



**GROWTH AND RESOURCE MANAGEMENT DEPARTMENT  
PLANNING AND DEVELOPMENT SERVICES DIVISION**

123 West Indiana Avenue, DeLand, Florida 32720  
(386) 736-5959

**PUBLIC HEARING:** November 18, 2021 – Planning and Land Development Regulation Commission (PLDRC)

**CASE NUMBER:** V-22-015

**SUBJECT:** Variances to separate nonconforming lots and to the minimum yard requirements on Rural Agricultural (A-2) zoned property

**LOCATION:** 2850 Oak Road, DeLand

**APPLICANT(S):** John and Mary Cook

**OWNER(S):** Same as above

---

**I. SUMMARY OF REQUEST**

The applicants are seeking variances to separate nonconforming lots and to legitimize the placement of an existing barn. The requested variances are as follows:

- Variance 1: A variance to separate a portion of parcel 6030-01-00-0420 from parcel 6039-09-00-0193.
- Variance 2: A variance to reduce the minimum north side yard from 25 feet to 8.7 feet for an existing detached garage.
- Variance 3: A variance to reduce the minimum rear yard from 50 feet to 12.7 feet for an existing detached garage.
- Variance 4: A variance to reduce the minimum south side yard from 25 feet to five feet for an existing detached garage.
- Variance 5: A variance to reduce the minimum north side yard from 25 feet to 8.7 feet for a proposed carport.
- Variance 6: A variance to reduce the minimum south side yard from 25 feet to five feet for a proposed carport.

***Staff Recommendation:***

Approve variances 1-4, case number V-22-015, as the variances meet all five criteria for granting said variances.

Deny variances 5 and 6, case number V-22-015, as the variances fail to meet two of the five criteria for granting said variances.

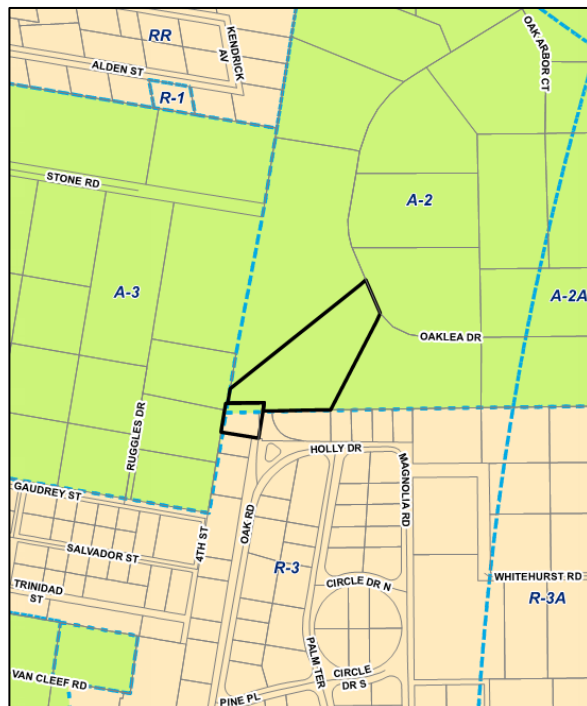
## II. SITE INFORMATION

1. Location: North terminus of Oak Road, in the DeLand area
2. Parcel Number(s): 6030-01-00-0420 and 6039-09-00-0193
3. Property Size: +/- 27,400 square feet and +/- 4.95 acres
4. Council District: 1
5. Zoning: Urban Single-Family Residential (R-3) and Rural Agriculture (A-2)
6. Future Land Use: Urban Low Intensity (ULI) and Rural (R)
7. Overlays: N/A
8. Local Plan Area: N/A
9. Adjacent Zoning and Land Use:

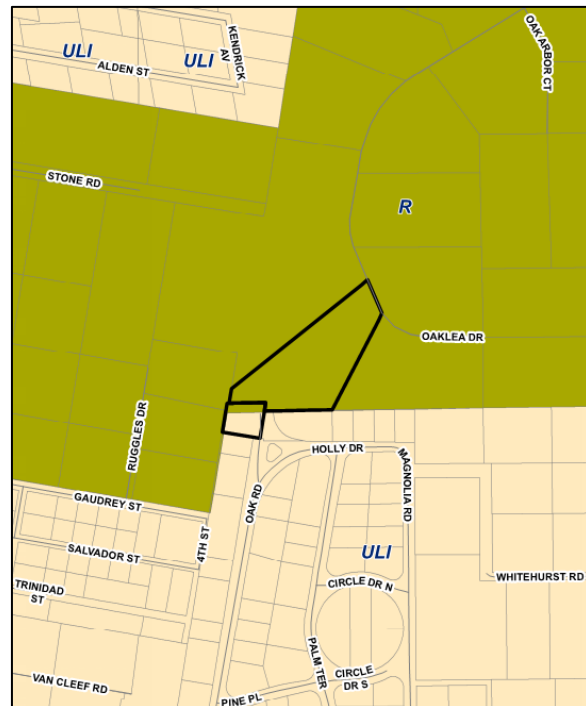
DIRECTION	ZONING	FUTURE LAND USE	EXISTING USE
North:	A-2	Rural	Single-Family Residence
East:	R-3	Urban Low Intensity	Vacant Residential
South:	R-3	Urban Low Intensity	Single-Family Residence
West:	A-3	Rural	Single-Family Residence

### 10. Maps:

**ZONING MAP**



**FUTURE LAND USE MAP**



### III. BACKGROUND AND OVERVIEW

The subject property is located at the north terminus of Oak Road, in the DeLand area. The parcel is developed with a single-family residence and detached garage. The property is split-zoned Urban Single-Family Residential (R-3) and Rural Agriculture (A-2).

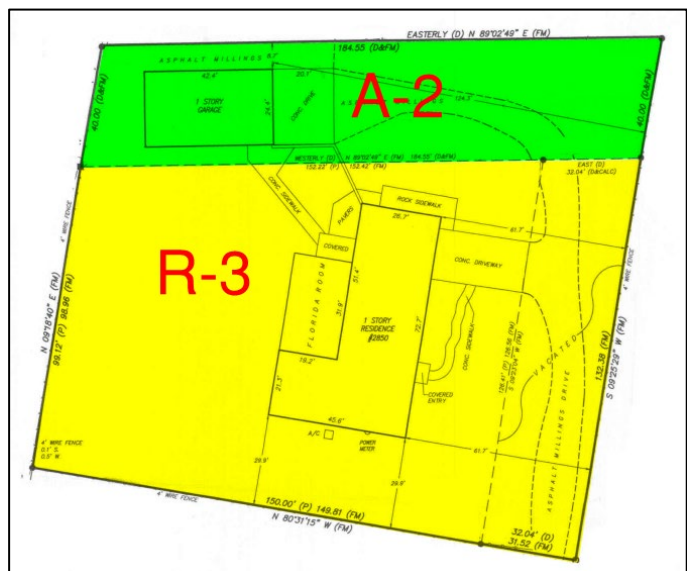
The R-3 zoning classification requires a minimum lot size of 10,000 square feet and minimum lot width of 85 feet, and the A-2 zoning classification requires a minimum lot



size of five acres and a lot width of 150 feet. Each portion of the lot must meet the minimum size requirements of its classification. The R-3 portion exceeds the minimum requirements, at approximately 20,000 square feet and 130 feet in width, while the A-2 portion does not meet the minimum requirements at 7,400 square feet and 40 feet in width.

Prior to 2003, parcels 6030-01-00-0420 and 6039-09-00-0193, the large parcel to the north, were in common ownership. In 2003, the applicants purchased the property as it exists today. The purchase was for lot 6030-01-00-0420 with a 40-foot section of parcel 6039-09-00-0193. The additional 40 feet was purchased to provide room for a detached garage. This portion of the lot is zoned A-2, while the rest of the lot is zoned R-3 as can be seen in the graphic to the right. Shortly after the purchase, the applicants built a 1,035-square-foot detached garage. The applicants believed that due to the agricultural zoning, it would be acceptable to build a structure without a building permit. However, the property does not have a bona-fide agricultural use or classification, so a permit and compliance with setbacks are required. In March 2021, Code Compliance received a complaint about the barn for building without permits.

The A-2 portion of the lot is considered nonconforming as it does not meet the minimum five-acre lot size requirement



of the A-2 zoning classification. Due to the previous common ownership with the property to the north, a variance to separate nonconforming lots is required.

The required setbacks are measured to both property lines and zoning boundary lines. The detached garage is 8.7 feet from the north property line, five feet from the zoning boundary line, and 12.7 feet from the west side property line. As such, the applicants request variances to the north side yard from 25 feet to 8.7 feet, the rear yard from 50 feet to 12.7 feet, and the south side yard from 25 feet to five feet.

Additionally, the applicants wish to place a carport over the existing concrete pad in front of the detached garage. The carport would be in line with the detached garage. As such, the applicants request a variance to the north side yard from the required 25 feet to 8.7 feet and a variance to the zoning boundary line from 25 feet to five feet for a proposed carport.

The applicants could eliminate the need for some of these variances by rezoning the property to R-3. However, the existing detached garage would still need a variance, as it would encroach into the required rear yard. Additionally, the rezoning process would also require a companion comprehensive plan amendment. Due to the additional time and cost to accomplish a rezoning, the applicants felt it would be best to move forward with a variance request.

#### **IV. REVIEW CRITERIA AND ANALYSIS**

Section 72-379(1)a.4 of the Zoning Ordinance contains five applicable criteria by which a variance application may be granted. The following staff evaluation is based on these criteria:

***i. Special conditions and circumstances exist which are peculiar to the land, structure, sign, or building involved and which are not applicable to other lands, structures, signs, or buildings in the same zoning classification.***

Variances 1: The applicants purchased the property from the previous common owners in 2003.

Staff finds that this criterion is met.

Variances 2-6: The lot has a split zoning with 7,400 square feet subject to the A-2 zoning classification. After applying the A-2 setbacks to this portion, there is no buildable area.

Staff finds that this criterion is met.

***ii. The special conditions and circumstances do not result from the actions of the applicant.***

Variances 1-6: The applicants never had common ownership with this lot and the lot to the north.

Staff finds that this criterion is met.

***iii. Literal interpretation of the provisions of this ordinance would deprive the applicant of rights commonly enjoyed by other properties in the same zoning classification, under the terms of the ordinance, and would work an unnecessary and undue hardship on the applicant.***

Variances 1: Literal interpretation would deprive the applicants of the right to use the additional property purchased.

Staff finds that this criterion is met.

Variances 2-4: Literal interpretation of this ordinance would require the removal of the detached garage or require it to be moved to a location on the R-3 portion that meets the required setbacks. It may be considered a hardship for a structure that has been in place for more than 15 years to be demolished or relocated.

Staff finds that this criterion is met.

Variances 5 and 6: Literal interpretation would not allow the carport expansion. However, this would not deprive the applicants of any common rights enjoyed by others.

Staff finds that this criterion is not met.

***iv. The variance granted is the minimum variance that will make possible the reasonable use of the land, building, structure, or sign.***

Variances 1: This is the minimum variance to allow the applicants to receive a building permit on the A-2 portion of the property.

Staff finds that this criterion is met.

Variances 2-4: This is the minimum variance to allow the applicant to obtain a building permit for the existing detached garage and for it to remain as constructed.

Staff finds that this criterion is met.

Variances 5 and 6: While these may be the minimum variances necessary to place a carport over the existing concrete slab, this is not necessary to make reasonable use of the existing land or structure.

Staff finds that this criterion is not met.

***v. The grant of the variance will be in harmony with the general intent and purpose of this ordinance and the Volusia County Comprehensive Plan Ordinance No. 90-10, as amended, and that such variance will not be injurious to the area involved.***

Variances 1: The land has been in this configuration for more than 15 years. The property to the north still exceeds the minimum five acre lot size after this portion was sold. No additional nonconformities were created by the applicant's purchase of this land. The applicants have provided letters of support for the variance.

Staff finds that this criterion is met.

Variances 2-4: The detached garage has been in place for more than 15 years without any complaints until 2021. Additionally, if the entire property were zoned R-3, the garage would only need a variance to the rear yard. It is unlikely that allowing this structure to remain in place would be injurious to the area. The applicants have provided letters of support for the variances.

Staff finds that this criterion is met.

Variances 5 and 6: The carport does not encroach beyond the façade of the existing detached garage and will use an existing concrete slab. Additionally, if the entire property were zoned R-3, no variance would be needed for the carport. It is unlikely that the grant of this variance would be injurious to the area. The applicants have provided letters of support for the variances.

Staff finds that this criterion is met.

## **V. STAFF RECOMMENDATION**

Approve variances 1-4, case number V-22-015, as the variances meet all five criteria for granting said variances.

Deny variances 5 and 6, case number V-22-015, as the variances fail to meet two of the five criteria for granting said variances.

The PLDRC may take into account additional competent substantial evidence presented at the hearing, or may make an alternate finding to already presented evidence, that there is sufficient evidence such that the request meets all five criteria and should be granted. Should the PLDRC find that the applicants have provided competent substantial evidence to support approval of the variance, the following conditions are provided for consideration:

1. The variance is limited to the size and location of the structures as shown on the variance site plan.

## **VI. ATTACHMENTS**

- Variance Site Plan
- Written Petition
- Survey
- Construction Plans
- Environmental Comments
- Land Development Comments
- Photographs
- Map Series

## **VII. AUTHORITY AND PROCEDURE**

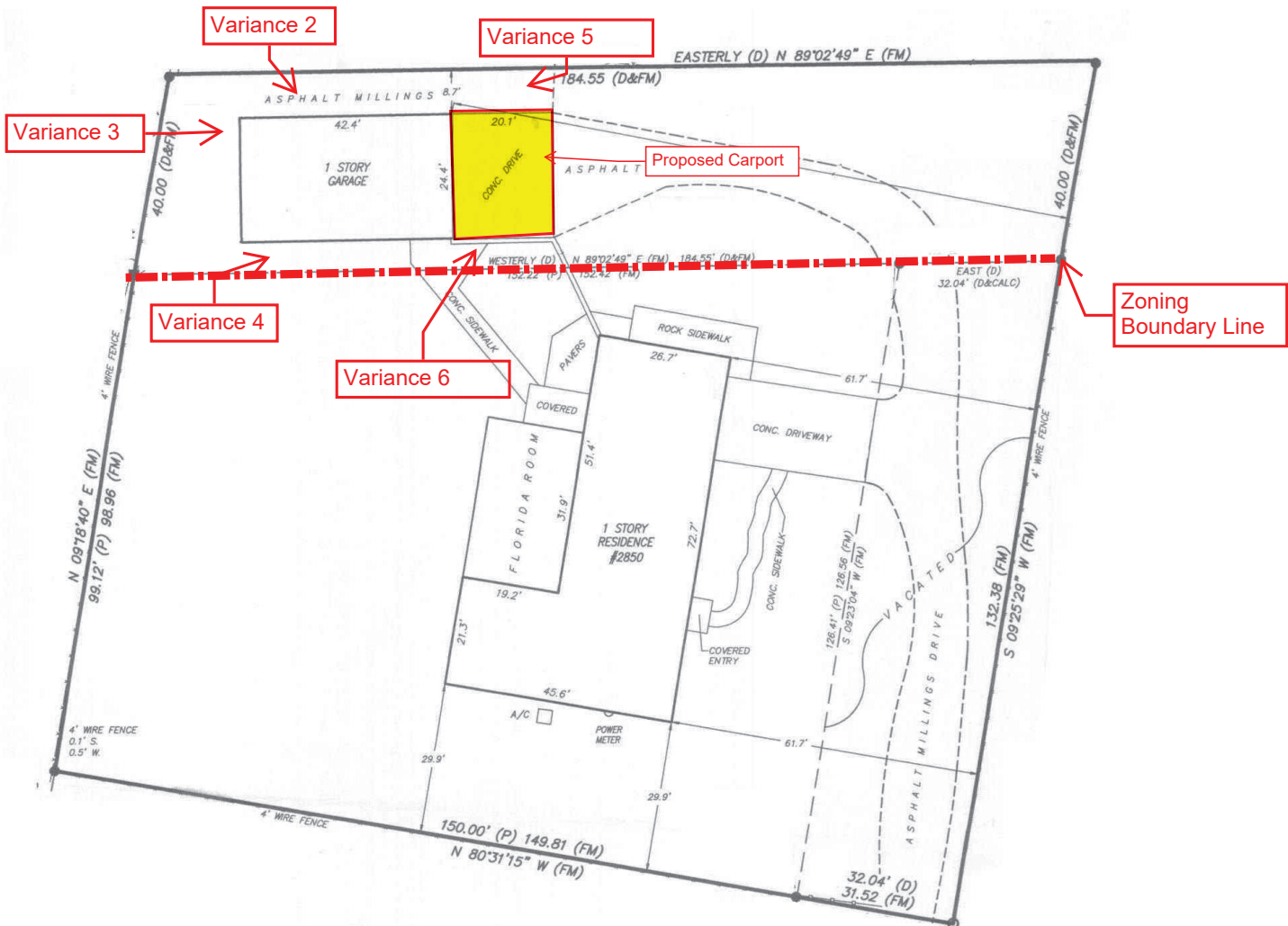
The commission may, except as otherwise provided in Section 72-379 of the Zoning Ordinance, authorize, after due public notice upon application on a form prescribed by the Zoning Enforcement Official, such variance or variances from the terms of this ordinance as will not be contrary to the public interest when, owing to special conditions, a literal enforcement of the provision of this ordinance would result in unnecessary and undue hardship. Said variance application shall be heard only if it is presented by the person owning 51 percent or more of the specific area of land involved or upon an administrative application by the County Council.

Pursuant to Section 72-412, no variance shall be granted, in whole or in part, unless four members concur. A tie vote shall be grounds for continuance to the next scheduled meeting.

Any new information to be presented at the Planning and Land Development Regulation Commission meeting for any application will be grounds to continue an application to the next Planning and Land Development Regulation Commission meeting. Applicants shall inform and provide staff with the new information prior to the Planning and Land Development Regulation Commission meeting.



## Variance Site Plan V-22-015



Variance 1: A variance to separate a portion of parcel 6030-01-00-0420 from parcel 6039-09-00-0193.

Variance 2: A variance to reduce the minimum north side yard from 25 feet to 8.7 feet for an existing detached garage.

Variance 3: A variance to reduce the minimum rear yard from 50 feet to 12.7 feet for an existing detached garage.

Variance 4: A variance to reduce the minimum south side yard from 25 feet to five feet for an existing detached garage.

Variance 5: A variance to reduce the minimum north side yard from 25 feet to 8.7 feet for a proposed carport.

Variance 6: A variance to reduce the minimum south side yard from 25 feet to five feet for a proposed carport.



## Written Petition for a Variance

Section 72-379(1)(a)(4) of the Zoning Ordinance of Volusia County, as amended, requires that each applicant for a variance submit a written petition as part of the application. The written petition must clearly describe how the variance request satisfies all of the specific conditions necessary for the granting of the variance.

The following items must be completed in sufficient detail to allow Current Planning to determine if the application complies with the Ordinance. **(Use additional sheets if necessary.)**

1. What special conditions and circumstances exist which are peculiar to your land, structure, building or sign that are not applicable to other lands, structures, buildings or signs in the same zoning classification. Are these special conditions and circumstances the result of actions by you?

BARN IS 9' FROM PROPERTY LINE

AND CARPORT WILL BE DIRECTLY IN FRONT ON THE CONCRETE

2. How would literal interpretation of the zoning ordinance deprive you of rights commonly enjoyed by other properties in the same zoning classification? How would this interpretation be an unnecessary and undue hardship on you?

WE HAVE 3 DIFFERENT ZONING CLASSIFICATIONS ON OUR PROPERTY. ~~OUR~~ OUR PROPERTY IS MUCH LIKE EVERY OTHER PROPERTY IN OUR NEIGHBORHOOD XCEPT WE JOIN A-2 ZONING

3. Explain how the variance you are requesting is the minimum variance that will make possible the reasonable use of your land, building, structure, or sign.

OUR BARN WAS PUT UP IN 2003 WHEN WE ~~BOUGHT~~ BOUGHT OUR HOUSE. EVERYONE IN OUR AREA HAS ONE. WE USE OUR BARN FOR STORAGE OF BOAT AND OTHER ITEMS AND TOOLS.

4. How is your request consistent with the general intent and purpose of the Volusia County Zoning Ordinance and Comprehensive Plan, which are to promote public health, safety, morals, and the general welfare; and to preserve the character, appearance and aesthetic qualities of Volusia County?

THE BARN AND CARPORT ARE PLEASING TO THE EYE AND FIT PERFECTLY ON THE PROPERTY. IT WILL INCREASE OUR PROPERTY VALUE ~~AND~~ AND ALSO INCREASE OUR NEIGHBORS PROPERTY.

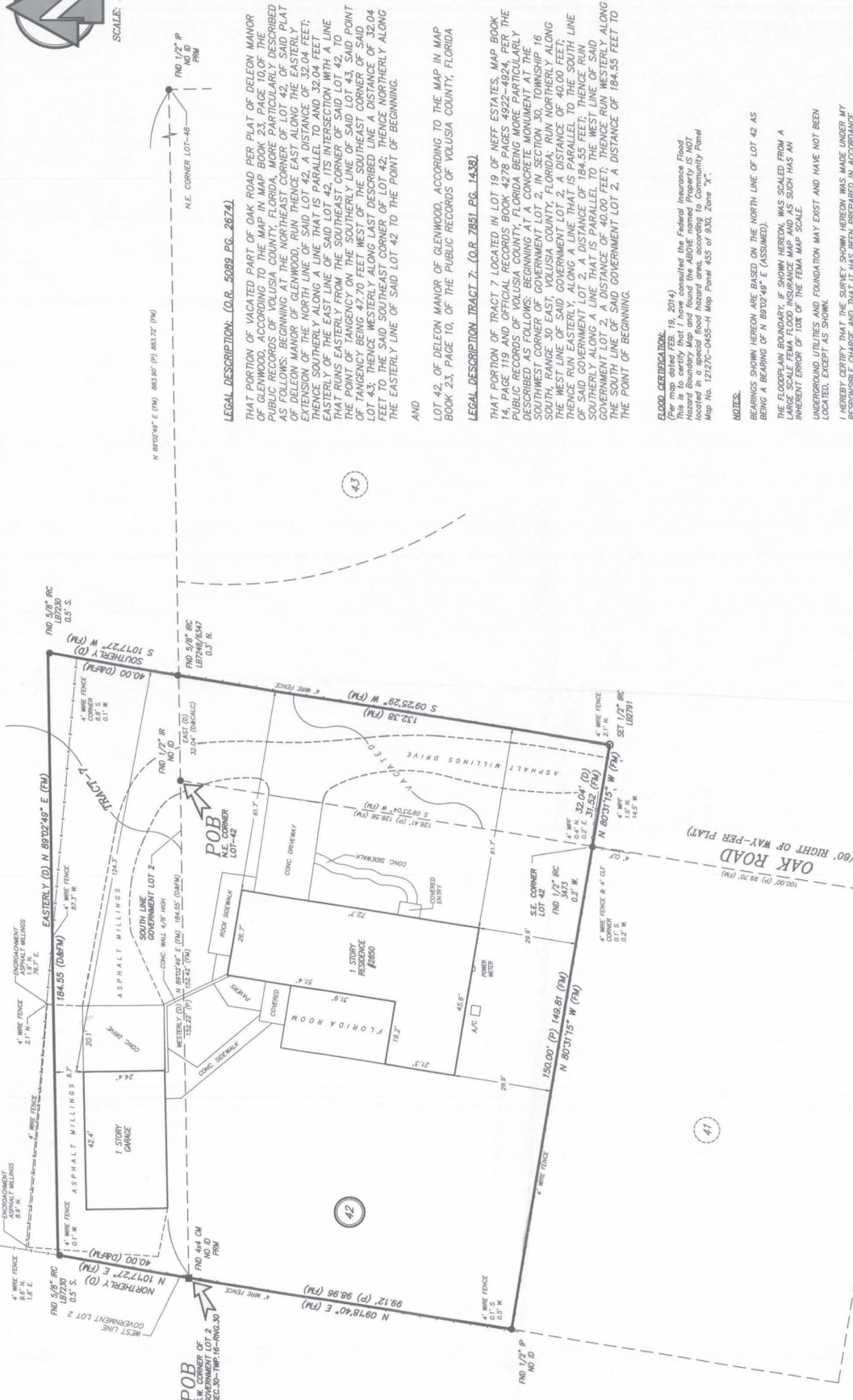
5. Explain how your request for a variance will not be injurious to the surrounding area.

MOSTLY WOODS AROUND US WITH NO STRUCTURES.





SCALE: 1"=20'



LEGAL DESCRIPTION: (O.R. 5089 PG. 2674)

THAT PORTION OF VACATED PART OF K ROAD PER MAP BOOK 23, PAGE 10, OF DEON MANOR OF GLENWOOD, ACCORDING TO THE MAP IN MAP BOOK 23, PAGE 10, OF DEON MANOR PUBLIC RECORDS OF VOLusia COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHEAST CORNER OF LOT 42, OF SAID PLAT OF DEON MANOR OF GLENWOOD, RUN THENCE EAST ALONG THE EASTERLY BOUNDARY LINE OF SAID LOT 42, THENCE SOUTHERLY ALONG A LINE THAT IS PARALLEL TO AND 32.04 FEET; THENCE EASTERLY OF THE EAST LINE OF SAID LOT 42, ITS INTERSECTION WITH A LINE THAT RUNS EASTERLY FROM THE SOUTHEAST CORNER OF SAID LOT 42, TO THE POINT OF TANGENCY ON THE SOUTHERLY LINE OF SAID LOT 43, SAID POINT OF TANGENCY BEING 47.70 FEET WEST OF THE SOUTHEAST CORNER OF SAID LOT 43, THENCE SOUTHERLY ALONG A LINE THAT IS PARALLEL TO AND 32.04 FEET TO THE SAID SOUTHEAST CORNER OF LOT 42, THENCE NORTHERLY ALONG THE EASTERLY LINE OF SAID LOT 42, TO THE POINT OF BEGINNING.

AND

LOT 42, OF DELEON MANOR OF GLENWOOD, ACCORDING TO THE MAP IN MAP BOOK 23, PAGE 10. OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA

LEGAL DESCRIPTION TRACT 7: (O.R. 7851 PG. 1438)

THAT, PORTION OF TRACT 7 LOCATED LOT 19 OF NEFF ESTATES, MAP BOOK 14, PAGE 119 AND OFFICIAL RECORDS BOOK 4278 PAGES 4922-4924, A PER THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA BEING MORE PARTICULARLY DESCRIBED AS BEING A CORNER LOT, COMMENCING AT THE POINT OF BEGINNING OF THE SOUTHWEST CORNER OF GOVERNMENT LOT 18 IN SECTION 36, TOWNSHIP 18 SOUTH, RANGE 30 EAST, VOLUSIA COUNTY, FLORIDA; RUN NORTHERLY ALONG THE WEST LINE OF SAID GOVERNMENT LOT 2, A DISTANCE OF 40.00 FEET; THENCE SOUTHERLY ALONG A LINE THAT IS PARALLEL TO THE WEST LINE OF SAID GOVERNMENT LOT 2, A DISTANCE OF 184.45 FEET; THENCE RUN SOUTHERLY ALONG A LINE THAT IS PARALLEL TO THE WEST LINE OF SAID GOVERNMENT LOT 2, A DISTANCE OF 40.00 FEET; THENCE RUN WESTERLY ALONG THE POINT OF BEGINNING OF SAID GOVERNMENT LOT 2, A DISTANCE OF 165.45 FEET TO THE POINT OF BEGINNING OF SAID GOVERNMENT LOT 19.

**FLOOD CERTIFICATION:**

(Per map dated FEB. 19, 2014)  
This is to certify that I have consulted the Federal Insurance Flood Hazard Boundary Map and found the ABOVE named Property IS NOT located in a special flood hazard area, according to Community Panel Map No. 12127C-0455-H Map Page 455 of 930, Zone "A".

## NOTES

BEARINGS SHOWN HEREON ARE BASED ON THE NORTH LINE OF LOT 42 AS BEING A BEARING OF N 89°02'49" E (ASSUMED).

THE FLOODPLAIN BOUNDARY IF SHOWN HEREON WAS SCALED FROM

LARGE SCALE FEMA FLOOD INSURANCE MAP AND AS SUCH HAS AN INHERENT ERROR OF 10% OF THE FEMA MAP SCALE

UNDERGROUND UTILITIES AND FOUNDATION MAY EXIST AND HAVE NOT BEEN LOCATED, EXCEPT AS SHOWN.

I HEREBY CERTIFY THAT THE SURVEY SHOWN HEREON WAS MADE UNDER MY RESPONSIBLE CHARGE AND THAT IT HAS BEEN PREPARED IN ACCORDANCE WITH THE STANDARDS OF PRACTICE (MINIMUM TECHNICAL STANDARDS) AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, OF THE FLORIDA ADMINISTRATIVE CODE, SECTION 473.023, FLORIDA STATUTES.

NOT VALID WITHOUT THE SIGNATURE  
AND THE ORIGINAL RAISED SEAL OF  
A FLORIDA LICENSED SURVEYOR

NO MARRIED

BLACKWELL & ASSOCIATES  
LAND SURVEYORS, INC. (LB #2791)

Mr. \_\_\_\_\_

ROBERT R. EVERS, PSM  
FLORIDA CERTIFICATE No. 5675

**BLACKWELL & ASSOCIATES  
LAND SURVEYORS, INC.**

BOUNDARY SURVEY CERTIFIED TO:

MARY COOK

[illegible]

**NOTE:** The First of Search is entitled to and prepared for the sale and extensive benefit of the titles and or on the most current date shown herein, and this right is not to be forfeited by any other title.

The Copy / Search has been prepared without benefit of abstract or title search unless otherwise noted herein.

There may be additional restrictions on this Survey / Search that may be found in the Public Records Office of the relevant state.

The Title Commitment.

**LAND SURVEYORS, INC.**  
WWW.BLACKWELLSURVEYING.COM  
995 W. YULON AVE. • DEAND FL. • PH: (386) 754-8050

A FLORIDA LICENSED SURVEYOR  
AND MAPPER.

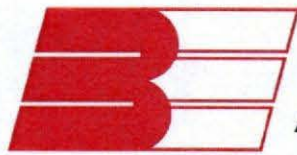
**BLACKWELL & ASSOCIATES**  
**LAND SURVEYORS, INC. (LBI #2791)**

TO: \_\_\_\_\_  
ROBERT R. EVERS, FSM  
FLORIDA CERTIFICATE NO. 5875

**MARY COOK**

**BOUNDARY SURVEY CERTIFIED TO:**



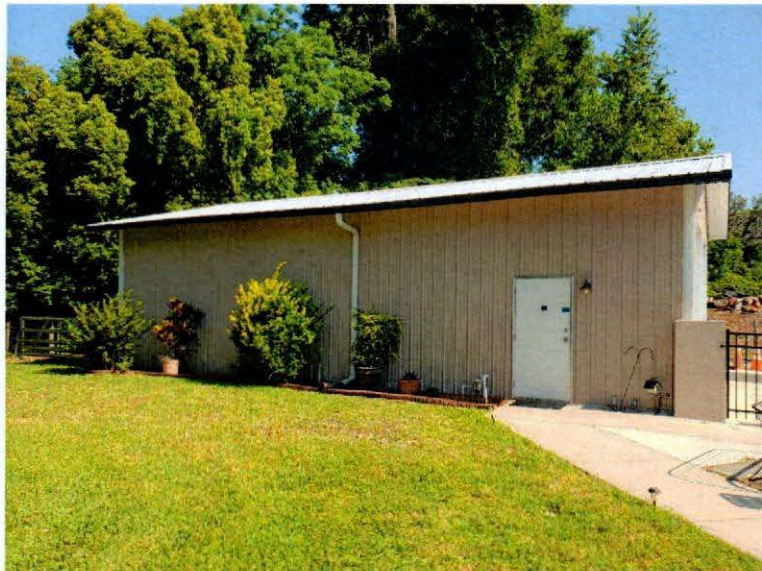


# **BECHTOL ENGINEERING AND TESTING, inc.**

## **AS-BUILT CONSTRUCTION CHARACTERISTICS**

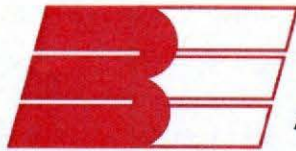
24' x 42' x 11' FRAME ENCLOSED POLE BARN

**2850 OAK ROAD  
DELAND, FLORIDA  
PARCEL NO. 6030-01-00-0420**



CONSULTING GEOTECHNICAL, ENVIRONMENTAL, AND MATERIALS TESTING ENGINEERS  
605 West New York Avenue, Suite A • DeLand, FL 32720-5243 • Telephone (386) 734-8444  
FAX (386) 734-8541





# BECHTOL ENGINEERING AND TESTING, inc.

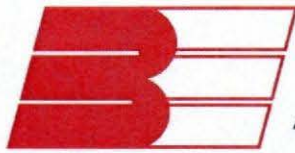
AS-BUILT CONSTRUCTION CHARACTERISTICS 24'x 42' x 11' ENCLOSED POLE BARN			
SITE ADDRESS		2850 OAK ROAD, DELAND, FLORIDA	
PARCEL NO.		6030-01-00-0420	
<b>STRUCTURE DESCRIPTION:</b>  24' x 42' x 11' FRAME WALL ENCLOSED POLL BARN <b>FOUNDATION:</b> 6 x 6 PT POSTS AT CORNERS AND ON SIDE WALLS AT 14' ON CENTERS, STEEL DOWELS THROUGH POSTS, INTEGRATED INTO 24' x 42' MONOLITHIC SLAB HAVING 16" DEEP BY 16" WIDE THICKENED PERIMETER EDGE, REINFORCED WITH TWO (2) NO. 5 BARS, CONTINUOUS. POSTS EMBEDDED MINIMUM 3' INTO GROUND. BASE OF THICKENED SLAB SECTION EMBEDDED +/-12" BELOW EXTERIOR GRADE. <b>WALLS:</b> 2 x 6 PT GIRTS AT MAXIMUM 24" ON CENTERS. EXTERIOR WALL SHEATHING CONSISTS OF 26 GA. METAL RIB PANELS FASTENED TO GIRTS WITH #10 WOOD SCREWS WITH CONTROL SEAL WASHER AT 9" ON CENTERS (ADJACENT TO EACH RIB) ALONG TOP AND BOTTOM GIRTS AND ALONG EVERY OTHER GIRT BETWEEN. SCREWS WERE INSTALLED AT 36" ON CENTERS (EVERY PANEL OVERLAP) ALONG INTERMEDIATE GIRTS. <b>ROOF:</b> SINGLE 2 x 4 PRE-ENGINEERED TRUSSES AT GABLE ENDS, AND DOUBLE 2 x 4 PRE-ENGINEERED TRUSSES AT 14' ON CENTERS, FASTENED TO POSTS WITH FOUR (4) 16d GALVANIZED COMMON NAILS AND THROUGH BOLTED WITH ONE (1) 5/8" GALVANIZED BOLT. 2 x 6 PT PURLINS, ON END, AT 24" ON CENTERS, ATTACHED TO TRUSSES WITH 2 x 6 BLOCKING, SIX (6) 16d GALVANIZED COMMON NAILS INTO EACH TRUSS, SIX (6) 16d GALVANIZED COMMON NAILS INTO PURLIN. EXTERIOR ROOF SHEATHING CONSISTS OF 26 GA. METAL RIB PANELS FASTENED TO PURLINS WITH #10 WOOD SCREWS WITH CONTROL SEAL WASHER AT 9" ON CENTERS (ADJACENT TO EACH RIB) ALONG EAVE AND RIDGE PURLINS AND ALONG EVERY OTHER PURLIN BETWEEN. SCREWS WERE INSTALLED AT 36" ON CENTERS (EVERY PANEL OVERLAP) ALONG INTERMEDIATE PURLINS. <b>DOORS:</b> TWO (2) 10' x 10' ROLL-UP DOORS ON FRONT WALL OF BUILDING, FASTENED WITH FOUR (4) 3/8" LAG SCREWS INTO 6 x 6 PT POSTS ON EACH SIDE OF DOOR OPENINGS. MANUFACTURER UNKNOWN, BUT SIMILAR NON-IMPACT RATED DOORS OF SAME WIDTH HAVE ALLOWABLE WIND PRESSURES OF +50/-50 PSF OR GREATER. ONE (1) 3' x 6'-8" STANDARD EXTERIOR WALK THROUGH DOOR ON LEFT SIDE OF BUILDING, FASTENED WITH FOUR (4) 1/4" SCREWS INTO 4 x 6 PT POSTS ON EACH SIDE OF DOOR OPENING, AND TWO (2) 1/4" SCREWS INTO NON-STRUCTURAL DOOR HEADER. MANUFACTURER UNKNOWN, BUT SIMILAR NON-IMPACT RESISTANT DOORS HAVE ALLOWABLE WIND PRESSURES OF +35/-35 PSF OR GREATER. ALL DOORS APPEARED TO BE OF ADEQUATE CONSTRUCTION AND TO BE ADEQUATELY INSTALLED.  <b>Construction is consistent with typical wood frame pole barn utility buildings and appears to be sufficient to provide adequate support of the building and to meet the wind load requirements of Section 1609 of the Florida Building Code Seventh Edition (2020) and Chapter 30 ASCE 7.</b>			
DESIGN CRITERIA			
OCCUPANCY GROUP	U	DESIGN PRESSURES (PSF):	
CONSTRUCTION TYPE	II-B	ROOF - ALL ZONES (SEE ATTACHED)	
RISK CATEGORY	I	MAXIMUM DESIGN ROOF PRESSURE	+16.0 / -34.4
BUILDING ENCLOSURE TYPE	ENCLOSED	WALLS - ALL ZONES (SEE ATTACHED)	
WIND EXPOSURE CATEGORY	C	MAXIMUM DESIGN WALL PRESSURE	+17.4 / -21.3
ULTIMATE WIND SPEED (MPH)	125	DESIGN WINDOW PRESSURE	N/A
NOMINAL DESIGN WIND SPEED (MPH)	97	DESIGN SWINGING DOOR PRESSURE	+19.6 / -21.3
MEAN ROOF HEIGHT (FEET)	+/-13	DESIGN ROLL-UP DOOR PRESSURE	+17.4 / -21.3
ROOF ANGLE (DEGREES)	+/-18		

Bechtol Engineering and Testing, Inc.

Thomas Bechtol, P.E.  
President / Principal Engineer

CONSULTING, GEOTECHNICAL, ENVIRONMENTAL, AND MATERIALS TESTING ENGINEERS  
605 West New York Avenue, Suite A • DeLand, FL 32720-5243 • Telephone (386) 734-8444  
FAX (386) 734-8541





# **BECHTOL ENGINEERING AND TESTING, inc.**

## **METAL ROOF PANEL FASTENER SPECIFICATIONS**

**PROJECT ID:** 2850 OAK ROAD, DELAND, FLORIDA  
**PARCEL NO.:** 6030-01-00-0420 **COUNTY:** VOLUSIA  
**PREPARED FOR:** JOHN COOK  
**PREPARED BY:** THOMAS BECHTOL, P.E., FLORIDA LICENSE NO. 38538  
**DATE PREPARED:** 06-15-2021

### **MATERIAL SPECIFICATIONS:**

**ROOF PANELS:** 26 GA. RIB / AG PANEL - MANUFACTURER UNKNOWN

**SUBSTRATE:** 2 x 6 PT PURLINS, ON END, AT 24" ON CENTERS, ATTACHED TO TRUSSES WITH 2 x 6 BLOCKING, SIX (6) 16d GALVANIZED COMMON NAILS INTO EACH TRUSS, SIX (6) 16d GALVANIZED COMMON NAILS INTO PURLIN.

**ROOF PANEL FASTENERS:** #10 WOOD SCREWS WITH CONTROL SEAL WASHER, LENGTH AS NEEDED FOR FULL PENETRATION THROUGH PURLINS.

### **DESIGN CRITERIA:**

**RISK CATEGORY:** I

**EXPOSURE CATEGORY:** C

**ULTIMATE WIND SPEED:** 125 MPH

**NOMINAL DESIGN WIND SPEED:** 97 MPH

**BUILDING CLASSIFICATION:** ENCLOSED

**MEAN ROOF HEIGHT:** 13.0 FEET

**ROOF ANGLE:** 18 DEGREES

**EFFECTIVE WIND AREA:** 100 S.F.

### **COMPONENT AND CLADDING DESIGN WIND PRESSURES:**

**DESIGN UNIT LOADS (q):** SEE ATTACHED WIND PRESSURE CALCULATIONS.

**MAXIMUM DESIGN PRESSURE:** -34.4 PSF.



PURLIN FASTENER DESIGN CALCULATIONS:

DESIGN FASTENER: 16d COMMON NAILS INTO SYP BLOCKING AND TRUSSES. CRITICAL CONNECTION IS SIX (6) NAILS IN SHEAR.

ALLOWABLE SHEAR CAPACITY = 192 POUNDS / NAIL (INCORPORATES MINIMUM SF = 4).

USE THREE NAILS PER FASTENING POINT (EACH TRUSS AT 14' ON CENTERS).

USE MAXIMUM WIND PRESSURE = 34.4 PSF

MAXIMUM PURLIN SPACING =  $(192)(6) / (14)(34.4) = 2.39' = 28"$

**DESIGN: 2 x 6 PT PURLINS, ON END, AT 24" ON CENTERS, ATTACHED TO TRUSSES WITH 2 x 6 BLOCKING, SIX (6) 16d GALVANIZED COMMON NAILS INTO EACH TRUSS, SIX (6) 16d GALVANIZED COMMON NAILS INTO PURLIN.**

ROOF PANEL FASTENER DESIGN CALCULATIONS:

DESIGN FASTENER: #10 x 1.5" SCREWS INTO 2X6 SYP PURLIN, ON END.

ALLOWABLE PULL-OUT CAPACITY = 179 POUNDS / SCREW (INCORPORATES MINIMUM SF = 4)

PURLIN SPACING = 24 INCHES ON CENTERS.

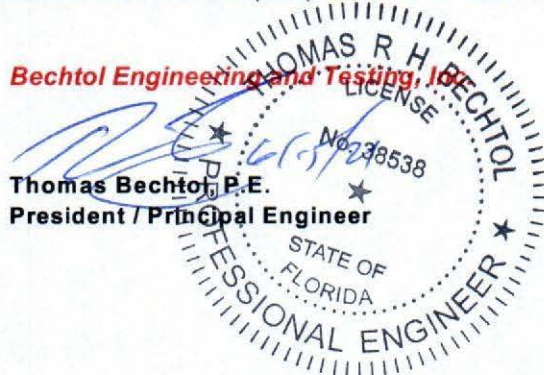
USE 1 SCREW AT EACH FASTENING POINT ALONG EACH PURLIN.

USE MAXIMUM WIND PRESSURE = 34.4 PSF

MAXIMUM FASTENING POINT SPACING =  $(179) / (2.0)(34.4) = 2.60' = 31"$

**DESIGN: USE ONE (1) SCREW @ AVERAGE 22.5" ON CENTERS; INSTALL AT 9" O.C. (ADJACENT TO EACH RIB) ALONG EAVE AND RIDGE PURLINS AND ALONG EVERY OTHER PURLIN BETWEEN. INSTALL AT 36" ON CENTERS (EVERY PANEL OVERLAP) ALONG INTERMEDIATE PURLINS.**

THIS IS TO CERTIFY THAT THE CALCULATIONS AND SPECIFICATIONS HEREIN HAVE BEEN PREPARED BY THE UNDERSIGNED PROFESSIONAL ENGINEER, AND ARE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 1609 OF THE FLORIDA BUILDING CODE SEVENTH EDITION (2020) AND CHAPTER 30 OF ASCE 7-16.



<b>Client:</b>	JOHN COOK	<b>Date:</b>	Jun 11, 2021
<b>Author:</b>	Tom Bechtol	<b>Job #:</b>	G21007
<b>Project:</b>	COOK - ENCLOSED POLE BARN	<b>Subject:</b>	125mph expC 7-20degrees 15mrh <b>ROOF &amp; WALLS</b>
<b>References:</b>	ASCE 7-16		

## Summary

## Zones

Corner Zone Width

$$a = 3 \text{ ft, } 0 \text{ in}$$

Wind Pressures

$$p =$$

Zone	Positive Wind Pressure $p^+$ (psf)	Negative Wind Pressure $p^-$ (psf)
1	8.34	-11.8
2e	8.34	-11.8
2n	8.34	-30.4
2r	8.34	-30.4
3e	8.34	-30.4
3r	8.34	-34.4
4	17.4	-19.2
5	17.4	-21.3

## Key Properties

Basic Wind Speed

$$V = 97 \text{ mi/hr}$$

Exposure Category

C: Open terrain with scattered obstructions

Effective Roof Member Wind Area

$$A_{\text{roof}} = 100 \text{ ft}^2$$

Effective Wall Member Wind Area

$$A_{\text{wall}} = 100 \text{ ft}^2$$

## Building Properties

Roof Pitch

$$\alpha = 4 : 12$$

Roof Eave Height

$$h_e = 11 \text{ ft, } 0 \text{ in}$$

Roof Mean Height

$$h = 13 \text{ ft, } 0 \text{ in}$$

Least Horizontal Dimension

$$w = 24 \text{ ft}$$

Enclosure Type

Enclosed

## Terrain Properties (ASCE 7-16, C1 26.7-9)

Ground Elevation Above Sea Level

$$z_g = 0 \text{ ft}$$

## Wind Load Parameters (ASCE 7-16, C1 26.6-10)

Wind Directionality Factor

$$K_d = 0.85$$

Topographic Factor

$$K_{zt} = 1$$

Ground Elevation Factor

$$K_e = 1$$

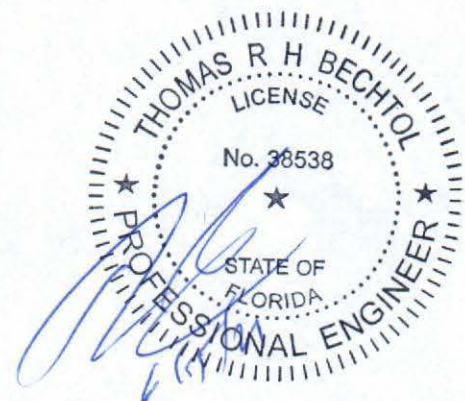
Velocity Pressure Exposure Coefficient

$$K_h = 0.849$$

Velocity Pressure

$$q_h = 17.4 \text{ psf}$$

## Comments





<b>Client:</b>	JOHN COOK	<b>Date:</b>	Jun 11, 2021
<b>Author:</b>	Tom Bechtol	<b>Job #:</b>	G21007
<b>Project:</b>	COOK - ENCLOSED POLE BARN	<b>Subject:</b>	125mph expC 7-20degrees 15mrh ROLL UP DOOR
<b>References:</b>	ASCE 7-16		

## Summary

## Zones

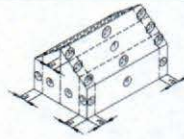
Corner Zone Width

$$a = 3 \text{ ft, } 0 \text{ in}$$

Wind Pressures

$$p =$$

Zone	Positive Wind Pressure $p^+$ (psf)	Negative Wind Pressure $p^-$ (psf)
1	8.34	-11.8
2e	8.34	-11.8
2n	8.34	-30.4
2r	8.34	-30.4
3e	8.34	-30.4
3r	8.34	-34.4
4	17.4	-19.2
5	17.4	-21.3



Effective Wall Member Wind Area

$$A_{\text{wall}} = 100 \text{ ft}^2$$

## Building Properties

Roof Pitch

$$\alpha = 4 : 12$$

Roof Eave Height

$$h_e = 11 \text{ ft, } 0 \text{ in}$$

Roof Mean Height

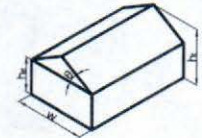
$$h = 13 \text{ ft, } 0 \text{ in}$$

Least Horizontal Dimension

$$w = 24 \text{ ft}$$

Enclosure Type

Enclosed



## Terrain Properties (ASCE 7-16, CI 26.7-9)

Ground Elevation Above Sea Level

$$z_g = 0 \text{ ft}$$

## Wind Load Parameters (ASCE 7-16, CI 26.6-10)

Wind Directionality Factor

$$K_d = 0.85$$

Topographic Factor

$$K_{zt} = 1$$

Ground Elevation Factor

$$K_e = 1$$

Velocity Pressure Exposure Coefficient

$$K_h = 0.849$$

Velocity Pressure

$$q_h = 17.4 \text{ psf}$$

## Key Properties

Basic Wind Speed

$$V = 97 \text{ mi/hr}$$

Exposure Category

C: Open terrain with scattered obstructions

Effective Roof Member Wind Area

$$A_{\text{roof}} = 100 \text{ ft}^2$$

## Comments



<b>Client:</b>	JOHN COOK	<b>Date:</b>	Jun 11, 2021
<b>Author:</b>	Tom Bechtol	<b>Job #:</b>	G21007
<b>Project:</b>	COOK - ENCLOSED POLE BARN	<b>Subject:</b>	125mph expC 7-20degrees 15mrh <b>WALK DOOR</b>
<b>References:</b>	ASCE 7-16		

## Summary

## Zones

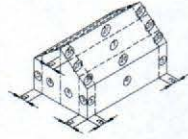
Corner Zone Width

$$a = 3 \text{ ft, } 0 \text{ in}$$

Wind Pressures

$$p =$$

Zone	Positive Wind Pressure $p^+$ (psf)	Negative Wind Pressure $p^-$ (psf)
1	8.34	-11.8
2e	8.34	-11.8
2n	8.34	-30.4
2r	8.34	-30.4
3e	8.34	-30.4
3r	8.34	-34.4
4	19.6	-21.3
5	19.6	-25.6



Effective Wall Member Wind Area

$$A_{\text{wall}} = 20 \text{ ft}^2$$

## Building Properties

Roof Pitch

$$\alpha = 4 : 12$$

Roof Eave Height

$$h_e = 11 \text{ ft, } 0 \text{ in}$$

Roof Mean Height

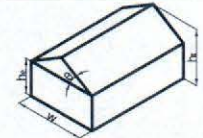
$$h = 13 \text{ ft, } 0 \text{ in}$$

Least Horizontal Dimension

$$w = 24 \text{ ft}$$

Enclosure Type

Enclosed



## Terrain Properties (ASCE 7-16, Cl 26.7-9)

Ground Elevation Above Sea Level

$$z_g = 0 \text{ ft}$$

## Wind Load Parameters (ASCE 7-16, Cl 26.6-10)

Wind Directionality Factor

$$K_d = 0.85$$

Topographic Factor

$$K_{zt} = 1$$

Ground Elevation Factor

$$K_e = 1$$

Velocity Pressure Exposure Coefficient

$$K_h = 0.849$$

Velocity Pressure

$$q_h = 17.4 \text{ psf}$$

## Key Properties

Basic Wind Speed

$$V = 97 \text{ mi/hr}$$

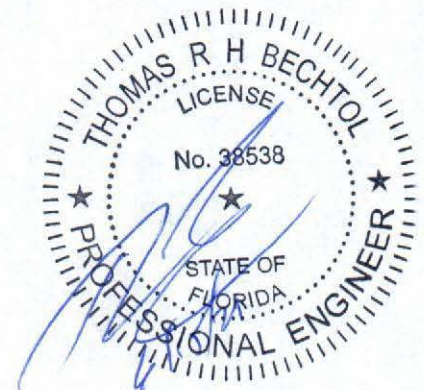
Exposure Category

C: Open terrain with scattered obstructions

Effective Roof Member Wind Area

$$A_{\text{roof}} = 100 \text{ ft}^2$$

## Comments



**Inter-Office  
Memorandum**



**TO:** Trevor Bedford, Planner II **DATE:** October 10, 2021  
**FROM:** Samantha J. West, Environmental Specialist III  
**SUBJECT:** Parcel #: 6030-01-00-0420  
Case #: V-22-015

---

Environmental Permitting (EP) has reviewed the application for a variance to minimum yard requirements on split Urban Single-Family Residential (R-4) and Rural Agriculture (A-2) zoned property and provides the following report:

The subject property is located within the DeLand Ridge watershed and has been identified as containing suitable habitat for the gopher tortoise. The gopher tortoise is a Candidate species for federal protection and designated as threatened in the State of Florida. Any future development of the site will require compliance Division 17 *Gopher Tortoise Ordinance*, of the Land Development Code.

EP does not object to the variance request. However, any future development must comply with the applicable requirements of the Land Development Code at the time of building permit application.

Inter-Office  
Memorandum



---

**To:** Susan Jackson, AICP  
Planning Manager

**Date:** October 13, 2021

**From:** Direne Ostrander  
Land Development Assistant II

**Subject:** V-22-015  
Parcel #: 6030-01-00-0420

---

Land Development has reviewed the parcel involved in the subject variance to minimum yard requirements and provides the following determination:

The subject site contains a single parcel which consists of whole platted lot 42, DeLeon Manor of Glenwood, MB 23, Page 10 – 11, a portion of lot 19, Neff Estates, MB 14, Page 119, and a portion of the vacated road to the east. These lots must be combined to create one unified building site.

Please call the Land Development Office at 386-736-5942 for any questions.



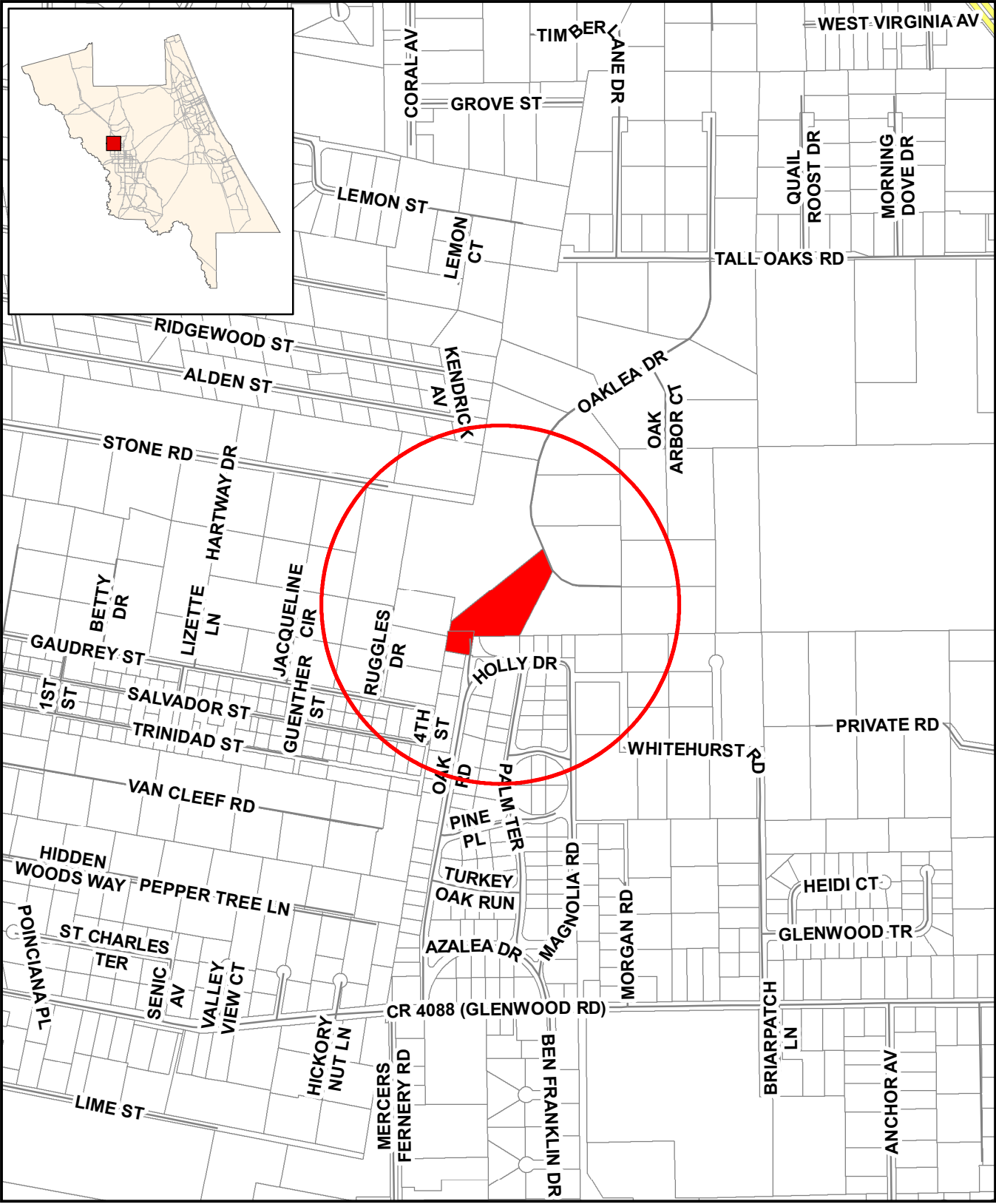
## Photographs



Aerial photograph of the property



PROPERTY LOCATION  
V-22-015



 SUBJECT PROPERTY



1" = 1,000'

10/24/2021



AERIAL  
V-22-015



 SUBJECT PROPERTY

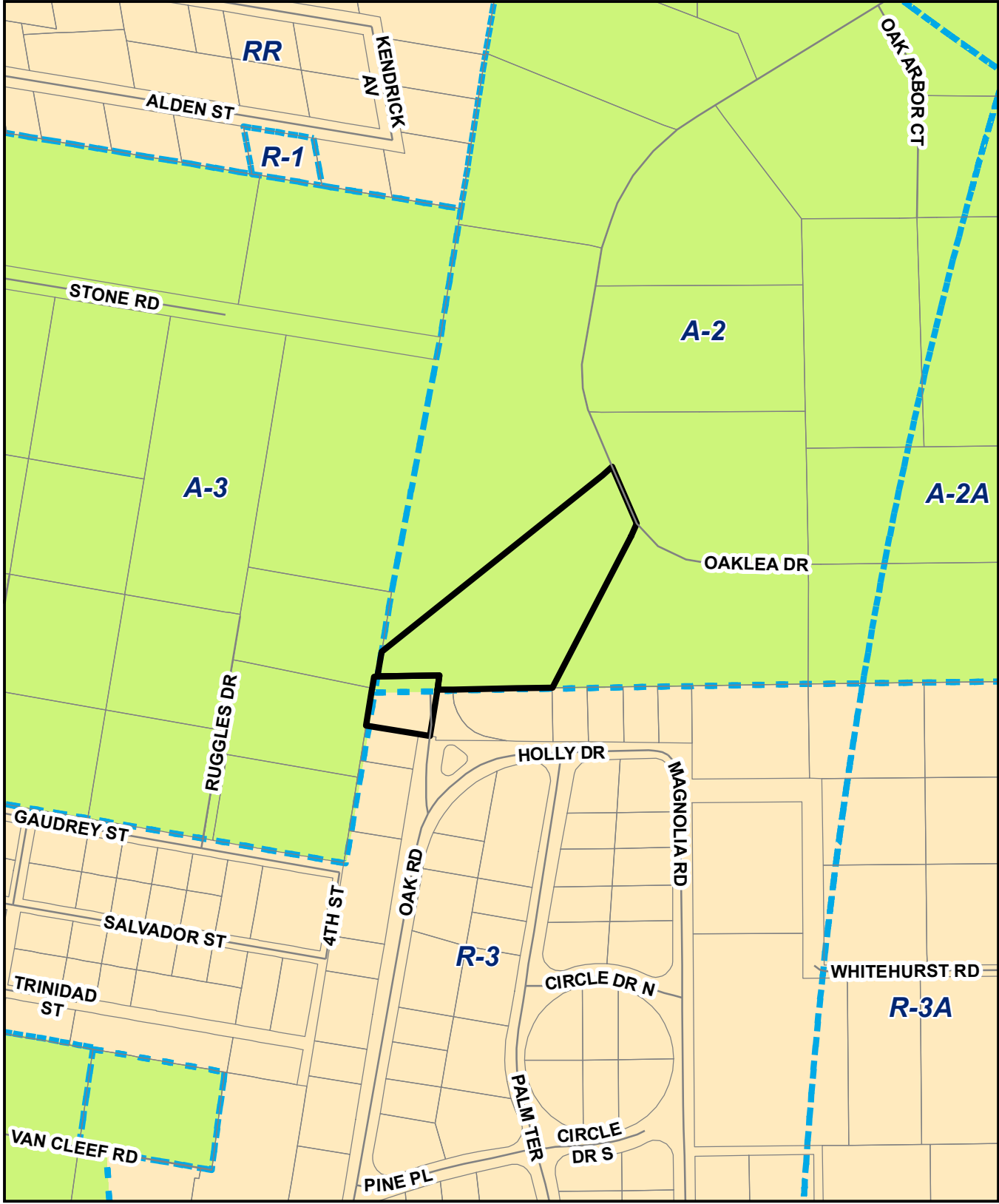
IMAGE DATE 2021



1" = 400'  
10/24/2021



ZONING CLASSIFICATION  
V-22-015



 SUBJECT PROPERTY

 ZONING BNDY

 RESIDENTIAL

 AGRICULTURAL

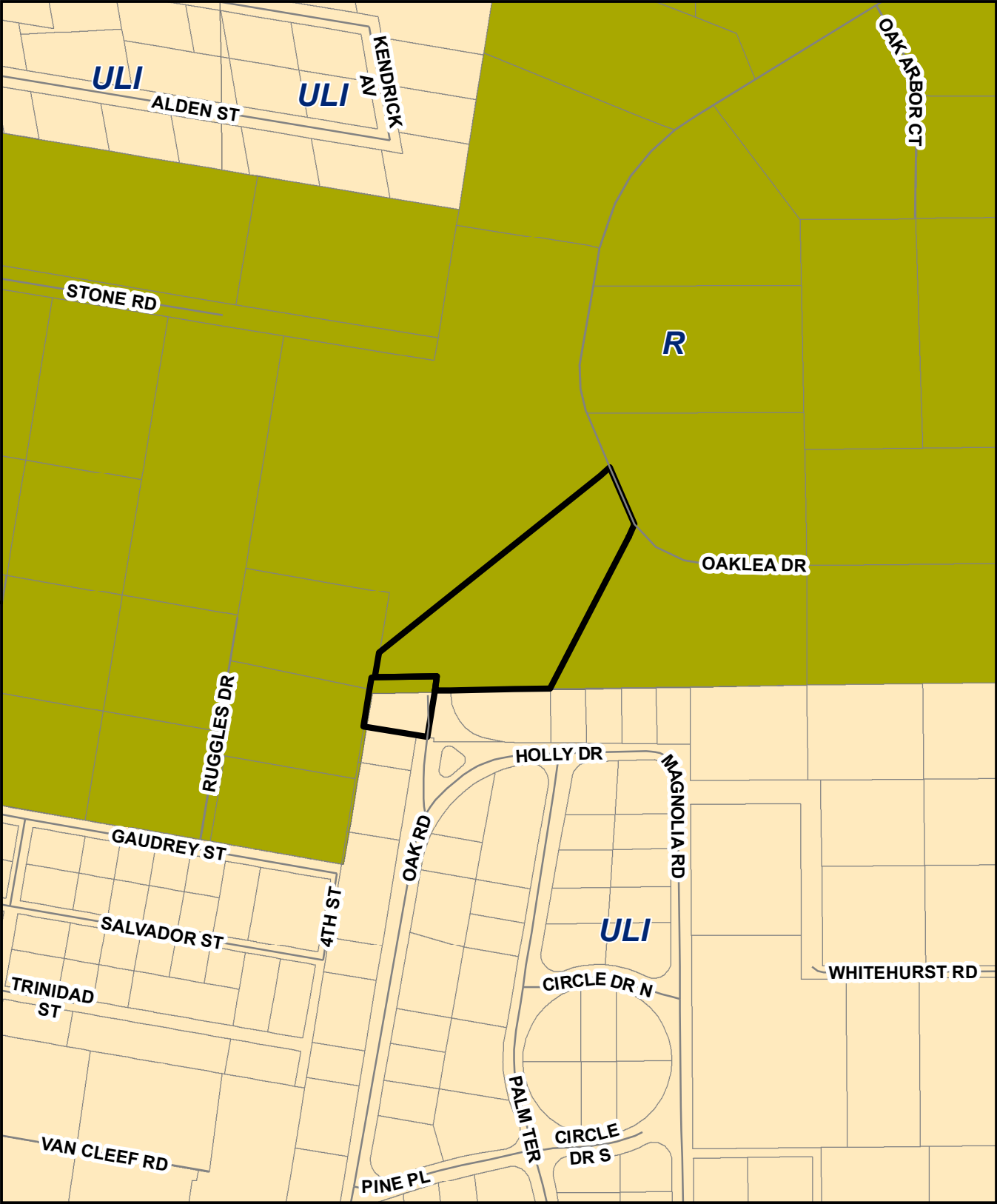





1" = 400'

10/24/2021



FUTURE LAND USE  
V-22-015

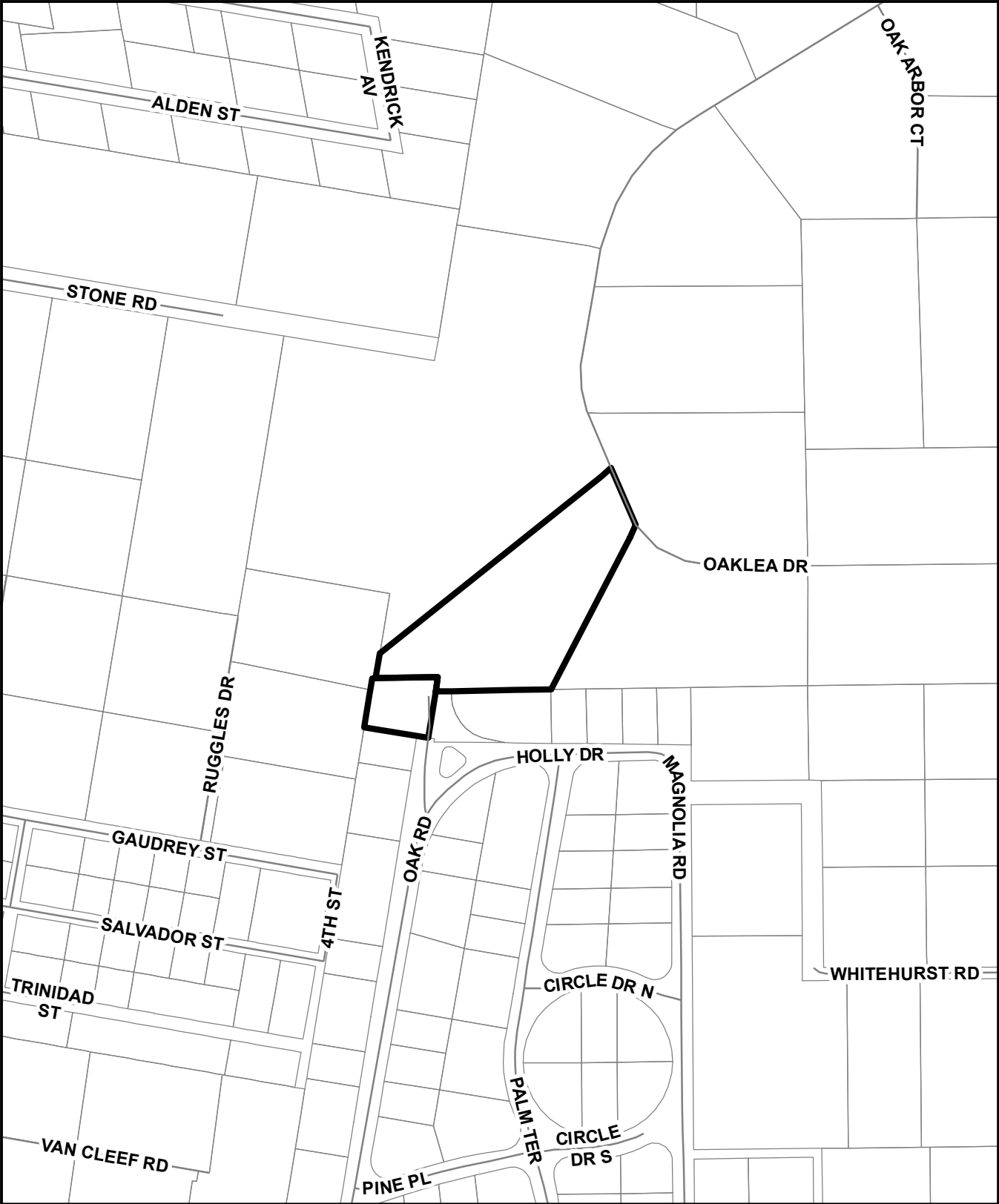





-  SUBJECT PROPERTY
-  RURAL
-  URBAN LOW INTENSITY



1 " = 400 '  
10/24/2021

ECO/NRMA OVERLAY  
V-22-015



-  SUBJECT PROPERTY
-  ECO
-  NRMA



1 " = 400 '  
10/24/2021