 600 (DIP) C 605 (PVC).
8. AFTER COMPLETION OF CONSTRUCTION AND TESTING, THE WATER SYSTEM SHALL BE DISINFECTED WITH CHLORINE SOLUTION BEFORE ACCEPTANCE FOR DOMESTIC OPERATION. THE AMOUNT OF CHLORINE APPLIED SHALL BE SUFFICIENT TO PROVIDE A DOSAGE SOLUTION OF NOT LESS THAN FIFTY (50) PARTS PER MILLION. PRIOR TO INTRODUCING THE CHLORINE SOLUTION, THE LINE SHALL BE THOROUGHLY FLUSHED WITH CLEAN POTABLE WATER. CHLORINE SOLUTION SHALL BE INTRODUCED IN ACCORDANCE WITH AWWA STANDARD C-651-92 AND SHALL REMAIN IN THE SYSTEM FOR A CONTACT PERIOD OF AT LEAST TWENTY-FOUR (24) HOURS, DURING WHICH TIME EVERY VALVE IN THE SYSTEM SHALL BE OPENED AND CLOSED SEVERAL TIMES TO ASSURE CONTACT WITH EVERY SURFACE OF THE SYSTEM. AFTER COMPLETION OF THE DISINFECTION PROCEDURE, THE SYSTEM SHALL BE FLUSHED USING CHLORINATED WATER FROM THE CENTRAL WATER SUPPLY. SAMPLES SHALL BE TAKEN FROM THE NEW SYSTEM FOR TESTING BY A D.H.R.S. CERTIFIED LAB AND SUBMITTED TO THE ENGINEER FOR SUBMITTAL TO THE DEPARTMENT OF ENVIRONMENTAL PROTECTION FOR CLEARANCE BEFORE IT IS PLACED INTO ACTIVE SERVICE.
9. GATE VALVES SHALL BE MUELLER CLASS 200 RESILIENT SEATED VALVES, OR APPROVED EQUAL, WITH MECHANICAL JOINT ENDS, MANUFACTURED TO MEET OR EXCEED REQUIREMENTS OF AWWA C509, LATEST REVISION. EACH VALVE SHALL BE FITTED WITH A CAST IRON BOX AND COVER
10. FIRE HYDRANT(S) SHALL BE MUELLER STANDARD OR APPROVED EQUAL 3-WAY WITH TWO (2) 2-1/2 INCH HOSE CONNECTIONS AND ONE (1) 4-1/2 INCH PUMPER NOZZLE. MAIN BARREL VALVE SIZE SHALL BE 5-1/4 INCHES. AFTER INSTALLATION THE HYDRANT SHALL BE PAINTED IN ACCORDANCE WITH THE LOCAL FIRE DEPARTMENT REQUIREMENTS.
11. ALL WATER SERVICE LINES TWO (2) INCHES AND UNDER SHALL BE POLYETHYLENE, IDR 9 OR SDR-26 WITH A PRESSURE RATING OF 160 PSI. ASTM D-2239.
12. ALL PVC WATER MAINS SHALL BE LAID WITH METALLIC LOCATING TAPE PLACED 18" ABOVE THE CENTER OF THE WATERLINE. FOR FUTURE LOCATING PURPOSES, #14 COPPER ARMORED POLYGUARD WIRE SHALL BE TAPED TO THE TOP OF THE PIPE AND TERMINATE WITH 12" EXTENDING ABOVE THE TOP OF THE VALVE BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH THE VALVE OPERATION.

UTILITY NOTES (CONT)

13. SURVEY AS-BUILT DRAWING IS REQUIRED.
14. DEDICATED FIRE MAINS SHALL BE INSTALLED BY A STATE CERTIFIED FIRE PROTECTION CONTRACTOR PER F.S. 633.021(5)
15. AN APPROVED REDUCED PRESSURE BACKFLOW PREVENTION DEVICE IS REQUIRED FOR THE DOMESTIC WATERLINE (A.S.S.E. 1013). IT WILL BE INSTALLED AT THE POINT OF DELIVERY FROM THE LOCAL CITY OR COUNTY WATER SYSTEM. THE INSTALLER IS RESPONSIBLE FOR TESTING THE DEVICE UPON INSTALLATION BY A CERTIFIED BACKFLOW TESTER WITH THE RESULTS BEING FORWARDED TO THE LOCAL CITY OR COUNTY UTILITY DEPARTMENT.
16. THE IRRIGATION AND FIRE SYSTEMS ARE REQUIRED TO HAVE AN APPROVED DOUBLE CHECK VALVE ASSEMBLY (A.S.S.E. 1015). IT WILL BE INSTALLED AT THE POINT OF DELIVERY FROM THE LOCAL UTILITIES WATER SYSTEM, IN THE HORIZONTAL POSITION. THE INSTALLER IS RESPONSIBLE FOR TESTING THE DEVICE UPON INSTALLATION BY A CERTIFIED BACKFLOW TESTER WITH THE RESULTS BEING FORWARDED TO THE LOCAL UTILITY DEPARTMENT.
17. ALL WATER MAIN MATERIALS AND APPURTENANCES SHALL CONFORM TO AND SHALL BE INSTALLED, TESTED AND CLEARED FOR SERVICE IN ACCORDANCE WITH THE STANDARDS OF THE LOCAL JURISDICTION AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AGENCY.
18. IT IS THE CONTRACTORS RESPONSIBILITY TO MAINTAIN A COPY OF THE FDEP WATER AND SEWER PERMITS ON SITE AT ALL TIMES AND PERFORM BACTERIOLOGICAL TESTING (B.T.) AFTER DISINFECTION IN ACCORDANCE WITH THE FDEP WATER PERMITS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR CONTRACTOR TO SUBMIT A SET OF AS-BUILT WATER AND SEWER DRAWINGS TO THE ENGINEER. THE AS-BUILT WATER DRAWING WILL NEED TO BE PREPARED PER CITY OR COUNTY REQUIREMENTS. THE AS-BUILT SURVEY/ DRAWINGS WILL NEED TO BE PREPARED, SIGNED AND SEALED BY A FLORIDA REGISTERED SURVEYOR.
19. THE CONTRACTOR SHALL PROTECT THE EXISTING ACTIVE WATER MAIN FROM BACKFLOW CONTAMINATION DURING FILLING, FLUSHING, TESTING AND MAINTAIN A MINIMUM PRESSURE OF 20 PSI IN THE NEW MAINS DURING CONSTRUCTION. ALL PROTECTION METHODS SHALL CONFORM TO THE LOCAL UTILITY COMPANIES, FDEP, AND AWWA STANDARD SPECIFICATIONS.
20. UPON COMPLETION OF THE WATER DISTRIBUTION SYSTEM INSTALLATION, CONTRACTOR SHALL FURNISH TO THE LOCAL FIRE DISTRICT AND ENGINEER CERTIFIED FIRE FLOW DATA FOR ALL FIRE HYDRANTS WITHIN THE PROJECT.
21. ALL WATER PIPE NEW OR RELOCATED SHALL BE COLOR CODED OR DETAIL MARKED USING BLUE AS PREDOMINANT COLOR TO DIFFERENTIATE DRINKING WATER FROM RECLAIMED OR OTHER WATER. RECLAIMED WATER PIPING SHALL BE PURPLE COLORED PIPE.
22. ALL WATER MAIN MATERIAL AND APPURTENANCES, PIPES, JOINTING AND PACKING MATERIAL INTERNAL COATING, AND LININGS, FITTINGS, AND APPURTENANCES SHALL BE IN THE ACCORDANCE WITH THE CORRESPONDING AWWA STANDARDS AND BE CONFORMING TO NSF REQUIREMENTS IN COMPLIANCE WITH PARAGRAPH 62-555 FLORIDA ADMINISTRATIVE CODE.
23. ALL WATER MAIN MATERIALS AND APPURTENANCES SHALL COMPLY WITH THE LEAD USE PROHIBITION RULE IN 62-555.322 FLORIDA ADMINISTRATIVE CODE.

GENERAL SPECIFICATION NOTES:

1. THE CITY/TOWN SPECIFICATIONS WILL TAKE PRECEDENCE IF THEY ARE MORE STRINGENT THAN THESE SPECIFICATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.

FORCEMAIN NOTES

1. FORCEMAIN PIPE SHALL BE INSTALLED AND MAINTAINED AT A 3' MINIMUM DEPTH THROUGH-OUT PROJECT EXCEPT WHERE SHOWN ON PLANS AND APPROVED SPECIFICATIONS. MAINTAIN 18" BELOW WATER MAIN.
2. FORCEMAIN PIPE TO BE PVC C900, DR18 CLASS 100 AWWA.
3. EXCAVATED TRENCH BOTTOM(S) SHALL BE FREE OF STICKS, ROOTS, STUMPS, STONES, BOULDERS AND ALL DEBRIS AND SHALL BE GRADED AND SHAPED FOR CONTINUOUS BEARING OF THE BOTTOM OF THE PIPE SYSTEM WITH ALLOWANCE FOR VALVES, FITTINGS AND COUPLINGS.
4. PVC SEWER MAINS SHALL BE LAID WITH METALLIC TAPE PLACED 18" ABOVE THE CENTER OF THE FORCEMAIN WITH CONTINUOUS MARKING "CAUTION SEWAGE PRESSURE LINE" FOR FUTURE LOCATING PURPOSES. #14 COPPER ARMORED POLYGUARD WIRE SHALL BE TAPED TO THE TOP OF THE PIPE AND TERMINATE WITH 12" EXTENDING ABOVE THE TOP OF THE LIFT STATION VALVE BOX.
5. THE PIPE SYSTEM SHALL BE TESTED AND EXAMINED FOR LEAKAGE IN SECTIONS NOT EXCEEDING 1,000 FEET, AT NOT LESS THAN 150 PSI STATIC PRESSURE, IN ACCORDANCE WITH AWWA C 600 (DIP) C 605 (PVC).

ALLOWABLE LEAKAGE = L = (ND√P)/7400 DURATION 2 HOURS.
L = ALLOWABLE LEAKAGE GPM/HR
N = # OF JOINTS IN LENGTH TESTED
P = AVERAGE TEST PRESSURE (PSI)
D = NOMINAL DIAMETER OF PIPE (IN)

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
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C.A. #30062

FRUITLAND PARK HOLDINGS, LLC
TEJINDER S. GREENWALL
1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

IC INTERNATIONAL CARWASH
GENERAL UTILITY NOTES
US HWY 27/441 FRUITLAND PARK FL. 34731

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

Drawn: WSR
Checked: KRW
Date: 05-06-19
Scale: AS SHOWN
File No.: 19119
REVISION:
DATE:
Sheet: 3 of 17

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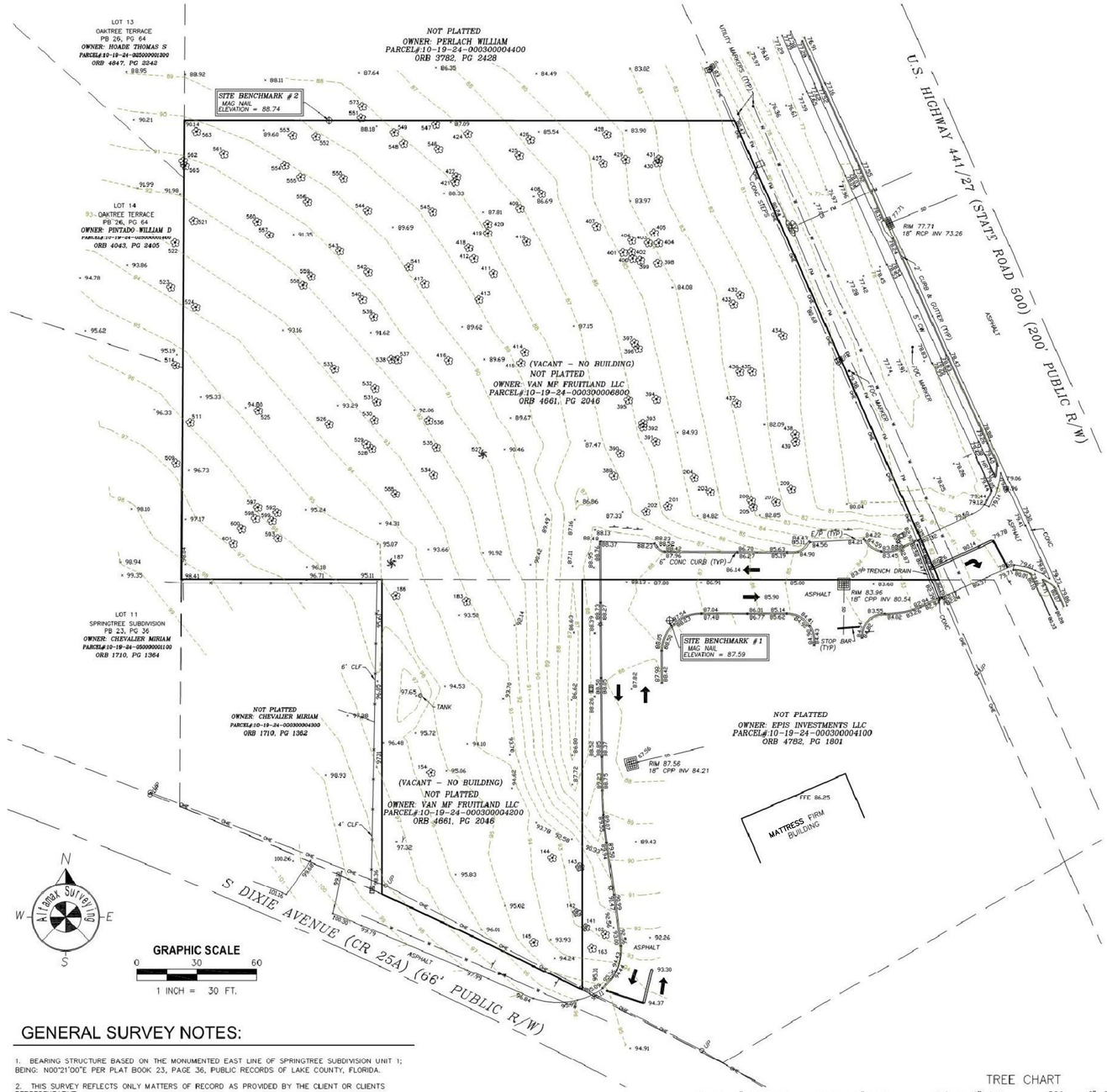
BOUNDARY & TOPOGRAPHIC SURVEY



DESCRIPTION:

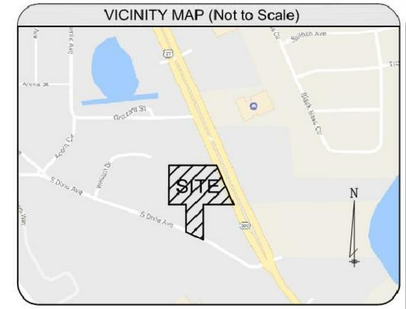
A part of Southeast 1/4 of Southwest 1/4 of Section 10, Township 19 South, Range 24 East, in Lake County, Florida, bounded and described as follows:

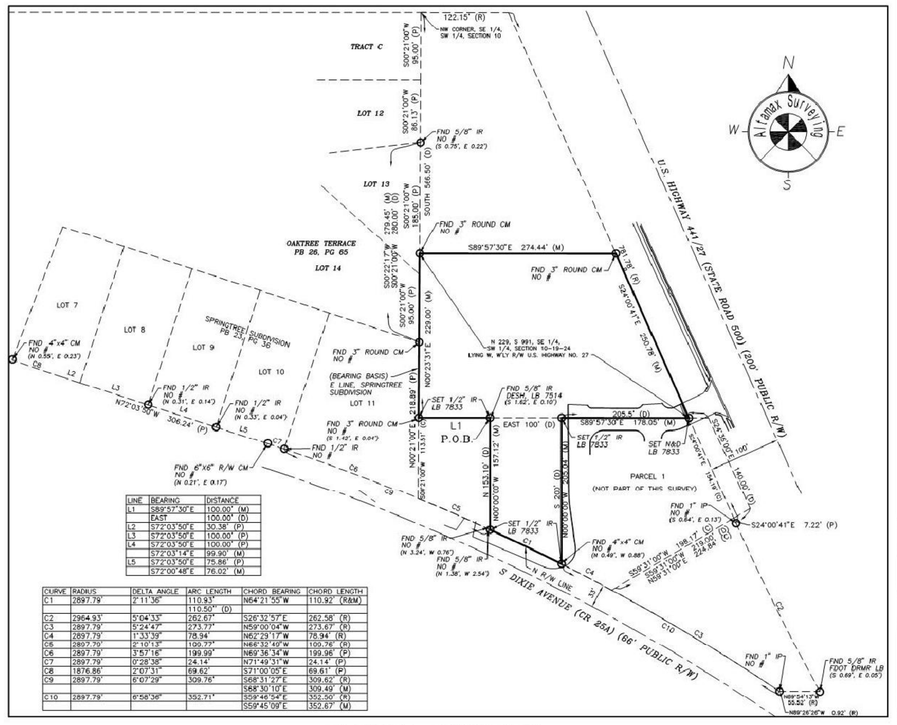
Beginning at a point 566.5 feet South and 100 feet East of the Northwest corner of the Southeast 1/4 of Southwest 1/4 of said Section; run thence East 100 feet; thence South 200 feet to the North line of the Highway; thence Northwesterly along the North line of the Highway, a distance of 110.5 feet to a point South of the Point of Beginning; thence North 153.1 feet to the Point of Beginning.

AND:

That part of the North 229 feet of the South 991 feet of the Southeast 1/4 of the Southwest 1/4 of Section 10, Township 19 South, Range 24 East, in Lake County, Florida, lying West of the Westerly line of the right of way of U.S. Highway No. 27.

VICINITY MAP (Not to Scale)





LINE	BEARING	DISTANCE
L1	S89°57'30"E	100.00' (M)
	EAST	100.00' (D)
L2	S72°03'50"E	30.38' (P)
L3	S72°03'50"E	100.00' (P)
L4	S72°03'50"E	100.00' (P)
	S72°03'14"E	99.90' (M)
L5	S72°03'50"E	75.86' (P)
	S72°00'48"E	76.02' (M)

CURVE	RADIUS	DELTA ANGLE	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	2897.79'	2°11'36"	110.93'	N64°21'55"W	110.92' (R&M)
			110.50' (D)		
C2	2964.93'	5°04'33"	262.67'	S26°32'57"E	262.58' (R)
C3	2897.79'	5°24'27"	273.77'	N59°00'04"W	273.67' (R)
C4	2897.79'	1°33'39"	78.94'	N62°29'17"W	78.94' (R)
C5	2897.79'	2°10'13"	109.77'	N66°32'40"W	109.76' (R)
C6	2897.79'	3°57'16"	199.99'	N69°36'34"W	199.96' (R)
C7	2897.79'	0°28'38"	24.14'	N71°49'31"W	24.14' (P)
C8	1876.86'	2°07'31"	69.62'	S71°00'05"E	69.61' (P)
C9	2897.79'	6°07'29"	309.76'	S68°31'27"E	309.62' (R)
				S68°30'10"E	309.49' (M)
C10	2897.79'	6°58'36"	352.71'	S59°46'54"E	352.50' (R)
				S59°45'09"E	352.67' (M)

OVERALL BOUNDARY
SCALE: 1" = 100'

GENERAL SURVEY NOTES:

1. BEARING STRUCTURE BASED ON THE MONUMENTED EAST LINE OF SPRINGTREE SUBDIVISION UNIT 1; BEING: N00°21'00"E PER PLAT BOOK 23, PAGE 36, PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.

2. THIS SURVEY REFLECTS ONLY MATTERS OF RECORD AS PROVIDED BY THE CLIENT OR CLIENTS REPRESENTATIVE.

3. THIS SURVEY WAS MADE ON THE GROUND. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

4. THIS SITE LIES IN ZONE "X", BASED ON FLOOD INSURANCE RATE MAP NO. 12069C0307E, CITY OF FRUITLAND PARK, FLORIDA AND HAVING AN EFFECTIVE DATE OF DECEMBER 18, 2012.

5. ACCORDING TO FLORIDA STATUTES, CHAPTER 472.025, A LAND SURVEYOR SHALL NOT AFFIX HIS SEAL OR NAME TO ANY PLAN OR DRAWING WHICH DEPICTS WORK WHICH HE IS NOT LICENSED TO PERFORM OR WHICH IS BEYOND HIS PROFESSION OR SPECIALTY THEREIN. THEREFORE, WE ARE UNABLE TO CERTIFY AS TO MUNICIPAL ZONING COMPLIANCE, INTERPRETATION OF ZONING CODES OR THE DETERMINATION OF VIOLATIONS THEREOF.

6. THIS SURVEY MADE WITHOUT BENEFIT OF COMMITMENT FOR TITLE OR SEARCH OF PUBLIC RECORDS FOR EASEMENTS AND/OR ENCUMBRANCES THAT MAY AFFECT THIS SUBJECT PROPERTY.

7. ELEVATIONS ARE BASED ON LNET REALTIME NETWORK, UTILIZING GEOID 09 (CONUS), BASE STATION (FLWW), RELATIVE TO NAVD 1988..

TREE CHART

141 – 6" CYPRESS	393 – 6" OAK	416 – 8" OAK	509 – 8" OAK	541 – 6" OAK	565 – 6" OAK
142 – 6" CYPRESS	394 – 12" OAK	417 – 3–12" OAK	511 – 8" OAK	542 – 10" OAK	573 – 18" OAK
143 – 6" CYPRESS	395 – 12" OAK	418 – 2–8" OAK	514 – 36" OAK	543 – 15" OAK	588 – 12" OAK
144 – 28" OAK	396 – 10" OAK	419 – 15" OAK	521 – 15" OAK	544 – 20" OAK	592 – 12" OAK
145 – 32" OAK	397 – 10" OAK	420 – 12" OAK	522 – 6" OAK	545 – 10" OAK	593 – 12" OAK
154 – 18" OAK	398 – 10" OAK	421 – 6" OAK	523 – 24" OAK	546 – 6" OAK	597 – 10" OAK
162 – 6" OAK	399 – 6" OAK	422 – 6" OAK	524 – 18" OAK	547 – 3–10" OAK	598 – 6" OAK
163 – 30" OAK	400 – 12" OAK	424 – 15" OAK	525 – 2–10" OAK	548 – 8" OAK	599 – 6" OAK
183 – 70" OAK	401 – 6" OAK	425 – 8" OAK	526 – 12" OAK	549 – 12" OAK	600 – 24" OAK
186 – 20" OAK	402 – 10" OAK	426 – 15" OAK	527 – 12" PALM	550 – 12" OAK	601 – 15" OAK
187 – 10" PALM	403 – 12" OAK	427 – 10" OAK	528 – 12" OAK	551 – 7" OAK	
201 – 12" OAK	404 – 10" OAK	428 – 14" OAK	529 – 12" OAK	552 – 20" OAK	
202 – 10" OAK	405 – 10" OAK	429 – 14" OAK	530 – 12" OAK	553 – 24" OAK	
203 – 7" OAK	406 – 10" OAK	430 – 8" OAK	531 – 14" OAK	554 – 15" OAK	
204 – 10" OAK	407 – 2–10" OAK	431 – 8" OAK	532 – 6" OAK	555 – 10" OAK	
205 – 10" OAK	408 – 2–10" OAK	432 – 10" OAK	533 – 10" OAK	556 – 10" OAK	
206 – 10" OAK	409 – 2–8" OAK	433 – 8" OAK	534 – 10" OAK	557 – 8" OAK	
207 – 12" OAK	410 – 8" OAK	434 – 2–6" OAK	535 – 14" OAK	558 – 6" OAK	
209 – 8" OAK	411 – 6" OAK	435 – 8" OAK	536 – 13" OAK	559 – 6" OAK	
389 – 8" OAK	412 – 6" OAK	436 – 6" OAK	537 – 8" OAK	560 – 18" OAK	
390 – 8" OAK	413 – 12" OAK	437 – 12" OAK	538 – 8" OAK	561 – 15" OAK	
391 – 10" OAK	414 – 10" OAK	438 – 6" OAK	539 – 8" OAK	562 – 8" OAK	
392 – 8" OAK	415 – 18" OAK	439 – 6" OAK	540 – 6" OAK	563 – 12" OAK	

LEGEND

○	– AIR RELEASE VALVE
⊀	– AUTO SPRINKLER
BB	– BOTTOM OF BANK
BC	– BACK OF CURB
⊢⊣	– BACKFLOW PREVENTER
BLK	– BLOCK
BPF	– BACK FLOW PREVENTER
BM	– BENCHMARK
●	– BOLLARD
BPC	– BURIED POWER CABLE
(C)	– CALCULATED
C&M	– CALCULATED & MEASURED
Δ	– CENTRAL ANGLE
CBW	– CONCRETE BLOCK WALL
CC	– COVERED CONCRETE
CF	– CONCRETE FLUME
CHW	– CONCRETE HEAD WALL
CLF	– CHAIN LINK FENCE
℄	– CENTERLINE
CM	– CONCRETE MONUMENT
CPP	– CORRUGATED PLASTIC PIPE
CO	– CLEAN OUT
CONC	– CONCRETE
COVD	– COVERED
CP	– CONCRETE PAD
CW	– CONCRETE WALKWAY
D&M	– DEED/DESC & MEASURED
DE	– DRAINAGE EASEMENT
(D)	– DESCRIPTION
	– DOT INLET
DP	– DUMPSTER PAD
DW	– DRIVEWAY
EM	– ELECTRIC METER
EB	– ELECTRICAL BOX
ESMT	– EASEMENT
E/P	– EDGE OF PAVEMENT
FIRM	– FLOOD INSURANCE RATE MAP
FFE	– FINISHED FLOOR ELEVATION
FH	– FIRE HYDRANT
FL	– FLOW LINE
	– FLOOD LIGHT
FND	– FOUND
FOC	– FIBER OPTIC CABLE
	– FLAG POLE
	– GAS LINE
	– GAS METER
	– GUY WIRE ANCHOR
	– HANDICAP PARKING
HR	– HANDICAP RAMP
INV	– INVERT ELEVATION
IP	– IRON PIPE
IR	– IRON ROD
	– STORM JUNCTION BOX
L	– ARC LENGTH
	– LIGHT POLE
LSA	– LANDSCAPED AREA
(M)	– MEASURED
MF	– METAL FENCE
ML	– METAL LID
MS	– METAL SHED
	– MITERED END SECTION
	– MONITORING WELL
N&D	– NAIL & DISK
NGVD	– NATIONAL GEODETIC VERTICAL DATUM
NTS	– NOT TO SCALE
OHE	– OVERHEAD ELECTRIC
OL	– ON LINE
ORB	– OFFICIAL RECORDS BOOK
OW	– OVERHEAD WIRE
OWK	– OVERHEAD WALKWAY
PB	– PLAT BOOK
PC	– POINT OF CURVATURE
PDOT	– PER DEPARTMENT OF TRANSPORTATION R/W MAP
(P)	– PLAT
PG	– PAGE
PI	– POINT OF INTERSECTION
P&M	– PLAT & MEASURED
POB	– POINT OF BEGINNING
POC	– POINT OF COMMENCEMENT
PP	– POWER POLE
PS	– PARKING SPACES
PT	– POINT OF TANGENCY
PVC	– PLASTIC PIPE
R	– CURVE RADIUS
RP	– RAMP
RCP	– REINFORCED CONCRETE PIPE
R/W	– RIGHT OF WAY
	– SANITARY MANHOLE
SAN	– SANITARY LINE
SN	– SIGN
SWF	– STOCK WIRE FENCE
00.00	– SPOT ELEVATION
–SD–	– STORM/DRAIN LINE
	– STORM MANHOLE
–T–	– UNDERGROUND TELEPHONE
	– STORM INLET
TB	– TOP OF BANK
TP	– TRAFFIC POLE
	– TRAFFIC SIGN
T	– TRANSFORMER/JUNCTION BOX
TR	– TELEPHONE RISER
TSB	– TRAFFIC SIGNAL BOX
TV	– CABLE TV RISER
TYP	– TYPICAL
UE	– UTILITY EASEMENT
UP	– UTILITY POLE
VF	– VINYL FENCE
–W–	– WATER LINE
WF	– WOOD FENCE
WLF	– WETLAND FLAG
WS	– WOOD SHED
	– WATER VALVE
	– WATER METER
#	– NUMBER
#	– EASEMENT NUMBER

ADDRESS:
S US HIGHWAY 27-441
FRUITLAND PARK, FL 34731

Job Information

JOB NO. 901692
CF NO. LC10-19-24
FIELD DATE: 02-03-2017
SCALE: VARIES
DRAWN BY: PJT

Revisions

Date:	Description	By:

Altamax Surveying
910 Belle Avenue, Suite 1140
Casselberry, FL 32708
Phone: 407-677-0200
Licensed Business No. 7833
www.altamaxsurveying.com

Digitally signed by Robert C Johnson
Date: 2017.02.16 14:15:30 -05'00'

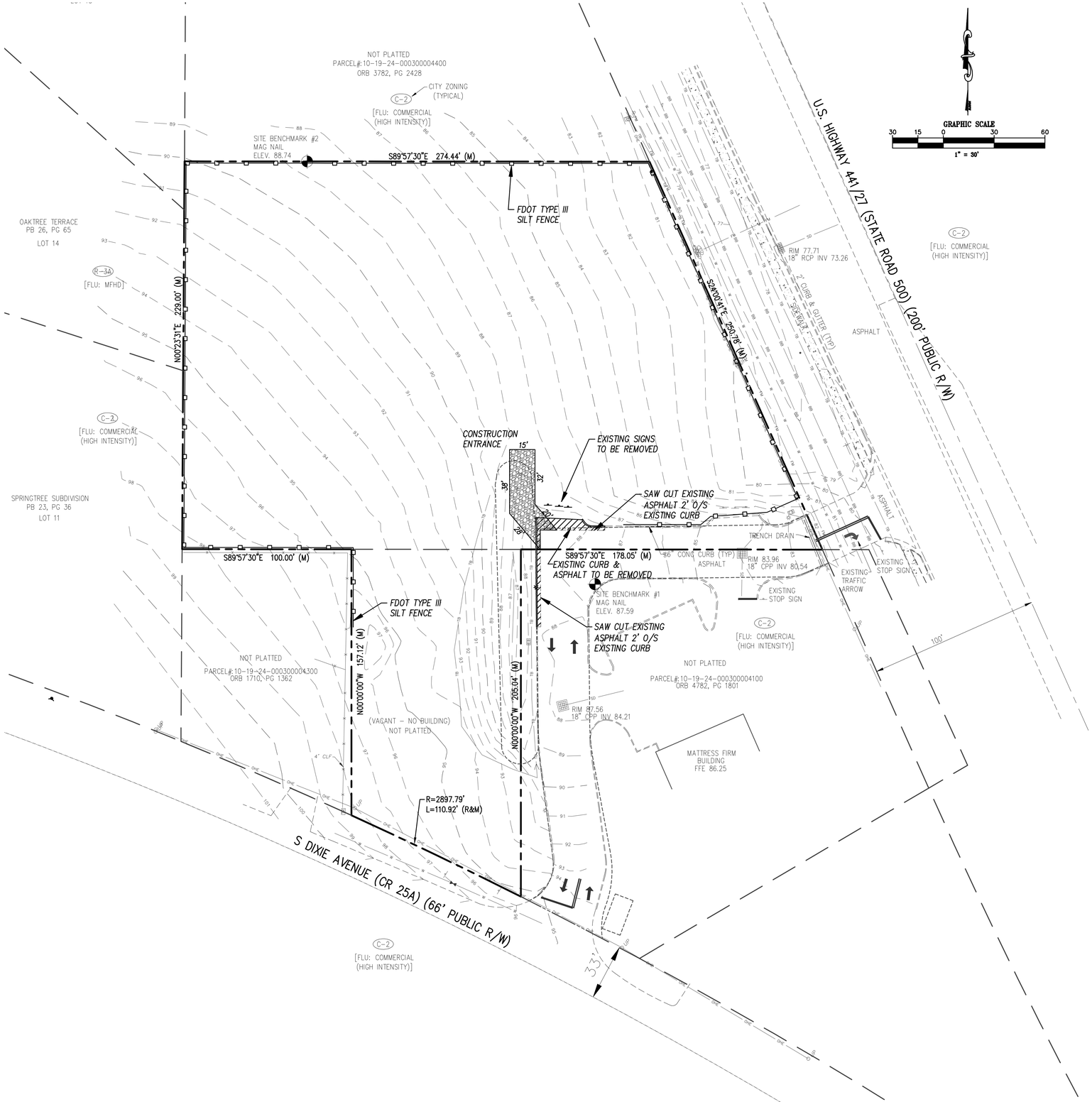
Robert C. Johnson PSM 5551

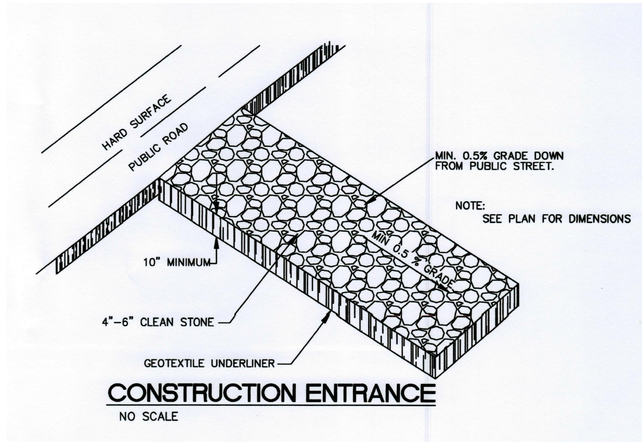
Prepared for:
JD Saran

This Survey is "Not Valid" without the signature and the original raised seal of this Florida licensed Surveyor and Mapper, unless provided with electronic signature with the ability to validate. (See: www.altamaxsurveying.com for instructions on signature validation). The seal appearing on this document was authorized by Robert C Johnson on the Date of the electronic signature.

SHEET 1 OF 1

Sheet 4 of 17





CONSTRUCTION ENTRANCE
NO SCALE

EROSION CONTROL NOTES

1. SOIL EROSION AND SEDIMENT CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE CURRENT CITY/COUNTY SEDIMENT AND EROSION CONTROL ORDINANCE.
2. SEDIMENT TRAPS, SILT FENCE, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT ON-SITE MUST BE CONSTRUCTED AND FUNCTIONAL BEFORE ANY GRADING OR LAND DISTURBANCE TAKES PLACE.
3. PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED TO DENUDED AREAS WITHIN FIFTEEN (15) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION MUST ALSO BE APPLIED WITHIN FIFTEEN (15) DAYS TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN SIXTY (60) DAYS. (INCLUDES APPLICATION OF BASE MATERIAL ON AREAS TO BE PAVED.
4. THE CITY\COUNTY & APPROPRIATE STATE AGENCIES SHALL MAKE A CONTINUING REVIEW AND EVALUATION OF THE METHOD USED AND THE OVERALL EFFECTIVENESS OF THE EROSION CONTROL PROGRAM. IF AN EROSION AND SEDIMENT ON-SITE INSPECTION INDICATES THAT THE APPROVED CONTROL MEASURES ARE NOT EFFECTIVE IN CONTROLLING EROSION AND SEDIMENTATION OR IF BECAUSE OF CHANGED CIRCUMSTANCES, THE APPROVED PLAN CAN NOT BE CARRIED OUT, ADDITIONAL MEASURES MAY BE REQUIRED TO BE INSTALLED.
5. ALL EROSION CONTROL DEVICES SHALL BE INSPECTED DAILY BY THE SITE FOREMAN. ANY STRUCTURES THAT ARE DAMAGED OR INOPERATIVE WILL BE IMMEDIATELY REPAIRED OR REPLACED.

EROSION CONTROL CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCE AT INDICATED LOCATION.
2. INSTALL SILT TRAPS, SILT FENCE, AND GRAVEL OUTLET STRUCTURE AT SITES INDICATED.
3. BEGIN GRADING OPERATIONS, BRING SITE TO SUB GRADE. SEED ALL FILL SLOPES OUTSIDE PAVED AREAS.
4. INSTALL ALL UTILITIES.
5. INSTALL ALL CONCRETE AND ASPHALT AREAS.
6. INSTALL RIP RAP AT MITERED END SECTIONS
7. RESEED ANY REMAINING BARE AREAS.
8. REMOVE ALL SILT FROM EROSION CONTROL STRUCTURES. BACKFILL SILT TRAPS WITH CLEAN RIP RAP BACK TO EXISTING GROUND.
9. REMOVE ALL REMAINING EROSION CONTROL DEVICES.

ESTIMATED STARTING DATE IS WITHIN TWO (2) WEEKS AFTER RECEIVING ALL NECESSARY PERMITS FROM LOCAL AUTHORITIES.
ESTIMATED TIME OF COMPLETION IS THREE (3) MONTHS AFTER THE START OF CONSTRUCTION.

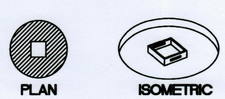
CONSTRUCTION ACTIVITIES

CONSTRUCTION ACTIVITIES WILL CONSIST OF SITE PREPARATIONS, WHICH INCLUDES CUT AND FILL AREAS FOR NEW ROADWAY, UTILITIES AND DRAINAGE FACILITIES.

GENERAL EROSION CONTROL NOTES

THE GENERAL CONTRACTOR FOR THIS PROJECT IS ADVISED TO PROVIDE A SUITABLE ON-SITE WASH DOWN AND CONCRETE DISPOSAL AREA. DISPOSAL OF CONCRETE SLURRY DIRECTLY OR INDIRECTLY INTO THE COUNTY SEPARATE STORM SEWER SYSTEM OR ONTO A COUNTY RIGHT-OF-WAY IS A VIOLATION.

CONSTRUCTION EQUIPMENT IS NOT ALLOWED ON SITE UNTIL THE HABITAT MANAGEMENT AND LANDSCAPE PERMIT IS IN HAND.



STRUCTURE
(SD1) SEDIMENT CONTROL
NO SCALE

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

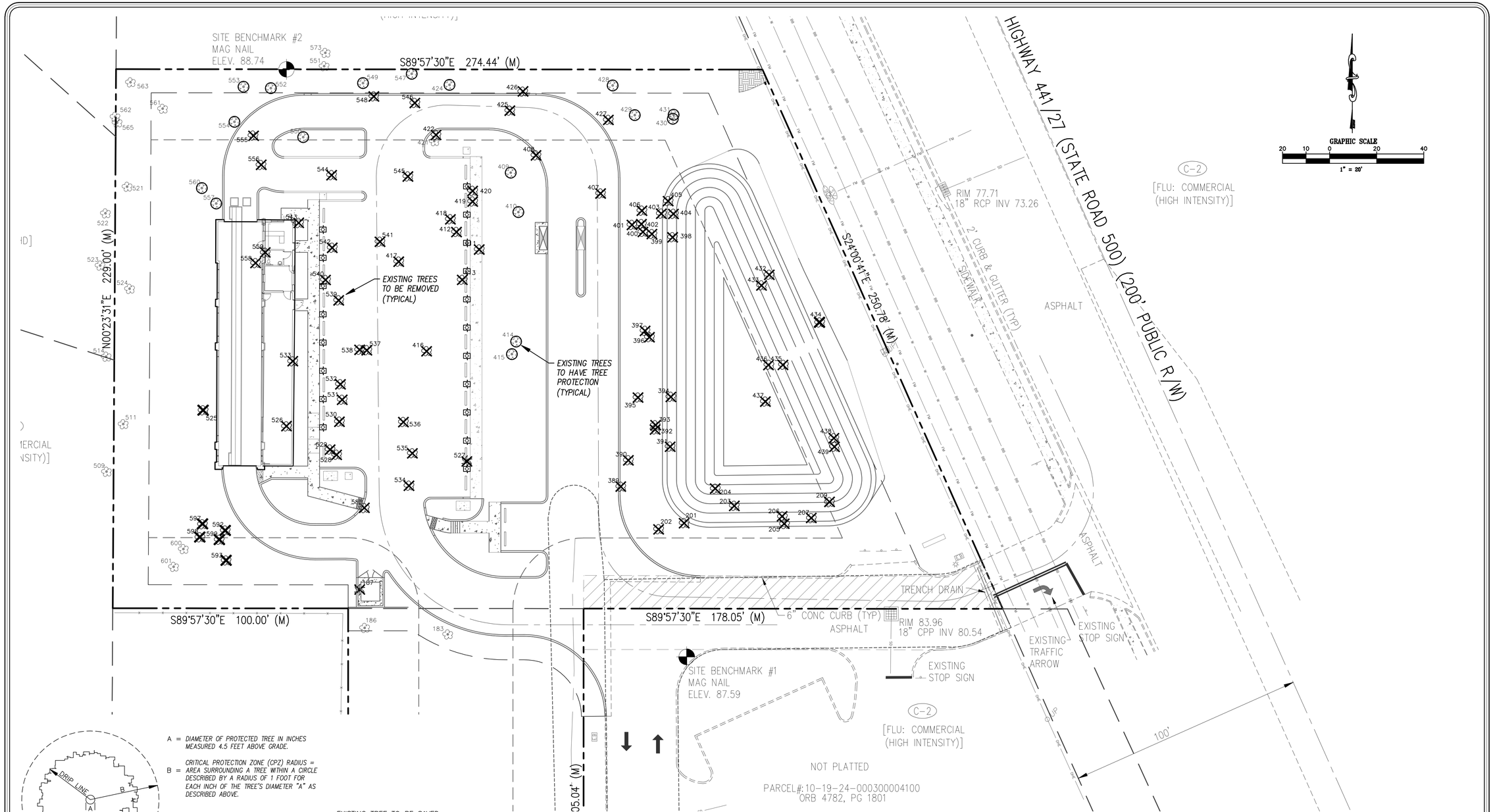
FRUITLAND PARK HOLDINGS, LLC
TEJINDER S. GREENWALL
1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

IC INTERNATIONAL CARWASH
DEMOLITION & EROSION CONTROL PLAN
US HWY 27/441 FRUITLAND PARK FL. 34731

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

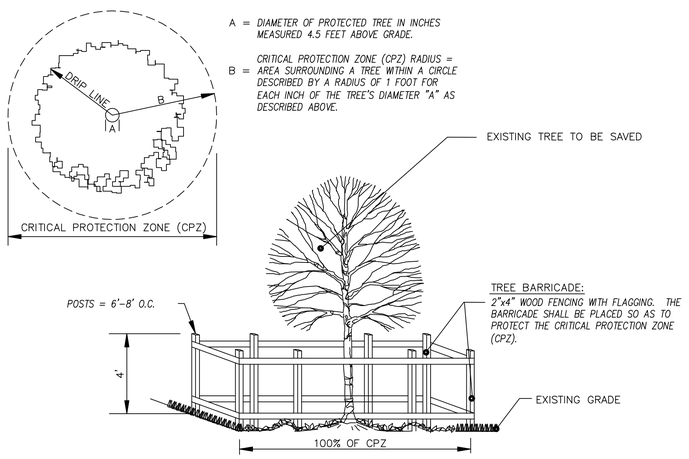
Drawn: WSR	REVISION:
Checked: KRW	
Date: 05-06-19	
Scale: AS SHOWN	
File No.: 19119	DATE:

Sheet: 5 of 17



A = DIAMETER OF PROTECTED TREE IN INCHES MEASURED 4.5 FEET ABOVE GRADE.

B = CRITICAL PROTECTION ZONE (CPZ) RADIUS = AREA SURROUNDING A TREE WITHIN A CIRCLE DESCRIBED BY A RADIUS OF 1 FOOT FOR EACH INCH OF THE TREE'S DIAMETER "A" AS DESCRIBED ABOVE.



TYPICAL SECTION
TREE PROTECTION DETAIL
N.T.S.

141 – 6" CYPRESS	393 – 6" OAK	416 – 8" OAK	509 – 8" OAK	541 – 6" OAK	565 – 6" OAK
142 – 6" CYPRESS	394 – 12" OAK	417 – 3–12" OAK	511 – 8" OAK	542 – 10" OAK	573 – 18" OAK
143 – 6" CYPRESS	395 – 12" OAK	418 – 2–8" OAK	514 – 36" OAK	543 – 15" OAK	588 – 12" OAK
144 – 28" OAK	396 – 10" OAK	419 – 15" OAK	521 – 15" OAK	544 – 20" OAK	592 – 12" OAK
145 – 32" OAK	397 – 10" OAK	420 – 12" OAK	522 – 6" OAK	545 – 10" OAK	593 – 12" OAK
154 – 18" OAK	398 – 10" OAK	421 – 6" OAK	523 – 24" OAK	546 – 6" OAK	597 – 10" OAK
162 – 6" OAK	399 – 6" OAK	422 – 6" OAK	524 – 18" OAK	547 – 3–10" OAK	598 – 6" OAK
163 – 30" OAK	400 – 12" OAK	424 – 15" OAK	525 – 2–10" OAK	548 – 8" OAK	599 – 6" OAK
183 – 70" OAK	401 – 6" OAK	425 – 8" OAK	526 – 12" OAK	549 – 12" OAK	600 – 24" OAK
186 – 20" OAK	402 – 10" OAK	426 – 15" OAK	527 – 12" PALM	550 – 12" OAK	601 – 15" OAK
187 – 10" PALM	403 – 12" OAK	427 – 10" OAK	528 – 12" OAK	551 – 7" OAK	
201 – 12" OAK	404 – 10" OAK	428 – 14" OAK	529 – 12" OAK	552 – 20" OAK	
202 – 10" OAK	405 – 10" OAK	429 – 14" OAK	530 – 12" OAK	553 – 24" OAK	
203 – 7" OAK	406 – 10" OAK	430 – 8" OAK	531 – 14" OAK	554 – 15" OAK	
204 – 10" OAK	407 – 2–10" OAK	431 – 8" OAK	532 – 6" OAK	555 – 10" OAK	
205 – 10" OAK	408 – 2–10" OAK	432 – 10" OAK	533 – 10" OAK	556 – 10" OAK	
206 – 10" OAK	409 – 2–8" OAK	433 – 8" OAK	534 – 10" OAK	557 – 8" OAK	
207 – 12" OAK	410 – 8" OAK	434 – 2–6" OAK	535 – 14" OAK	558 – 6" OAK	
209 – 8" OAK	411 – 6" OAK	435 – 8" OAK	536 – 13" OAK	559 – 6" OAK	
389 – 8" OAK	412 – 6" OAK	436 – 6" OAK	537 – 8" OAK	560 – 18" OAK	
390 – 8" OAK	413 – 12" OAK	437 – 12" OAK	538 – 8" OAK	561 – 15" OAK	
391 – 10" OAK	414 – 10" OAK	438 – 6" OAK	539 – 8" OAK	562 – 8" OAK	
392 – 8" OAK	415 – 18" OAK	439 – 6" OAK	540 – 6" OAK	563 – 12" OAK	

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C.A. #30062

FRUITLAND PARK HOLDINGS, LLC
TEJINDER S. GREENWALL
1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

IC INTERNATIONAL CARWASH
TREE SAVE & REMOVAL PLAN
US HWY 27/441 FRUITLAND PARK FL. 34731

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

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File No.: 19119

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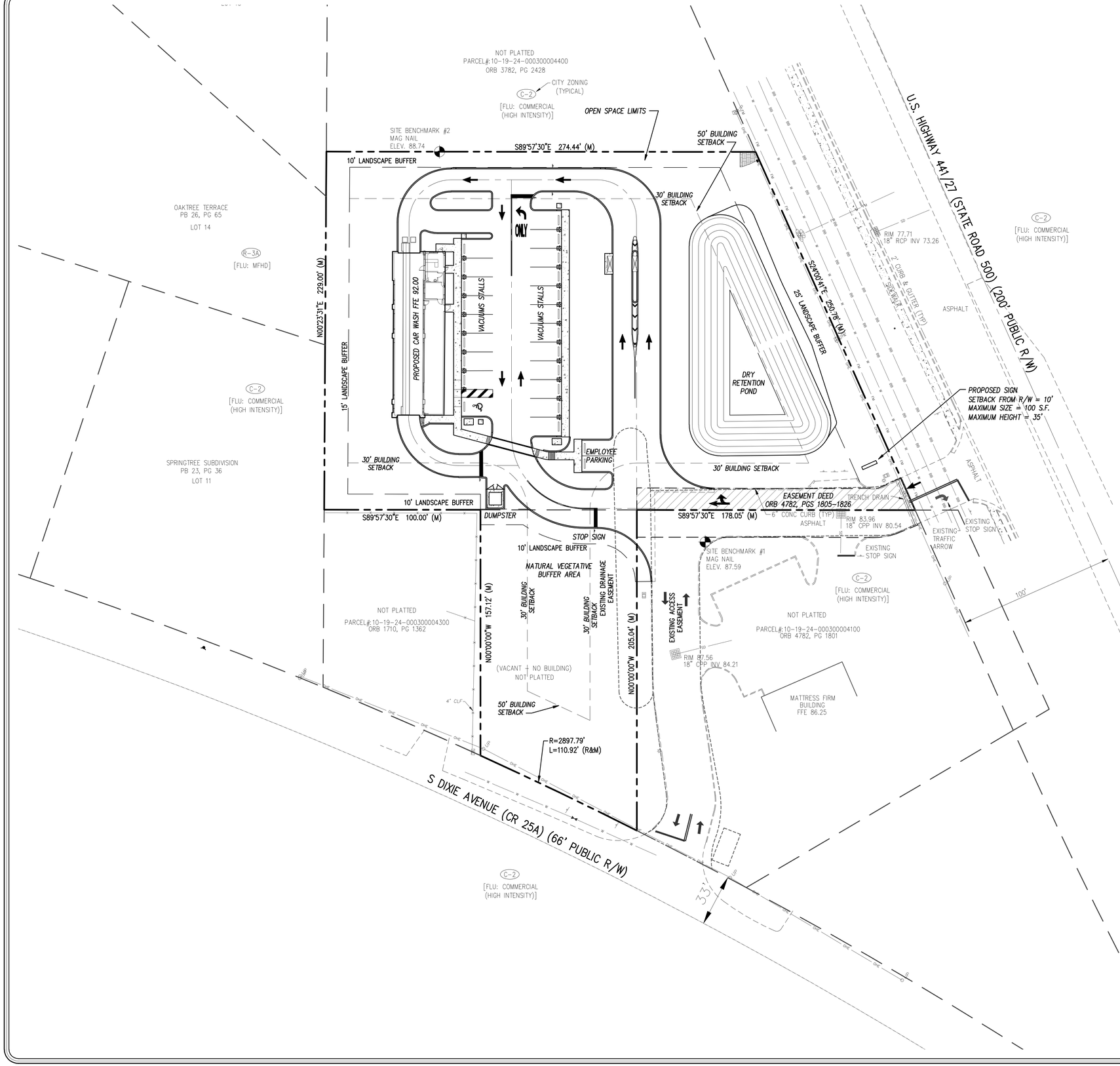
Sheet: 6 of 17



LEGAL DESCRIPTION

A part of Southeast 1/4 of Southwest 1/4 of Section 10, Township 19 South, Range 24 East, in Lake County, Florida, bounded and described as follows:

Beginning at a point 566.5 feet South and 100 feet East of the Northwest corner of the Southeast 1/4 of Southwest 1/4 of said Section; run thence East 100 feet; thence South 200 feet to the North line of the Highway; thence Northwesterly along the North line of the Highway, a distance of 110.5 feet to a point South of the Point of Beginning; thence North 153.1 feet to the Point of Beginning.

AND:

That part of the North 229 feet of the South 991 feet of the Southeast 1/4 of the Southwest 1/4 of Section 10, Township 19 South, Range 24 East, in Lake County, Florida, lying West of the Westerly line of the right of way of U.S. Highway No. 27.

SITE DATA

TOTAL AREA:	3.67 ACRES (159,750 SF)
TOTAL PROJECT AREA:	1.7± ACRES (76,041 SF)
LAND USE:	
EXISTING USE:	VACANT
PROPOSED USE:	CARWASH FACILITY
ZONING:	GENERAL COMMERCIAL (C-2)
FUTURE LAND USE:	COMMERCIAL (HIGH INTENSITY)
OPEN SPACE:	
REQUIRED:	30% (0.52 ACRES 22,812 SF)
PROVIDED:	59% (1.02 ACRES 44,477 SF)
MAXIMUM BUILDING HEIGHT:	35 FEET
BUILDING:	3,200 SF
ISR (MAXIMUM):	70% (53,229 SF)
(PROVIDED):	41% (31,564 SF)
PARKING:	
REQUIRED:	1 SPACE PER WASH LANE
PROVIDED:	(1) 12'x20' HC SPACE (20) 12'x20' VACUUM SPACES (2) 10'x20' EMPLOYEE PARKING SPACES
BUILDING SETBACKS:	
FRONT:	50' FROM RIGHT OF WAY
SIDE:	30' FROM PROPERTY LINE
REAR:	15' FROM PROPERTY LINE
LANDSCAPE BUFFERS:	
HIGHWAY 27 FRONTAGE:	25' LANDSCAPE BUFFER 4 CANOPY TREES, 2 UNDERSTORY TREES & 15 SHRUBS PER 100' OF PROPERTY
SIDES:	10' LANDSCAPE BUFFER 4 CANOPY TREES, 2 UNDERSTORY TREES & 15 SHRUBS PER 100' OF PROPERTY
REAR:	15' LANDSCAPE BUFFER 4 CANOPY TREES, 2 UNDERSTORY TREES & 15 SHRUBS PER 100' OF PROPERTY

NOTES:

1. LIFT STATION (SHEET 13 of 15) IS PRIVATELY OWNED AND WILL BE MAINTAINED BY THE PROPERTY OWNER.
2. FIRE HYDRANT IS PRIVATE AND THE CITY OF FRUITLAND PARK OWNERSHIP STOPS AT THE GATE OR PROPERTY LINE.

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FRUITLAND PARK HOLDINGS, LLC
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1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

IC INTERNATIONAL CARWASH
SITE PLAN
US HWY 27/441 FRUITLAND PARK FL. 34731

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
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Sheet: 7 of 17

NOT PLATTED
PARCEL#:10-19-24-000300004400
ORB 3782, PG 2428

CITY ZONING (TYPICAL)
C-2
[FLU: COMMERCIAL (HIGH INTENSITY)]

SITE BENCHMARK #2
MAG NAIL
ELEV. 88.74

TRAFFIC DIRECTIONAL THERMOPLASTIC ARROW (TYP)

24" WHITE THERMOPLASTIC STOP BAR, R1-1 STOP SIGN & 50'-4" WHITE THERMOPLASTIC DOUBLE STRIPE

S89°57'30"E 274.44' (M)

10' LANDSCAPE BUFFER

R5-1

93.50'
N 89°59'29" E

3'x3' MAT CLEANER PAD

SEE ARCHITECTURAL PLANS FOR PAY STATIONS

OAKTREE TERRACE
PB 26, PG 65
LOT 14

R-3A
[FLU: MFHD]

R=27.00'
L=42.41'

ESCAPE AISLE

2.17'R

FDOT TYPE "D" CURB (TYP)

42.72'

N 00°03'31" W 229.00' (M)

R=25.00'
L=39.27'

R=25.00'
L=39.27'

R=35.00'
L=54.98'

ONLY

TRAFFIC MESSAGE THERMOPLASTIC

20'R
L=54.45'

PROPOSED CAR WASH
33.05'x104.56'
SEE ARCHITECTURAL PLANS FOR DETAILS

8 VACUUM STALLS

12 VACUUM STALLS

5' CONCRETE SIDEWALK

RAMP

12'x20' HC STALL

163.18'
S 00°00'31" E

DOUBLE 4" WHITE STRIPES WITH 6" WHITE 45° STRIPES ON 6" CTRS.

114.40'
S 00°00'31" E

185.11'
N 00°00'31" W

26.34'

DRY RETENTION POND
TOP 84.5
BOTTOM 78.0

124.58'
N 24°00'41" W

25' LANDSCAPE BUFFER

S24°00'41"E 250.78' (M)

U.S. HIGHWAY 441/27 (STATE ROAD 500) (200' PUBLIC R/W)

RIM 77.71
18" RCP INV 73.26

2' CURB & GUTTER (TYP)

SIDEWALK

ASPHALT

C-2
[FLU: COMMERCIAL (HIGH INTENSITY)]

GRAPHIC SCALE
20 10 0 20 40
1" = 20'

STOP
R1-1

ONLY
R3-5R

DO NOT ENTER
R5-1

FRUITLAND PARK HOLDINGS, LLC
TEJINDER S. GREENWALL
1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

SPRINGTREE SUBDIVISION
PB 23, PG 36
LOT 11

C-2
[FLU: COMMERCIAL (HIGH INTENSITY)]

3'R

5'R

15'R

43.01'

DETECTABLE WARNING SURFACE (TYPICAL)

R=32.00'
L=50.33'

4'x6' VAC TURBINE PAD

3'x3' MAT CLEANER PAD

4'x6' VAC TURBINE PAD

STACK BLOCK WALL

10'x20' EMPLOYEE PARKING

30'

38.02'
S 89°52'02" W

R=47.00'
L=73.93'

R=35.00'
L=54.73'

50.68'
N 89°19'19" E

20'R
L=31.85'

20'R
L=39.56'

29.10'

39.38'

PROPOSED SIGN
SETBACK FROM R/W = 10'
MAXIMUM SIZE = 100 S.F.
MAXIMUM HEIGHT = 35'

ASPHALT

TRENCH DRAIN

MATCH EXISTING CURB

10' LANDSCAPE BUFFER

S89°57'30"E 100.00' (M)

24" WHITE THERMOPLASTIC STOP BAR & R1-1 STOP SIGN

12'x12' DUMPSTER ENCLOSURE

10' LANDSCAPE BUFFER

33.89'
N 89°52'02" E

10.62'

S89°57'30"E 178.05' (M)

6" CONC CURB (TYP)

ASPHALT

RIM 83.96
18" CPP INV 80.54

SAW CUT & MATCH EXISTING PAVEMENT

EXISTING STOP SIGN

EXISTING TRAFFIC ARROW

EXISTING STOP SIGN

SITE BENCHMARK #1
MAG NAIL
ELEV. 87.59

C-2
[FLU: COMMERCIAL (HIGH INTENSITY)]

10'x15.67'
CONCRETE PAD
FOR TURBINES

10'x15.67'
CONCRETE PAD
FOR TURBINES

NOT PLATTED
PARCEL#:10-19-24-000300004300
ORB 1710, PG 1362

N00°00'00"W 157.12' (M)

24" WHITE THERMOPLASTIC STOP BAR, R1-1 STOP SIGN & 50'-4" WHITE THERMOPLASTIC DOUBLE STRIPE

R=35.00'
L=54.70'

MATCH EXISTING CURB

N00°00'00"W 205.04' (M)

(VACANT - NO BUILDING)
NOT PLATTED

NOT PLATTED
PARCEL#:10-19-24-000300004100
ORB 4782, PG 1801

RIM 87.56
18" CPP INV 84.21

MATTRESS FIRM BUILDING

4" CLF

STACK BLOCK WALL
WITH DECORITIVE RAILING
TOP WALL 93.00
BASE ELEV. 90.0

6.82'

8"

STACK BLOCK WALL
SEE DETAIL SHEET 9

SCALE: 1"=10'

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
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C.A. #30062

IC INTERNATIONAL CARWASH
GEOMETRY PLAN
US HWY 27/441 FRUITLAND PARK FL. 34731

KENNETH R. WICKS, P.E. FL. REG. NO.
DATE: 33274

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NOT PLATTED
PARCEL#:10-19-24-000300004400
ORB 3782, PG 2428

CITY ZONING (TYPICAL)
C-2
[FLU: COMMERCIAL (HIGH INTENSITY)]

SITE BENCHMARK #2
MAG NAIL
ELEV. 88.74

℄ 1' DEEP DIVERSION SWALE

10' LANDSCAPE BUFFER

10'x8' ENKAMAT EROSION CONTROL FABRIC

82 LF-18" RCP @ 3.94%

PROPOSED CAR WASH
F.F.E. 92.00
SEE ARCHITECTURAL PLANS FOR DETAILS

STACK BLOCK WALL WITH DECORITIVE RAILING
TOP WALL 93.00.
BASE ELEV. 90.0
SEE SECTION B-B THIS SHEET

4 STEPS WITH HANDRAIL
RISE = 7"
RUN = 11"

RAMP

DRY RETENTION POND
TOP 84.5
BOTTOM 78.0

TOP OF BERM 84.5

25' LANDSCAPE BUFFER

84 LF-18" RCP @ 6.37%

153 LF-18" RCP @ 2.25%

10' LANDSCAPE BUFFER

U.S. HIGHWAY 441/27 (STATE ROAD 500) (200' PUBLIC R/W)

2' CURB & GUTTER (TYP)

SIDEWALK

ASPHALT

RIM 77.71
18" RCP INV 73.26

C-2
[FLU: COMMERCIAL (HIGH INTENSITY)]

ASPHALT

TRENCH DRAIN

96" CONC CURB (TYP)

ASPHALT

RIM 83.96
18" CPP INV 80.54

EXISTING STOP SIGN

EXISTING TRAFFIC ARROW

EXISTING STOP SIGN

EXISTING CROSS ACCESS & DRAINAGE EASEMENT

MATCH EXISTING EP & CURB GRADE

SITE BENCHMARK #1
MAG NAIL
ELEV. 87.59

C-2
[FLU: COMMERCIAL (HIGH INTENSITY)]

EXISTING DIVERSION SWALE PERMITTED BY MATTRESS FIRM

NOT PLATTED
PARCEL#:10-19-24-000300004100
ORB 4782, PG 1801

NOT PLATTED
PARCEL#:10-19-24-000300004300
ORB 1710, PG 1362

(VACANT - NO BUILDING)
NOT PLATTED

MATTRESS FIRM BUILDING

RIM 87.56
18" CPP INV 84.21

100'

GRAPHIC SCALE
20 10 0 20 40
1" = 20'

(A) TYPE C INLET
TOP 86.19
INV. 81.19

(B) 18" MITERED END SECTION
INV. 78.00

(C) TYPE C INLET
TOP 91.89
INV. 86.89

(E) 18" MITERED END SECTION
INV. 78.00

(D) TYPE C INLET
TOP 88.35
NW INV. 83.45
NE INV. 83.35

SECTION A-A
N.T.S.
SOD ALL DISTURBED AREAS

SCALE: 1"=40' HORZ.
1"= 8' VERT.

SECTION B-B
TOP WALL 93.00
BASE ELEV. 90.0

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FRUITLAND PARK HOLDINGS, LLC
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1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

IC INTERNATIONAL CARWASH
GRADING & DRAINAGE PLAN
US HWY 27/441 FRUITLAND PARK FL. 34731

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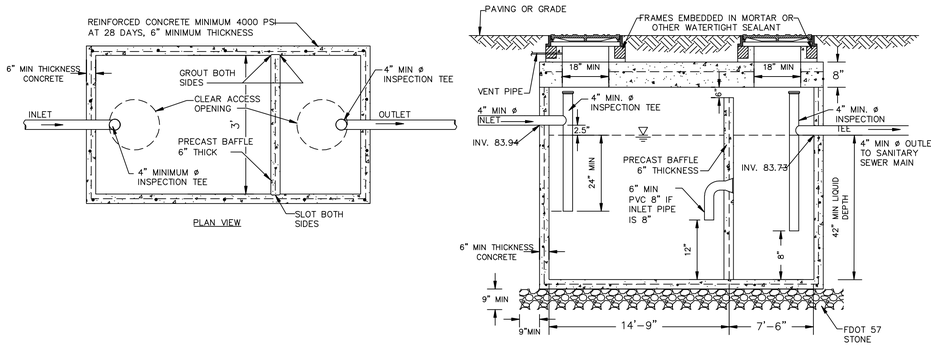
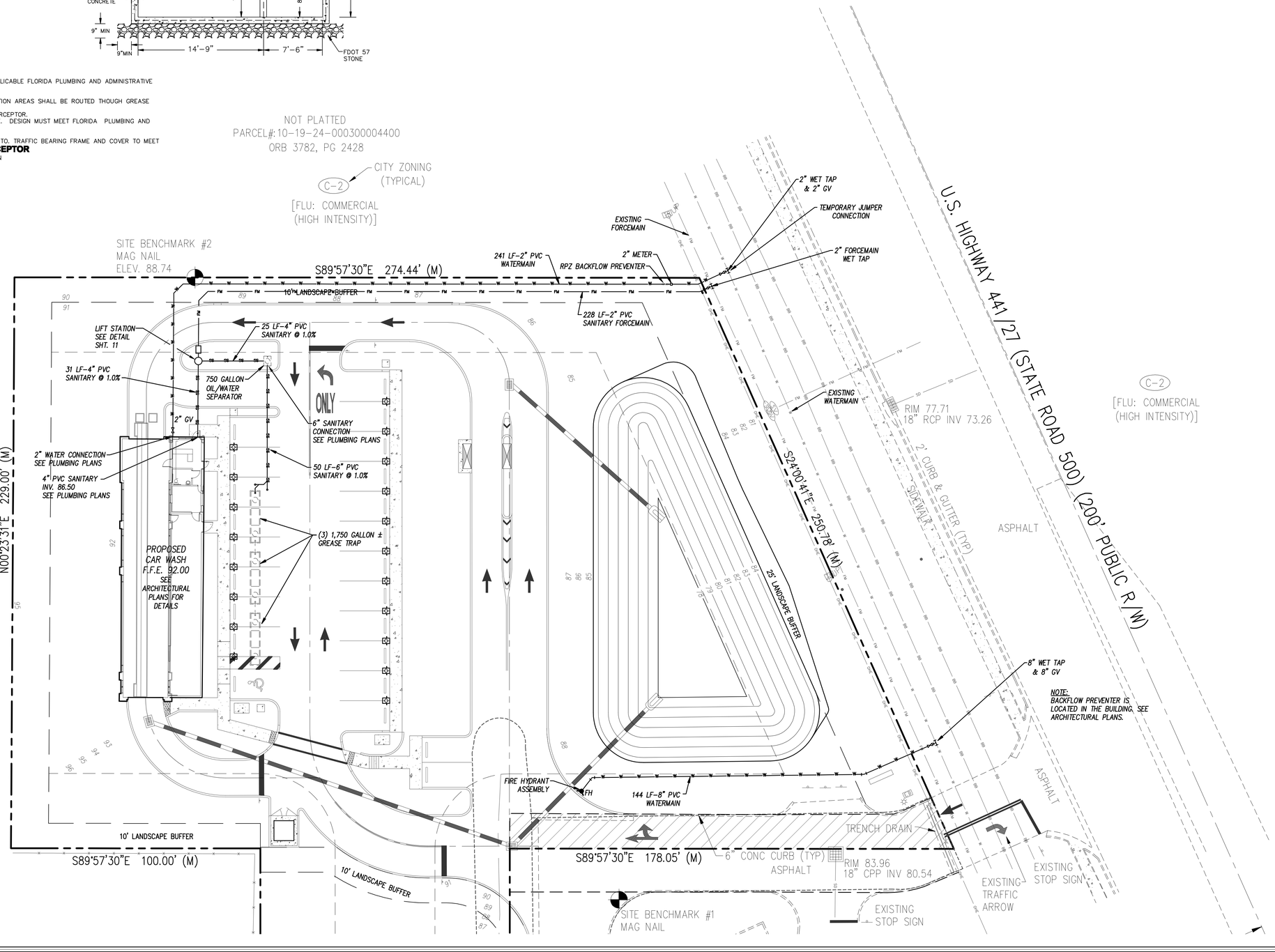


NOTES:
1. SPECIFIC DESIGN DETAILS MUST IN ALL ASPECTS MEET APPLICABLE FLORIDA PLUMBING AND ADMINISTRATIVE CODE.
2. INTERCEPTORS SHALL BE WATER AND GAS TIGHT.
3. ALL FIXTURES LOCATED IN FOOD AND BEVERAGE PREPARATION AREAS SHALL BE ROUTED THOUGH GREASE INTERCEPTOR.
   RESTROOM WASTE SHALL NOT BE ROUTED THROUGH INTERCEPTOR.
4. BAFFLE REQUIRED; ALTERNATIVE DESIGNS ARE ACCEPTABLE. DESIGN MUST MEET FLORIDA PLUMBING AND ADMINISTRATIVE CODE.
5. LOADS: H-20 TRUCK WHEELS WITH 30% IMPACT PER AASHTO. TRAFFIC BEARING FRAME AND COVER TO MEET FDOT STANDARDS IF APPLICABLE.

GREASE INTERCEPTOR
1,750 GALLON

GRAPHIC SCALE
20 10 0 20 40
1" = 20'



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1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

IC INTERNATIONAL CARWASH
UTILITY PLAN
US HWY 27/441 FRUITLAND PARK FL. 34731

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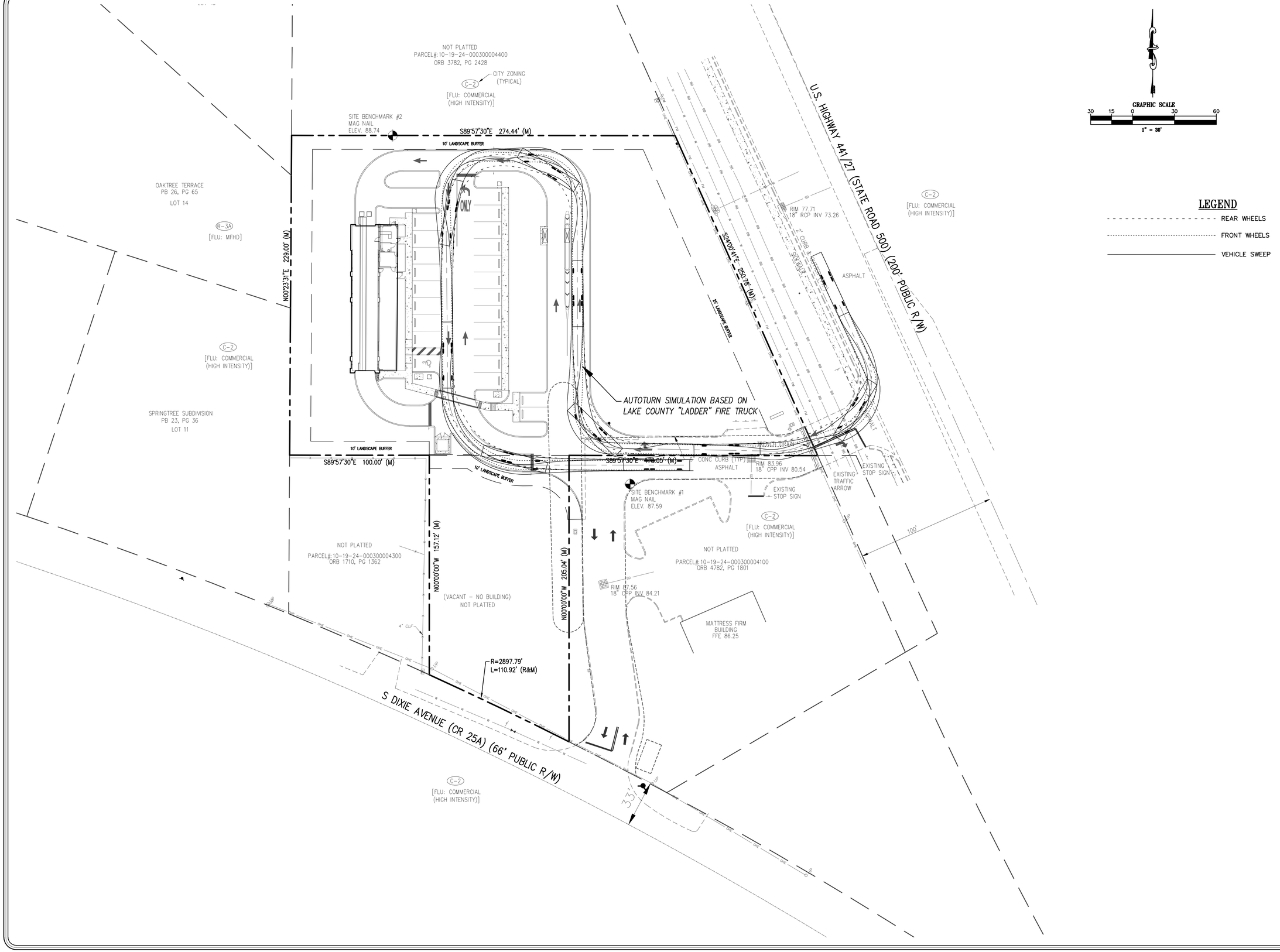

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FRUITLAND PARK HOLDINGS, LLC
TEJINDER S. GREENWALL
1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

IC INTERNATIONAL CARWASH
AUTOTURN SIMULATION (FIRE TRUCK)
US HWY 27/441 FRUITLAND PARK FL. 34731

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Sheet: 11 of 17

MESSINA & ASSOCIATES

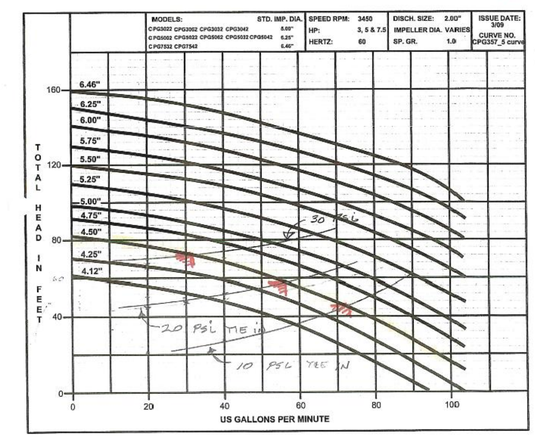
VICTORIA@MESSINAASSOCIATES.COM
PHONE
(352)-800-9758

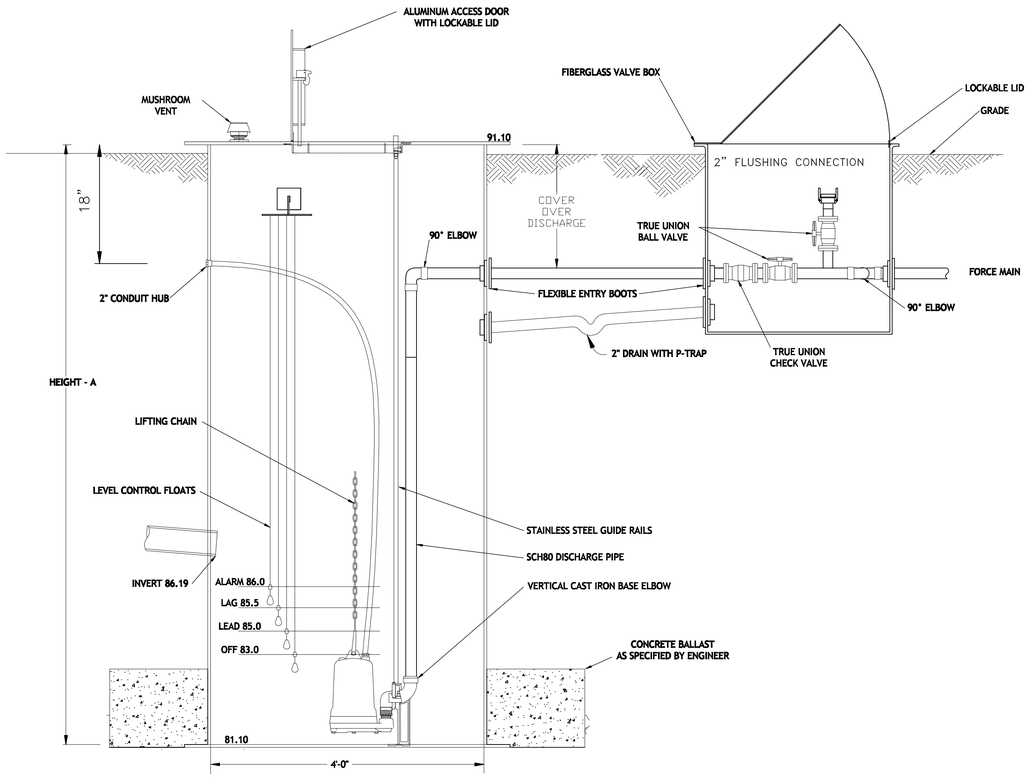
PUMP INFORMATION	
MANUFACTURER	CHAMPION PUMP
MODEL	CPG
HORSEPOWER	3
VOLTAGE / PHASE	230V/1PH
DESIGN FLOW (GPM)	67 GPM
DESIGN HEAD (FEET)	55 FEET

BASIN DIMENSIONS	
DIAMETER - B	HEIGHT - A
☐ 24"	☒ 84"
☐ 36"	☐ 96"
☒ 48"	☒ 120"
☐ 60"	☐ 144"
☐ OTHER	☐ 138"
VALVE BOX DIMENSIONS	
☒ 32" X 30" 25"	☐ 36" X 40" 36"

Champion Pump **CPG** 3, 5, 7.5HP Submersible Grinder

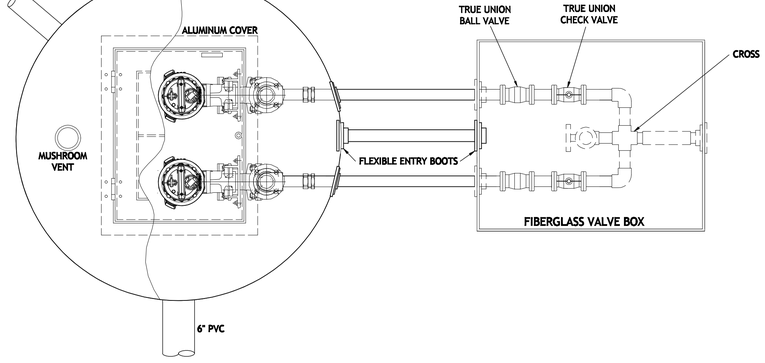
4/9





LIFT STATION SECTION VIEW

LIFT STATION SCHEDULE		
1	TOP OF BASIN	91.10 FEET
1	INLET INVERT	86.19 FEET
1	HIGH WATER LEVEL ALARM	86.0 FEET
1	LAG PUMP ON	85.5 FEET
1	LEAD PUMP ON	85.0 FEET
1	PUMPS OFF	83.0 FEET
1	BOTTOM OF BASIN	81.1 FEET
1	COVER OVER DISCHARGE	18 INCHES MIN.
1	INLET SIZE AND TYPE	4 INCH SCH 40



LIFT STATION PLAN VIEW

EXAGGERATED FOR DETAIL - N.T.S.

DUPLEX CONTROL PANEL:
CONTROL PANEL SHALL BE ASSEMBLED AND BUILT BY A UL508A CERTIFIED MANUFACTURE FACILITY.

THE ENCLOSURE SHALL BE NEMA 4X FIBERGLASS WITH PADLOCKABLE DRAW LATCHES.

THE ENCLOSURE SHALL BE ABLE TO BE WALL MOUNTED.

THE FOLLOWING COMPONENTS SHALL BE MOUNTED THROUGH THE ENCLOSURE:
- RED ALARM BEACON (LIGHT)
- ALARM HORN
- GENERATOR RECEPTACLE WITH WEATHERPROOF COVER
- ALARM SILENCE PUSHBUTTON

THE FOLLOWING COMPONENTS SHALL BE MOUNTED THROUGH THE INNERDOOR:
- MAIN CIRCUIT BREAKER
- EMERGENCY CIRCUIT BREAKER
- MECHANICAL INTERLOCK FOR EMERGENCY AND MAIN BREAKERS
- SHORT CIRCUIT PROTECTORS
- CONTROL CIRCUIT BREAKER
- SEAL FAILURE INDICATOR LIGHTS
- HAND-OFF-AUTO SELECTOR SWITCHES
- PUMP RUN PILOT LIGHTS
- POWER ON PILOT LIGHT
- ELAPSE TIME METERS (NON-RESETABLE)
- GFI DUPLEX CONVENIENCE OUTLET

MISCELLANEOUS: ALL WIRING ON THE BACKPANEL SHALL BE CONTAINED WITHIN THE WIRING DUCT. ALL WIRING BETWEEN THE INNERDOOR AND THE BACKPANEL SHALL BE CONTAINED WITH A PLASTIC SPIRAL WRAP.

EACH WIRE SHALL HAVE A WIRE NUMBER AT EACH END TO CORRESPOND TO THE AS BUILD DRAWING FOR FIELD TROUBLESHOOTING.

THE CONTROL PANEL SHALL BE ASSEMBLED BY A UL508A CERTIFIED MANUFACTURING FACILITY.

FASTENERS AND APPURTENANCES: ALL FASTENERS, LIFTING CABLES, FLOAT CABLE BRACKET, HINGES, AND APPURTENANCES SHALL BE MADE OF 304SS MINIMUM.

- A 304SS SLIDE/LATCH ASSEMBLY SHALL BE PROVIDED FOR HOLDING THE DOORS OPEN ON THE WET WELL AND VALVE BOX.
- SLIDE RAILS SHALL BE MADE OF SCH 40 304SS PIPE.
- PUMP LIFTING CABLES/CHAINS SHALL BE 304SS.
- PUMP LIFTING BALES SHALL BE MADE OF 304SS.

EXECUTION:
INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS IN THE THE LOCATIONS SHOWN ON THE DRAWINGS.

CERTIFIED ELECTRICIAN SHALL MOUNT CONTROL PANEL AND CONNECT POWER SERVICE TO PANEL PRIOR TO STARTUP AND FACTORY REP SITE VISIT.

THE PUMP CONTROLS AND PUMPS SHALL BE CHECKED FOR PROPER OPERATION AND ENSURE THAT ALL LEVEL CONTROLS ARE IN ACCORDANCE WITH THE DRAWINGS AND ARE FULLY FUNCTIONING.

PUMP STATION SHALL BE VENTED PER MANUFACTURER'S RECOMMENDATIONS.

BASIN INSTALLATION INSTRUCTIONS:
1. INSPECT ALL MATERIALS SUPPLIED TO ENSURE THERE ARE NO DAMAGES DUE TO SHIPPING PRIOR TO INSTALLATION.
2. EXCAVATE HOLE LARGE ENOUGH TO ACCOMMODATE BASIN, UNDERGROUND PIPING, BACKFILL MATERIAL, AND ADEQUATE WORKING SPACE.
3. PREPARE THE BOTTOM OF THE EXCAVATED HOLE WITH 6" OF BACKFILL MATERIAL OR CONCRETE PAD. CHECK BASE TO INSURE IT IS LEVEL AND SMOOTH.
4. INSTALL BASIN ON GRAVEL BASE OR CONCRETE PAD, ANCHOR IF NECESSARY.
5. CONCRETE MAY BE PORED AROUND BASIN BOTTOM IF BALLAST IS REQUIRED FOR BUOYANCY.
6. BACKFILL WITH PEA GRAVEL 4" TO 6" AROUND THE ENTIRE PERIPHERY OF THE BASIN/COMPACTED BACKFILL MATERIAL IN 12" LIFTS. STOP AND CONNECT PIPING AS REQUIRED.

RECOMMENDED BACKFILL MATERIAL:
GRAVEL OR STONE TO BE FREE FLOWNG, NATURALLY ROUNDED AGGREGATE WITH A PARTICLE SIZE OF NOT LESS THAN 3/8" OR LARGER THAN 3/4" IN DIAMETER.

ELECTRICAL NOTES:

1. DISCONNECT IS REQUIRED WITHIN SIGHT OR 50' MAX FROM PANEL LOCATION.
2. COORDINATE ALL ELECTRICAL WORK PRIOR TO CONSTRUCTION.
3. PANEL SHALL BE MANUFACTURED TO UNDERWRITER'S LABORATORIES STANDARDS AND LABELED ACCORDINGLY.
4. EACH FLEXIBLE CABLE SHALL BE PROVIDED WITH A WATERTIGHT SEAL AND SEPARATE STRAIN RELIEF.
5. ELECTRICAL EQUIPMENT EXPOSED TO WEATHER SHALL MEET THE REQUIREMENTS OF WEATHERPROOF EQUIPMENT NEMA 4X.
6. A 110VOLT POWER RECEPTACLE WITH GROUND FAULT INTERRUPTION (GFI) PROTECTION SHALL BE AVAILABLE TO FACILITATE MAINTENANCE EITHER INSIDE THE CONTROL PANEL OR WITHIN 25 FEET OF CONTROL PANEL.
7. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES.
8. ELECTRICIAN SHALL SEAL OFF CONDUIT RUNS WITH APPROPRIATE MATERIAL
9. CONTRACTOR SHALL VERIFY POWER SOURCE PRIOR TO ORDERING EQUIPMENT.
10. NEUTRAL TO BE SUPPLIED FOR SINGLE PHASE AND THREE PHASE POWER.
11. ELECTRICAL EQUIPMENT SHALL BE INSTALLED ABOVE THE 100-YEAR FLOOD ELEVATION (WHERE APPLICABLE).

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1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

IC INTERNATIONAL CARWASH
PUMP STATION DETAILS & NOTES
US HWY 27/441 FRUITLAND PARK FL. 34731

KENNETH R. WICKS, P.E. FL. REG. NO. 53274
DATE:

Drawn: WSR
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Date: 05-06-19
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File No.: 19119
Sheet: 12 of 17

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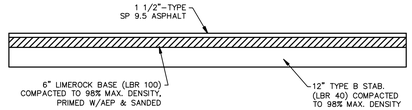
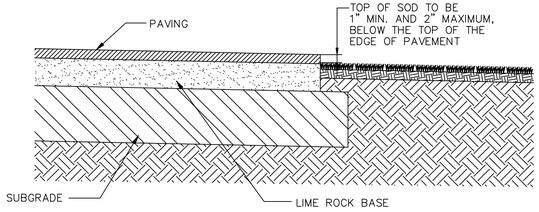
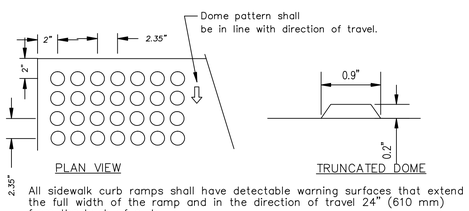


TYPICAL PAVEMENT SECTION
N.T.S.

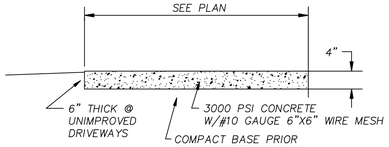


SOD PLANTING
N.T.S.



All sidewalk curb ramps shall have detectable warning surfaces that extend the full width of the ramp and in the direction of travel 24" (610 mm) from the back of curb.

CURB RAMP DETECTABLE WARNING
N.T.S.



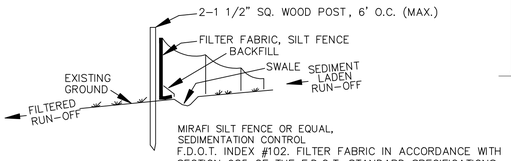
SIDEWALKS

SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREAS AS SHOWN ON THE CONSTRUCTION PLANS. THE SIDEWALK SHALL BE CONSTRUCTED OF 4" OF CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 3000 PSI. JOINTS SHALL BE EITHER TOOLED OR SAW CUT AT A DISTANCE OF 5' LENGTHS, HANDICAPPED RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS AND BE IN ACCORDANCE WITH STATE REGULATIONS FOR HANDICAP ACCESSIBILITY.

TYPICAL SIDEWALK SECTION
N.T.S.

THE FOLLOWING LIST REPRESENTS A BASIC EROSION AND SEDIMENT CONTROL PROGRAM WHICH IS TO BE IMPLEMENTED TO HELP PREVENT OFF-SITE SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROJECT.

1. PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AT THE EARLIEST PRACTICAL TIME CONSISTENT WITH GOOD CONSTRUCTION PRACTICES. ONE OF THE FIRST CONSTRUCTION ACTIVITIES SHOULD BE THE PLACEMENT OF PERMANENT AND TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AROUND THE PERIMETER OF THE PROJECT OR THE INITIAL WORK AREA TO PROTECT THE PROJECT, ADJACENT PROPERTIES AND WATER RESOURCES.
2. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL THROUGHOUT THE CONSTRUCTION PHASE. TEMPORARY MEASURES SHALL NOT BE CONSTRUCTED FOR EXPEDIENCY IN LIEU OF PERMANENT MEASURES.
3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ADEQUATELY MAINTAINED TO PERFORM THEIR INTENDED FUNCTION DURING CONSTRUCTION OF THE PROJECT.
4. NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.
5. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
6. MATERIAL FROM SEDIMENT TRAPS SHALL NOT BE STOCKPILED OR DISPOSED OF IN A MANNER WHICH MAKES THEM READILY SUSCEPTIBLE TO BEING WASHED INTO ANY WATERCOURSE BY RUNOFF OR HIGH WATER.
7. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIERS ARE NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.



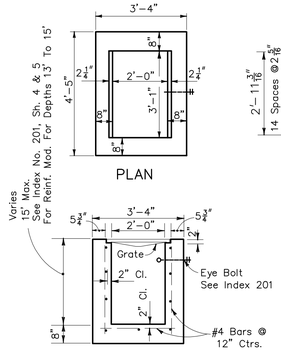
MIRAFI SILT FENCE OR EQUAL, SEDIMENTATION CONTROL F.D.O.T. INDEX #102. FILTER FABRIC IN ACCORDANCE WITH SECTION 985 OF THE F.D.O.T. STANDARD SPECIFICATIONS.

NOTES:
1. TEMPORARY EROSION CONTROL STRUCTURE TO BE UTILIZED DURING CONSTRUCTION AT AREAS DESIGNATED BY ENGINEER OR AREAS ON-SITE WHERE UNSTABILIZED GRADES MAY CAUSE EROSION PROBLEMS. EROSION CONTROL STRUCTURE MAY BE REMOVED AFTER UPSLOPE AREA HAS BEEN STABILIZED BY SOD, OR COMPACTED AS DETERMINED BY CONTRACTOR.
2. CONSTRUCT STORMWATER SYSTEMS BEFORE ANY BUILDING OR ROAD CONSTRUCTION IS STARTED.

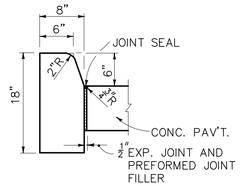
a.) PROTECT SYSTEM FROM SILTING AND DEBRIS BY METHODS PROVIDED IN DETAILS.

b.) PROTECT SWALE BOTTOM FROM SEALING BY EXCAVATING ALL SILT DEPOSITS DURING CONSTRUCTION. THIS SHALL BE DONE BEFORE SOD & SEEDING & MULCHING IS FINISHED

EROSION CONTROL STRUCTURE
N.T.S.

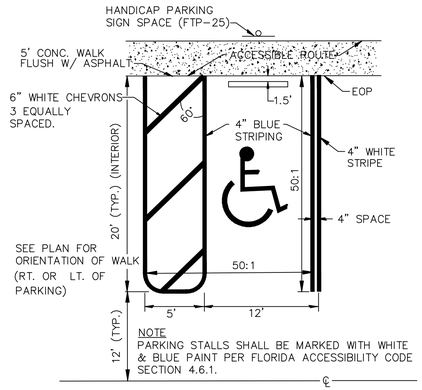


TYPE "C" INLET
N.T.S.

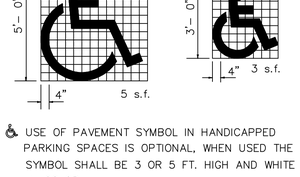


TYPE "D" CURB
N.T.S.

HANDICAP SIGN FTP-25



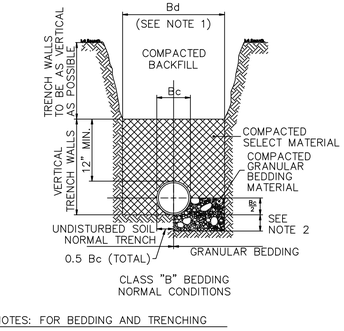
HANDICAP SPACE
N.T.S.



USE OF PAVEMENT SYMBOL IN HANDICAPPED PARKING SPACES IS OPTIONAL, WHEN USED THE SYMBOL SHALL BE 3 OR 5 FT. HIGH AND WHITE IN COLOR.

HANDICAPPED PAVEMENT SYMBOL
N.T.S.

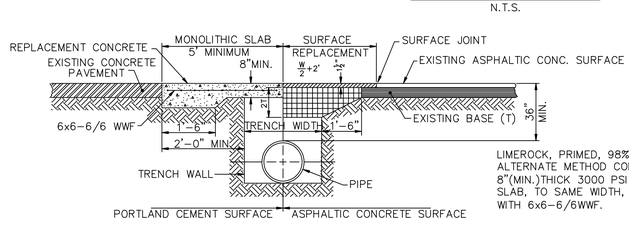
MITERED END SECTION DETAIL
N.T.S.



NOTES: FOR BEDDING AND TRENCHING

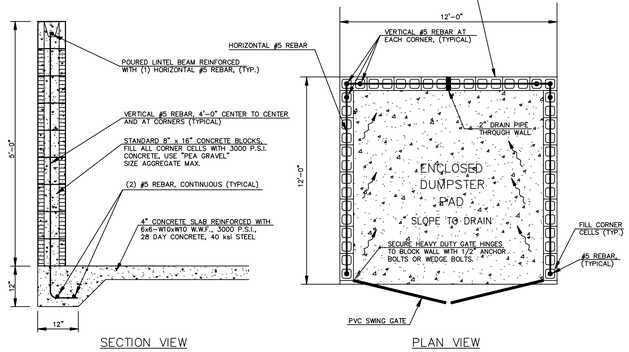
1. Dimension Bc = Pipe O.D.
   Dimension Bd = Trench Width at Top of Pipe
   Maximum Bd = Bc + 30"
   Minimum Bd = Maximum Dimension of Bell + 8" (Unsheeted Trench)
2. DEPTH FOR REMOVAL FOR UNSUITABLE MATERIAL SHALL BE AS REQUIRED TO REACH SUITABLE FOUNDATION. FOR ROCK OR OTHER NON-CUSHIONING MATERIAL, DEPTH SHALL BE 6" BELOW BOTTOM OF UTILITY.
3. ALL BACKFILL AND SELECT MATERIAL UNDER ALL ROADWAYS, DRIVES (INCLUDING DIRT DRIVES), AND PARKING AREAS SHALL BE COMPACTED TO 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY. (AASHTO T-180). BACKFILL AND SELECT MATERIAL UNDER ALL OTHER AREAS SHALL BE COMPACTED AS FOLLOWS: FROM BOTTOM OF TRENCH TO 12" ABOVE TOP OF PIPE - 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180). FROM 12" ABOVE TOP OF PIPE TO TOP OF BACKFILL - 90% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180)

BEDDING DETAILS
N.T.S.

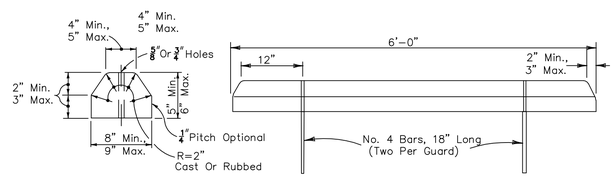


LIMEROCK, PRIMED, 98% BASE OR ALTERNATE METHOD CONSISTING OF AN 8"(MIN.)THICK 3000 PSI CONCRETE SLAB, TO SAME WIDTH, REINFORCED WITH 6x6-6/6WWF.

OPEN CUT AND REPAIR DETAIL
N.T.S.



DUMPSTER DETAIL
N.T.S.



BUMPER GUARD SHALL BE PLACED 24" FROM FACE OF CURB

CONCRETE BUMPER GUARD "WHEEL STOP"
N.T.S.

Wicks Engineering Services, Inc.
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C.A. #30062

FRUITLAND PARK HOLDINGS, LLC
TEJINDER S. GREENWALL
1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

IC INTERNATIONAL CARWASH
CONSTRUCTION & DRAINAGE DETAILS
US HWY 27/441 FRUITLAND PARK FL. 34731

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

Drawn: WSR	REVISION:
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Scale: AS SHOWN	
File No.: 19119	Sheet: 13 of 17

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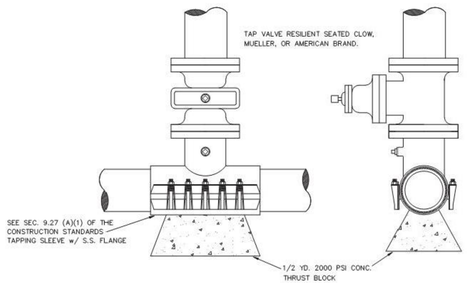
GENERAL WATER NOTES

1. WATER SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND REGULATIONS, CLEANED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND CHAPTER 62-555 FLORIDA ADMINISTRATIVE CODE.
2. ALL PIPING SHALL BEAR THE "NSF" SEAL FOR POTABLE WATER.
3. WATER MAINS SHALL BE PVC CONFORMING TO AWWA C-900, DR 18 FOR PIPE SIZES 4"-12". PIPES 14" OR LARGER SHALL BE AWWA C-905, DR 18. ALL COUPLINGS COMPOUNDS, SOLVENTS, LUBRICANTS AND PIPE PREPARATION, FOR LAYING, SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURERS LATEST RECOMMENDATIONS.
4. DEPTH OF WATER LINES TO BE MINIMUM 36" BELOW FINISHED GRADE.
5. WATER MAINS TO BE LOCATED 5' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
6. ALL PIPING CLEARANCES SHALL BE IN ACCORDANCE WITH CHAPTER 62-555.314, F.A.C., AND APPROVED BY THE CITY.
7. ALL WATER MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON AND SHALL EXTEND 5' BEYOND THE BACK OF CURB. OR DIRECTIONAL BORES, WHICH SHALL BE SDR-11 HDPE.
8. ALL SLEEVES UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE BACK OF CURB.

* * NOTE: MARK ALL POINTS WHERE WATER SERVICES CROSS CURB WITH A "W" MARK IN CONCRETE.

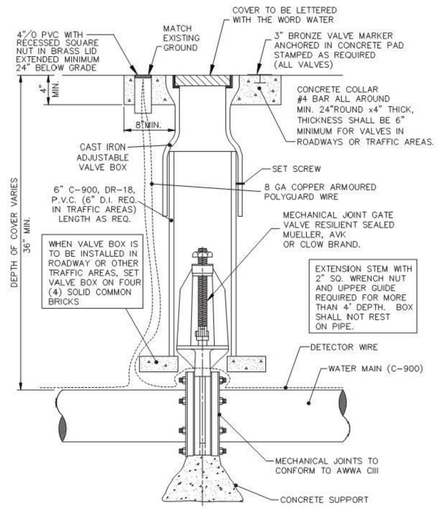
City of Fruitland Park Standard Details	April 2017
	Detail W-1



WET TAP SLEEVE & TAP VALVE

NOT TO SCALE

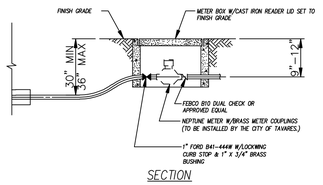
City of Fruitland Park Standard Details	April 2017
	Detail W-2



GATE VALVE & BOX

NOT TO SCALE

City of Fruitland Park Standard Details	April 2017
	Detail W-3

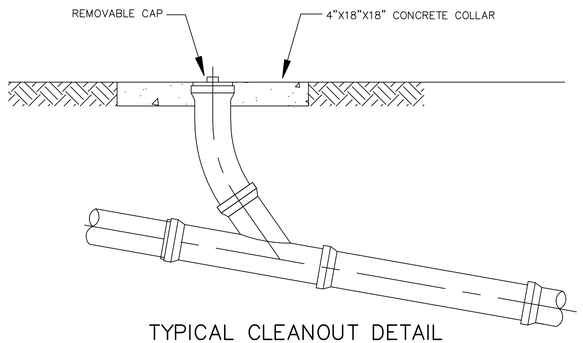


SECTION

WATER METER DETAIL

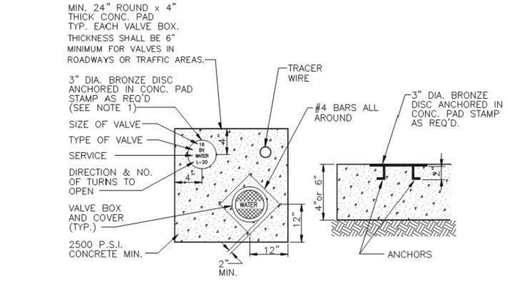
NOT TO SCALE

(NOTE: METERS TO BE INSTALLED BY CITY OF FRUITLAND PARK.)



TYPICAL CLEANOUT DETAIL

N.T.S.

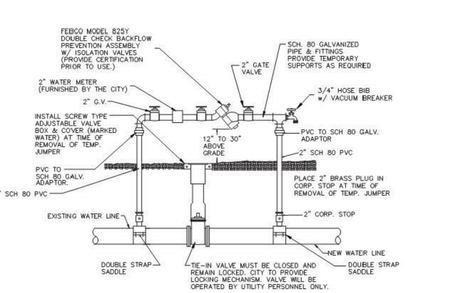


NOTES:
1. BRONZE IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES

VALVE COLLAR

NOT TO SCALE

City of Fruitland Park Standard Details	April 2017
	Detail W-5



TEMPORARY JUMPER CONNECTION DETAIL

NOT TO SCALE

NOTE: LOCATION TO BE DETERMINED AT TIME OF PRECONSTRUCTION CONFERENCE W/ CITY.

City of Fruitland Park Standard Details	April 2017
	Detail W-7

Wicks Engineering Services, Inc.
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Checked: KRW		
Date: 05-06-19		
Scale: AS SHOWN		
File No.: 19119		

Sheet: 14 of 17

TEMPORARY JUMPER CONNECTION NOTES

1. A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER MAINS AND PROPOSED NEW WATER MAIN IMPROVEMENTS.
2. THE DETAILS TO BE USED FOR FILLING ANY WATER MAIN OF ANY SIZE FROM EXISTING ACTIVE WATER MAINS AND FOR FLUSHING OF NEW MAINS UP TO 8" DIAMETER (2.5 FPS MINIMUM VELOCITY) AND FOR PULLING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE. THE JUMPER CONNECTION SHALL BE MAINTAINED UNTIL AFTER FILLING, FLUSHING, TESTING AND DISINFECTION OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND OTHER PERTINENT AGENCIES HAS BEEN RECEIVED. THE JUMPER CONNECTION SHALL ALSO BE USED TO MAINTAIN A MINIMUM PRESSURE OF 20 psi IN THE NEW MAINS ALL THE TIME AFTER DISINFECTION AND UNTIL THE FDEP CLEARANCE LETTER IS OBTAINED. ADEQUATE THRUST BLOCKING AND/OR RESTRAINTS SHALL BE PROVIDED TEMPORARILY, AS REQUIRED. PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651, 1992 EDITION. THIS TAPPING SLEEVE AND THE EXTERIOR OF THE MAIN TO BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABBING PER SECTION II OF AWWA C561-92.
3. FLUSHING OF 10" DIAMETER AND LARGE WATER MAINS MAY BE DONE THROUGH THE TIE-IN VALVE, IN THE PRESENCE OF THE UTILITY DEPART. THE UTILITY DEPARTMENT WILL BE NOTIFIED IN WRITING 48 HOURS PRIOR TO THE FLUSHING OF SAID MAINS.

   THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

   A. THE TIE-IN VALVES SHALL BE OPERATED AND PRESSURE TESTED IN THE PRESENCE OF THE UTILITY COMPANY AND ENGINEER TO VERIFY WATER TIGHTNESS PRIOR TO THE TIE-IN. VALVES WHICH ARE NOT WATERTIGHT SHALL BE REPLACED OR A NEW VALVE INSTALLED IMMEDIATELY ADJACENT TO THE LEAKING VALVE.

   B. THE TEMPORARY JUMPER CONNECTION SHALL BE CONSTRUCTED AS DETAILED. THE JUMPER CONNECTION SHALL BE USED TO FILL THE NEW WATER MAIN AND FOR PROVIDING WATER FOR BACTERIOLOGICAL SAMPLING OF THE NEW MAIN AS REQUIRED BY THE FDEP PERMIT.

   – FLUSHING SHALL NOT BE ATTEMPTED DURING PEAK DEMAND HOURS OF THE EXISTING WATER MAIN.

   – ALL DOWNSTREAM VALVES IN THE NEW SYSTEM MUST BE OPEN PRIOR TO OPENING THE TIE-IN VALVE.

   – PROVIDE FOR AND MONITOR THE PRESSURE AT THE TIE-IN POINT, THE PRESSURE IN THE EXISTING MAIN MUST NOT DROP BELOW 35 psi.

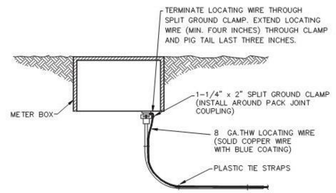
   – TIE-IN VALVE SHALL BE OPENED A FEW TURNS ONLY, ENSURING A PRESSURE DROP ACROSS THE VALE IS ALWAYS GRATER THAN 10 psi.

   C. THE TIE-IN VALVE SHALL BE LOCKED CLOSED BY THE CITY UNTIL FLUSHING BEGINS.

   D. THE TIE-IN VALVE SHALL BE OPENED ONLY A FEW TURNS FOR FLUSHING OF THE NEW MAIN. THE PROCEDURE SHALL BE DIRECTED BY THE CITY AND OBSERVED BY THE ENGINEER.

   E. AFTER FLUSHING, THE TIE-IN VALVE SHALL BE CLOSED AND LOCKED IN THE CLOSED POSITION BY THE CITY.
4. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE RPZ BACKFLOW PREVENTION DEVICE HAS BEEN TESTED WITHIN ONE YEAR AT THE TIME OF INSTALLATION AND IS IN GOOD WORKING ORDER AT THE TIME OF INSTALLATION. THE TEST SHALL BE PERFORMED BY A QUALIFIED BACKFLOW PREVENTION TECHNICIAN.
5. EXCEPT AS REQUIRED TO FLUSH LINES OF GREATER THAN 8" IN DIAMETER, THE TIE-IN VALVE SHALL REMAIN CLOSED AND SHALL BE LOCKED IN THE CLOSED POSITION BY THE CITY. THE TIE-IN VALVE SHALL REMAIN LOCKED CLOSED UNTIL THE NEW SYSTEM HAS BEEN CLEARED FOR USE BY FDEP AND ALL OTHER PERTINENT AGENCIES.
6. UPON RECEIPT OF CLEARANCE FOR USE FROM FDEP AND ALL OTHER PERTINENT AGENCIES, THE CONTRACTOR SHALL REMOVE THE JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS PLUGS.
7. ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTION DEVICE FITTINGS, VALVE, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

City of Fruitland Park Standard Details	April 2017
	Detail W-8



SERVICE AND METER

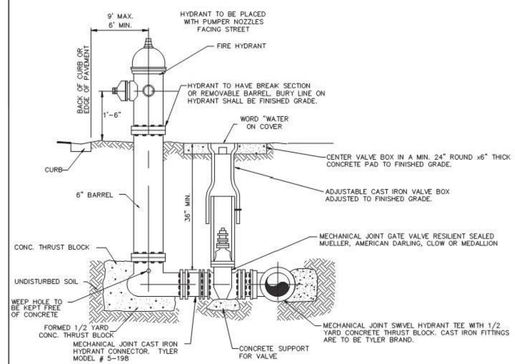
NOT TO SCALE

City of Fruitland Park Standard Details	April 2017
	Detail W-10

SPECIFICATIONS

1. AWWA SPECIFICATIONS C-502
2. TWO 2-1/2" HOSE NOZZLE DISCHARGE
3. ONE 4-1/2" PUMPER NOZZLE DISCHARGE
4. ONE 1-1/2" OPERATING NUT, LEFT

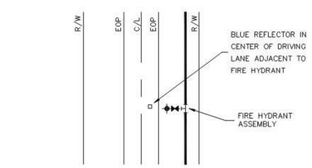
   APPLY TWO COATS OF SHERMAN WILLIAMS RED (SHERWIN WILLIAMS #B54R38) FOR ALL HYDRANTS
5. HYDRANTS SHALL BE FLOW TESTED BY CONTRACTOR; COORDINATE WITH CITY ENGINEER FOR TESTING PROCEDURES.
6. ALL HYDRANTS SHALL BE EQUIPED WITH GRADE-LOK FITTINGS TO ALLOW FOR ELEVATION ADJUSTMENTS.
7. ALL HYDRANTS SHALL BE : MUELLER CENTURION 250



FIRE HYDRANT WITH VALVE

NOT TO SCALE
(STANDARD FIRE HYDRANT ASSEMBLY)

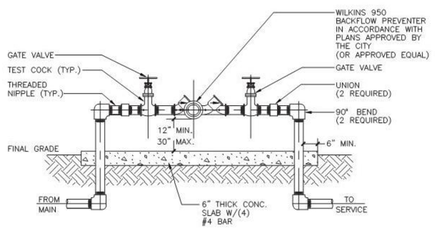
City of Fruitland Park Standard Details	April 2017
	Detail W-11



FIRE HYDRANT REFLECTOR DETAIL

NOT TO SCALE

City of Fruitland Park Standard Details	April 2017
	Detail W-12

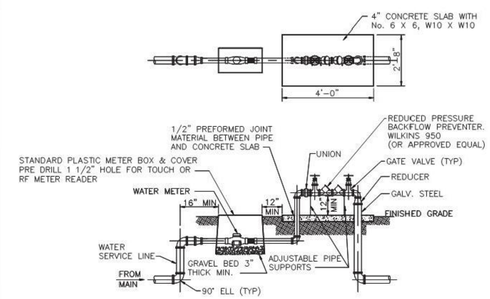


NOTES:
1. ALL PIPE AND FITTINGS SHALL BE THREADED SCHEDULE 40 GALVANIZED STEEL OR BRASS.
2. WHERE REUSE SERVICE IS AVAILABLE, ALL CONNECTIONS TO THE CITY POTABLE WATER SUPPLY SHALL BE EQUIPPED WITH AN RPE BACKFLOW PREVENTER.

REDUCED PRESSURE BACKFLOW PREVENTER

NOT TO SCALE

City of Fruitland Park Standard Details	April 2017
	Detail W-16



WATER METER/BACKFLOW PREVENTER ASSEMBLY

NOT TO SCALE

City of Fruitland Park Standard Details	April 2017
	Detail W-17

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

FRUITLAND PARK HOLDINGS, LLC
TEJINDER S. GREENWALL
1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

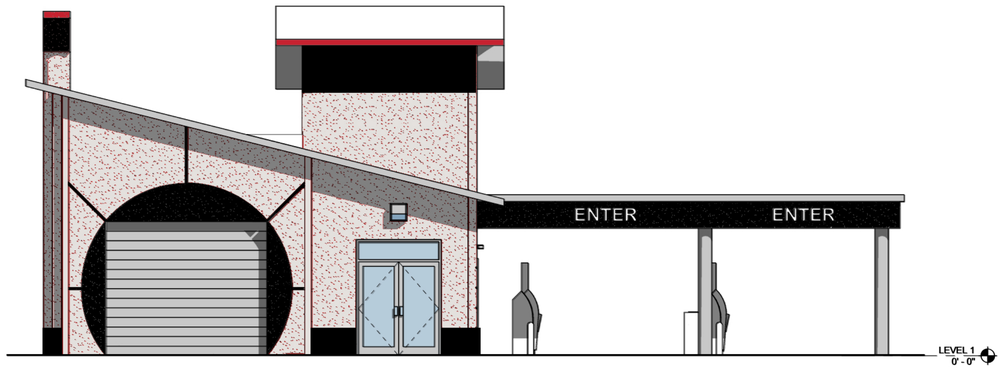
IC INTERNATIONAL CARWASH
UTILITY DETAILS
US HWY 27/441 FRUITLAND PARK FL. 34731

KENNETH R. WICKS, P.E. FL. REG. NO. 33274
DATE:

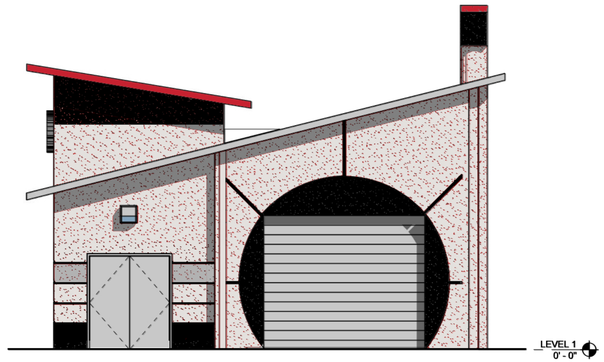
Drawn: WSR	REVISION:	DATE:
Checked: KRW		
Date: 05-06-19		
Scale: AS SHOWN		
File No.: 19119		

Sheet: 15 of 17

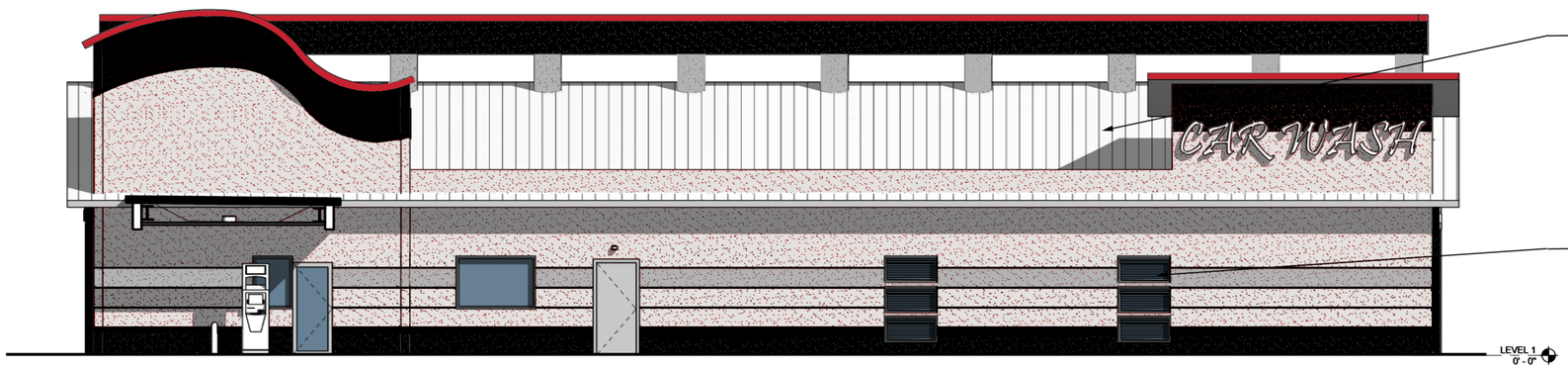
1 Elevation
3/16" = 1'-0"



2 Elevation WASH PAY STATION
3/16" = 1'-0"



3 Elevation - TUNNEL ENTRY -
3/16" = 1'-0"



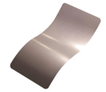
4 Elevation
3/16" = 1'-0"

WALLS:
STUCCO PAINTED:

SW 6258 TRICORN BLACK
SW 6868 REAL RED
SW 7650 ELUE GRAY
SW 7006 EXTRA WHITE

PAINT FACADE PER ELEVATIONS UTILIZING PAINT COLORS SHOWN.

METAL LOUVERS AND DOORS:
POWDER COATED:



Captain Silver
Item: UMB-0650

ROOF:
BERRIDGE STANDING SEAM
SHASTA WHITE

SHASTA WHITE

Jeff Gaither, Architect
4101 Woodlynne Lane
Orlando, FL 32812
(407) 342-5995

Jeff Gaither
AR93666

Revision Schedule		
Revision Number	Revision Description	Revision Date

US 27-441 FRUITLAND PARK

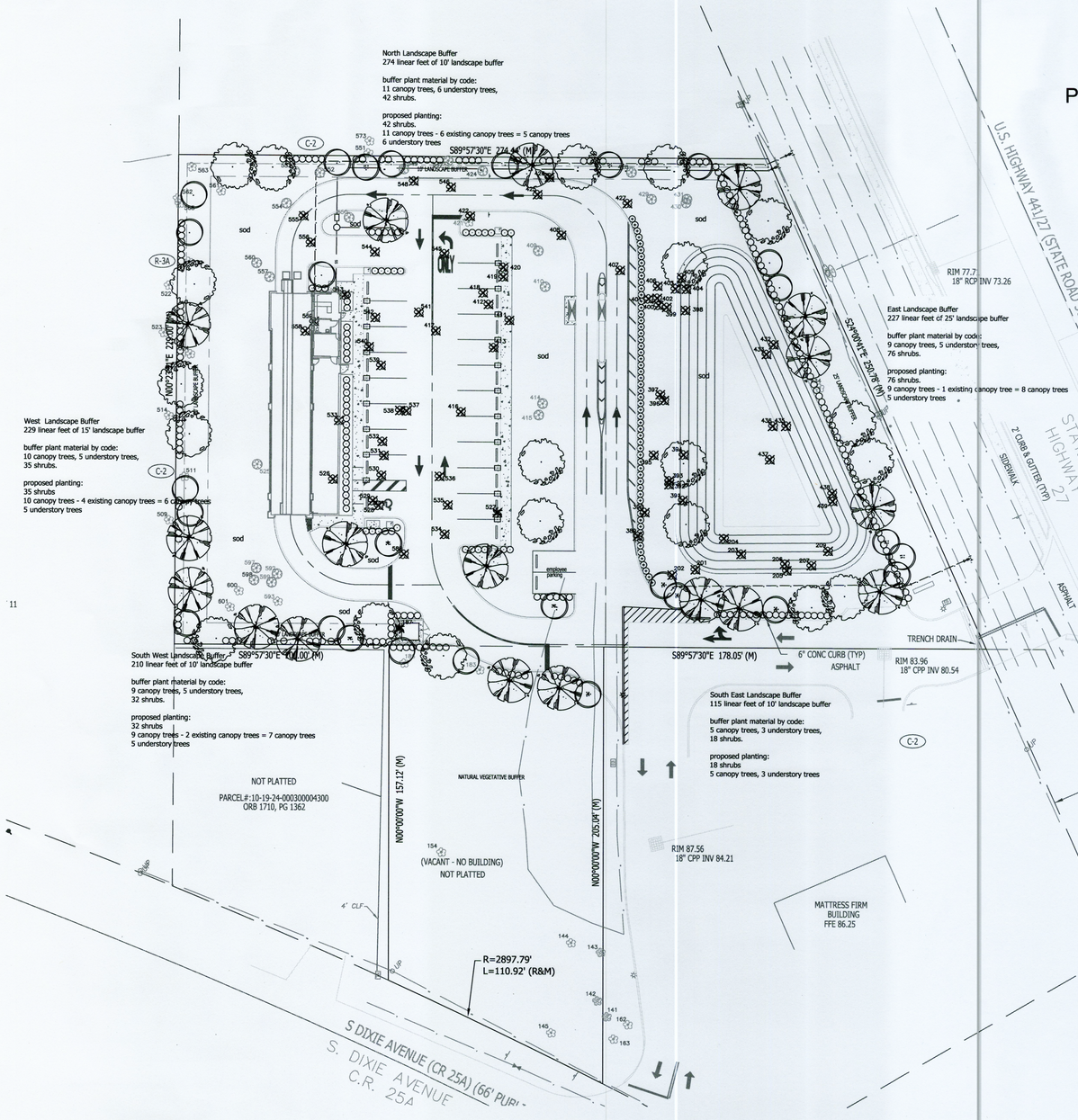
CAR WASH

BUILDING ELEVATIONS

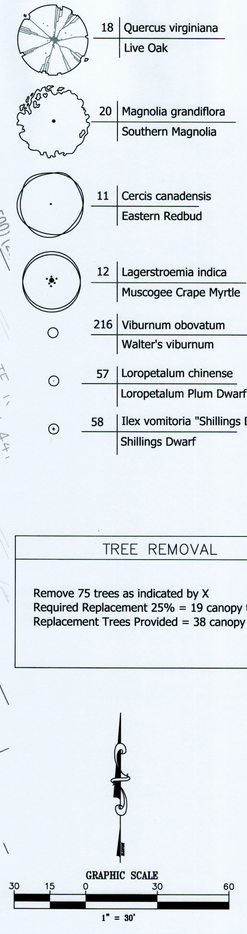
Project number	16-042
Date	3-23-2017
Drawn by	Author
Checked by	Checker

A501

Scale	As indicated



Plant Legend:



TREE REMOVAL

Remove 75 trees as indicated by X
Required Replacement 25% = 19 canopy trees
Replacement Trees Provided = 38 canopy trees

Plant List:

Quantity	Common Name	Scientific Name	Soil Moisture Range	Native	Spacing	Notes
	STREET TREES					
0	None Required					
	TREES					
18	Southern Live Oak, Cathedral Oak	*Quercus virginiana*	Dry - moist	Yes	as shown	1.5" DBH, 12' oa
12	Crape myrtle	*Lagerstroemia indica*	Dry - moist	No	as shown	0.5" DBH, 6' oa
20	Southern magnolia	*Magnolia grandiflora*	Dry - moist	Yes	as shown	1.5" DBH, 12' oa
11	Eagleston Holly	*Ilex attenuata "Eagleston"*	Dry - moist	Yes	as shown	0.5" DBH, 6' oa
	SHRUBS					
58	Schillings Dwarf, Ilex schillings	*Ilex vomitoria 'Schillings'*	Dry - moist	No	3' oc	3G
57	Loropetalum, Chinese Fringe Bush	*Loropetalum chinense*	Dry - moist	No	3' oc	3G
216	Walter's viburnum	*Viburnum obovatum*	Dry - moist	Yes	4' oc	3G
	GROUND COVER					
	Bahia Sod					

INSTALLATION AND MAINTENANCE NOTES

1. The work consists of the complete plant material installation as shown on the drawings and as herein specified This work shall include, but is not limited to, the supplying of all plant material specified, the furnishing of all labor, equipment, appliances and materials called for, and in performing all operations in connection with the landscape specifications as shown on this plan. Further, the work shall include the maintaining of all plants and planting areas until phase acceptance by the owner, and fulfilling of all guarantee provisions as herein specified.
2. Adjustments to planter beds as shown on plans may be necessary due to walk locations, berming, relationship to roadways, etc. Plant material may need to be added or subtracted in the field. The contractor shall be responsible for the final plant count upon completion of the job. The final plant count will be submitted to the owner prior to final payment.
3. The contractor shall fully acquaint themselves with the related site grading, water supply, electrical supply, and other utilities to preclude any misunderstanding and facilitate a trouble free installation.
4. No substitution shall be made without written permission of the owner.
5. In the event of a variation between the plant list and the number of plants shown on the plans, contact the Project Landscape Architect immediately.
6. Plant materials will be inspected at the job site by the owner. When inspected work does not comply with the specified requirements, the contractor shall replace rejected work and continue specified maintenance until the work is reinspected and found acceptable and remove rejected plants and materials from the job site within 48 hours.
7. All materials shall be installed in a neat and workmanlike manner. The owner or his landscape architect reserves the right to direct the removal and replacement of any items which, in his opinion, do not present an orderly and reasonably neat or workmanlike appearance, provided such items can be installed in an orderly way by the usual method of such work.
8. All plant material shall be Florida No. 1 grade or better as defined in "Grades and Standards for Nursery Plants", Parts 1 and 2, as published by the Florida Department of Agriculture and Consumer Services, and shall conform to ANN standards for nursery stock (ansi 260, 1-1980).
9. All planting beds shall be mulched with 3" of pine bark nuggets, 100% organic, of the highest grade.
10. All trees 8' or larger shall be staked or guyed. Staking materials and methods shall be submitted to the Owner for approval prior to installation.
11. Planting soil shall consist of the existing soil amended if required.
12. Fertilizer shall be quick release, water soluble and shall conform to the applicable state of Florida fertilizer laws. The contractor shall submit to the owner or landscape architect a fertilization certification.
13. All plants shall be watered thoroughly when planted.
14. Sod shall be well matted with grass roots. The sod shall be taken up in rectangles preferably 12" by 24", a minimum of 2" in thickness, and shall be reasonably free of weeds and other grasses and shall have a soil mat of sufficient thickness adhering firmly to the roots to withstand all necessary handling. The sod shall be shaded and kept moist until it is planted. Damaged sod will be rejected. Replanting shall be done within 48 hours after time of harvesting or kept damp until planted.
15. Sodding schedule:
    A. All lawn areas shall be planted with with a species specified by the Owner (limits determined by Owner).
    B. Soft spots and inequalities in grade shall be corrected before starting work.
    C. Lay sod without voids. Thoroughly water after planting. The surface shall be true to finish grade lines and even and firm at all points.
    D. Place sod with staggered joints closely butted, tamped or rolled to an even surface Erosion control measures are mandatory in swales, rights of ways, or any other areas subject to erosion.
    E. Fertilize with 16-4-8 fertilizer at the rate of 8 lbs./1000 sq. ft.
16. All shrub areas and areas to be sodded will be automatically irrigated. Verify areas to be irrigated with owner prior to commencing work.
17. Contractor shall clean up and remove from the premises all surplus materials and rubbish.
18. All shrubs and sod shall be guaranteed for one hundred eighty (180) days after final acceptance of the final phase by owner. All trees shall be guaranteed for one (1) year after final acceptance of the final phase.
19. Protective barricades shall be placed around all protected trees to be saved and shall remain in place until construction is complete. Barricades shall be a minimum of 10' from the edge of the tree. Barricade shall be constructed of wood and be a minimum of 3' in height.
20. Final inspection will not take place until all materials have been planted/installed properly.
21. Contractor will be notified by letter of the final acceptance of each phase within ten (10) days after final phase inspection or ten (10) days after reinspection should that be necessary.
22. Upon final notice of final acceptance of each phase, the owner will assume maintenance.
23. If trees are wrapped in burlap and wire, remove wire and burlap from the surface of the root ball.

GENERAL LANDSCAPE NOTES

1. Canopy trees to be from preferred list.
2. Understory trees to be from preferred list.
3. Shrubs to be 3 gal. minimum 30" tall from preferred list.
4. Installation of trees and shrubs shall comply with standard nursery practice.
5. Landscaping to meet all Applicable Florida Friendly requirements.

GENERAL IRRIGATION NOTES

1. Connect to irrigation to lowest quality water source available.
2. Install backflow preventer as required
3. Irrigation system controller will be installed with rain sensor and back-up battery.
4. Shrub and tree irrigation to be Hunter Drip Line and poly line with emitters as shown in details
5. Automatic irrigation system to provide 100% coverage of shrubs and trees only.
6. All trees shall be on a separate irrigation zone from shrubs. Tree zone to be turned off after tree establishment.
7. Sod to be irrigated by hand until established.
8. Sitework contractor to provide 4" Sch 40 PPVC chase pipes at pavement crossings
9. Irrigation pressure and volume are unknown at this time
10. Irrigation contractor to adjust system design to match water pressure and volume available.

A. IRRIGATION NOTES

1. The plans and drawings are diagrammatic of the work to be performed. The work shall be executed in a manner to avoid conflicts with utilities and other element of construction, including landscape materials. Any and all deviations shall be brought to the attention of the owner or owners. The contractor shall not willfully install any aspect of the irrigation system as shown on the plans and drawings when it is obvious in the field that obstructions, grade differences, or discrepancies exist that might not have been known during the design of the irrigation system. In the event that notification of the conflict is not given to the representative, the contractor will assume full responsibly for all revisions.
2. Irrigation system shall be installed in accordance with the plans, irrigation system specifications and all contract documents. Contractor shall comply with all prevailing local codes, ordinances and regulations.
3. Check and verify all site conditions, including service utility locations, prior to trenching or digging. Coordinate all irrigation system construction with existing and / or new plantings to avoid conflict or interference with location piping, sleeving, cables and service utilities. The Irrigation contractor is responsible for coordinating installation with all other construction on site especially landscape installation. Irrigation system is to be relocated for no additional cost for any conflict with landscape installation or any other site construction or existing conditions. All components that are not contained within the specific areas shown on the drawings will not be accepted. All piping and other components are to remain within the property of the OWNER.
4. Where existing or new trees, light standards, signs, electronic controllers and / or other objects are on obstruction to an irrigation sprinkler's pattern, the component and piping shall be relocated as necessary to obtain proper coverage without damaging the obstruction. Landscape architect or representative to determine if obstruction occurs at all.
5. Component spacings are maximum. Do not exceed spacing shown or noted on the plans. Component spacing may be changed to accommodate changes in terrain and planting layout as long as the modified spacings do not exceed the spacings shown in the plans. Unless shown otherwise, irrigation contractor shall provide 100% coverage.
6. All materials and equipment shown shall be installed as detailed on the plans. If the drawing do not thoroughly describe the techniques to be used, the installer shall follow the installation methods/instructions recommended be their manufacturer.
7. Irrigation contractor shall adjust all sprinklers, controller and other operating characteristics, including coverage, operating pressure, flow rates and operation time, as indicated on the drawings and on the irrigation system specifications. Adjust all sprinklers to avoid overthrow of water onto buildings, roadways, sidewalks or existing native vegetation.
8. Contractor to provide installation shop drawings and manufacturer product information for all irrigation components. All installation shall be as recommended by manufacturers. The quantities shown in the legends and symbol sheets shall not be used for bidding purposes. The contractor will be responsible for conducting a comprehensive take-off of materials to determine the actual quantities of materials necessary to execute the work described on the plans and drawings.
9. All trenches shall be backfilled with clean, debris-free materials. Clean sand shall be used for bedding materials if parent soil can not adequately rid of rock and other extraneous debris. Pulling pipe may be utilized were applicable.
10. All solvent welding shall be preceded by priming of the fittings and pipe as recommended by the manufacturer.
11. Contractor and label / number all zone valve covers with corresponding controller zone number and isolation valve box with record drawing numbers.

B. MAINLINE & PIPING

1. All irrigation main(s) & submain(s) shall be Class 200 PVC Purple Pantone Reclaimed pipe with solvent weld fittings. All pipes used downstream of each remote control valve shall be Class 200 PVC Purple Pantone Reclaimed pipe or higher solvent weld pipe. Unless shown otherwise.
2. The depth of all lines shall be 18" minimum cover for mainline and 12' minimum cover for lateral lines as specified per plans and details. Measurements shall be from top of pipe(s) to finish grade. Contractor will be responsible for retrenching and relaying any piping not meeting specified depths.
3. All piping stubouts for future zone expansions shall have the capped end within a 6" valve box.

C. SLEEVING

1. All sleeves for mainline to be Sch. 40 PVC. All sleeves for lateral lines to be twice the diameter of piping to be installed.
2. Irrigation contractor shall coordinate with general contractor for the location of sleeving crossings whether shown or not. At no time shall wiring share the same sleeve with main(s) or other piping.
3. All sleeving shall extend (12") beyond the edge of the surface requiring sleeving.
4. All wiring sleeves shall be Sch. 40 (2") or as sized per plan.

D. CONTROL SYSTEM

Controller shall be completely electric in operation. Controller shall be installed and wired in accordance with manufacturer's published instructions. Controller shall be capable of operating from an independent power supply. Primary shall be 115V a.c. 60hz or 230V, 50hz.

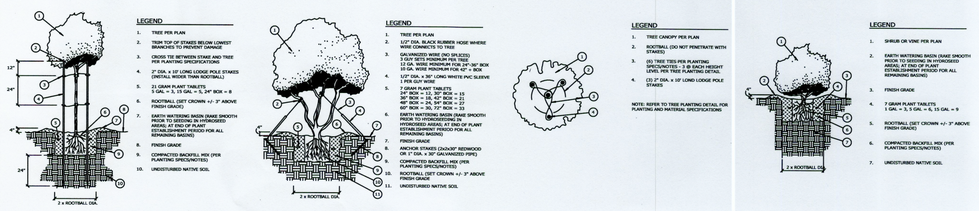
E. REMOTE CONTROL VALVES

1. All control valves shall be Hunter and installed as close as possible to the mainline(s) or submain(s) piping. Controller valves shall be type and size as specified herein and indicated on the drawings.

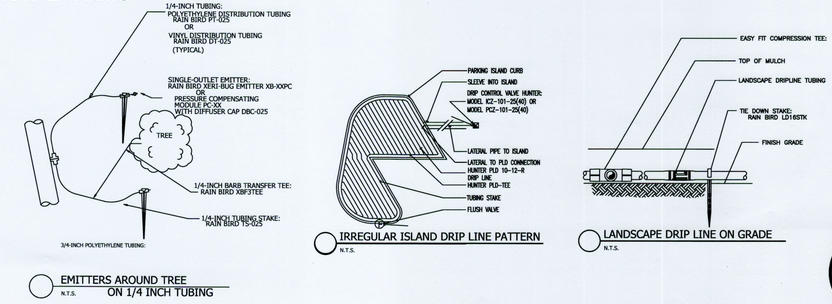
F. DRIP TUBE

1. Drip tube to be Hunter inline drip tubing 1 GPH on 12" centers Purple Reclaimed piping.

Planting Details:



Irrigation Details:



L.R. HUFFSTETLER, INC.
Landscape Architecture & Planning
36955 Lake Yale Drive
Sorrento, Fl. 32776
(352) 516-5254
L.R. Huffstetler III - Lic. # 0000744

Wicks Engineering Services, Inc.
225 West Main Street, Tavares, Florida 32778
www.wicksengineering.com (352) 343-8667
C.A. #30062

FRUITLAND PARK HOLDINGS, LLC
TEJINDER S. GREEWALL
1330 SAXON BOULEVARD
ORANGE CITY, FLORIDA 32763

IC International Car Wash
Landscape and Irrigation Plan
Lake County, Florida

Drawn: BH	REVISION:	DATE:
Checked: BH	06-05-18 remove drive	
Date: 05-31-19	02-24-19 site revisions	
Scale: 1" = 30'	05-31-19 site revisions	
File No.: 17136		Sheet: 1 Of: 1

Wicks Engineering Services, Inc.

225 West Main Street ♦ Tavares, Florida 32778
P (352) 343-8667 F (352) 343-8665

August 9, 2019

Tracy Kelly
City of Fruitland Park Community Development
506 W. Berckman Street
Fruitland Park, FL 34731

RE: Development/Site Plan Application – IC International Carwash
Response to Review Comments dated 6/06/2019 and 6/25/2019

Dear Ms. Kelly:

We have received and reviewed Staff comments dated June 6, 2019 and June 25, 2019, regarding the above referenced project. Please find below our written response which corresponds to your items.

BESH comments 6/06/2019

1. Drainage report is enclosed. Please note, drainage calculations assumed 0.85 acres impervious (50%) and the actual impervious area is 0.72 acres (42%).

2. Swale conveyance capacity & velocity calculations are attached (Drainage Calculations Tab 9).

3. Additional grades have been added to the plan.

4. Access is not an ADA accessible route, so steps with a handrail are proposed.

5. Pump station calculations have been added to the plan.

6. Dumpster has been reconfigured to pick up from the north.

City Attorney comments 6/25/2019

1. Survey has been updated showing all easements.

2. The reciprocal easement allows cross access & drainage. Please note all proposed improvements are in compliance with the reciprocal easement.

This concludes our response to Staff comments. If there are additional questions or comments regarding this response, please contact our office.

Sincerely,

Rick Hartenstein

Rick Hartenstein, AICP, CPM, Planning Project Manager

RH

Enclosures

VIA EMAIL tkelley@fruitlandpark.org

August 13, 2019

Tracy Kelley
Community Development Director
City of Fruitland Park
506 W. Berckman Street
Fruitland Park, FL 34731

RE: IC INTERNATIONAL CARWASH, FRUITLAND PARK, FL, LAKE COUNTY

Dear Ms. Kelley:

Based upon my review of the most recently submitted material, I recommend approval of the site plan with the following conditions.

1. The FDOT drainage permit shall be provided to the city prior to construction.

This condition should be met prior to issuance of a building permit.

Should you have any questions, please feel free to contact our office.

Sincerely,

Brett J. Tobias, P.E.
btobias@besandh.com
BJT:am

ENGINEERS ♦ SURVEYORS ♦ LAND PLANNERS
902 North Sinclair Avenue ♦ Tavares, Florida 32778
Phone: 352.343.8481 ♦ Fax: 352.343.8495
E-Mail: Info@besandh.com ♦ www.besandh.com
Good…Better…***BESH!***

CITY OF FRUITLAND PARK
STAFF REPORT BY LPG URBAN & REGIONAL PLANNERS, INC.

SITE PLAN

Owner: **Fruitland Park Holdings, LLC**

Applicant: **Ted Wicks, P.E., Wicks Engineering Services**

General Location: **West of US 27/441 and north of Dixie Ave.**

Number of Acres: **1.7 ± acres**

Existing Zoning: **Commercial (C-2)**

Existing Land Use: **Highway Commercial**

Date: **August 21, 2019**

Description of Project

The owners are seeking approval of the site plan for a 3,200 square foot car wash facility which is a single tunnel automatic carwash with no detailing provided. The facility will house a small office for employees only which is not accessible to customers. Vacuum stations are provided.

	Surrounding Zoning	**Surrounding Land Use**
North	C-2	Commercial High Intensity
South	C-2	Commercial High Intensity
East	C-2	Commercial High Intensity
West	C-2 and R-3A	Commercial and Multi-family High Density

Assessment

Please be advised that a separate sign permit will be required. Prior to construction, an updated environmental assessment shall be required.

Recommendation

Staff recommends approval.