BKI, INC.

Consulting Ecologists 225 Fifth Avenue, Suite 2, Indialantic, Florida 32903-3163

William W. Kerr, President

321.951.7964 Office * 855.237.5281 Toll Free
321.951.8909 Fax www.bki-ecologists.com

October 4, 2013

James Acquaviva
290 Ocean Avenue
Massapequa Park, New York 11762

Project: **Grant-Valkaria Parcel**
± 16 acres
Parcels: 29-38-34-25-00001.0-0003.0, 29-38-34-25-00002.0-0001.0,
29-38-34-25-00003.0-0001.0, 29-38-34-25-00004.0-0003.0,
29-38-34-25-00005.0-0001.0
in Section 34, Township 38 South, Range 29 East
Grant, Brevard County, Florida

Subject: **Preliminary Wetland and Endangered Species Assessment**

Dear Mr. Acquaviva:

BKI, Inc. - Consulting Ecologists (BKI) has completed a preliminary environmental assessment of the above referenced property. The following is a summary of the conditions onsite and discussion of the actions and potential solutions to allow for the development of the parcel.

INTRODUCTION

The parcel is located in Grant, west of Old Dixie Highway, between Main Street and Sand Point Road. The site is located in Section 34, Township 38 South, Range 29 East, in Brevard County, Florida (***Figure 1***). The site is composed of five parcels with road right-of-ways and several outparcels located within them. There are several trails on the site. The neighboring parcels appear to have been utilizing the parcel for recreation. There are several areas where trash has been dumped and there are ATV trails traversing the property.

TOPOGRAPHY AND SOILS

The USGS Grant Quadrangle indicates the site has varied topography, ranging from 15' to 20' NGVD. Two wetland areas are indicated on the historical USGS map. They are located in the central western area and the southern border of the parcels. The USGS topographic quadrangle is depicted in ***Figure 2***.

To further evaluate the elevations, Brevard County LIDAR data (2 foot contours) were overlaid on the aerial. There is approximately a 1.4' difference between the NGVD and the NAVD elevations. Elevations ranged from 16' to 20' NAVD. The low elevation areas are around 16' NAVD. The LIDAR data is presented in ***Figure 3***. For the most part it appears that areas below 16' maybe wetlands.

There are four (4) soil types found within the parcel (***Figure 4***). The soil types were Immokalee Sand, Myakka Sand (depressional), Paola Fine Sand (0 to 5 percent slopes), and Pomello Sand. The following are general descriptions of the soils, as described within the SCS survey.

Immokalee Sand
This is a nearly level, poorly drained sandy soil in broad areas, on low ridges between sloughs, and in low narrow areas between sandy ridges and ponds. Depth to the water table is approximately 10 inches for 1 to 2 months during the wet season and below 40 inches during the dry season. This soil is rarely flooded, typically once every five years. This soil **does not meet** hydric criteria.

Myakka Sand, Depressional
This nearly level, poorly drained sandy soil is located in shallow depressions in flatwoods. Depth to the water table is above the surface for six to 12 months during average years. This soil **does meet** hydric criteria.

Paola Fine Sand, 0 to 5 Percent Slopes
This excessively drained soil located on ridges. Depth to the water table is approximately 10 feet below the surface. This soil is not flooded or ponded. This soil **does not meet** hydric criteria.

Pomello Sand
This nearly level, moderately well drained soil is located on broad low ridges and low knolls. Depth to the water table is approximately 30 to 40 inches below the surface during the wet season in most years. During the dry season the depth to water table can be 60 inches. This soil is not flooded or ponded. This soil **does not meet** hydric criteria.

The presence of hydric soils can suggest that wetlands could be located on the subject site. The soil analysis onsite concluded that there is a hydric soil, suggesting there are wetlands onsite.

VEGETATION and COMMUNITY TYPES

Natural vegetation grows in particular associations that can be classified into ecological units known as "communities", and various land uses can be categorized into descriptive classifications. The communities and land uses incorporated into the surveyed area were designated by BKI using the Florida Land Use, Cover and Forms Classification System (FLUCFCS) (FDOT 1999) as a guideline. It should be noted that variations between the published FLUCFCS descriptions and the actually occurring onsite land use/communities may exist; consequently, the classifications which came closest to the observed onsite land uses/communities were chosen, but may not match precisely. The acreages calculated are determined by Geographic Information Systems (GIS) analysis and are approximate.

The Land Use map is based on the dominant vegetation or characteristics observed in the field. The location of these land use/communities are depicted on ***Figure 5.***

Exotic Wetland Hardwoods (6190) – 0.3 acres
This land use is categorized as land which has a dense canopy of Brazilian Pepper (*Schinus terebinthifolius*). The area is wetland and also includes Carolina willow (*Salix caroliniana*), scattered slash pine (*Pinus elliottii*), cabbage palm (*Sabal palmetto*) with understory of scattered saw palmetto (*Serenoa repens*), duck potato (*Sagittaria graminea*), and terrestrial grasses.

Oak – Pine – Hickory (4230) – 5.4 acres
This land use is categorized as land which has no dominant canopy species. The canopy consists of slash pine, live oak (*Quercus virginiana*), laurel oak (*Quercus hemisphaerica*), and Florida hickory (*Carya floridana*). There is also scattered saw palmetto cover.

Xeric Oak (4210) – 10.1 acres
This mapped polygon is located on the central and western section of the site. The canopy vegetation is dominated by chapman oak (*Quercus chapmanii*), sand live oak (*Quercus geminata*) and scattered sand pine (*Pinus clausa*). For the most part the canopy was 10 15 feet above ground. Some areas had lower vertical relief and could have been categorized as scrub. The ground cover is dominated by saw palmetto. This area was probably a natural sand pine ridge where the sand pines have been naturally reduced in density resulting in the xeric oak community that is currently present. Additionally, the area was probably dominated by lower scrub vegetation that has now overgrown from lack of natural fire occurrence.

THREATENED and ENDANGERED SPECIES

A preliminary review of literature pertaining to threatened and endangered species as listed by Freshwater Fish and Wildlife Conservation Commission (FWC) and United States Fish and Wildlife Service (USFWS) was completed in addition to the site visit. ***Table 1*** relates which listed species could potentially occur onsite. During the site visit, the habitats onsite were evaluated for the likelihood that they would support listed species.

Table 1 Listed Species Potentially Occurring On-site

Species	Protection Status	Habitat Types Onsite (FLUCFCS Code)
Eastern Indigo Snake (*Dymarchon corais couperi*)	$T^{I,S}$	4210, 4230, 6190
Florida Scrub-Jay (*Aphelocoma coerulescens*)	$T^{I,S}$	4210, 4230
Gopher Tortoise (*Gopherus polyphemus*)	E^{S}	4210, 4230
E=Endangered, T=Threatened, SSC=Species of Special Concern, [1]Bald and Golden Eagle Protection Act, [S]=State, [I]=Federal		

The habitats onsite have a likelihood that some of these species would utilize them. Five gopher tortoise (*Gopherus polyphemus*) burrows were documented onsite and were included on ***Figure 5***. Gopher tortoises cannot be impacted and must be avoided or relocated during clearing or development activities.

Florida scrub-jays (*Aphelocoma coerulescens*) could potentially occur onsite. This general region has jay families that utilize various habitats, especially areas that do not have high tree canopy. **No jays were observed onsite.** Call tapes were played to elicit responses from potential jays onsite. Once when the tape was played, a large red-shouldered hawk (*Buteo lineatus*) flew to a high dead tree, trying to see the individual creating the call. This observation suggests that the hawk preys on jays on a regular basis. The xeric oak / scrub areas onsite are overgrown, continuation of current conditions would eventually exclude the jays from utilizing the site. There were heavy winds (10-15 mph) occurring the day of the site visit. Heavy winds sometimes make jays stay hidden in vegetation instead of flying around. It is anticipated that the U.S. Fish and Wildlife would require a formal survey (five day survey) to confirm that the parcel is not currently being utilized by scrub-jays. Formal surveys identify jay territories and are valid for two years after their completion.

SUMMARY

Development of the entire parcel will cause direct impact to listed wildlife species habitat. It is suggested that an official gopher tortoise survey be completed onsite prior to any clearing activities. Active and inactive tortoise burrows have to be excavated and tortoises have to be relocated offsite prior to development of the parcel or be avoided (>25 feet). The relocation activities will require a permit from the FWC. Tortoise surveys are only valid for ninety days and should be completed very close to proposed development.

The site visit found that there are jurisdictional wetlands onsite. Development of the site would require permits from at least the St. Johns River Water Management District (SJRWMD) and potentially the U.S. Army Corps of Engineers (ACOE). The wetlands onsite are very small and most likely would not require mitigation.

If you have any questions or seek clarification of any information contained within this report, please contact our office at (321) 951-7964.

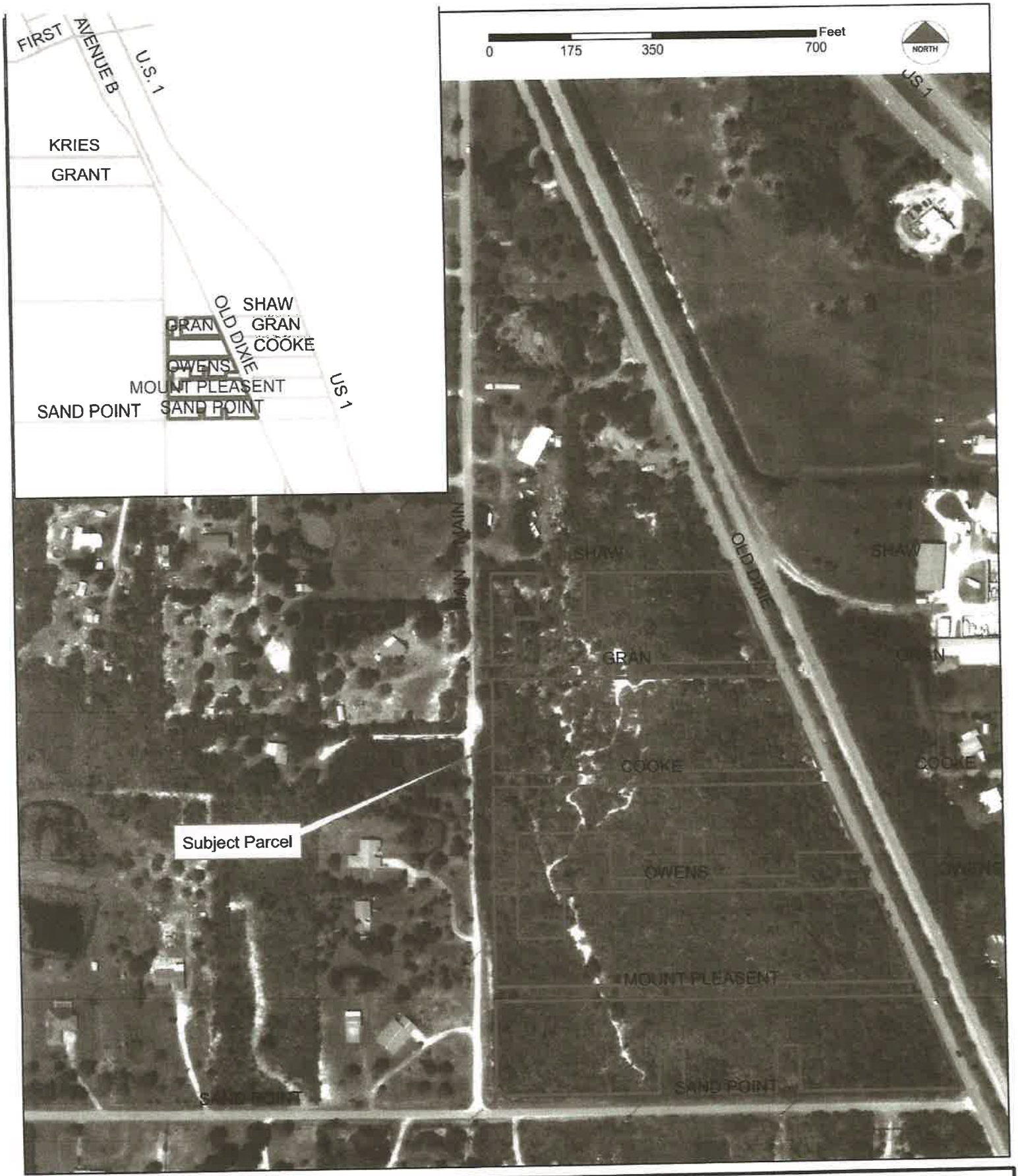
Sincerely,

Christopher W. Harnden

Chris Harnden

Biologist

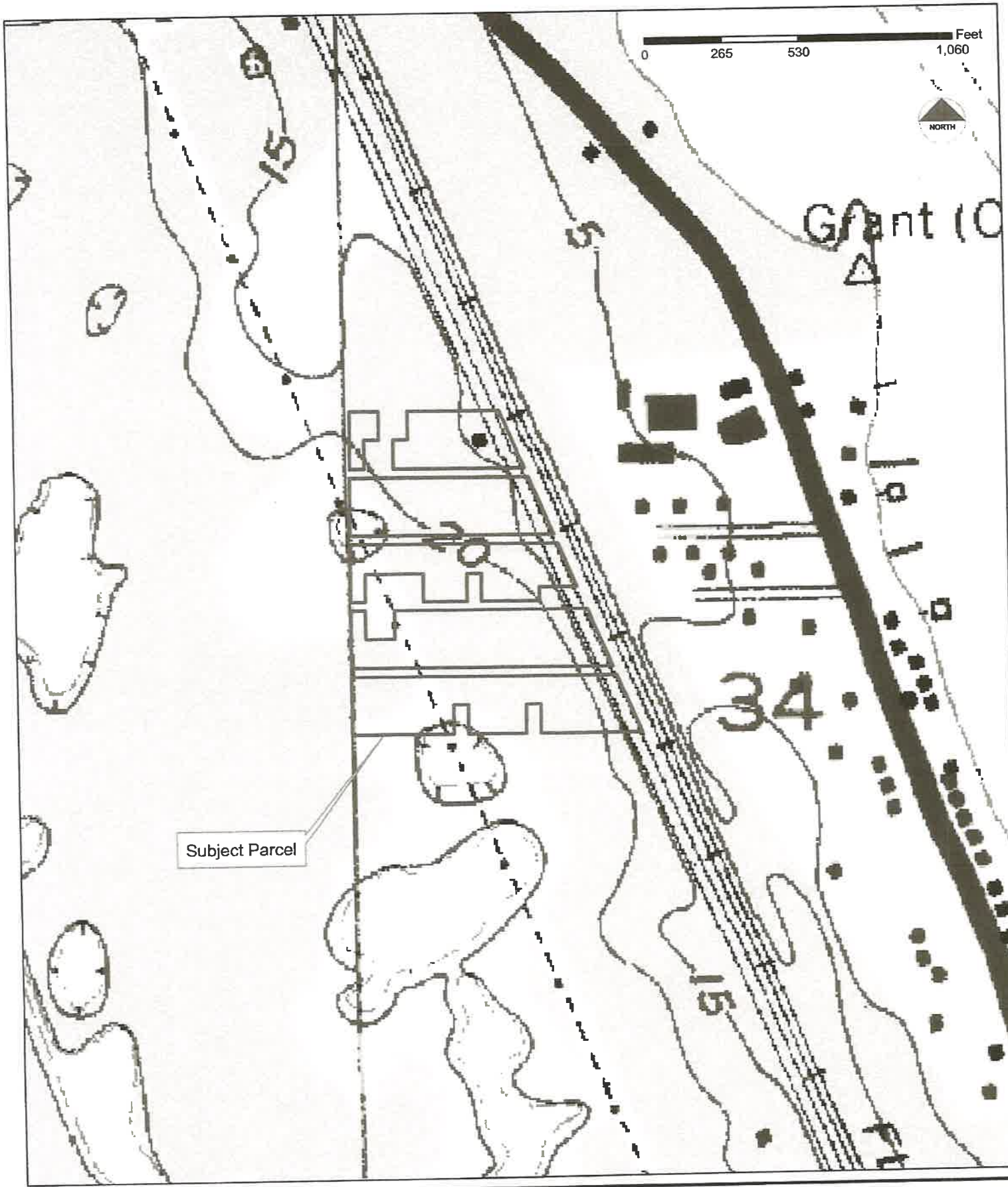
Attachments: Figure 1 – Aerial /Location Map
Figure 2 – USGS Topographic Map
Figure 3 – LIDAR Topographic Map
Figure 4 – NRCS Soil Survey Map
Figure 5 – Current Land Use Map
Appendix A - Site Photographs



BKI, Inc.
Consulting Ecologists
225 Fifth Avenue, Suite 2
Indialantic, Florida 32903
321-951-7964

Project: Acquaviva Location - Aerial Map
Project No.: 13013
Source: Brevard County / FDEP 2012
Note: All boundaries and locations are approximate

Figure 1



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Project: Acquaviva USGS Topographic Map
Project No.: 13013
Source: Brevard County / FDEP
Note: All boundaries and locations are approximate

Figure 2

BKI, Inc.
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Project: Acquaviva LIDAR - Topographic Map
Project No.: 13013
Source: Brevard County / FDEP 2012
Note: All boundaries and locations are approximate

Figure 3

BKI, Inc.
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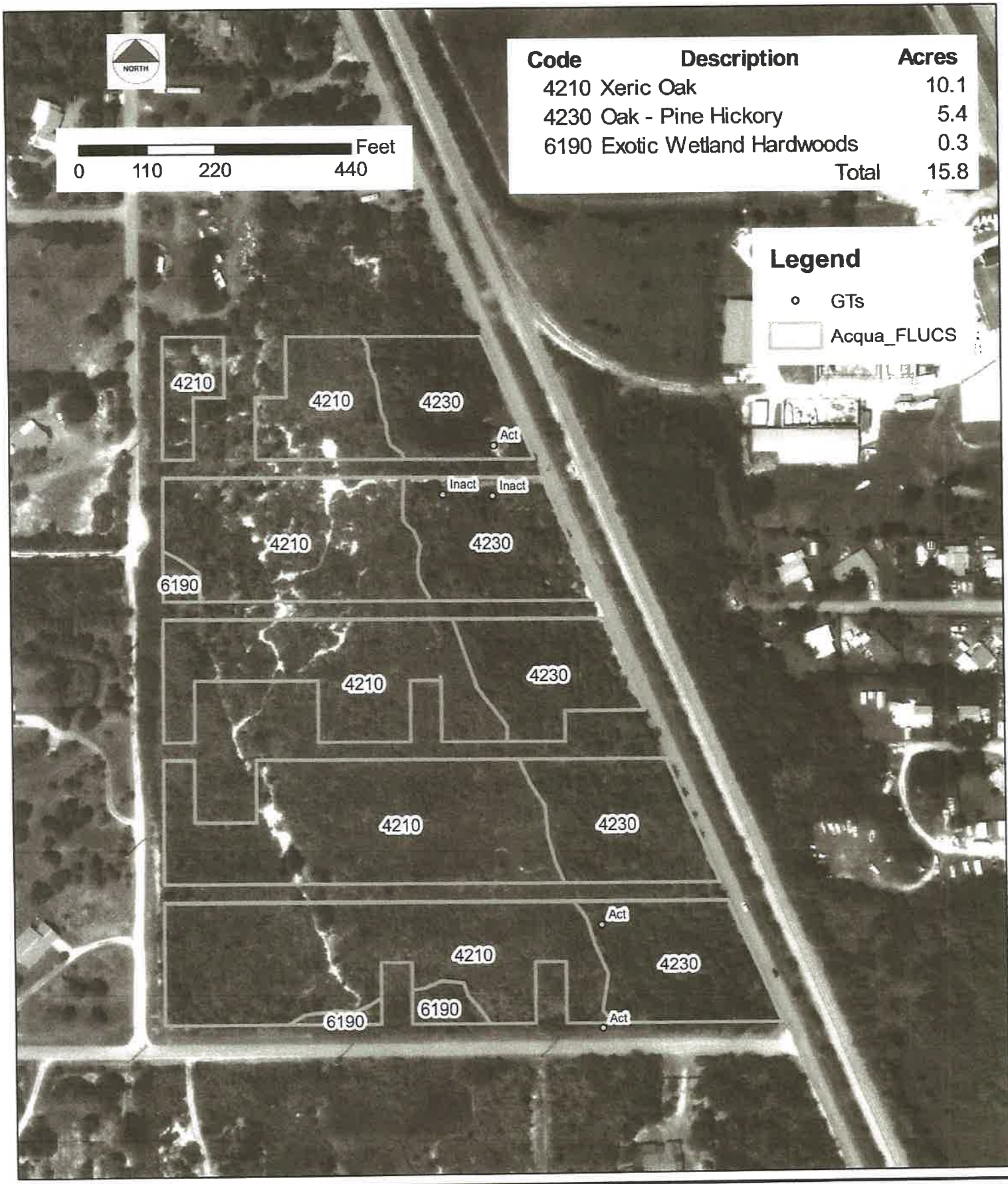
Project: Acquaviva Soils Map
Project No.: 13013
Source: Brevard County / FDEP 2012
Note: All boundaries and locations are approximate

Figure 4



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Project: Acquaviva Land Use Map
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Source: Brevard County / FDEP 2012
Note: All boundaries and locations are approximate

Figure 5

Site Photographs –

Pic 1. North trail looking east.

Pic 2. North trail looking south. Note dead sand pines.

Pic 3. Southern interior looking north. Note solid canopy.

Pic 4. Southern interior looking west. Note solid canopy.

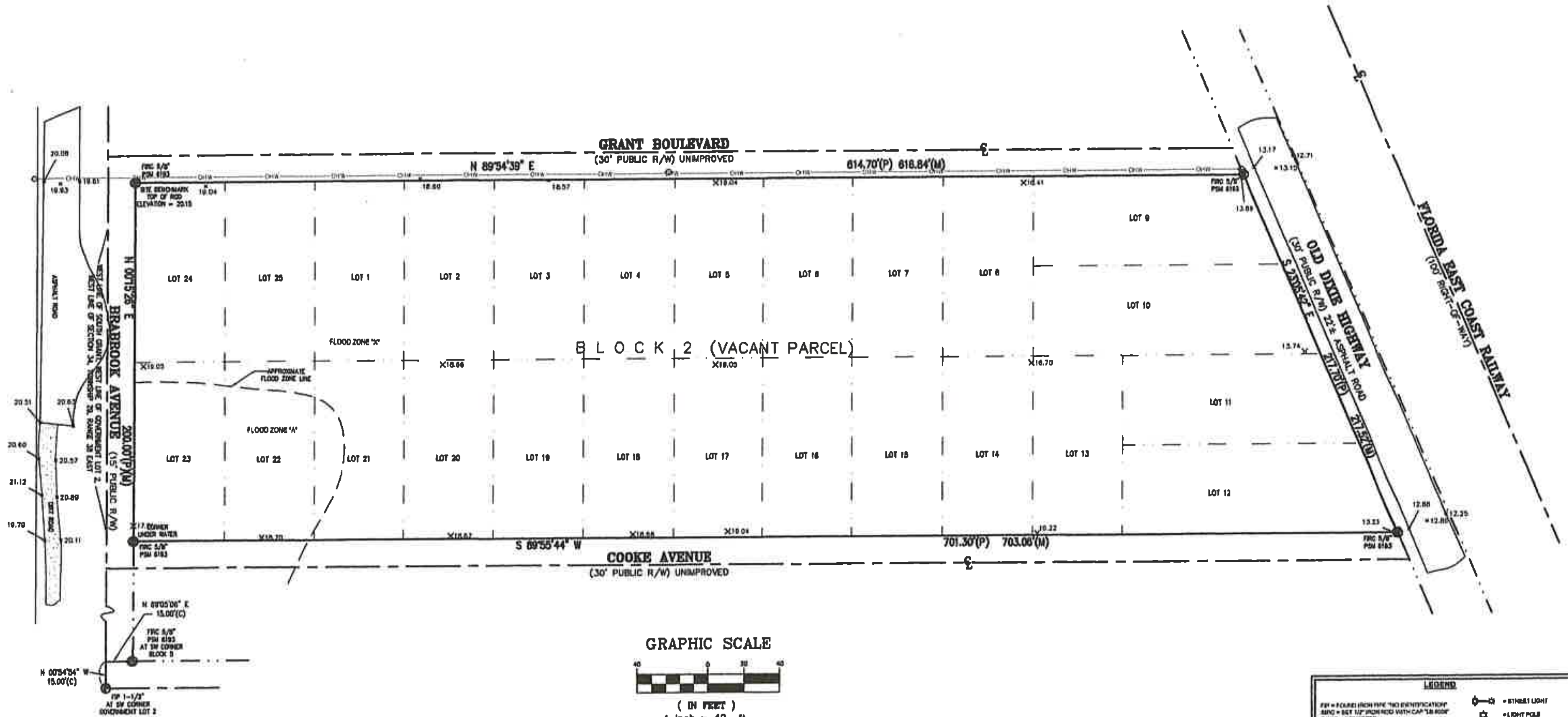
Pic 5. South border, looking east. Note Brazilian pepper.

Pic 6. South border, looking west. Note Brazilian pepper.

MAP OF SURVEY – BOUNDARY SURVEY

OF

LOTS 1 THROUGH 25, BLOCK 2, SOUTH GRANT, according to the plat thereof as recorded in Plat Book 7, Page 35, of the Public Records of Brevard County, Florida. (Contains 3.03± acres)



SURVEYORS NOTES:

1. LEGAL DESCRIPTION PROVIDED BY CLIENT. ADJOINERS SHOWN HAVE NOT BEEN SURVEYED.

2. THE EXPECTED USE OF THIS PARCEL IS RESIDENTIAL. THE MINIMUM RELATIVE DISTANCE ACCURACY FOR THIS BOUNDARY SURVEY IS 1 FOOT IN 7,500 FEET, IN THE MINIMUM TECHNICAL STANDARDS (5J17 F.A.C.).

3. LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR RIGHT-OF-WAY AND/OR EASEMENTS OF RECORD.

4. SEPTIC TANKS AND WELLS IF SHOWN ARE APPROXIMATE LOCATIONS AND SHOULD BE FIELD VERIFIED BY A LICENSED CONTRACTOR FOR CORRECT POSITION AND SEPARATION. UNDERGROUND UTILITIES OR FOOTERS HAVE NOT BEEN LOCATED.

5. BEARINGS AND DISTANCES SHOWN HEREON SUBSTANTIALLY AGREE WITH THE PLAT OR LEGAL DESCRIPTION UNLESS OTHERWISE NOTED. BEARINGS SHOWN ARE BASED UPON THE SOUTH RIGHT OF WAY LINE OF GRANT BOULEVARD AS SHOWN (DESCRIBED ABOVE).

6. ALL RIGHTS-OF-WAY SHOWN HEREON ARE OPEN TO TRAVEL UNLESS OTHERWISE NOTED.

7. ACCORDING TO THE NATIONAL FLOOD INSURANCE RATE MAP NUMBER 12009C0690G, HAVING AN EFFECTIVE DATE OF MARCH 17, 2014, THIS PROPERTY APPEARS TO LIE WITHIN ZONE X & A, BOTH INSIDE AND OUTSIDE SPECIAL FLOOD HAZARD AREA.

8. ALL DISTANCES SHOWN HEREON ARE HORIZONTAL GROUND DISTANCES AND ARE REFERENCED TO U.S. SURVEY FEET.

9. THE BOUNDARY DETERMINATION AND DELINEATION SHOWN ON THIS MAP OF SURVEY WAS BASED UPON THE PROFESSIONAL OPINION THE REGISTERED SURVEYOR PURSUANT TO NORMAL PRINCIPALS AND PRACTICES OF LAND SURVEYING AND IS NOT INTENDED TO IMPLY OR DETERMINE OWNERSHIP. THIS SURVEY DOES NOT INTEND TO DELINEATE LOCAL AREAS OF CONCERN OR ANY OTHER JURISDICTIONAL DETERMINATION.

10. THIS SURVEY HAS BEEN PREPARED FOR THE EXCLUSIVE BENEFIT AND USE OF THE PERSONS AND/OR ENTITIES NAMED HEREON FOR THE PURPOSES IDENTIFIED HEREON ONLY. UNLESS OTHERWISE STATED, CERTIFICATION OF THIS SURVEY MAP APPLIES ONLY TO THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J17 FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES. THE CERTIFICATION IN NO WAY CONSTITUTES NEITHER GUARANTY NOR WARRANTY TO ANY OTHER INFORMATION NOT SHOWN HEREON. ADDITIONS, DELETIONS OR REVISIONS TO THIS DRAWING BY OTHERS ARE NOT PERMITTED AND THIS SURVEY MAY NOT BE TRANSFERRED WITHOUT THE EXPRESSED WRITTEN PERMISSION OF THE SIGNING SURVEYOR. THIS SURVEY IS NOT VALID FOR ANY OTHER PURPOSE OTHER THAN INTENDED BY THE SIGNING SURVEYOR.

11. ELEVATIONS SHOWN ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

GSS SURVEYING & MAPPING, LLC.
CERTIFICATE OF AUTHORIZATION NUMBER LB 8008

Terry H. Dunn (signature) Jun 01,2016
PROFESSIONAL SURVEYOR AND MAPPER IN RESPONSIBLE CHARGE
TERRY H. DUNN PROFESSIONAL SURVEYOR AND MAPPER NO. 5507
NOT VALID WITHOUT THE SIGNATURE AND RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

UPDATES and/or REVISIONS	BY	DATE

JOB #:16-0326
DRAWN BY: LD
CHECKED BY: THD
FIELD BOOK: FILE
PAGE:
FIELD DATE: 05-27-16

CERTIFIED TO:

SHANE K. DOWNS
COMMUNITY CREDIT UNION OF FLORIDA
FIDELITY NATIONAL TITLE INSURANCE COMPANY
PRESTIGE TITLE OF BREVARD

Surveying and Mapping, LLC
4690 Lipscomb Street NE, Suite 6A
Palm Bay, FL 32905
321-914-3978

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SUMMARY

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Sincerely,

Chris Harnden

Biologist

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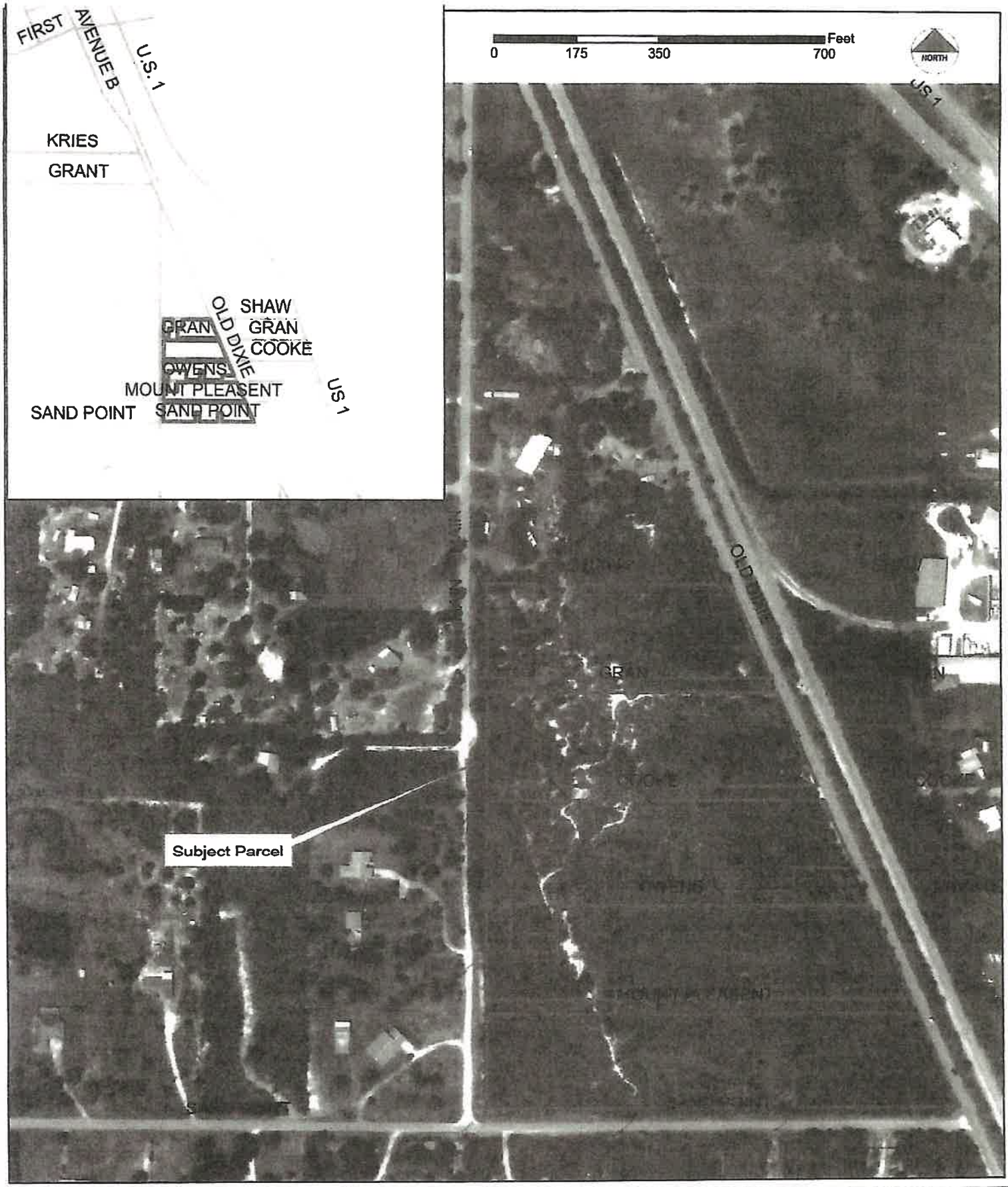
Figure 2 – USGS Topographic Map
Figure 3 – LIDAR Topographic Map
Figure 4 – NRCS Soil Survey Map
Figure 5 – Current Land Use Map
Appendix A - Site Photographs



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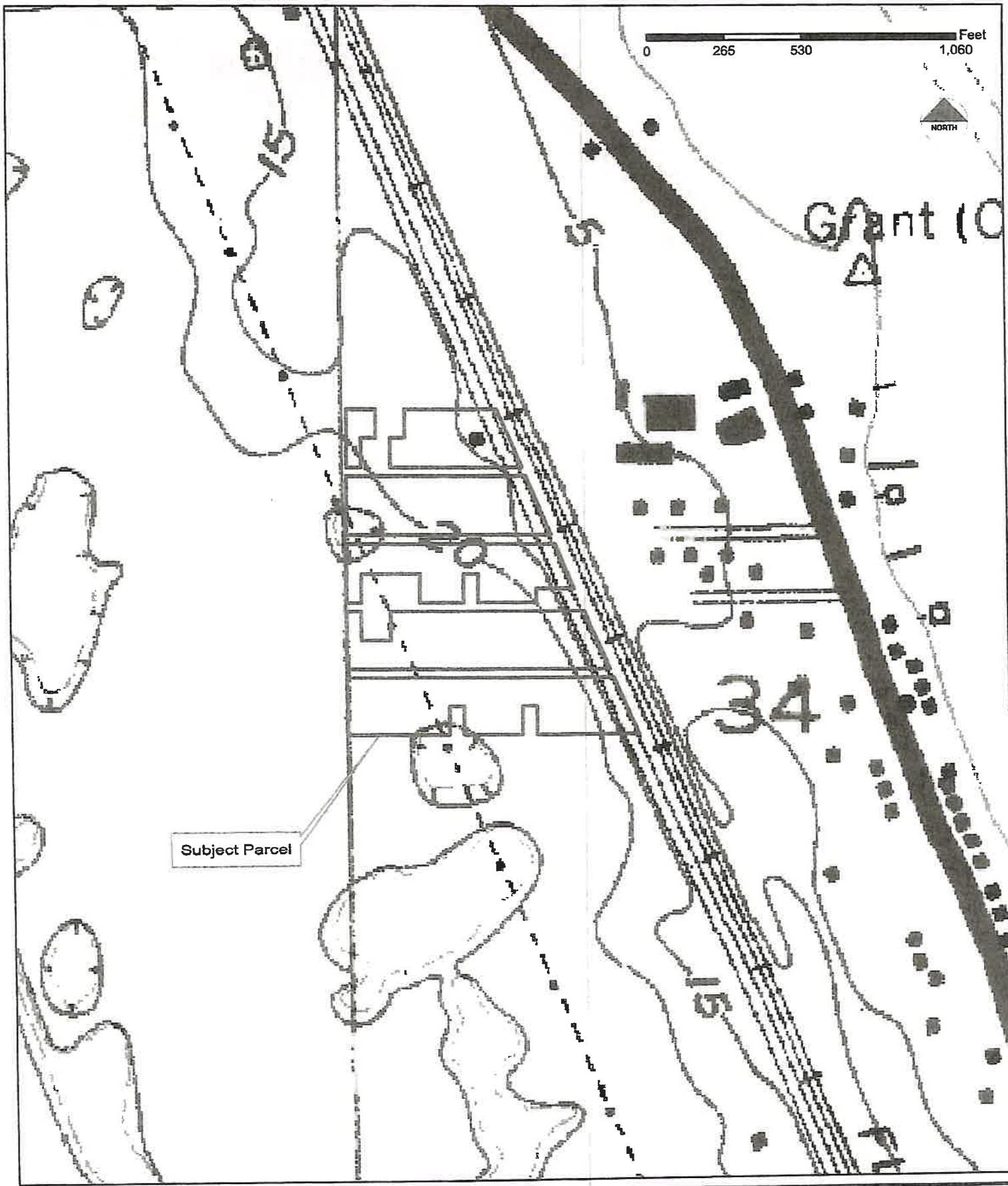
Project: Acquaviva Location - Aerial Map
Project No.: 13013
Source: Brevard County / FDEP 2012
Note: All boundaries and locations are approximate

Figure 1



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Project: Acquaviva USGS Topographic Map
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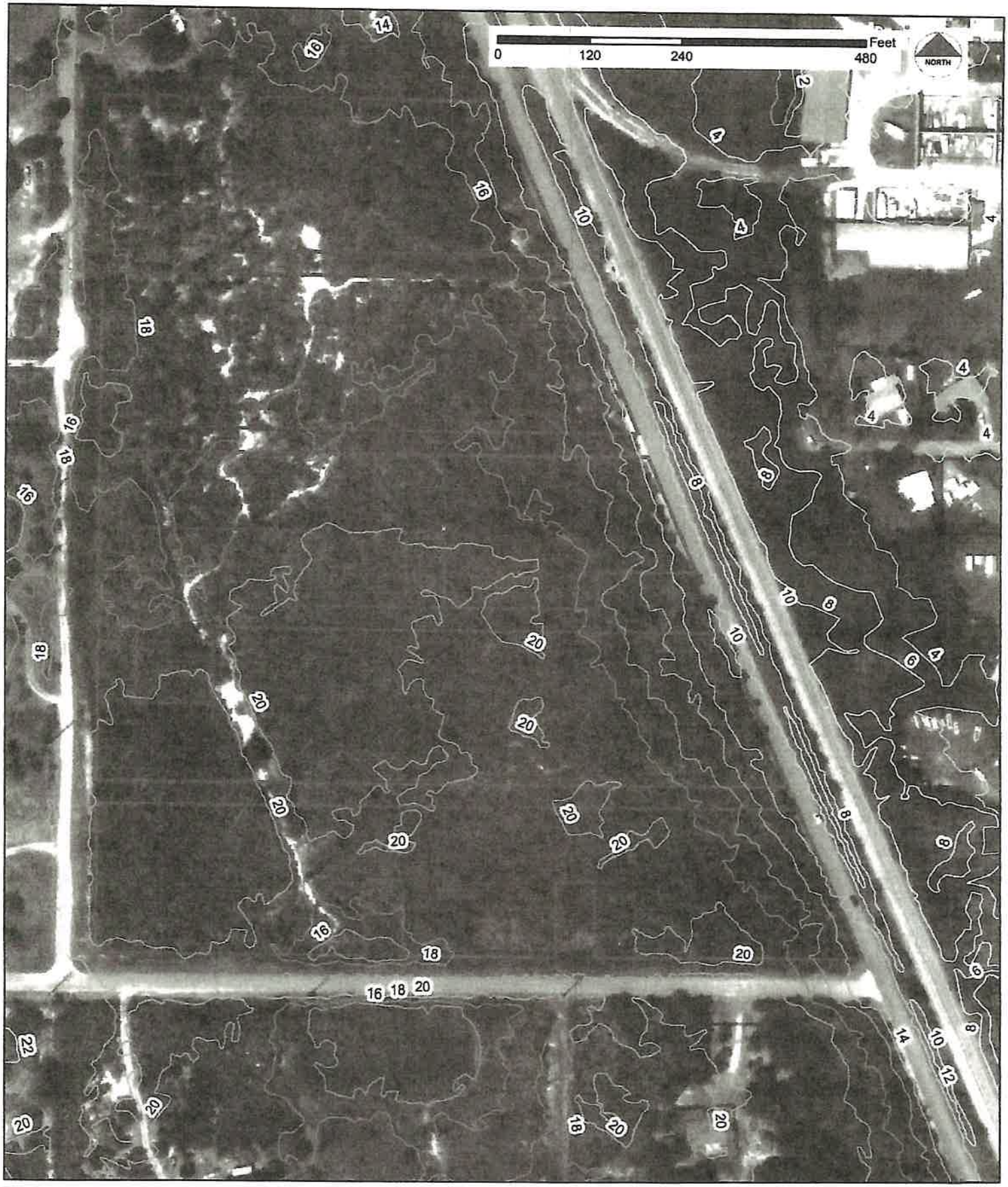
Source: Brevard County / FDEP
Note: All boundaries and locations are approximate

Figure 2



BKI, Inc.
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Project: Acquaviva LIDAR - Topographic Map
Project No.: 13013
Source: Brevard County / FDEP 2012
Note: All boundaries and locations are approximate

Figure 3

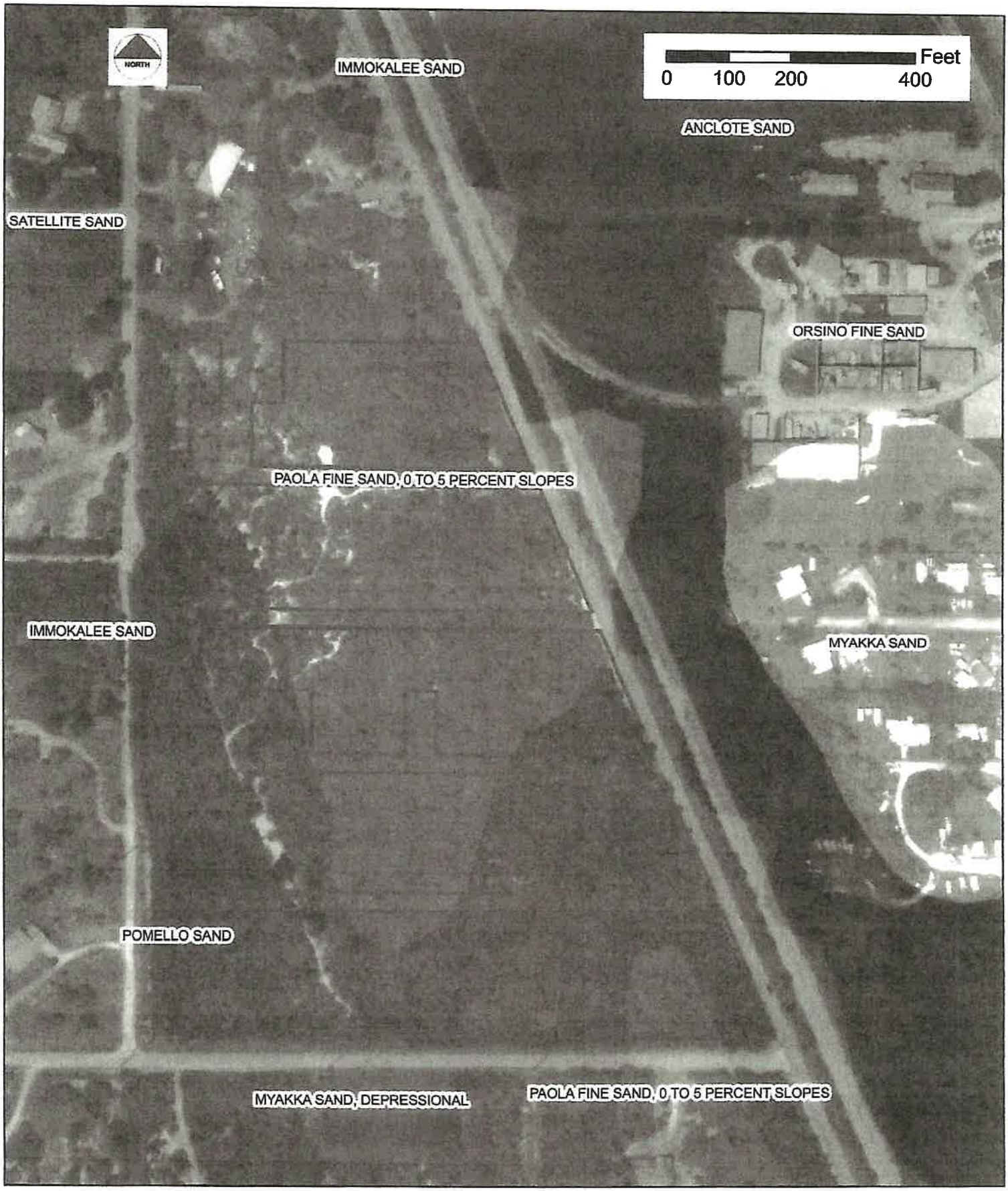

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Figure 4

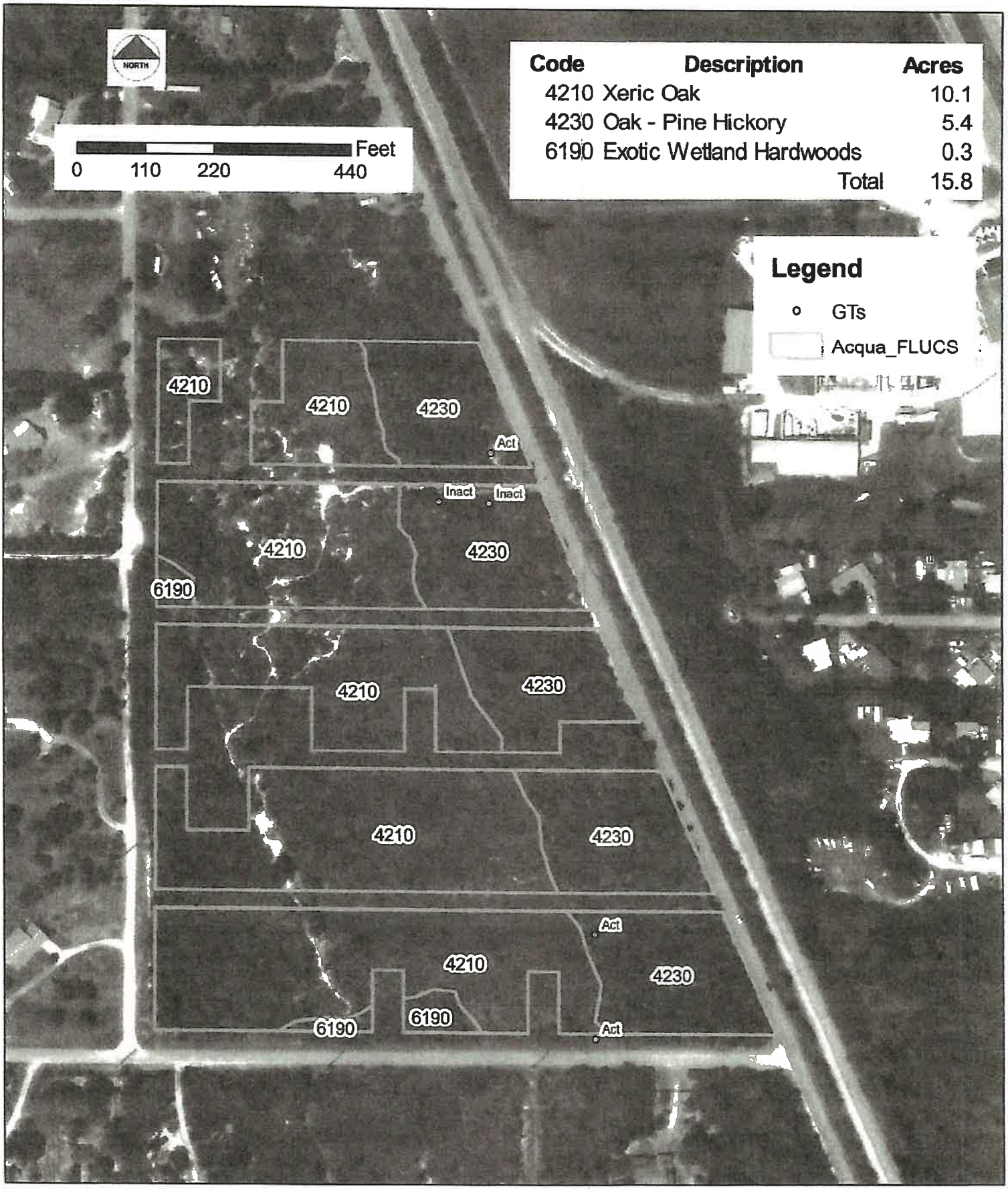

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Figure 5

Site Photographs –

Pic 1. North trail looking east.

Pic 2. North trail looking south. Note dead sand pines.

Pic 3. Southern interior looking north. Note solid canopy.

Pic 4. Southern interior looking west. Note solid canopy.

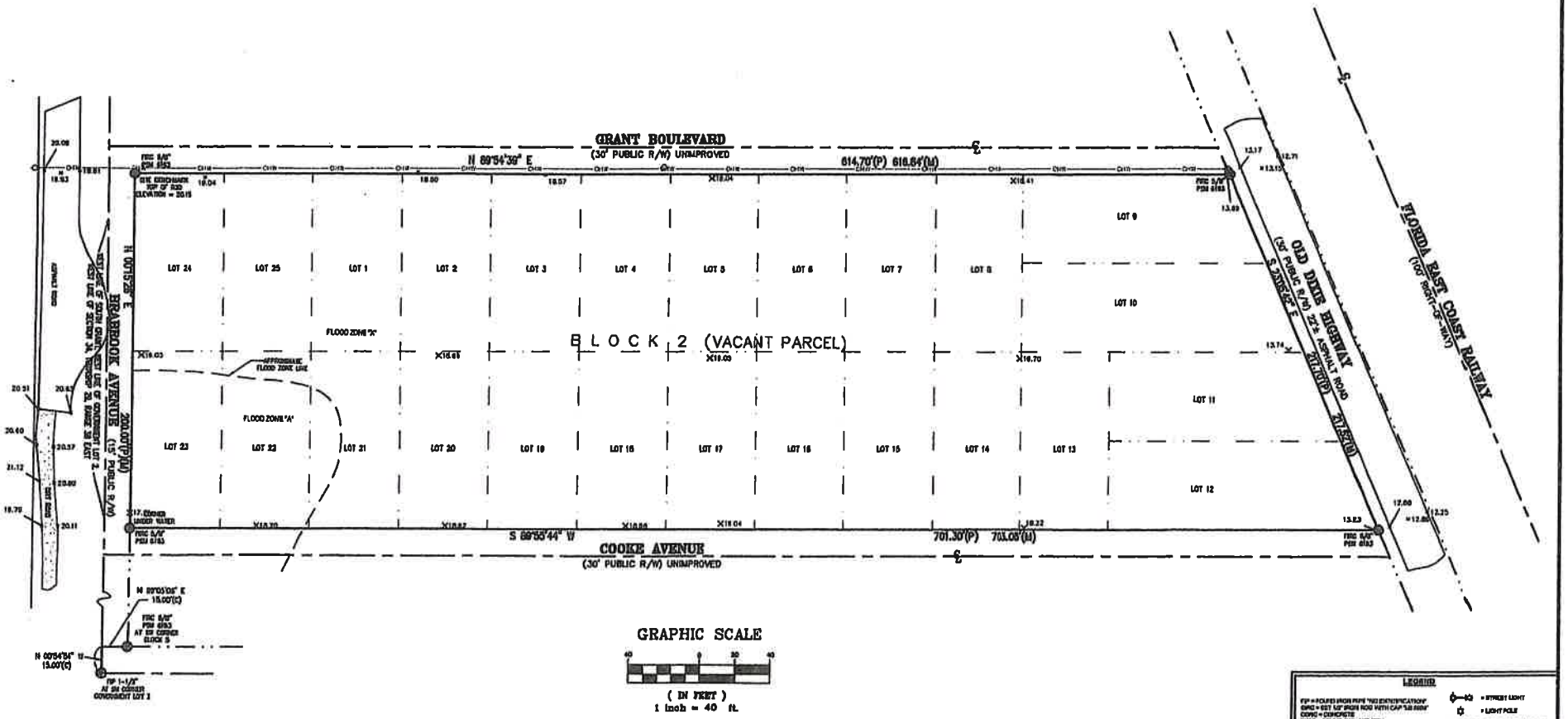
Pic 5. South border, looking east. Note Brazilian pepper.

Pic 6. South border, looking west. Note Brazilian pepper.

MAP OF SURVEY – BOUNDARY SURVEY

OF

LOTS 1 THROUGH 25, BLOCK 2, SOUTH GRANT, according to the plat thereof as recorded in Plat Book 7, Page 35, of the Public Records of Brevard County, Florida. (Contains 3.03± acres)



GRAPHIC SCALE

(IN FEET)

1 inch = 40 ft.

SURVEYORS NOTES:

1. LEGAL DESCRIPTION PROVIDED BY CLIENT. ADJOINERS SHOWN HAVE NOT BEEN SURVEYED.
2. THE EXPECTED USE OF THIS PARCEL IS RESIDENTIAL. THE MINIMUM RELATIVE DISTANCE ACCURACY FOR THIS BOUNDARY SURVEY IS 1 FOOT IN 7,500 FEET. IN THE MINIMUM TECHNICAL STANDARDS (5J17 F.A.C.).
3. LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR RIGHT-OF-WAY AND/OR EASEMENTS OF RECORD.
4. SEPTIC TANKS AND WELLS IF SHOWN ARE APPROXIMATE LOCATIONS AND SHOULD BE FIELD VERIFIED BY A LICENSED CONTRACTOR FOR CORRECT POSITION AND SEPARATION. UNDERGROUND UTILITIES OR FOOTERS HAVE NOT BEEN LOCATED.
5. BEARINGS AND DISTANCES SHOWN HEREON SUBSTANTIALLY AGREE WITH THE PLAT OR LEGAL DESCRIPTION UNLESS OTHERWISE NOTED. BEARINGS SHOWN ARE BASED UPON THE SOUTH RIGHT OF WAY LINE OF GRANT BOULEVARD AS SHOWN (DESCRIBED ABOVE).
6. ALL RIGHTS-OF-WAY SHOWN HEREON ARE OPEN TO TRAVEL UNLESS OTHERWISE NOTED.
7. ACCORDING TO THE NATIONAL FLOOD INSURANCE RATE MAP NUMBER 12009C0600G, HAVING AN EFFECTIVE DATE OF MARCH 17, 2014, THIS PROPERTY APPEARS TO LIE WITHIN ZONE X & A, BOTH INSIDE AND OUTSIDE SPECIAL FLOOD HAZARD AREA.
8. ALL DISTANCES SHOWN HEREON ARE HORIZONTAL GROUND DISTANCES AND ARE REFERENCED TO U.S. SURVEY FEET.
9. THE BOUNDARY DETERMINATION AND DELINEATION SHOWN ON THIS MAP OF SURVEY WAS BASED UPON THE PROFESSIONAL OPINION THE REGISTERED SURVEYOR PURSUANT TO NORMAL PRINCIPALS AND PRACTICES OF LAND SURVEYING AND IS NOT INTENDED TO IMPLY OR DETERMINE OWNERSHIP. THIS SURVEY DOES NOT INTEND TO DELINEATE LOCAL AREAS OF CONCERN OR ANY OTHER JURISDICTIONAL DETERMINATION.
10. THIS SURVEY HAS BEEN PREPARED FOR THE EXCLUSIVE BENEFIT AND USE OF THE PERSONS AND/OR ENTITIES NAMED HEREON FOR THE PURPOSES IDENTIFIED HEREON ONLY, UNLESS OTHERWISE STATED. CERTIFICATION OF THIS SURVEY MAP APPLIES ONLY TO THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J17 FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES. THE CERTIFICATION IN NO WAY CONSTITUTES NEITHER GUARANTY NOR WARRANTY TO ANY OTHER INFORMATION NOT SHOWN HEREON. ADDITIONS, DELETIONS OR REVISIONS TO THIS DRAWING BY OTHERS ARE NOT PERMITTED AND THIS SURVEY MAY NOT BE TRANSFERRED WITHOUT THE EXPRESSED WRITTEN PERMISSION OF THE SIGNING SURVEYOR. THIS SURVEY IS NOT VALID FOR ANY OTHER PURPOSE OTHER THAN INTENDED BY THE SIGNING SURVEYOR.
11. ELEVATIONS SHOWN ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

FIP = FOUND IRON PIPE "NO IDENTIFICATION"
FIRC = SET 1/2" IRON ROD WITH CAP "LB 6599"
CONC = CONCRETE
FNAIL = FOUND NAIL AND DISK
SNAIL = SET NAIL AND DISK
FF EL.= FINISHED FLOOR ELEVATION
SEPTIC TANK
SF = SQUARE FOOT
(P) = PLAT (D) = DEED (M) = MEASURED
C/L = CENTERLINE EOP= EDGE OF PAVEMENT
CMP = CORRUGATED METAL PIPE
TYP = TOP OF FORMBOARD
EL = ELEVATION
BM = SITE BENCHMARK
FPB = FOUND POINT OF REFERENCE
CB = CHORD BEARING
PCP = PERMANENT CONTROL POINT
PC = POINT OF CURVATURE
PT = POINT OF TANGENCY
R/W = RIGHT OF WAY
FIR = FOUND IRON ROD "NO IDENTIFICATION"
FIRC = FOUND IRON ROD WITH CAP
CHAIN LINK FENCE
WOOD FENCE
TOP OF BANK
TOE OF SLOPE
OVERHEAD WIRES
BUILDING SETBACK LINE
STREET LIGHT
LIGHT POLE
EXISTING ELEVATION
PROPOSED ELEVATION
PROPOSED WELL
CATCH BASIN
CABLE PEDESTAL
WOOD UTILITY POLE
GUY ANCHOR
ELECTRIC TRANSFORMER
TELEPHONE JUNCTION BOX
WATER METER
FIRE HYDRANT
WATER VALVE
EXISTING WELL
SANITARY MANHOLE
STORM MANHOLE

GLS SURVEYING & MAPPING, LLC.
CERTIFICATE OF AUTHORIZATION NUMBER LB 6599

Terry H. Dixon Jun 01,2016

PROFESSIONAL SURVEYOR AND MAPPER REGISTRATION DATE
TERRY H. DIXON PROFESSIONAL SURVEYOR AND MAPPER NO. 6317
NOT VALID WITHOUT THE SIGNATURE AND RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

UPDATES and/or REVISIONS	BY	DATE

JOB #16-0326	
DRAWN BY: LD	
CHECKED BY: THD	
FIELD BOOK: FILE	
PAGE:	
FIELD DATE: 05-27-16	

CERTIFIED TO:

SHANE K. DOWNS
COMMUNITY CREDIT UNION OF FLORIDA
FIDELITY NATIONAL TITLE INSURANCE COMPANY
PRESTIGE TITLE OF BREVARD

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