

TRAFFIC IMPACT ANALYSIS

GENERAL RV – 2650 PETERS FORT PIERCE, FL

PREPARED FOR:
FL ST LUCIE 95, LLC

Kimley»»Horn

December 10, 2024
KH # 245690000
Registry No. 35106
Kimley-Horn and Associates, Inc.
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West Palm Beach, Florida 33401
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THIS IS TO CERTIFY THAT THE ENCLOSED
ENGINEERING CALCULATIONS WERE
PERFORMED BY ME OR UNDER MY
DIRECT SUPERVISION.

STEPHANIE A. GUERRA, P.E.
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DATE: DECEMBER 10, 2024

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INTRODUCTION

The site on the east side of Peters Road, north of Crossroads Parkway, in Fort Pierce, Florida is proposed to be developed with an RV storage parking lot in order to serve adjacent RV Sales sites. Figure 1 illustrates the site location.

The project site plan is included in Appendix A.

Kimley-Horn and Associates, Inc. was retained to prepare a traffic impact analysis for the proposed development. This document presents the methodology used and the findings of the traffic impact analysis. The analysis was conducted in accordance with the requirements of the St. Lucie County Concurrency Guidelines. A buildout year of 2029 was analyzed for the proposed development. It should be noted that the proposed use is expected to generate significantly fewer trips than any Land Use provided by current data.



GRAHAM ROAD

PETERS ROAD

CROSSROADS
PARKWAY

KINGS HIGHWAY

I-95

OKEECHOBEE ROAD



LEGEND

 Project Site

FIGURE 1
SITE LOCATION
GENERAL RV – 2650 PETERS

PROJECT TRAFFIC

Project traffic used in this analysis is defined as the vehicle trips expected to be generated by the project, and the distribution and assignment of that traffic over the study roadway network.

Existing and Proposed Land Uses

The site currently is currently vacant and is proposed to be developed with a 249,163 SF parking lot for RV storage.

Trip Generation

The trip generation potential for the proposed development program was calculated using trip generation rates and equations published by the Institute of Transportation Engineers’ (ITE) Trip Generation Report, Eleventh Edition. ITE does not publish data for truck parking area. In the absence of use-specific data, ITE Land Use Code (LUC) 150 (Warehouse) was used to provide a conservative trip generation calculation for the proposed truck parking. The square footage of the parking lot was applied as the building area in these calculations.

As indicated in Table 1, the proposed development is projected to generate 426 net new external daily trips, 42 net new external AM peak hour trips (+32 in, +10 out), and an additional 45 net new external PM peak hour trips (+13 in, +32 out). It should be noted that the proposed use is expected to generate significantly fewer trips than is estimated by LUC 150.

Table 1: Trip Generation Calculations

| Land Use | ITE LUC | Intensity | Daily Trips | AM Peak Hour | | | PM Peak Hour | | |
|---|---------|---------------------|-------------|---------------------------------------|----|-----|---------------------------------------|----|------------|
| | | | | Total | In | Out | Total | In | Out |
| Proposed Scenario | | | | | | | | | |
| Warehouse * | 150 | 249.163 KSF | 426 | 42 | 32 | 10 | 45 | 13 | 32 |
| | | <i>Subtotal</i> | 426 | 42 | 32 | 10 | 45 | 13 | 32 |
| Driveway Volumes | | | 426 | 42 | 32 | 10 | 45 | 13 | 32 |
| Net New External Trips | | | 426 | 42 | 32 | 10 | 45 | 13 | 32 |
| Trip Differential (Proposed - Existing) | | | 426 | 42 | 32 | 10 | 45 | 13 | 32 |
| Radius of Development Influence: | | | 0.5 miles | | | | | | |
| <u>Land Use</u> | | <u>Daily</u> | | <u>AM Peak Hour</u> | | | <u>PM Peak Hour</u> | | <u>LUC</u> |
| Warehouse | | 1.71 trips/1,000 sf | | 0.17 trips/1,000 sf (77% in, 23% out) | | | 0.18 trips/1,000 sf (28% in, 72% out) | | 150 |

*ITE does not publish data for RV Storage. In the absence of use-specific data, ITE LUC 150 was used to provide a conservative trip generation calculation for the proposed RV Parking. The square footage of the paved area was applied as the building area in these calculations.

Traffic Distribution and Assignment

A projected traffic distribution plan was developed based on a review of the uses near the project site. Figure 2 illustrates the proposed roadway link assignment. Using these percentages, project traffic was then assigned to the surrounding roadway network projected to be in place by 2029.



LEGEND

Project Site

FIGURE 2
TRIP DISTRIBUTION
GENERAL RV – 2650 PETERS

SIGNIFICANCE CALCULATIONS AND LINK ANALYSIS

The study roadway links were defined as the roadways upon which the project traffic has an impact of 3% or higher of the level of service capacity of the roadway and 1% or higher of the level of service capacity of the directly accessed roadway link. Existing traffic volumes and facility capacity was obtained from the St. Lucie County LOS Report for 2024. Table 2 summarizes the project percent impact as a percent of the service volume capacity for the AM peak hour and PM peak hours. As shown in *Table 2* the following roadway links were determined to be significantly impacted by project traffic:

AM Peak Hour

- Peters Road from Crossroads Parkway to Project Driveway

PM Peak Hour

- Peters Road from Crossroads Parkway to Project Driveway

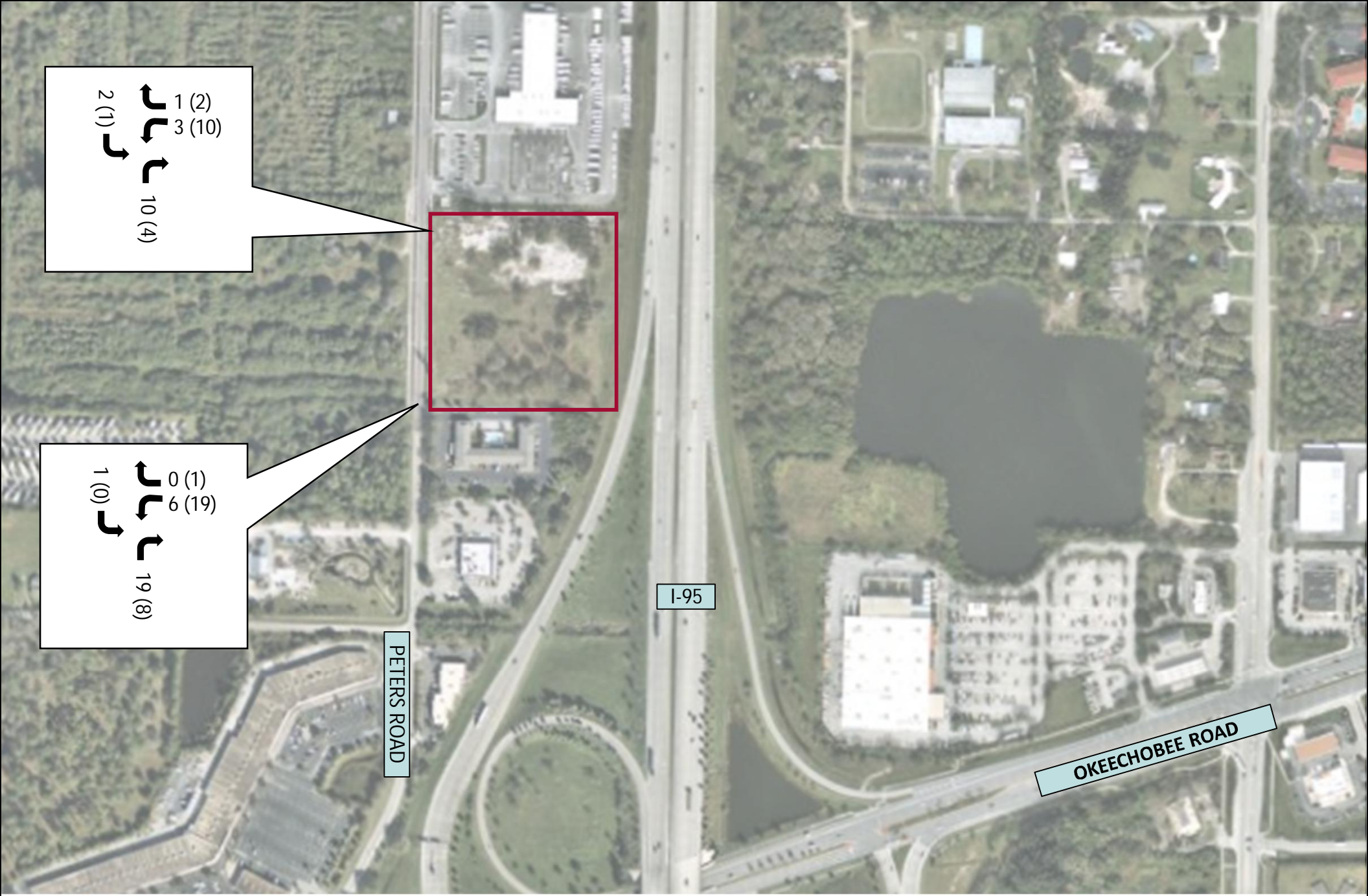
Current count data is not available on Peters Road, therefore this count data is forthcoming and will be included in a revised report.

Table 2: Peak Hour Significance Calculations

| ROADWAY | FROM | TO | COMMITTED NUMBER OF LANES | LOS D GEN. SVC. VOLUME | PROJECT % ASSIGNMENT | NB/EB IN/OUT? | PROJECT TRIPS | | | | | | | | | |
|-----------|------------------|------------------|---------------------------|------------------------|----------------------|---------------|---------------|----------|-------|--------------|----------|-------|-------|----------|-------|-----|
| | | | | | | | AM/PEAK HOUR | | | PM/PEAK HOUR | | | | | | |
| | | | | | | | TRIPS | % IMPACT | Sign? | TRIPS | % IMPACT | Sign? | TRIPS | % IMPACT | Sign? | |
| Peters Rd | Crossroads Pkwy | Project Driveway | 2L | 1,070 ⁽¹⁾ | 90% | 1 | 29 | 9 | 2.71% | Yes | 12 | 29 | 1.12% | Yes | 2.71% | Yes |
| Peters Rd | Project Driveway | Graham Rd | 2L | 540 ⁽²⁾ | 10% | 0 | 1 | 3 | 0.19% | No | 3 | 3 | 0.56% | No | 0.56% | No |

SITE CIRCULATION AND TURN LANE REQUIREMENTS

Access to the site is proposed to be provided via two full-access driveways on Peters Road. Using the project distribution illustrated in *Figure 2*, project traffic volumes were projected at the subject driveway connections. These driveway volumes are shown in *Figure 3*. Based on the proposed driveway volumes, no turn lanes are anticipated to be needed at the project driveways.



1 (2)
 3 (10)
 2 (1)
 10 (4)

0 (1)
 6 (19)
 1 (0)
 19 (8)

PETERS ROAD

I-95

OKEECHOBEE ROAD



LEGEND

- Project Site
- XX AM Peak Hour
- (XX) PM Peak Hour

FIGURE 3
DRIVEWAY VOLUMES
GENERAL RV – 2650 PETERS

CONCLUSION

The site on the east side of Peters Road, north of Crossroads Parkway, in Fort Pierce, Florida is proposed to be developed with an RV storage parking lot in order to serve adjacent RV Sales sites. The proposed buildout date is the end of 2029.

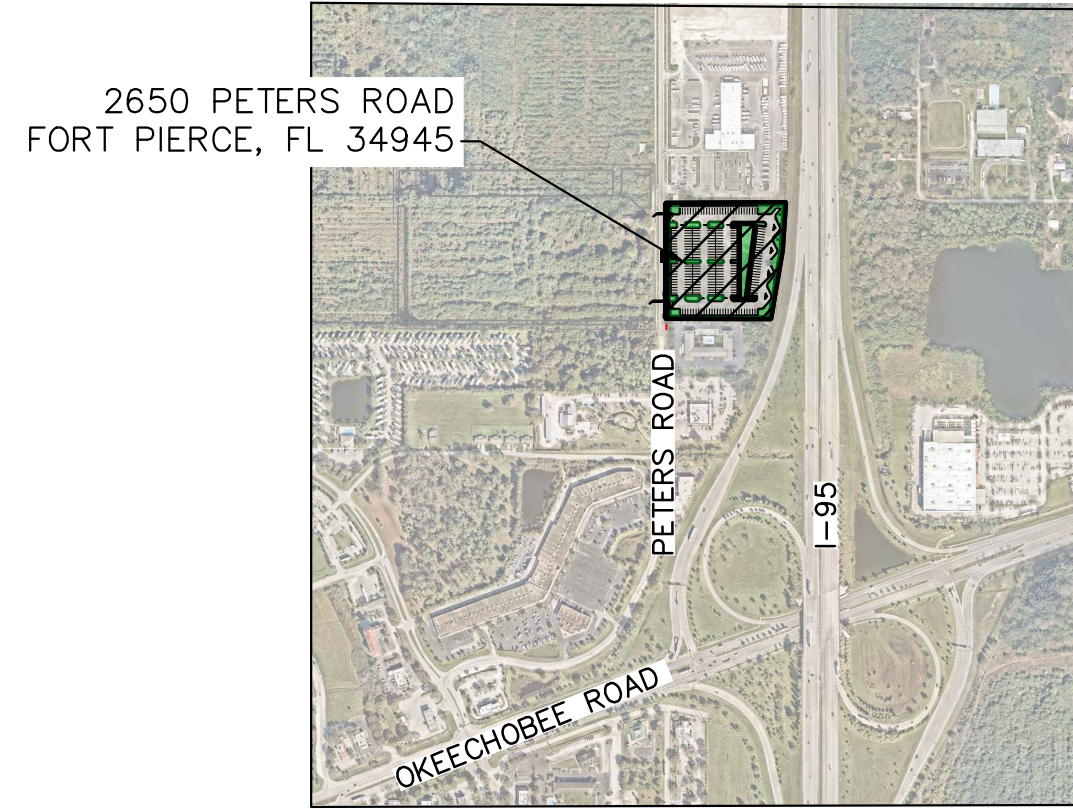
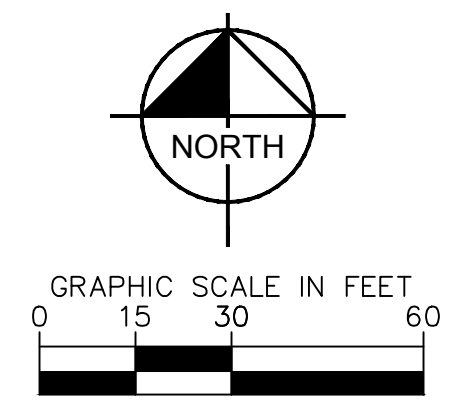
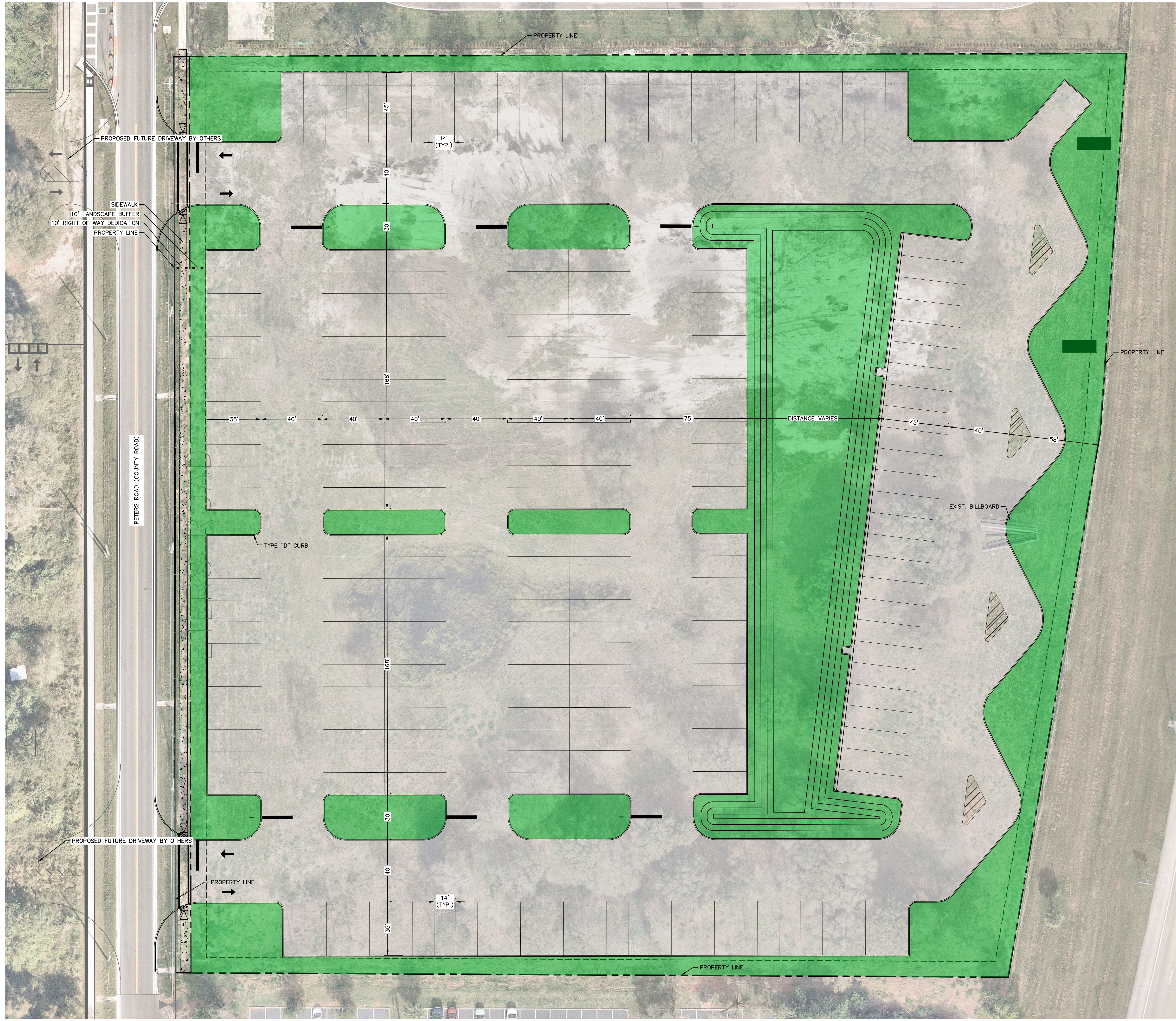
It should be noted that the proposed use is expected to generate significantly fewer trips than any Land Use provided by current data. In the absence of site-specific data, ITE Land Use Code (LUC) 150 (Warehouse) was used to provide a conservative trip generation calculation for the proposed RV parking.

Based on the results of the traffic impact analysis, additional count data on Peters Road is needed.

Access to the site is proposed to be provided two full-access driveways on Peters Road. No turn lanes are anticipated to be needed at the project driveways.

APPENDIX A: SITE PLAN

Plotted By: Kelly, Nash November 22, 2024 11:46:51am K:\BCD_civa\245690000 - General RV 2650 Peters\CADD\Exhibits\CAD_Concept\2024\11.22 - Site Concept_Plan.dwg
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| AREA TYPE | AREA (SF) | PERCENT |
|--------------|-----------|---------|
| GREEN SPACE: | 95,048 | 27.60% |
| ASPHALT: | 249,322 | 72.40% |
| TOTAL AREA: | 344,400 | 100.00% |

| STALLS | COUNT | PERCENT |
|---------------|-------|---------|
| 14'X35': | 76 | 32.20% |
| 14'X40': | 96 | 40.68% |
| 14'X45': | 55 | 23.31% |
| DISPLAY: | 9 | 3.81% |
| TOTAL STALLS: | 236 | 100.00% |

| No. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |
| | | | |

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| KHA PROJECT | DATE | SCALE: AS SHOWN |
|-------------|------|-----------------|
| | | |
| | | |
| | | |
| | | |

CONCEPT PLAN

**GENERAL RV
 2650 PETERS RD**
 FT. PIERCE FL

SHEET NUMBER