



OAKMONT PD

**Minor Amendment –
Application Package
July 19, 2019**

Prepared for:
Alachua County Department of Growth
Management

Prepared on behalf of:
CC Oakmont, LLC

Prepared by:
CHW

PN# 18-0257

N:\2018\18-0663\Planning\City-County\Support Documents\Report Cover_190719.docx

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July 19, 2019

Missy Daniels, Interim Director
Alachua County
Department of Growth Management
10 SW 2nd Avenue, #3
Gainesville, FL 32601

Re: Oakmont Planed Development (PD) – Minor Amendment
(Tax Parcel No. 04427-000-000)
Alachua County, Florida

Dear Missy,

On behalf of CC Oakmont, LLC, CHW submits 1 copy of the Minor PD Amendment application, which includes the following items:

- The required Alachua County Minor Amendment application;
- Property Owner Affidavit;
- Amended PD condition language; and
- Other supporting information.

Also submitted with this application is a CD-ROM with all application materials, and the application fee: Check No. 00016317 for \$2,140.00.

This application requests a minor amendment to Oakmont PD condition 19 to clarify timing for SW 122nd Street construction and public access. The proposed amendment is as follows:

The primary access on southwest 122nd Street shall be provided-constructed and accessible to the public prior to development approval of more than the recording of the plat of the 500th lot. ~~total units within the development.~~

The proposed request is consistent with the Comprehensive Plan, including Future Land Use Element (FLUE) Policy 1.4.1.3. The amended condition will ensure proper access and associated infrastructure are provided prior to occupation of the 500th lot. This request is also consistent with the Unified Land Development Code (ULDC), including §407.140(a)(5). The request ensures two functional access points located on different sides of the subdivision. The proposed amendment will not cause an expansion to the existing use or additional impacts to surrounding properties, natural resources, or public infrastructure.

We trust this submittal will be sufficient for your review and subsequent approval by the Board of County Commissioners. If you have any questions or need additional information, please call me at (352) 331-1976.

Sincerely,
CHW



Ryan Thompson, AICP
Planning Project Manager

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PLANNED DEVELOPMENT APPLICATION

For Rezoning to the Planned Development District, and for minor and major amendments to previously approved Planned Developments.

GENERAL INFORMATION (BY APPLICANT/ AGENT)

Applicant/Agent: CHW Contact Person: Ryan Thompson, AICP
Address: 11801 Research Drive, Alachua, Florida 32615 Phone: (352) 331 - 1976
Email address: _____

SUBJECT PROPERTY DESCRIPTION

Property Owner: CC Oakmont, LLC Property Address: 3289 SW 122nd Street
City: unincorporated State: Florida Zip: 32608 Phone: (_____) _____ - _____
Tax Parcel #: 04427 - 000 - 000 Section: 13 Township: 10 Range: 18 Grant: _____
Total Acreage: 534 Zoning: PD Land Use: Low Density Residential

TYPE OF REQUEST

- ☐ New Planned Development
- ☒ Minor Amendment For: Amendment to condition 19 pertaining to timing of SW 122nd Street construction and access.
- ☐ Major Amendment For: _____

CERTIFICATION

I, the undersigned applicant, hereby certify that the information contained in this application is true and correct to the best of my knowledge and belief. I hereby grant the appropriate County personnel permission to enter the subject property during reasonable hours so that they may investigate and review this zoning request.

Signature of Applicant/Agent: [Signature] Date: 7/19/19

Applications shall be submitted no later than 4:00 PM on the submittal deadline date



REQUIRED ATTACHMENTS

The following items must accompany your application at the time of submittal. No applications will be accepted without these attachments. Please submit the application fee, check made payable to Alachua County Board of County Commissioners, one paper copy and one digital copy of the following:

- ☐ Proof of neighborhood workshop.
- ☒ Legal description.
- ☒ Property Owner's Affidavit, notarized.
- ☒ Proof of payment of taxes on all parcels.
- ☒ Detailed directions to the site.
- ☒ Detailed description of request and an explanation of why the request is consistent with the County's Comprehensive Plan and Unified Land Development Code.
- ☒ Statement of objectives concerning the proposed development.
- ☐ Statement that all land within the PD-TDR shall be under the unified control of the applicant and indicating the type of legal instrument that will be created to provide for management of common areas.
- ☐ Analysis of impact of the proposed development on public facilities and services.
- ☐ Proposed or amended Zoning Master Plan, including the following:
 - ☐ A scaled plan showing the general location of all roads and other transportation facilities, land uses, storm-water facilities, conservation areas, recreational facilities, and open space areas.
 - ☐ Dimensional standards for each use, such as: minimum lot area, width, and depth; minimum and maximum density; maximum building height; minimum setbacks; floor area ratios or ground coverage.
 - ☐ A phasing plan, if appropriate (phasing plans shall include the location of each development phase, the number of acres in each phase, the number and type of dwelling units in each phase, the number of nonresidential square feet in each phase, the date the phasing plan is to begin, the approximate date for completion of each phase, and the final completion date of the project.
 - ☐ A proposed list of development conditions.
- ☐ Topographic survey of the property, in the same scale as the Zoning Master Plan, showing boundaries of property and adjacent properties, roads, all existing or proposed utilities, easements and rights-of-way, all structures on site, and the location of any on-site conservation areas and buffers. (topographic maps are available from the North Central Florida Regional Planning Council or USGS topographic survey).
- ☐ Conceptual utility service plan including availability of gravity or forced sanitary sewer service, potable water supply and proposed lift station locations, a survey showing any and , and a narrative describing the proposed methodology for managing the storm-water run-off.
- ☒ Environmental Resources Checklist, conducted by a qualified professional (certain requests may require a more extensive natural resources assessment).
- ☒ A digital copy of each of the above, in either Microsoft Word or Adobe PDF format.

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THIS DOCUMENT PREPARED
BY AND RETURN TO:

J. Andrew Hagan, Esquire
2379 Beville Road
Daytona Beach, Florida 32119

SOUTHERN TITLE
2379 Beville Road

Daytona Beach, FL 32119

CM123761

SPECIAL WARRANTY DEED

THIS INDENTURE, is made effective December 21, 2012, by and between **OAKMONT AT GAINESVILLE, LLP**, a Florida limited liability partnership (the "Grantor"), whose mailing address is 2379 Beville Road, Daytona Beach, Florida 32119 and **CC OAKMONT, LLC**, a Florida limited liability company (the "Grantee"), whose mailing address is 200 S. Biscayne Blvd., Suite 4900, Miami, Florida 33131.

WITNESSETH THAT:

GRANTOR, for and in consideration of the sum of Ten and No/100 Dollars (\$10.00) and other good and valuable consideration to it in hand paid by Grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to Grantee, its successors and assigns, forever, the real property located in Alachua County, Florida, more particularly described on **Exhibit "A"** attached hereto and made a part hereof (the "Property"), together with all tenements, hereditaments, and appurtenances thereto belonging or in anyway appertaining to the Property.

SUBJECT, HOWEVER, to all covenants, restrictions, easements, liens and other matters of record and ad valorem taxes accruing after December 31, 2011;

AND Grantor does hereby fully warrant the title to said Property and will defend the same against the lawful claims of all parties, claiming by, through or under Grantor but against none other.

IN WITNESS WHEREOF, Grantor has caused these presents to be executed on this, the day and year first above written.

Signed, sealed and delivered
in the presence of:

GRANTOR:

**OAKMONT AT GAINESVILLE, LLP, a
Florida limited liability partnership**

**By: MHK OF VOLUSIA COUNTY, INC., a
Florida corporation, its managing partner**

Teri L. Hansen
Name Printed: TERI L. HANSEN
Nicole Keeley
Name Printed: NICOLE KEELEY

By: [Signature]
Print: Charlene B. I. Ford
Its: V.P.

Address: 2379 Beville Road
Daytona Beach, Florida 32119

STATE OF Florida)
)SS
COUNTY OF Volusia)

The foregoing instrument was acknowledged before me this 21ST day of December, 2012, by Charlene B. I. Ford as Vice President of **MHK OF VOLUSIA COUNTY, INC.,** a Florida corporation, managing partner of **OAKMONT AT GAINESVILLE, LLP,** a Florida limited liability partnership, on behalf of the company.



Teri L. Hansen
(Print Name) TERI L. HANSEN
NOTARY PUBLIC
State of Florida at Large
Commission #
My Commission Expires:
Personally Known ✓
or Produced I.D. _____
[check one of the above]

Type of Identification Produced

EXHIBIT A
(“Property”)

A parcel of land situated in Section 13, Township 10 South, Range 18 East, Alachua County, Florida, being more particularly described as follows:

Commence at the Northwest corner of Section 13, Township 10 South, Range 18 East; thence South 00°37'36" East along the West line of said Section, a distance of 40.01 feet; thence North 89°38'06" East departing said West line, a distance of 40.00 feet to the intersection of the southerly right of way line of S.W. 24th Avenue and the Easterly right of way of S.W. 122nd Street, said intersection being the point of beginning; thence continue North 89°38'06" East along said Southerly right of way line of S.W. 24th Avenue, a distance of 2598.49 feet to the West line of the Northeast ¼ of Section 13; thence South 00°50'15" East departing said Southerly right of way line, a distance of 1285.11 feet to the Southwest corner of the North ½ of the Northeast ¼ of said Section 13; thence North 89°45'39" East, a distance of 2642.92 feet to the Southeast corner of said North ½ of the Northeast ¼ of said Section 13; thence South 00°59'31" East along the East line of said Section 13, a distance of 3991.18 feet to the Southeast corner of said Section 13; thence North 89°52'39" West along the South line of said Section 13, a distance of 5271.23 feet to the aforementioned Easterly right of way line of S.W. 122nd Street; thence North 00°38'34" West along said Easterly right of way line, a distance of 2638.82 feet to a 4" x 4" Alachua County right of way monument; thence North 00°37'35" West continuing along said Easterly right of way line, a distance of 2598.20 feet to the point of beginning.

Less and except the lands recorded in the following 3 O.R.'S: 3921, page 50, 3921, page 54 and 3931, page 515.

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Parcel: 04427-000-000**Search Date: 7/18/2019 at 11:16:12 AM**

Taxpayer:	CC OAKMONT LLC	Legal: ALL OF SEC LESS N1/2 OF NE1/4 THEREOF (LESS COM SW COR SEC E 40.07 TO E R/W E 10 FT POB N 810.69 FT E 861.43 FT N 7 FT E 100 FT S 100 FT E 123.24 FT S 731.03 FT W 1071.73 FT POB PER OR'S 3921/50-54) (LESS R/W PER OR 3931/0515)(LESS LIFT STATION PER OR 4247/562)(LESS OAKMONT PH 1 UNIT 1A PER PB 29 PG 35)(LESS OAKMONT PH 1 UNIT 1B PER PB 29 PG 40)(LESS OAKMONT PH 1 UNIT 1C PB 30 PG 2)(LESS OAKMONT PH 1 UNIT 1D PB 30 PG 5)(LESS OAKMONT PH 2 PB 32 PG 30) OR 4161/2110
Mailing:	% KELLY MCCARRICK 2379 BEVILLE ROAD DAYTONA BEACH, FL 32119	
Location:	3289 SW 122ND ST UNINCORPORATED 3727 SW 122ND ST UNINCORPORATED	
Sec-Twn-Rng:	13-10-18	
Property Use:	09900 - ACRG NOT AG	
Tax Jurisdiction:	SUWANNEE - 0500	
Area:	RURAL	
Subdivision:	N/A	

	Property	Land	Classified	Improvement	Total	Deferred	County	School	County	School	County	School
Year	Use	Value	Land Value	Value	Just Value	Value	Assessed	Assessed	Exempt	Exempt	Taxable	Taxable
2018	ACRG NOT AG	1460300	72400	12000	1472300	0	1472300	1472300	0	0	1472300	1472300
2017	Acrg Not Znd Ag	2024900	0	12000	2036900	0	2036900	2036900	0	0	2036900	2036900
2016	Grzgsoil Class2	1524900	146900	12000	1536900	0	158900	158900	0	0	158900	158900
2015	Grzgsoil Class2	1906400	528400	12000	1918400	0	540400	540400	0	0	540400	540400
2014	Grzgsoil Class2	2456900	1079500	12000	2468900	0	1091500	1091500	0	0	1091500	1091500

Land

Land Use	Land Use Desc	Zoning Type	Zoning Desc	Lots	Acres	Sq Feet
9900	ACREAGE NON AG	PD	PLANNED DEVELOPMENT	1	9.65	420354
8240	CONSERVATION EASEMENT	PD	PLANNED DEVELOPMENT	1	45.9	1999404
9900	ACREAGE NON AG	PD	PLANNED DEVELOPMENT	1	48.06	2093493.6
9900	ACREAGE NON AG	PD	PLANNED DEVELOPMENT	1	100	4356000
9900	ACREAGE NON AG	PD	PLANNED DEVELOPMENT	1	76.85	3347586

Improvements

Improvement Type	Improvement Desc	Actual Year Built	Effective Year Built	Htd Square Feet	Stories
SOHM	SOH MISC				

Improvement Details

Imprv Detail Type	Description	SqFt/Unit	Quality	Qual Desc	Bldg Use	BUse Desc
2402	WELL IRR	2			R5	RES

Improvement Attributes**Sales**

Date	Price	Vac/Imp	Qualified	OR Book	OR Page	Instrument
2012-12-21	780000	No	30-Affiliated Parties	4161	2110	SD
2005-12-13	12740000	Vac	U-OLD SALE - UNQUALIFIED	3281	936	DD
1998-02-10	100	No	U-OLD SALE - UNQUALIFIED	2175	1674	WD
1998-01-20	65000	No	U-OLD SALE - UNQUALIFIED	2150	295	DD
1997-11-26	100	No	U-OLD SALE - UNQUALIFIED	2150	293	WD
1988-08-01	100	No	U-OLD SALE - UNQUALIFIED	1711	1119	WD

1986-12-01	330000	Vac	U-OLD SALE - UNQUALIFIED	1648	1215	MS
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Permits

County Permit information is supplied by the Alachua County Office of Codes Enforcement. The Alachua County Office of Codes Enforcement and the Property Appraiser's Office assume no liability whatsoever associated with the use or misuse of this public information data and will not be held liable as to the validity, correctness, accuracy, completeness, and / or reliability of this data.

Permit Number	Permit Type	Issue Date	Final Date	Appraisal Date	Comment
2014020237	STR	2014-02-24		2015-05-27	ENTRANCE WALL FOR OAKM



2018 Roll Details — Real Estate Account At 11565 SW 24TH AVE

Real Estate Account #04427 000 000

Parcel details

Latest bill

Full bill history

Print this page

2018

2017

2016

2015

...

2002

PAID

PAID

PAID

PAID

PAID

Apply for the 2019 Installment Payment Plan

Get Bills by Email

PAID 2018-12-18 \$29,629.23

Effective 2018-11-30

Receipt #18-0062649

Owner: CC OAKMONT LLC
 % KELLY MCCARRICK
 2379 BEVILLE ROAD
 DAYTONA BEACH, FL 32119
 Situs: 11565 SW 24TH AVE

Account number: 04427 000 000

Alternate Key: 1021532

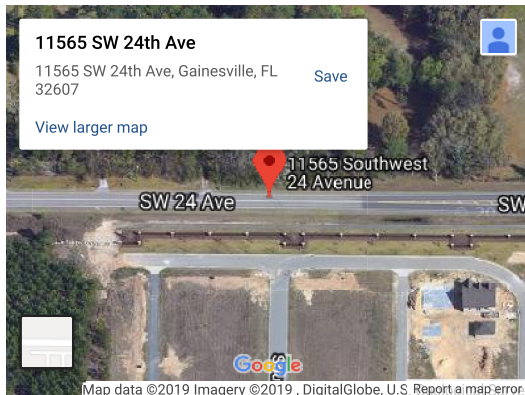
Millage code: 0500

Millage rate: 20.8960

Assessed value: 1,472,300

School assessed value: 1,472,300

Unimproved land value: 1,460,300



Map data ©2019 Imagery ©2019, DigitalGlobe, U.S. Report a map error

Location is not guaranteed to be accurate.

Property Appraiser

2018 Annual bill

View

Ad valorem: \$30,765.18

Non-ad valorem: \$98.60

Total Discountable: 30863.78

No Discount NAVA: 0.00

Total tax: \$30,863.78

Legal description

ALL OF SEC LESS N1/2 OF NE1/4 THEREOF (LESS COM SW COR SEC E 40.07 TO E R/W E 10 FT POB N 810.69 FT E 861.43 FT N 7 FT E 100 FT S 100 FT E 123.24 FT S 731.03 FT W 1071.73 FT POB PER OR'S 3921/50-54) (LESS R/W PER OR 3931/0515) (LESS LIFT STATION PER OR 4247/562) (LESS OAKMONT PH 1 UNIT 1A PER PB 29 PG 35) (LESS OAKMONT PH 1 UNIT 1B PER PB 29 PG 40) (LESS OAKMONT PH 1 UNIT 1C PB 30 PG 2) (LESS OAKMONT PH 1 UNIT 1D PB 30 PG 5) (LESS OAKMONT PH 2 PB 32 PG 30) OR 4161/2110

Location

Book, page, item: 4161-2110-

Geo number: 13-10-18-04427000000

Range: 18

Township: 10

Section: 13

Neighborhood: 215200.00

Use code: 09900

Total acres: 280.460



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LEGAL DESCRIPTION

Oakmont PD – Minor Amendment

18-0663



All of Section Thirteen (13), Township Ten (10) South, Range Eighteen (18) East, less the North one-half (N ½) of the Northeast one-quarter (1/4) of said section and less road right-of-way.

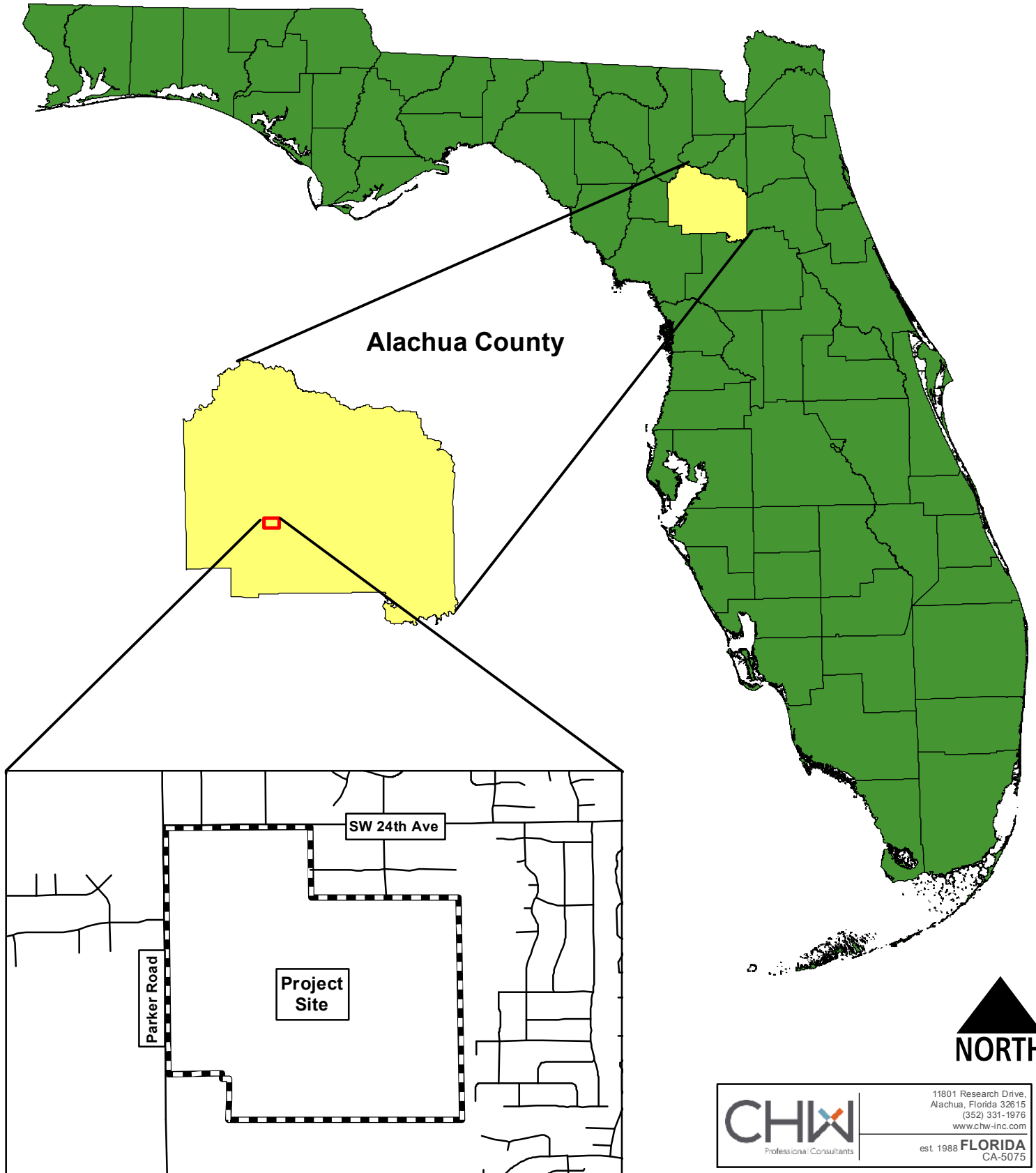
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Project Location Map

Oakmont PD

Minor Amendment Application



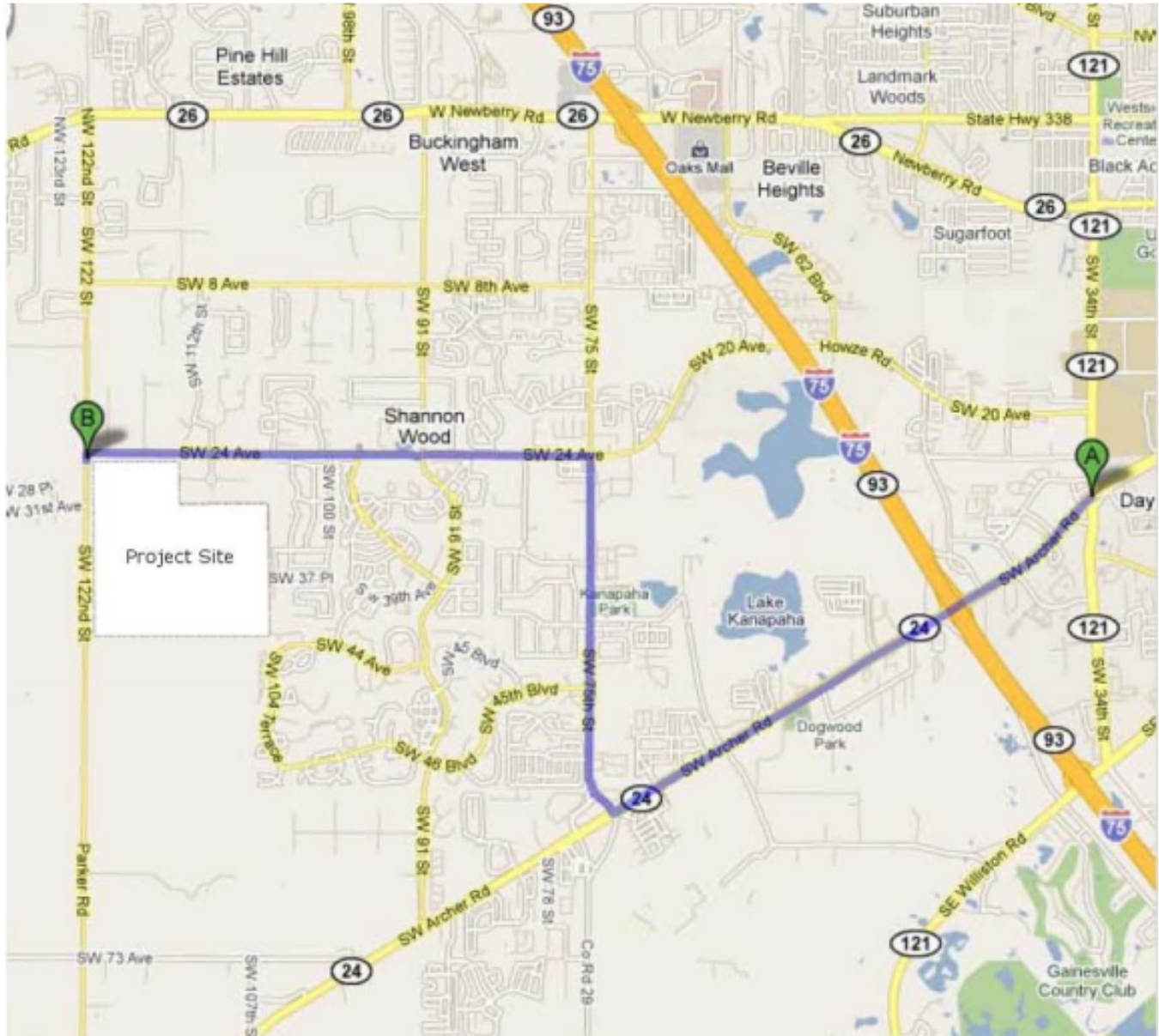
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The project site is located at the southeast corner of the SW 24th Avenue/ SW 122nd Street intersection.



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ENVIRONMENTAL RESOURCE ASSESSMENT

For
Oakmont, Phase 1 – Unit 1
A Planned Development

Prepared for Submittal to:
Environmental Protection Department
Alachua County, Florida

Prepared on Behalf of:
Oakmont at Gainesville, LLP

Prepared by:



November 28, 2005

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I. Summary

The Alachua County Comprehensive Plan Conservation and Open Space Element Policy 3.4.1 requires an inventory of natural resource information for all land use planning and development review applications. The intent of the inventory is to identify existing environmental and cultural resources and mitigate the impacts of development. In response to this requirement, the Alachua County Environmental Protection Department (ACEPD) has produced an Environmental Resources Assessment Checklist identifying specific areas of concern. As an addendum, ACEPD also provides a series of detailed questions for consideration. While not all items enumerated on the checklist apply to the Oakmont Phase 1, Unit 1 Planned Development (PD) site, each appropriate item will be addressed in this report to the greatest extent possible.

CONTEXT

The site is located at the southeast corner of the intersection of SW 122nd Street (Parker Road) and SW 24th Avenue. The total site is comprised of one parcel totaling approximately 556 acres. The Phase 1, Unit 1 platted area is approximately 138 acres and the proposed conservation easement area is approximately 44 acres. The surrounding area is primarily low density residential and agricultural. Illustration 1 is an aerial map of the site and the surrounding area.

CHARACTER OF PROPOSED DEVELOPMENT

The Oakmont PD is a residential development incorporating a variety of housing styles and lot sizes. The development adheres to the design principles of traditional neighborhood development (TND) and conventional neighborhoods, providing a pedestrian-friendly environment, interconnected to neighboring developments. The Oakmont PD incorporates generous buffering and large, centrally connected common open space areas into the design. Oakmont will be built in phases over a number of years.

II. Resource Assessment

PHYSICAL AND ECOLOGICAL CHARACTERISTICS

Dr. David Hall, Environmental Consultant and Forensic Botanist, performed habitat, listed wildlife, listed plant surveys, and jurisdictional wetland evaluation for the Oakmont PD. Thorough field surveys were conducted on the 7th, 13th, 14th, 15th, and 16th of December, 2004. The conclusion of the survey was that no plant, wetlands, or wildlife issues, excepting Gopher Tortoise mitigation, should prevent appropriate residential development of the site.

Historic and Existing Habitat

The historic, natural habitat on site has been altered by humans to an extent that significant natural plant and wildlife habitat no longer exists. Therefore, the protections for significant plant and wildlife habitat described in the Alachua County LED, Chapter 406, Article 3 "Significant Plant and Wildlife Habitat" do not apply. The human alterations include the introduction of exotic pasture grasses, row cropping for watermelons, creation of a public hunting dove field, disturbance from cattle and farm machinery, and fire suppression. The least disturbed habitat is 138-acre woodland located on the eastern side of the property. Eighty of the 138 acres have been protected from cattle grazing and farm machinery since the 1980's (based on historic aerials). These 80 acres represent the least disturbed portion of the site, but even in this area, the plant community is in an unnatural condition due to past logging, cattle grazing, and fire suppression.

The existing habitat on the majority of the site is Improved Pasture habitat. This type of habitat typically consists of grazing grasses and common weeds with minimal tree cover. Recent hurricanes have damaged many of the trees on the site. The full list of observed species can be found on page 2 of Dr. Hall's full report (Attached).

The eastern portion of the site is Woodland Pasture habitat. The tree cover is denser in this area and there are more shrubs and groundcover. A full list of the observed species can be found on page 2 of Dr. Hall's report.

Scattered throughout the site are Limerock Quarry habitats. Relatively few plant species grow in these habitats. A full list of the observed species can be found on page 2 of Dr. Hall's report.

There is a small area of Oak-Pine-Hickory habitat. This habitat is commonly associated with regrowth after clearing. A full list of the observed species can be found on page 3 of Dr. Hall's report.

There is an old home site located in the northwest section of the property, along SW 122nd Street. This area has become overgrown with weeds and once cultivated plants. A full list of the observed species can be found on page 3 of Dr. Hall's report.

Wetland Survey

One chimney sink contains a small amount of water. There is no hydrophytic vegetation associated with the sink. The soil characteristics could not be analyzed due to the sinks depth and vertical walls.

Listed Wildlife

A wildlife inventory revealed 184 active/inactive gopher tortoise burrows (as a matter of note: 8 burrows considered as active/inactive in the Hall report were later classified as abandoned). Illustration 2 shows that approximate locations of the burrows.

The burrows were concentrated in a 138 acre forested area located on the eastern half of the property. Tortoises were concentrated in this area because it is the least disturbed habitat on site, not because it is the best for tortoises. In fact, the best tortoise habitat occurs in the open pastures. The forested area is succeeding to a closed canopy forest, and as the canopy closes, the habitat will become unsuitable for tortoises.

The gopher tortoise population inhabiting the site was liberally estimated at 113 tortoises using the Florida Fish and Wildlife Conservation Commission's formula to convert burrows to tortoises (i.e., 0.614 tortoises per active/inactive burrow). However, the population is probably considerably less due to a recent disease that killed a number of tortoises on site, and the fact that the conversion factor is probably too high for the habitat conditions on site.

In addition to tortoises, two other listed species were noted on site. A Sherman's fox squirrel was observed by Mr. Phillip Smith, a Florida Fish and Wildlife OPS employee. Three kestrels were observed flying over the property in December, 2004. The birds could be southeastern kestrels, which are listed, but the birds could have been migratory northern kestrels. Northern kestrels are common winter visitors, and they are not listed.

The impact of development on these listed species will be mitigated by establishing a 37-acre conservation management area on site. The site will provide burrowing and foraging habitat for gopher tortoises, foraging habitat for kestrels, and foraging and nesting habitat for fox squirrels. The conservation area will contain approximately 28 acres of pasture and 9 acres of oak hammock (the hammock currently contains about 11 acres, but proposed canopy thinning will create an additional 2 acres of pasture). An 8-acre storm water retention area will lie adjacent to the management area. The retention area will be dry except during torrential rains. Gopher tortoises will use the retention area for burrowing and foraging, thus increasing the functional size of the conservation area to about 45 acres. A fence will enclose the conservation area and retention pond.

A conservation easement for the 37 acres will be granted to the State of Florida in accordance with the requirements of obtaining a gopher tortoise incidental take permit from the Florida Fish and Wildlife Conservation Commission. The state considers a sustainable tortoise population as 40-50 tortoises contained on a minimum conservation area of 25 acres; the conservation area proposed will exceed those requirements. The state permits a stocking rate of 3 tortoises/acre; at this stocking rate, the conservation area

can hold up to 111 tortoises. In reality, this stocking rate is probably too dense because the hammock habitat is not optimal for tortoises. Considering only the pasture habitat (28 acres), 84 tortoises can be stocked in the conservation area. If there is an excess of 84 tortoises on site, those tortoises in harms way from development activity will be relocated to other locations on site where no development is planned.

The conservation area will be managed appropriately per a management plan. The pastures will be managed for tortoises, and optimal conditions maintained to ensure the survival of the population. The pastures will be mowed periodically to control plant succession and to keep vegetation height between 4 and 12 inches. Strips of land within or around the perimeter of the pasture will be disked periodically to increase plant diversity and to provide habitat for tortoise nesting and hatchlings. The hammock understory will be managed with periodic mowing to enhance its aesthetic quality and to provide the open understories that fox squirrels prefer.

Listed Plants

One species of listed plant was observed. *Zamia floridana*, or Coontie, has been designated Commercially Exploited in Florida. Coontie is relatively common in all habitats except open pasture.

The complete methodology of the Listed Wildlife and Plants study can be found on pages 3 and 4 of Dr. Hall's full report. Should regulated species be discovered during the course of development, site construction that will affect the organism will be halted. A plant or wildlife biological specialist will be consulted as to the relevant course of action and the appropriate Alachua County and State agencies will be notified. No rare (but not yet afforded legal protection) species of plants or animals are known or reported to occur on the property.

Flood Prone Areas

The site is located outside FEMA designated flood prone areas.

Topography

Generally, the site is gently undulating with a maximum elevation of some 105 feet in the north and a low of some 65 feet in the south center. Most of the property lies at elevations of 75 to 85 feet. The area is essentially self-contained, with all drainage occurring via infiltration within enclosed, broad, shallow basins. There are no defined streambeds, wetlands, or ponds on the property. Illustration 3 shows the LiDAR 1-foot contours for the site. A full topographic survey has also been completed for the site.

SUBSURFACE AND GEOLOGIC CHARACTERISTICS

Albert Krause, Cave and Karst Resource, performed a geologic assessment for the Oakmont PD. The conclusion of the assessment was that the geologic conditions of the site should not prevent appropriate development from occurring. Additional information about the site's geology was gathered from available sources including the St. Johns River Water Management District, the Florida Geographic Data Library, the Alachua

County Soil Survey, the Florida Geological Society, and the Alachua County Data Warehouse.

Aquifer Recharge Areas

The project site is located in the area designated as unconfined by the Florida Geological Society Open File Report #21. The St. Johns River Water Management District estimates the recharge rate on the property to the east to be over 20 inches per year. It is a reasonable assumption that the recharge rates for the Oakmont PD site are also over 20 inches per year. There are natural connections to the Floridan Aquifer from the site. Outcrops and broken-off or residual fragments of the Ocala limestone occur throughout the property under thin (frequently less than two feet) mantle of primarily residual sandy soil. Outcrops of the limestone are specifically exposed in three abandoned phosphate pits (or prospects) and several partially filled sinkholes and solution pipes located in the central and southern portion of the property. The report by Cave and Karst Resource entitled "Geologic Assessment, Oakmont Project" provides detailed information about the nature of the geologic features referenced above (Attached.)

There are no actual surface streams or stream channels on the property or adjacent parcels. All drainage on the property is internal. Substantially all normal precipitation and runoff rapidly infiltrates the highly permeable thin sandy soil mantle and equally porous and highly permeable Ocala limestone. Very little horizontal flow occurs above the water table, either at or below the surface. The property does include numerous broad, shallow, closed, sand-filled basins which would constitute low points for surface water flow if surrounding areas were rendered less permeable (as by paving or development of a storm drainage system), but none constitute open channels for point recharge of the underlying aquifer or subterranean channels (caves or springs).

The parcel is substantially a self-contained groundwater re-charge area for the surrounding region, with no off-property surface drainage impacts. Published well data and piezometric surface contour maps from the Florida Geological Survey, US Geological Survey, and the water management districts indicate that groundwater beneath the property migrates through the unconfined Floridan Aquifer along a generally northwesterly course toward the Santa Fe River. There is no evidence in the literature or from on-site investigation that canalized subsurface groundwater movement occurs under the property.

Geologic Features

Limestone virtually outcrops throughout the property and is only shallowly covered by a sandy soil cover formed predominantly by the in-situ decomposition of the underlying limestone. Subterranean cavities are presumed to exist onsite (based on well-established regional experience and the presence of numerous surface depressions), but all appear to have been essentially filled-in through a natural influx of fine-grained overburden as the area was stripped of overlying deposits and subjected to extensive sub-sea and sub-aerial erosion during the last several million years. Several incompletely-filled vertical solution pipes and old (circa 1890s) phosphate pits or prospects visibly penetrate the underlying

limestone and are described in the report by Cave and Karst resource entitled "Geologic Assessment, Oakmont Project."

Soils

The entire property is very underlain by a weathered limestone surface that is very thinly mantled by a free-draining, highly erodable, sandy (SM-SP) soil cover, mostly formed in place by the decomposition of the underlying limestone. Most, if not all, of the property has been scraped, leveled and disturbed by land clearing in the mid- to late 1800s and subsequent agricultural use, leaving the area littered with residual boulders and broken-off fragments of limestone, most of relatively small size. Groundwater levels in the unconfined Floridan Aquifer are some 40 or more feet below the ground surface throughout the property. There are no secondary aquifers or clayey zones to impede subsurface drainage. Illustration 4 shows the location of the different soil types on the site. The report by Cave and Karst Resource entitled "Geologic Assessment, Oakmont Project" provides detailed information about the nature of the soils referenced above. In addition, the reports by Universal Engineering Services entitled Phase I and Phase II Environmental Site Assessment provide detailed information about soil borings and site assessment performed on the property.

CULTURAL AND HISTORICAL CHARACTERISTICS

Anne V. Stokes, Southeastern Archaeological Research, Inc. (SEARCH), performed a Phase I Cultural Resource survey for the Oakmont PD. The conclusion of the assessment was that the potential cultural resources that exist on the site are not significant, are not eligible for the National Register of Historic Places, and require no mitigation.

Two hundred and eighty-one shovel tests were performed on the site. Of these tests, 93 yielded cultural material representing five prehistoric archaeological sites and two archaeological occurrences. All five sites are low- to high-density lithic scatters associated with prehistoric lithic quarrying activities. This type of site is very common in western Alachua County. There is no evidence of human burials on the site. One historic structure exists on the northwestern edge of the site. The structure dates back to approximately 1948. Details about the structures and the archaeological sites can be found in the report by SEARCH entitled, "A Phase I Cultural Resource Survey of the Oakmont Property, Alachua County, Florida."

Should undocumented resources be discovered on the site during development the procedures for site development outlined in Best Management Practices: An Owner's Guide to Protecting Archaeological Sites, published by the Division of Historical Resources will be followed and all appropriate agencies will be contacted.

REGULATORY CHARACTERISTICS

The Alachua County Comprehensive Plan is the primary source for regulatory information. The Florida Geographic Data Library and the Florida Department of Environmental Protection also provided some information.

Recreation, Conservation, and Preservation Lands

The Oakmont PD has land a use designation of Low Density Residential. The primary land use within an eighth of a mile (660 ft.) is Low Density Residential. There are no Recreation, Conservation, or Preservation land uses located on or near the site. Illustration 5 shows surrounding Future Land Use designations.

Special Designations

The Alachua County Comprehensive Plan identifies mineral resources areas, significant natural ecological areas, and special area study resource conservation areas. The Oakmont PD is not located within any of these special designations.

Wells and Wellfields

The Murphree Wellfield is located north of the City of Gainesville and supplies the drinking water distributed by Gainesville Regional Utilities (GRU), which serves the site. The Murphree Wellfield is located approximately 8.33 miles northeast of the site.

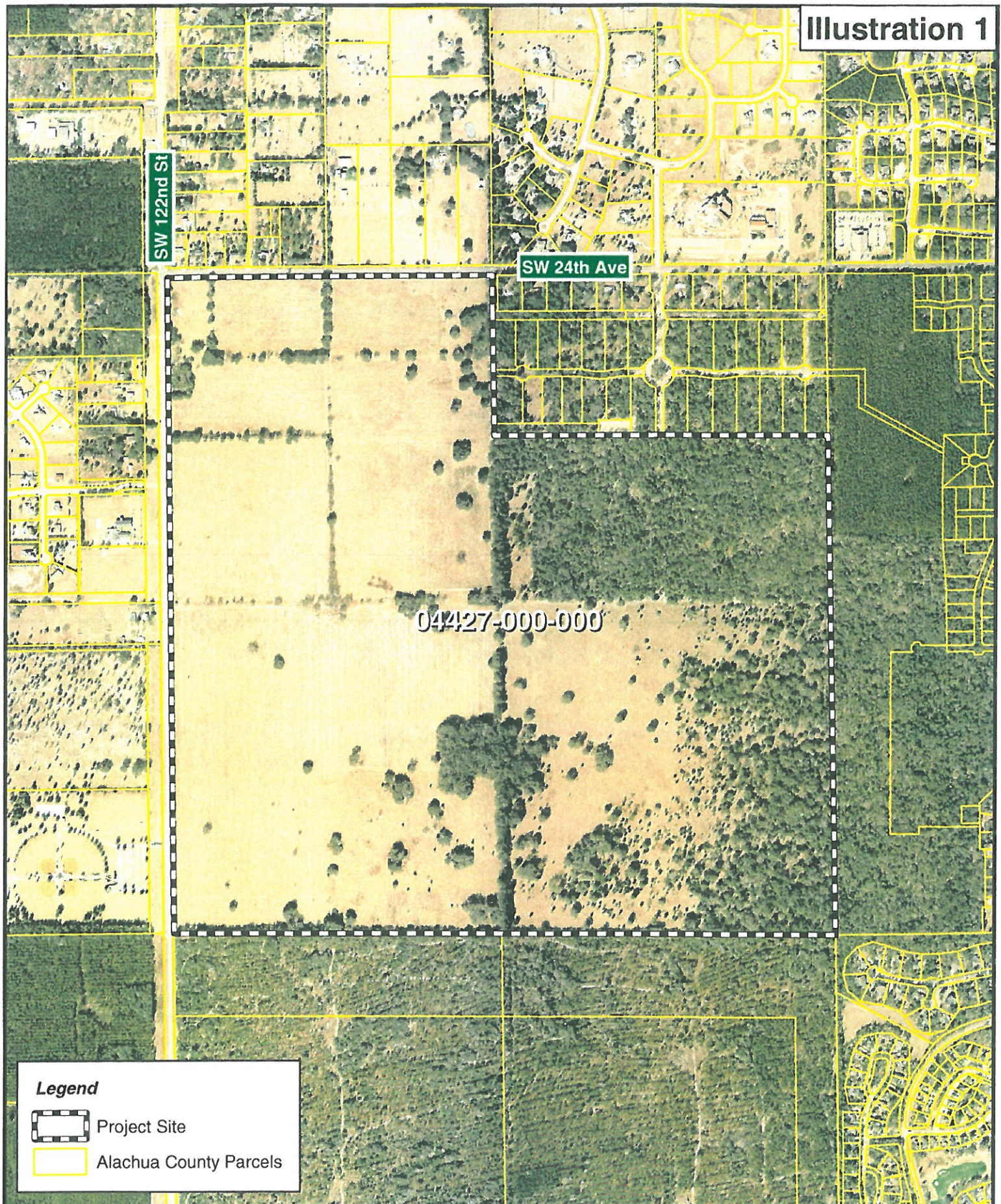
HAZARDOUS MATERIALS

Universal Engineering Services (UES) performed an Environmental Site Assessment (ESA) for the Oakmont PD in two phases. The Phase 1 ESA was a standard site investigation to identify any recognized environmental conditions. At the conclusion of the Phase 1 ESA, UES determined that additional site evaluation was necessary due to the existence of an aboveground storage tank (AST) on the property and the potential for soil contamination. The Phase 2 ESA was a soil sampling and analysis. The purpose of the soils sampling was to gather surficial soil analytical data to record if any soil has been impacted as a result of the activities reported in the Phase 1 ESA. At the conclusion of the Phase 2 ESA, UES determined that the soil on the site had not been impacted and that no additional site evaluation was necessary. The full reports by UES titled Phase 1 and Phase 2 Environmental Site Assessment are attached and provide detailed information on their testing methodology and conclusions.

IMPACT EVALUATION SUMMARY

The site will not affect significant ecological, geologic, or cultural resources. Dr. David Hall concluded that there was no wildlife, plant, or wetland issues to impede appropriate development of the site, if there is mitigation for the Gopher tortoise population. Albert Krause of Cave and Karst Resource concluded there are no geologic conditions that should prevent or impede appropriate developments. Anne V. Stokes of SEARCH concluded that the cultural and archaeological resources on the site are not significant and do not require further mitigation. There is very little tree canopy existing on the western and southern portion of the site. The Planned Development will restore much of the canopy as part of the integrated landscape plan for the site. The responsible development of the site will not significantly affect the sustainability of Alachua County's natural and environmental resources.

Illustration 1



Legend



Project Site



Alachua County Parcels



Causseaux & Ellington, Inc.
Engineering • Surveying • Planning

6011 NW 1st Place, Gainesville, Florida 32607
Phone: (352) 331-1976 Fax: (352) 331 2476
Email: mailbox@cei-civil.com
<http://www.cei-civil.com>

Oakmont Planned Development



0 500 1,000
Feet

SW 122nd St

SW 24th Ave

04427-000-000

Legend



Project Site



Alachua County Parcels



Active and Inactive Gopher Tortoise Burrows



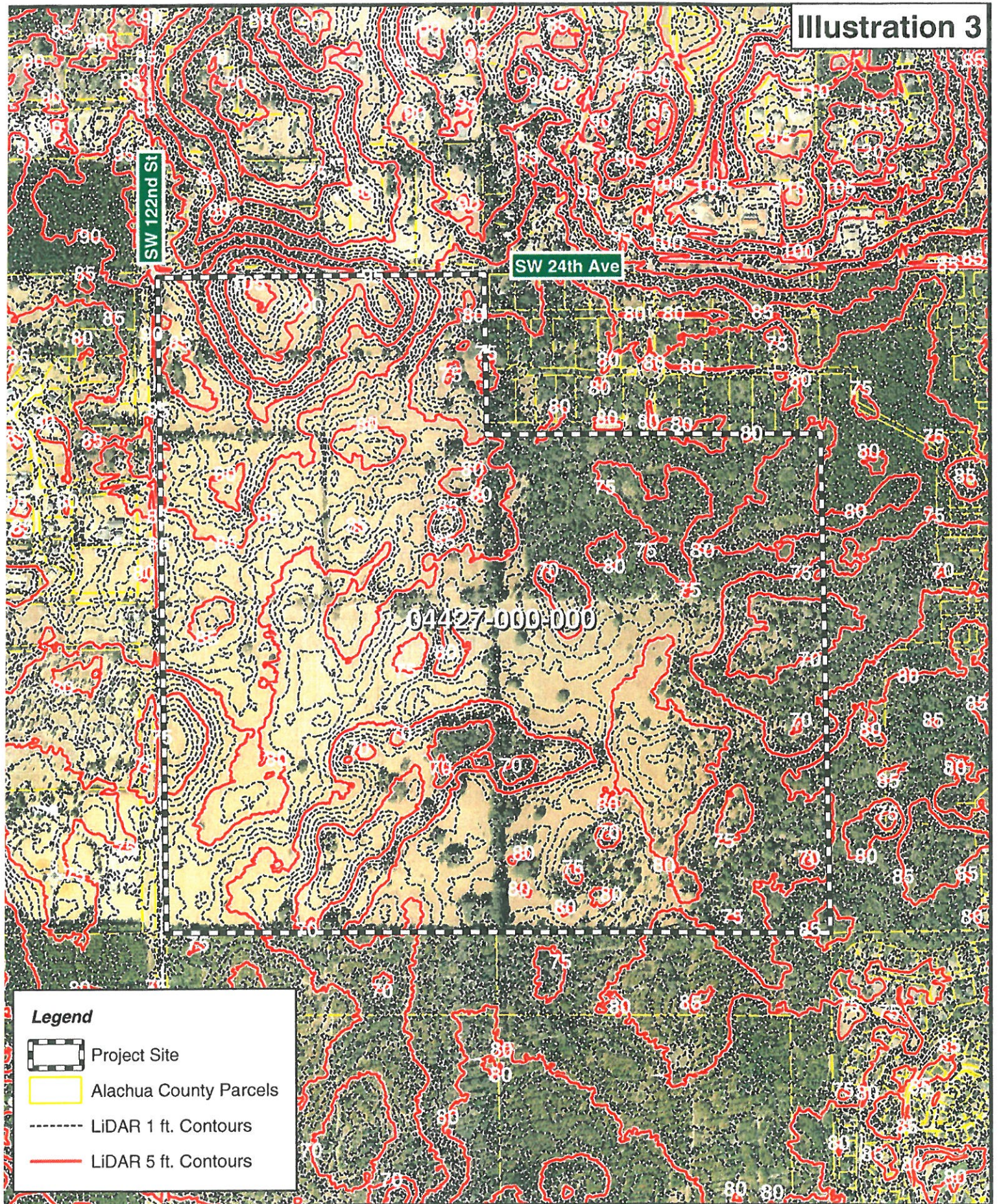
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Oakmont Planned Development



0 500 1,000
Feet

Illustration 3



Legend

-  Project Site
-  Alachua County Parcels
-  LiDAR 1 ft. Contours
-  LiDAR 5 ft. Contours

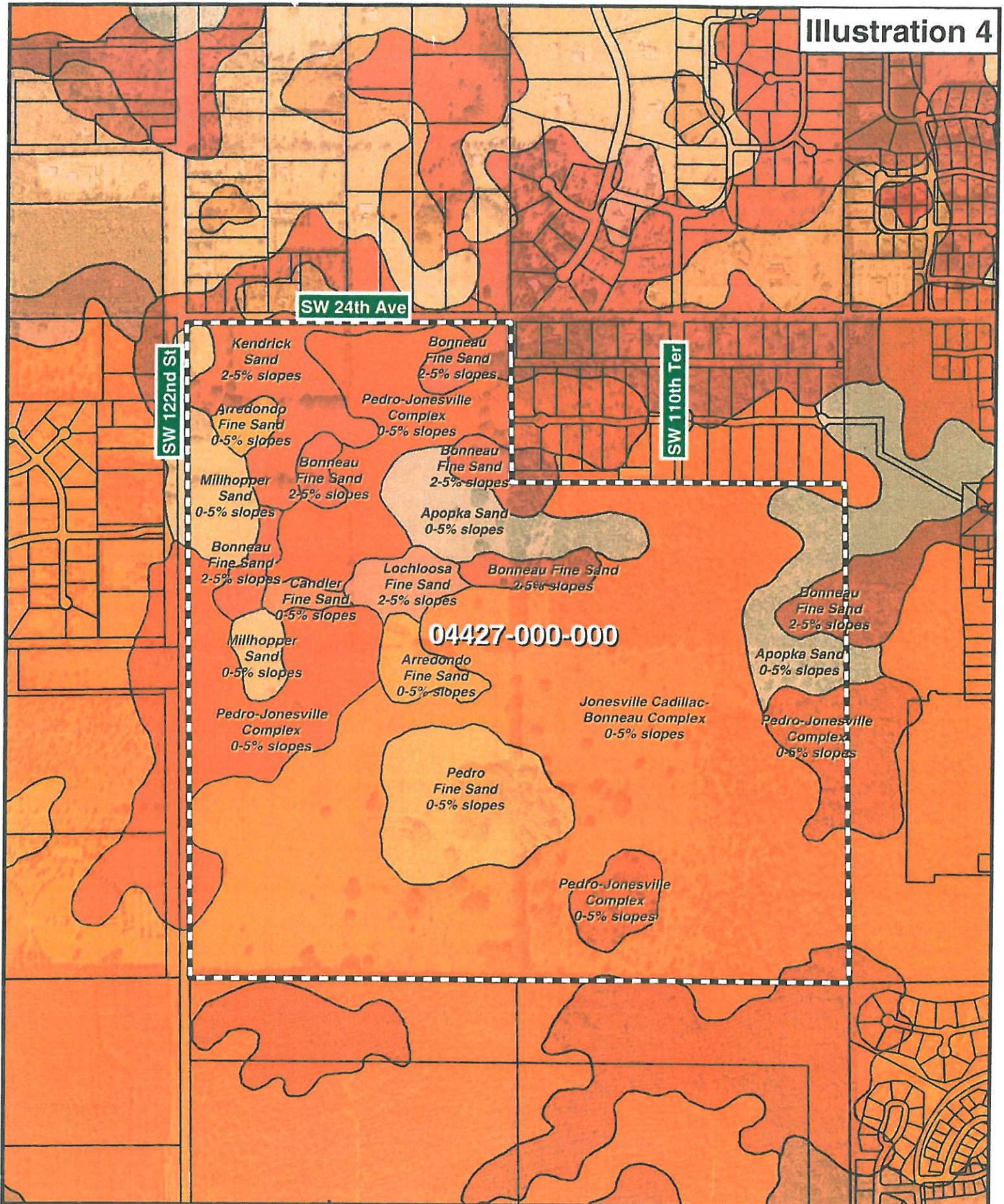


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Oakmont Planned Development



0 500 1,000
 Feet



SW 122nd St

SW 24th Ave

04427-000-000

Legend



Project Site



Alachua County Parcels

Alachua County Future Land Use



Institutional



Low Density Residential



Rural/Agriculture



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**Oakmont
Planned Development**



0 500 1,000
Feet

Cave and Karst Resource

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Mailto:aakrause@ufl.edu

19 November 2005

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mobile: 352-317-6341
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roryc@cei-civil.com

RE: Oakmont Environmental Assessment

Dear Mr. Casseaux:

Attached please find:

- 1) My draft comments responding to the geologic aspects of the response you are developing for the County's questions regarding the Environmental Resources Assessment for the Oakmont property.
- 2) My report "Geologic Assessment, Oakmont Project", intended as an attachment to your final report.
- 3) My report "Key Features, Oakmont Project", intended as an alternate to the above attachment, should you feel it more appropriate to your presentation.
- 4) Three much-reduced illustrations I prepared in event you (or I) might need them for this or other presentations. The original color versions are available as computer files and show much more detail.
 - a. An aerial photo of the area with sinkholes annotated.
 - b. A topographic map of the area with sinkholes annotated.
 - c. A topographic map of the area with closed drainages annotated.
- 5) All of the above materials provided as digital files on a CD.

I strove to make my comments brief and to focus on matters I expect to most concern the County evaluation staff. If you feel comments should be restructured or expanded or include additional matters, please advise by e-mail or phone (mobile 352-682-3523).

Respectfully yours,

Albert A. Krause

INPUT FOR ENVIRONMENTAL RESOURCES ASSESSMENT

NOTE: The following are Associated Documents developed by Cave & Karst Resource supporting the inputs included below:

Cited as attachments:

"Geologic Assessment, Oakmont Project"... File ID= Oakmont Geology-051119.doc

(includes description of geology, key depression features and recommendations for filling depressions)

Not Cited as attachments but provided:

Key Features, Oakmont Project... Oakmont-0511-Key Features.doc

(includes only locations and descriptions of key depression features)

Aerial Photo with sinks/pits annotated... File ID= Aerial-sinks-STR131018-2.JPG

1' Topo Map with sinks annotated... File ID= Topo-Sinks-STR131018.GIF

1' Topo Map with closed basins annotated... File ID= Topo-Basins-STR131018.GIF

AQUIFER RECHARGE AREAS

a. Is the property, or any portion of the property, located in an area where the Floridan Aquifer is identified as being unconfined or semiconfined pursuant Florida Geological Society Open File Report 21, or other relevant authorities?

ANS. Yes. The unconfined Floridan Aquifer is substantially exposed under the entire property and adjacent properties to the north, south, east and west.

b. Are there surface expressions of, or direct connections to, the Floridan Aquifer on or adjacent to the property?

ANS. Yes. Outcrops and broken-off or residual fragments of the Ocala limestone occur throughout the property under a thin (frequently less than two feet) mantle of primarily residual sandy soil. Outcrops of the limestone are specifically exposed in three abandoned phosphate pits (or prospects) and several partially-filled sinkholes and solution pipes located in the central and southern portion of the property.

(1) If yes, please briefly describe each feature and identify location(s) on the site plans.

ANS. See following discussion of geologic features and soils.

c. Is the property, or any portion of the property, located within a stream-to-sink drainage basin?

ANS. No. There are no actual surface streams or stream channels on the property or adjacent parcels. All drainage on the property is internal. Substantially all normal precipitation and runoff

rapidly infiltrates the highly permeable thin sandy soil mantle and equally porous and highly permeable Ocala limestone. Very little horizontal flow occurs above the water table, either at or below the surface. The property does include numerous broad, shallow, closed, sand-filled basins which would constitute low points for surface water flow if surrounding areas were rendered less permeable (as by paving or development of storm drainage systems), but none constitute open channels for point recharge of the underlying aquifer or subterranean channels (caves or springs).

(1) If yes, please briefly discuss the context of the subject parcel as it relates to overall basin hydrology.

ANS. The parcel is substantially a self-contained groundwater re-charge area for the surrounding region, with no off-property surface drainage impacts. Published well data and piezometric surface contour maps from the Florida Geological Survey, US Geological Survey, and the water management districts indicate that groundwater beneath the property migrates through the unconfined Floridan Aquifer along a generally northwesterly course toward the Santa Fe River. There is no evidence in the literature or from on-site investigation that canalized subsurface groundwater movement occurs under the property.

GEOLOGIC FEATURES

a. Are there any caves, springs, sinkholes, solution pipes, limestone or chert outcrops, etc. located on the property?

ANS. Yes. Limestone virtually outcrops throughout the property and is only shallowly covered by a sandy soil cover formed predominantly by the *in-situ* decomposition of the underlying limestone. Subterranean cavities are presumed to exist on site (based on well-established regional experience and the presence of numerous surface depressions), but all appear to have been essentially filled-in through a natural influx of fine-grained overburden as the area was stripped of overlying deposits and subjected to extensive sub-sea and sub-aerial erosion during the last several million years. Several incompletely-filled vertical solution pipes and old (circa 1890s) phosphate pits or prospects visibly penetrate the underlying limestone and are described in the attached report by Cave & Karst Resource entitled "Geologic Assessment, Oakmont Project".

(1) If yes, please briefly describe and identify the location of all relevant features on the site plans.

ANS. See attached report by Cave & Karst Resource entitled "Geologic Assessment, Oakmont Project".

SOILS

a. Identify all soil phases occurring on the property as identified in the Alachua County Soil Survey and discuss the suitability of each as it pertains to the proposed development. Pay particular attention to limitations imposed by groundwater elevations, drainage characteristics, erodibility, shrink-swell potential, etc.

ANS. The entire property is very underlain by a weathered limestone surface that is very thinly mantled by a free-draining, highly erodable, sandy (SM-SP) soil cover, mostly formed in place

by the decomposition of the underlying limestone. Most, if not all, of the property has been scraped, leveled and disturbed by land clearing in the mid- to late 1800s and subsequent agricultural use, leaving the area littered with residual boulders and broken-off fragments of limestone, most of relatively small size (less than 18 inches in diameter). Groundwater levels in the unconfined Floridan Aquifer are some 40 or more feet below the ground surface through out the property. There are no secondary aquifers or clayey zones to impede subsurface drainage.

b. Please include at least one plan sheet that depicts on-site soils. Such depiction may be in the form of a stand-alone plan sheet or as an overlay on other plan sheets.

c. Please attach all available soil boring data.

TOPOGRAPHY

a. Indicate existing site topography on the site plans at the one-foot contour interval.

ANS. Generally, the site is gently undulating with a maximum elevation of some 105 feet in the north and a low of some 65 feet in the south center. Most of the property lies at elevations of 75-85 feet. The area is essentially self-contained, with all drainage occurring via infiltration within enclosed, broad, shallow basins. There are no defined stream beds, wetlands or ponds on the property.

b. Please discuss any natural or man-made drainage ways (including sheet-flow drainages) that may exist on the property, even if they would not be considered regulated wetlands under federal, state or local laws. At least one plan sheet should depict local drainage basin divides.

c. If the proposed development will involve regrading, please indicate the location(s) and elevation(s) of all such activities on site plans or detailed drawings.

Oakmont Project

Description of Key Geologic Features

Cave & Karst Resource performed a detailed on-site survey of all exposed features on the Oakmont property in November 1999. Key features are described below.

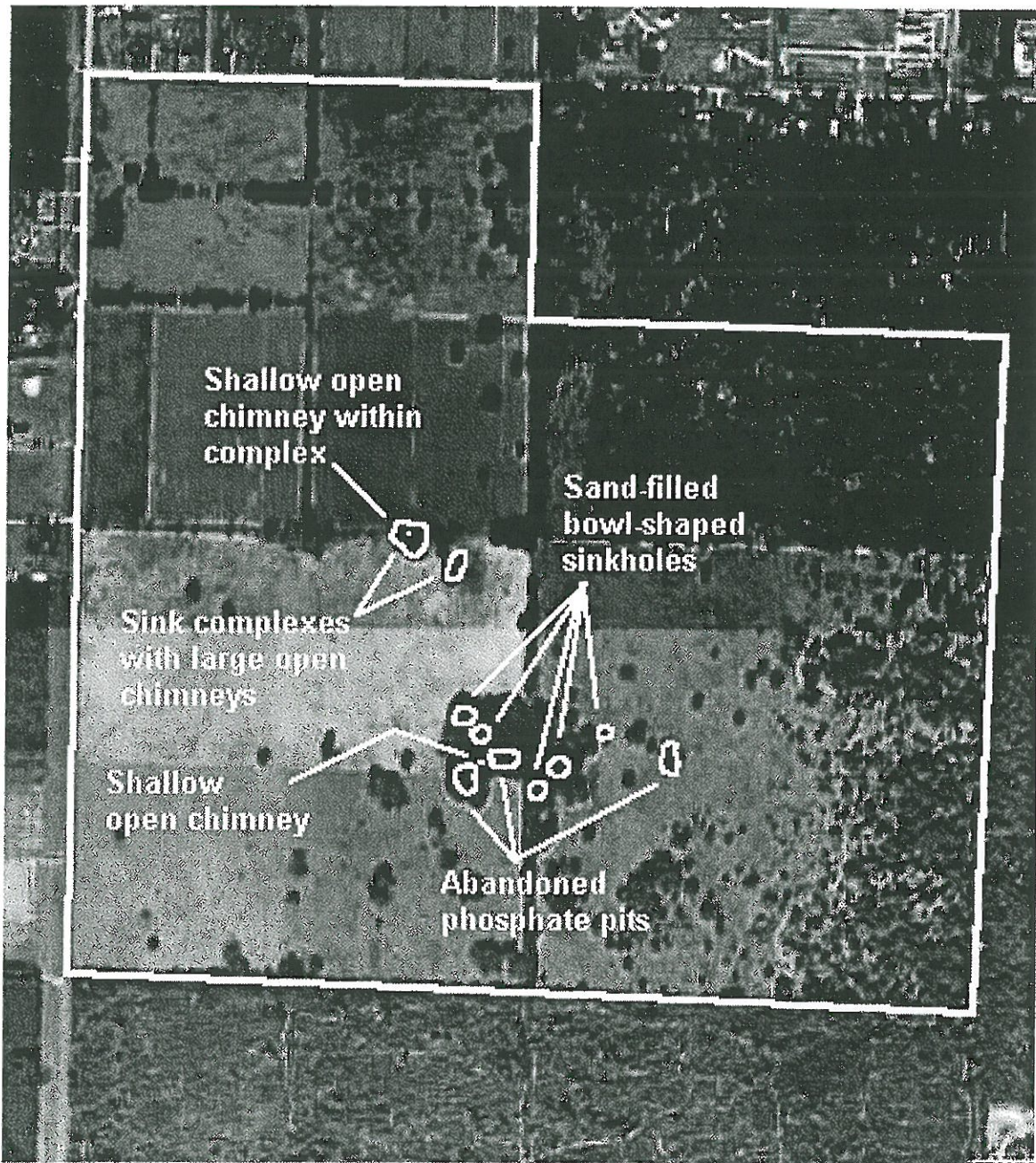


Figure 1. Oakmont property with location of significant depressions.

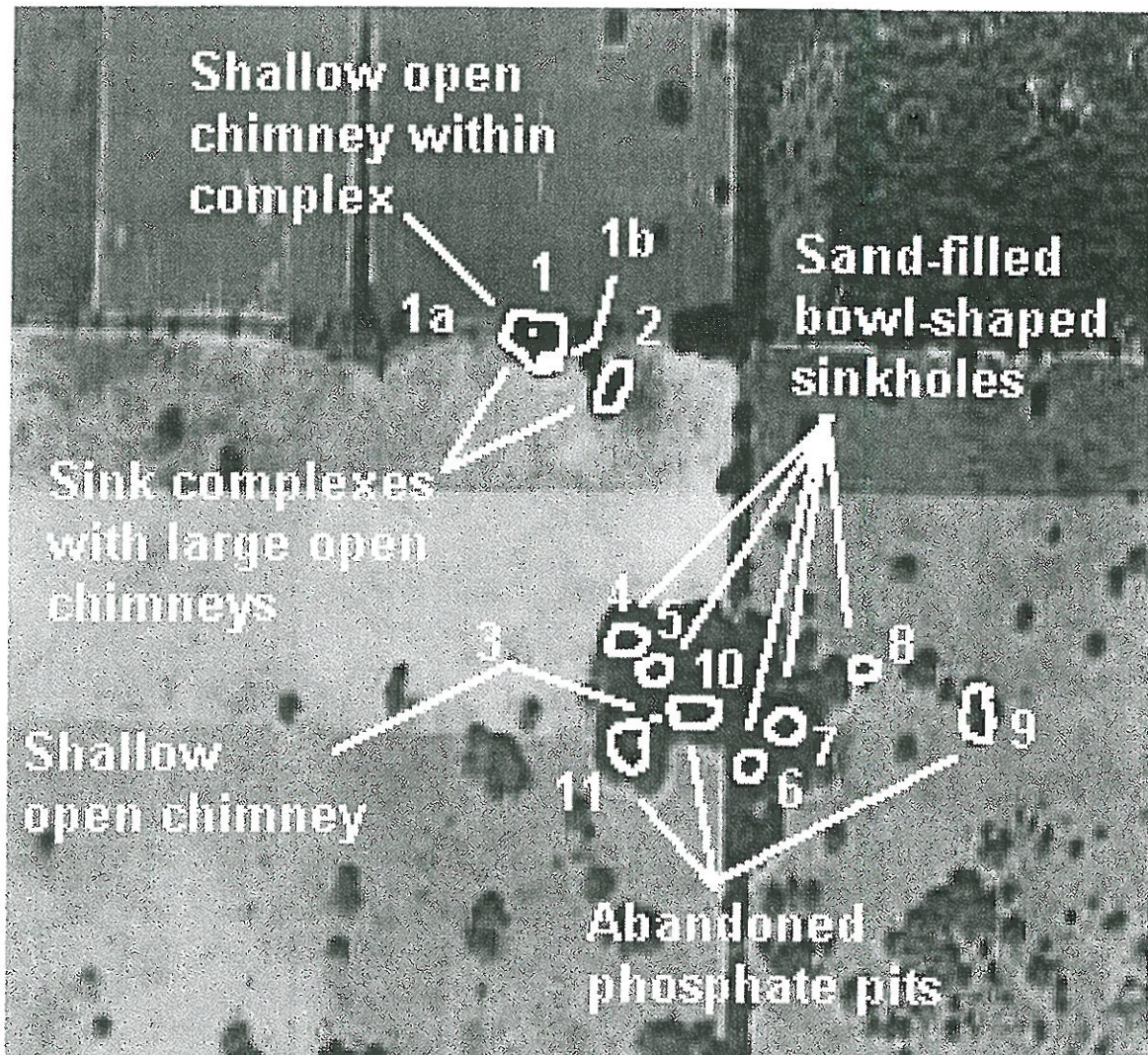


Figure 2. Numeric key to features described (see text).

Feature 1. Broad depression containing a complex of 6+ identifiable solution pipes within an irregular depression approximately 75 feet in diameter. All of the pipes are substantially filled to the top with consolidated sandy sediment except one small recently active pit (#1a in Figure 2) in the north-center which is partially concealed by a mat of tree roots and one large open chimney in the SE corner. The small chimney is approximately 6 feet in diameter at the top and loosely sand-filled to a depth of 3 feet below the pit edge (which is, itself, about 8 feet below surrounding terrain). The large open chimney (#1b in Figure 2) is oval-shaped and aligned SSW-NNE. It consists of several smaller pipes which coalesced. The chimney measures approximately 15 feet by 8 feet at a depth of 4 feet below the top and extends to a depth of 21 feet (24 feet below surrounding terrain). A small pipe on the west side extends downward an additional 3 feet. The sides are sheer and the bottom is filled with loose sand and minor amounts of compost. When observed, sink contained some dumped agricultural debris, including several lengths of rubber irrigation hose and plastic irrigation drip hoses along with some black plastic sheeting. No hazardous materials were observed (oil cans, pesticide containers, etc.)

Feature 2. Shallow oval depression about 35 feet by 65 feet containing a complex of two near-contiguous large chimneys aligned SW-NE (N60E). Chimney complex proper measures approximately 20 feet by 12 feet and occupies the SW 1/3 of the depression. The two included

chimneys are nearly sheer, tapering only slightly at the base and are separated by an partially breached dividing wall about 3-4 feet thick. The chimney on the NE is about 7 feet in diameter, the one on the SW is about 8 feet in diameter. Both are 23 feet deep (extending to about 25 feet below surrounding terrain). Both chimneys are sand-filled at the bottom.

Feature 3. A small, irregularly shaped limestone pit about 3- wide by 5 feet long aligned SW-NE. Sand-filled to within 8 feet of the top.

Features 4-8. Shallow, sand-filled bowl-shaped depressions 25-40 feet across with minor limestone outcrops near the rim but no exposed chimneys. Sink 4 is about 40 feet in diameter by 10 feet deep, with rock outcropping on the NW quadrant. Sink 5 is about 30 feet in diameter by 8 feet deep. Sink 6 is about 40 feet in diameter by 8 feet deep. Sink 7 is about 25 feet in diameter by 5 feet deep. Sink 8 is only about 4 feet deep by 30 feet in diameter. All features have trees with trunk diameters of 6 to 15+ inches around and in the depression.

Feature 9. An abandoned flat-floored old phosphate mining pit (or prospect). The pit has an irregular shape, but measures roughly 75-80 feet north-south by 50 feet east-west. Walls are 22 feet high on the east and the floor is about 27-28 feet below surrounding terrain. The excavation has remnants of a steep switchback ramp cut into the limestone on the west wall of the pit. Walls of pit exhibit fractures in the limestone, weathering processes, and solution sinks and other karst activity. Large trees with trunk diameters of 6 to 18+ inches grow on and around the rim and floor of the pit.

Feature 10. An abandoned old phosphate mining pit (or prospect).. The pit has an irregular shape, but measures roughly 85-90 feet east-west by 30 to 50 feet north-south. The limestone walls are steep on the northeast, east and south sides but slope gently down on the west, serving as an entrance ramp. The floor of the pit slopes east to a maximum depth of some 25 feet below the surrounding terrain. Maximum height of the bare limestone walls, measured on the south side, is 22 feet. Walls of pit exhibit fractures in the limestone, weathering processes, and solution sinks and other karst activity. Large trees with trunk diameters of 6 to 15+ inches grow on and around the rim and floor of the pit. Old shingles and demolition debris have been dumped on the south side.

Feature 11. An abandoned old phosphate mining pit (or prospect).. The pit has an irregular shape, but measures roughly 80 feet NE-SW by 50 feet NW-SE. The limestone walls are steep on the west, east and south sides but slope gently down on the north, serving as an entrance ramp. A second easy access lies in the west corner. Maximum wall height is 18 feet. Walls nicely exhibit the porous nature of the local limestone, the effects of solution in creating localized and more continuous cavities in the rock, fractures, solution pipes, the rock-weakening and breaking action of tree roots, and other weathering phenomena. Large trees with trunk diameters of 6 to 18+ inches grow on and around the rim and floor of the pit.

Prepared by:

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Geologic Assessment

Oakmont Project

Sect. 13, Rng. 18 East, Tshp. 10 South
Alachua County, Florida

General Geologic Setting

The local soil is predominantly residual fine sand with aeolian sand additions developed from the *in situ* weathering of the local Ocala limestone bedrock. Residual siliceous boulders and fragments of limestone derived from land clearing, leveling, and agricultural operations are scattered on and through the soil mantle. The highly porous and permeable soil mantle is free draining to excessively free-draining and highly subject to erosion. It varies in thickness from less than 1 foot to about 7 feet and grades downward into the irregularly weathered top of the Ocala limestone bedrock.

The Ocala limestone, which forms the upper part of the Floridan Aquifer, is soft, porous, highly fractured, irregularly weathered, and heavily modified by solution. Irregular silica (chert) and silica-cemented masses of variable size and purity occur within the rock. Locally, it is commonly penetrated by numerous closely-spaced vertical solution pits and near-vertical fractures. Cavities, normally of small extent, are commonly encountered in the region near and somewhat above the average elevation of the modern water table (approximately 35 feet above mean sea level).

The Oakmont property is substantially a self-contained groundwater re-charge area for the surrounding region, with no off-property surface drainage impacts. Published well data and piezometric surface contour maps from the Florida Geological Survey, US Geological Survey, and the water management districts indicate that groundwater beneath the property migrates through the unconfined Floridan Aquifer along a generally northwesterly course toward the Santa Fe River. There is no evidence in the literature or from on-site investigation that canalized subsurface groundwater movement occurs under the property.

There are no actual surface streams or stream channels on the property or adjacent parcels. All drainage on the property is internal. Substantially all normal precipitation and runoff rapidly infiltrates the highly permeable thin sandy soil mantle and equally porous and highly permeable Ocala limestone. Very little horizontal flow occurs above the water table, either at or below the surface. The property does include numerous broad, shallow, closed, sand-filled basins which would constitute low points for surface water flow if surrounding areas were rendered less permeable (as by paving or development of storm drainage systems), but none constitute open channels for point recharge of the underlying aquifer or subterranean channels (caves or springs).

No open cavities, caves or caverns have been observed or historically documented on the Oakmont Project property. Nearly all of the solution pipes and any cavities into which they may connect are completely filled with sand washed in from the areas around the pit/cave openings. A few solution pipes, on soil-deficient slopes or higher terrain, are only partially filled.

Sinkholes and Pits

In the center and south-center of the property (only) are numerous depressions, vertical rock solution pipes (shafts), and large open historic phosphate mining pits or prospects in the Ocala limestone (see Figure 1).

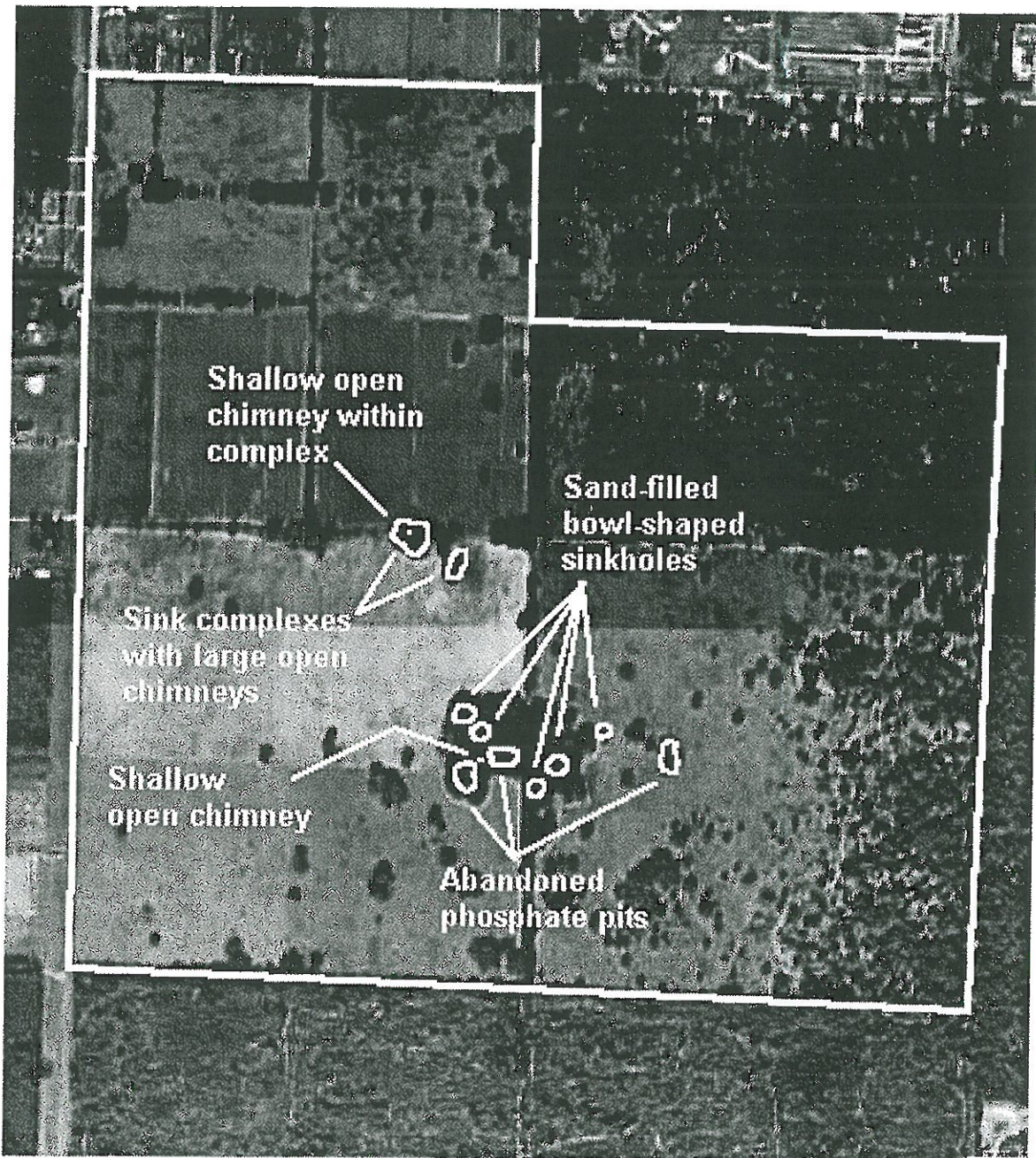


Figure 1. Oakmont property with location of key geologic features.

Cave & Karst Resource performed a detailed on-site survey of all exposed features on the Oakmont property in November 1999. Key features are described below.

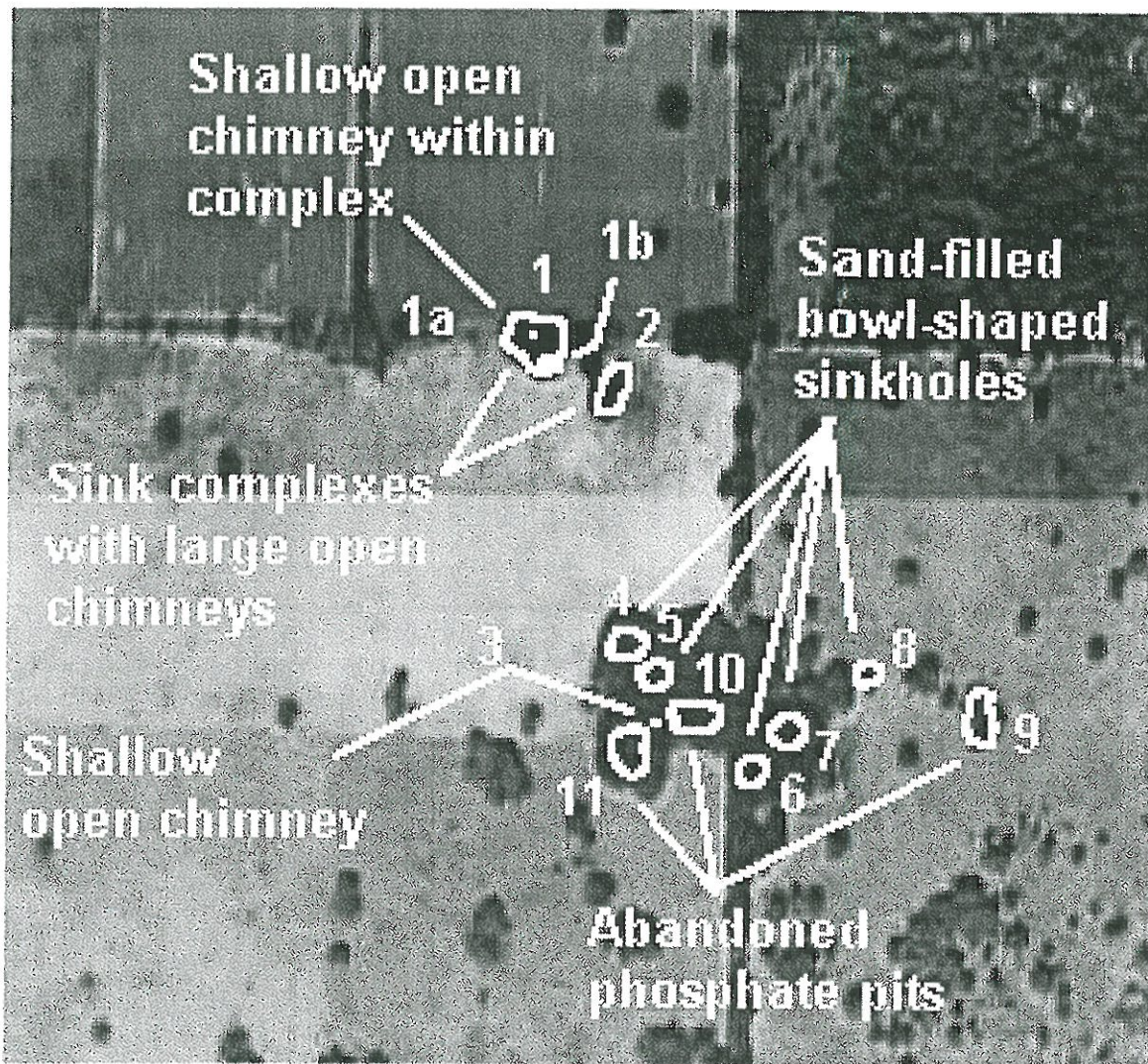


Figure 2. Aerial photograph with numeric key to features described in text.

Feature 1. Broad depression containing a complex of 6 distinct solution pipes within an irregular depression approximately 75 feet in diameter. All of the pipes are substantially filled to the top with consolidated sandy sediment except one small recently active pit (#1a in Figure 2) in the north-center which is partially concealed by a mat of tree roots, and one large open chimney in the SE corner. The small chimney is approximately 6 feet in diameter at the top and loosely sand-filled to a depth of 3 feet below the pit edge (which is, itself, about 8 feet below surrounding terrain). The large open chimney (#1b in Figure 2) is oval-shaped and aligned SSW-NNE. It consists of several smaller pipes that coalesced. The chimney measures approximately 15 feet by 8 feet at a depth of 4 feet below the top and extends to a depth of 21 feet (24 feet below surrounding terrain). A small pipe on the west side extends downward an additional 3 feet. The sides are sheer and the bottom is filled with loose sand and minor amounts of compost. When

observed, sink contained some dumped agricultural debris, including several lengths of rubber irrigation hose and plastic irrigation drip hoses along with some black plastic sheeting. No hazardous materials were observed (oil cans, pesticide containers, etc.)

Feature 2. Shallow oval depression about 35 feet by 65 feet containing a complex of two near-contiguous large chimneys aligned SW-NE (N60E). Chimney complex proper measures approximately 20 feet by 12 feet and occupies the SW 1/3 of the depression. The two included chimneys are nearly sheer, tapering only slightly at the base and are separated by an partially breached dividing wall about 3-4 feet thick. The chimney on the NE is about 7 feet in diameter, the one on the SW is about 8 feet in diameter. Both are 23 feet deep (extending to about 25 feet below surrounding terrain). Both chimneys are sand-filled at the bottom.

Feature 3. A small, irregularly shaped limestone pit about 3- wide by 5 feet long aligned SW-NE. Sand-filled to within 8 feet of the top.

Features 4-8. Shallow, sand-filled bowl-shaped depressions 25-40 feet across with minor limestone outcrops near the rim but no exposed chimneys. Sink 4 is about 40 feet in diameter by 10 feet deep, with rock outcropping on the NW quadrant. Sink 5 is about 30 feet in diameter by 8 feet deep. Sink 6 is about 40 feet in diameter by 8 feet deep. Sink 7 is about 25 feet in diameter by 5 feet deep. Sink 8 is only about 4 feet deep by 30 feet in diameter. All features have trees with trunk diameters of 6 to 15+ inches around and in the depression.

Feature 9. An abandoned flat-floored old phosphate mining pit (or prospect). The pit has an irregular shape, but measures roughly 75-80 feet north-south by 50 feet east-west. Walls are 22 feet high on the east and the floor is about 27-28 feet below surrounding terrain. The excavation has remnants of a steep switchback ramp cut into the limestone on the west wall of the pit. Walls of pit exhibit fractures in the limestone, weathering processes, and solution sinks and other karst activity. Large trees with trunk diameters of 6 to 18+ inches grow on and around the rim and floor of the pit.

Feature 10. An abandoned old phosphate mining pit (or prospect).. The pit has an irregular shape, but measures roughly 85-90 feet east-west by 30 to 50 feet north-south. The limestone walls are steep on the northeast, east and south sides but slope gently down on the west, serving as an entrance ramp. The floor of the pit slopes east to a maximum depth of some 25 feet below the surrounding terrain. Maximum height of the bare limestone walls, measured on the south side, is 22 feet. Walls of pit exhibit fractures in the limestone, weathering processes, and solution sinks and other karst activity. Large trees with trunk diameters of 6 to 15+ inches grow on and around the rim and floor of the pit. Old shingles and demolition debris have been dumped on the south side.

Feature 11. An abandoned old phosphate mining pit (or prospect). The pit has an irregular shape, but measures roughly 80 feet NE-SW by 50 feet NW-SE. The limestone walls are steep on the west, east and south sides but slope gently down on the north, serving as an entrance ramp. A second easy access lies in the west corner. Maximum wall height is 18 feet. Walls nicely exhibit the porous nature of the local limestone, the effects of solution in creating localized and more continuous cavities in the rock, fractures, solution pipes, the rock-weakening and breaking action of tree roots, and other weathering phenomena. Large trees with trunk diameters of 6 to 18+ inches grow on and around the rim and floor of the pit.

Recommendations for Treatment of Solution Depressions and Pits

The surface depressions and pits noted on the Oakmont property constitute safety hazards or other problems for development of the site as a mixed-use, residential and recreational complex. Unless other uses are specifically planned, we recommend that these depressions be grubbed, cleared and filled as described below to permit free, safe development of the property.

♦ **Do not site any occupied buildings, wells, pumps, major electrical installations, towers, hardstands or roadways within 50 horizontal feet of the sidewall of any known pit or chimney.** *If roadways or other structures are planned over filled depressions, the fills will need to be specifically designed to provide adequate structural integrity for the intended use. Generally, this will entail the use of more intensive compaction methods and/or the use of cement to enhance the strength of any fills and prevent settlement.*

♦ **Remove all man-made debris and organic materials (including trees and other vegetation) from the area to be filled.** Trees growing by or on the rim of the depressions may be retained, if viable and if consistent with land use plans.

♦ **Fill the depressions with sandy soil or a soil-rock mixture** as described above to 12 inches *above* surrounding ground level to allow for future settlement. Clean rock-free sandy soil or loam should be used in the top foot of any fill to promote even vegetative growth and prevent rocky material from interfering with mowing, gardening, or landscaping. *Note that some future settlement can be expected and sites may require minor re-grading at some future point, largely dependent on the frequency and intensity of rainfall.*

♦ **Grade the final fill to conform with surroundings and final use of the site.** *Note: delay final grading as long as construction plans permit to allow fills (especially deeper fills) to naturally consolidate somewhat. This will reduce future re-grading requirements.*

♦ **Seed, sod or landscape the final site as desired.**

Given that the local soil and soft bedrock materials are both very free-draining and substantially equivalent in porosity and permeability, mixtures of the two provide suitable fill material for depressions on the property provided: 1) sufficient clean soil or fine-grained material is admixed with the rock during emplacement to eliminate interstitial voids that would promote future settlement; and 2) at least 12 inches of rock-free sandy soil or loam is used to top all fills to provide uniform surface drainage/infiltration rates, enhance vegetative growth, and simplify landscaping and grounds maintenance activities.

Use of local fill material will match existing conditions and prevent uneven foundation and drainage situations that may arise from the more common practice of using clayey fill or concrete plugs to seal solution pipes and other depressions.

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