Prepared for:



FDOT District One

801 N. Broadway Avenue Bartow, Florida 33830-3809

Prepared By:

Inwood Consulting Engineers

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State Road 544 (Lucerne Park Road) PD&E

from Martin Luther King Boulevard to State Road 17 Polk County, Florida

Financial Project Number: 440273-1-22-01

ETDM Number: 5873

Federal Aid Project Number: D119-048-B

Utility Assessment Package

February 2024

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1.0 INTRODUCTION

The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environmental (PD&E) Study for the proposed changes on State Road 544 (Lucerne Park Road) from Martin Luther King Boulevard to State Road 17 in Polk County. SR 544 (Lucerne Park Road) is classified as a two-lane urban minor arterial from Martin Luther King Boulevard to US 27 and as an urban collector from US 27 to SR 17. The total project length is approximately 8 miles. This study evaluates the potential widening of SR 544 (Lucerne Park Road) from two to four lanes from Martin Luther King Boulevard (Avenue T) to SR 17 in Polk County as it plays an important role in the regional network by providing east-west access for a growing area of east-central Polk County. The location and limits of the area of study can be seen in **Figure 1**.

1.1 Purpose of Utilities Assessment Package

This utilities assessment package has been assembled to provide information on existing and planned utilities on State Road 544 (Lucerne Park Road) from Avenue T. This package contains information on the names of utility companies, aerials denoting the location of major existing and proposed facilities, the description of each utility identified, and project coordination efforts.

1.2 Existing Roadway Facilities

SR 544 (Lucerne Park Road) is classified as a two-lane urban minor arterial from Martin Luther King Boulevard to US 27 and as an urban collector from US 27 to SR 17. The roadway features two twelve-foot travel lanes with center and right turn lanes dispersed throughout the length of the corridor. The roadway also features an open drainage system; however, curbs and gutters exist from Martin Luther King Boulevard to Avenue Y and from La Vista Drive to SR 17 and in other areas where sidewalks are present.

Paved shoulders are present for the majority of the corridor and marked bicycle lanes exist on both sides of the roadway from 0.10 mile west of Brenton Manor Avenue to one 0.2 mile east of US 27. The posted speed limit along the corridor ranges from 35 miles per hour to 55 miles per hour. Citrus Connection Route #60 (Winter Haven Northeast) operates along the eastern portion of the project corridor. Existing right-of-way along SR 544 (Lucerne Park Road) ranges from 50 feet to 85 feet from Martin Luther King Boulevard to Avenue Y, 90 feet to 170 feet from Avenue Y to US 27, and 60 feet to 140 feet from US 27 to SR 17.

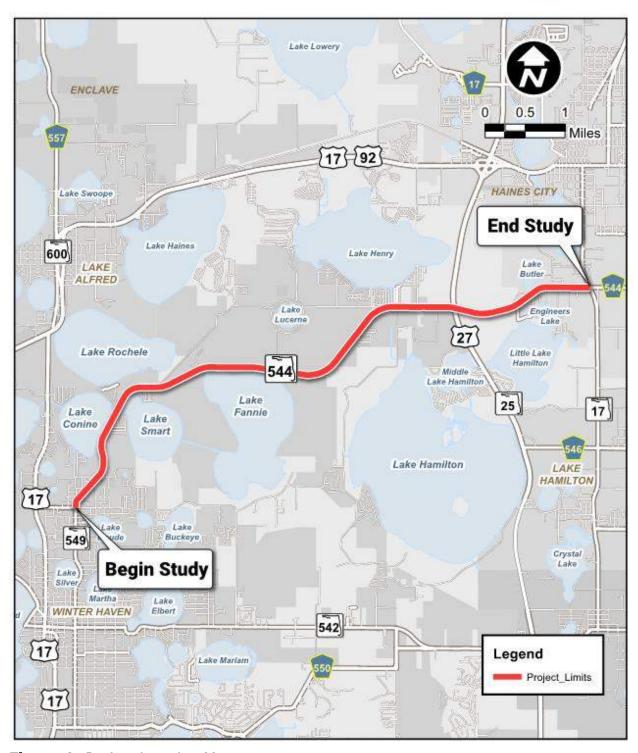


Figure 1: Project Location Map

1.3 Proposed Roadway Improvements

The proposed improvements may include paved shoulders/marked bicycle lanes, sidewalks, and/or a shared-use path to provide safe bicycle and pedestrian mobility and meet the objectives of the Polk Transportation Planning Organization (TPO) in transforming this corridor into a Complete Street. Additional right-of-way may be required depending on the proposed improvements and specific right-of-way requirements will be determined during this Project Development and Environment (PD&E) Study.

Below is a summary of the roadway improvements for each evaluation segment and the intersection improvements for the study intersections.

1.3.1 Segment 1 – Martin Luther King Boulevard to North of Avenue Y

Four alternative typical sections were considered through this historic minority neighborhood including a two-lane urban typical, a three-lane urban typical, a four-lane undivided rural typical, and a five-lane urban typical section. Due to impacts to dozens of residences, churches, and businesses associated with the four-lane and five-lane typical sections, they were eliminated from consideration and this section of SR 544 is considered constrained by the Polk Transportation Planning Organization. The two-lane and three-lane typicals that were considered include an 8-foot-wide sidewalk on the north side of the roadway, a 10-foot-wide shared-use-path on the south side, and raised median refuge areas at the mid-block crosswalk locations. These options were presented to the Florence Villa community at two separate neighborhood meetings and there was support for both alternatives.

1.3.2 Segments 2 through 7 – North of Avenue Y to LaVista Drive

For a majority of the corridor, from Avenue Y to LaVista Drive, the four-lane divided typical section described earlier was considered. Additional right-of-way would be needed to accommodate this typical section in most areas, so alternatives included widening to the north side of the road and to the south side of the road. Items affecting the comparison of north side vs. south side widening include planned development, publicly owned parks and recreation areas, and a proposed Duke Energy transmission line that will be constructed adjacent to the SR 544 right-of-way in a new easement that Duke Energy is in the process of acquiring.

1.3.3 Segment 8 – LaVista Drive to SR 17

The proposed four-lane divided typical section was considered in Segment 8 and alignments evaluated widening to the north, to the south, and centered widening. However, due to the large number of residential relocations that would result from any of these three options, two additional alternatives were considered. The first one considered maintaining the existing four-lane undivided roadway and adding eight-foot sidewalks along each side of the road. The other option considered a four-lane divided roadway with a reduced median width and eight-foot-wide sidewalks located at the back of the curb on both sides of the road.

Nine project intersections were evaluated using FDOT's Intersection Control Evaluation (ICE) process.

1.3.4 Martin Luther King Boulevard Intersection

The proposed improvements at the Martin Luther King Boulevard intersection include maintaining the existing traffic signal but adding a new southbound right turn lane at the intersection.

1.3.5 Avenue Y Intersection

Several alternatives were considered for the Avenue Y intersection including a traffic signal and several roundabouts, including two mini-roundabout alternatives.

1.3.6 Old Lucerne Park Road (west end)

Intersection improvement options at the Old Lucerne Park Road (west end) included a traffic signal and a roundabout. However, due to residential impacts and access issues to some residences in the northwest and northeast quadrants, a concept to realign Old Lucerne Park Road (west end) to align with Vista Del Lago Drive was considered. Both a traffic signal and a roundabout were considered for this new intersection.

1.3.7 Lucerne Loop Road Intersection

Both a traffic signal and a roundabout were considered for this intersection.

1.3.8 Old Lucerne Park Road (east end)

Several alternatives were considered for the intersection of Old Lucerne Park Road with SR 544. In addition to the skew of Old Lucerne Park Road at the intersection, new developments are planned on the south side of SR 544 across from the intersection and in the northwest quadrant of the intersection. Both a traffic signal and a roundabout were evaluated at this intersection.

1.3.9 Lake Hamilton Drive Intersection

Several alternatives were considered for this intersection, but a traffic signal was considered as the only viable alternative. This option includes realigning the two internal roads for the developments on the north side of SR 544 so that they would intersect SR 544 at a single location for the north leg of the intersection. Also, the ICE process identified the signalized thru-cut option as a viable alternative.

1.3.10 Brenton Manor Avenue Intersection

Because of the proximity of this intersection to the US 27 intersection with SR 544 and the two options that were found to be viable at the US 27 intersection, the intersection type at Brenton Manor Avenue is tied to the concepts considered at US 27. Both a

roundabout (paired with the single-point urban interchange at US 27) and a traffic signal (paired with the northwest quadrant roadway concept at US 27) were evaluated.

1.3.11 US 27 Intersection

Two concepts were found to be viable for consideration at the US 27 intersection with SR 544. These include a quadrant roadway in the northwest quadrant of the intersection that would include an intersection at Brenton Manor Avenue (traffic signal) and a new intersection at US 27. The other viable option is a single-point urban interchange.

1.3.12 SR 17 Intersection

The only concept identified for the SR 17 intersection was a traffic signal. Only improvements on the west leg of the intersection would be involved.

1.4 Recommended Preferred Alternatives

Below is a summary of the preferred alternative for each roadway segment and intersection.

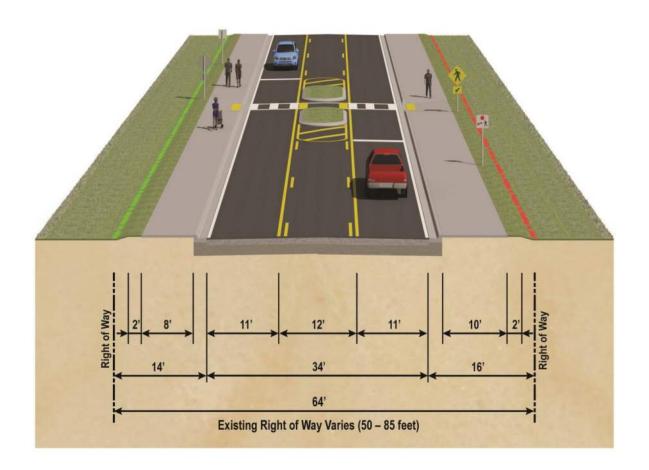
1.4.1 Segment 1 – Martin Luther King Boulevard to North of Avenue Y

The preferred typical section in Segment 1 is the three-lane typical section with a best-fit alignment. It is slightly wider and will have minor right-of-way impacts (no residential relocations) than the two-lane alternative but will provide additional safety and capacity for turning vehicles with the center turn lane. **Figure 2** illustrates this typical section.

The preferred improvement at the Martin Luther King Boulevard intersection is to maintain the existing traffic signal but add a new southbound right turn lane at the intersection. Improvements also include realigning the 1st Street NW intersection with SR 544 farther away from the Martin Luther King Boulevard intersection.

The mini-roundabout with the 90-foot inscribed diameter is recommended at Avenue Y. This concept will minimize impacts to the residences, businesses and church located at this intersection while providing an opportunity for an entrance feature to the historic Florence Villa neighborhood and speed control for vehicles entering the neighborhood.

Figure 2: Segment 1 Preferred Typical Section



1.4.2 Segment 2 – North of Avenue Y to East of Lake Conine Canal

The four-lane divided roadway is proposed with widening to the south side of the road. This alignment is recommended to avoid impacts to the Lake Conine Wetland Restoration Area and due to the proximity of the road to Lake Conine and wetlands along the lake. **Figure 3** illustrates the proposed four-lane divided roadway typical section for Segments 2 through 7.

1.4.3 Segment 3 – East of Lake Conine Canal to East of Old Lucerne Park Road (west end)

The four-lane divided roadway is proposed with widening to the north side of the road. This alignment is recommended to avoid impacts to existing residential developments on the south side of SR 544 and due to the proximity of the road to Lake Smart and wetlands along the lake.

The preferred concept at the Old Lucerne Park Road (west end) to align with Vista Del Lago Drive and to provide a roundabout at the intersection. The roundabout will help with speed control along SR 544 and improve safety when compared to the traffic signal option.

1.4.4 Segment 4 – East of Old Lucerne Park Road (west end) to East of Lucerne Loop Road

The four-lane divided roadway is proposed with centered widening. The existing road right-of-way can accommodate the proposed four-lane divided roadway in this segment.

The preferred improvement at the Lucerne Loop Road intersection is the roundabout. It will help with speed control along SR 544 and improve safety when compared to the traffic signal option.

1.4.5 Segment 5 - East of Lucerne Loop Road to East of Lake Hamilton Canal

The four-lane divided roadway is proposed with widening to the north side of the road. This alignment is recommended to avoid impacts to the Lake Region Lakes Management District boat ramp on the south side of the road and also to avoid impacts to the proposed Duke Energy transmission easement/poles on the south side of the road.

The preferred improvement at the Old Lucerne Park Road (east end) intersection is the roundabout. It will help with speed control SR 544 and increase safety when compared to the traffic signal option at this skewed intersection.

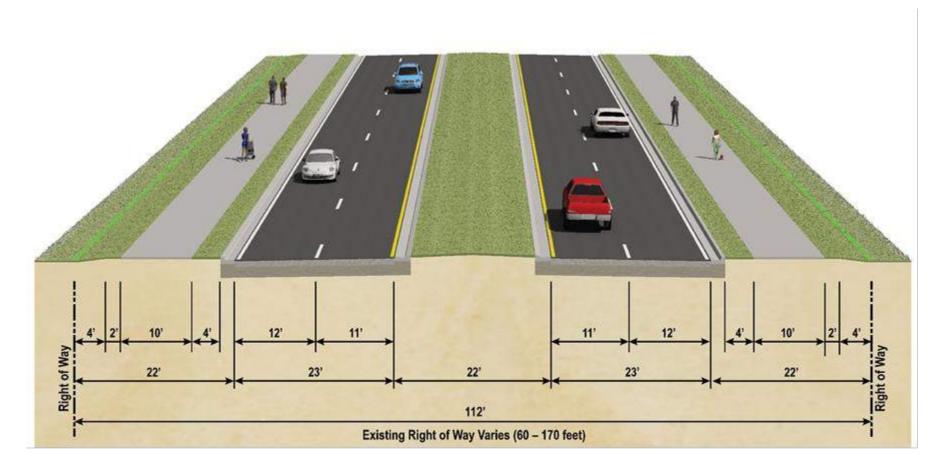


Figure 3: Segment 2 through Segment 7 Preferred Typical Section

1.4.6 Segment 6 – East of Lake Hamilton Canal to West of Brenton Manor Avenue

The four-lane divided roadway is proposed with widening to the north side of the road. This alignment is recommended to avoid impacts to the Duke Energy transmission easement/poles and existing commercial development on the south side of the road.

The signalized thru-cut alternative is recommended at the Lake Hamilton Drive intersection. This option includes realigning the two internal roads for the developments on the north side of SR 544 so that they intersect SR 544 in a single location (north leg of the intersection).

1.4.7 Segment 7 – West of Brenton Manor Avenue to LaVista Drive

The four-lane divided roadway is proposed with widening to the north side of the road west of US 27 and to the south side of the road east of US 27. This alignment is recommended to avoid impacts to Duke Energy transmission easement/poles that switch from the south side of the road to the north side of the road through the US 27 intersection.

The preferred intersection improvement at Brenton Manor Avenue is the roundabout. This intersection concept is paired with the recommended single point urban interchange at US 27.

The single point urban interchange is the recommended improvement at the US 27 intersection due to the lower predicted life cycle crash costs with this concept compared to the northwest quadrant roadway with three signalized intersections.

1.4.8 Segment 8 – LaVista Drive to SR 17

The reduced four-lane divided roadway is proposed with centered widening through this segment. This alignment is recommended to minimize residential relocations through this segment of the project but providing access control with the raised median. **Figure 4** illustrates this typical section.

The preferred concept for the SR 17 intersection is a traffic signal with only improvements to the west leg of the intersection.

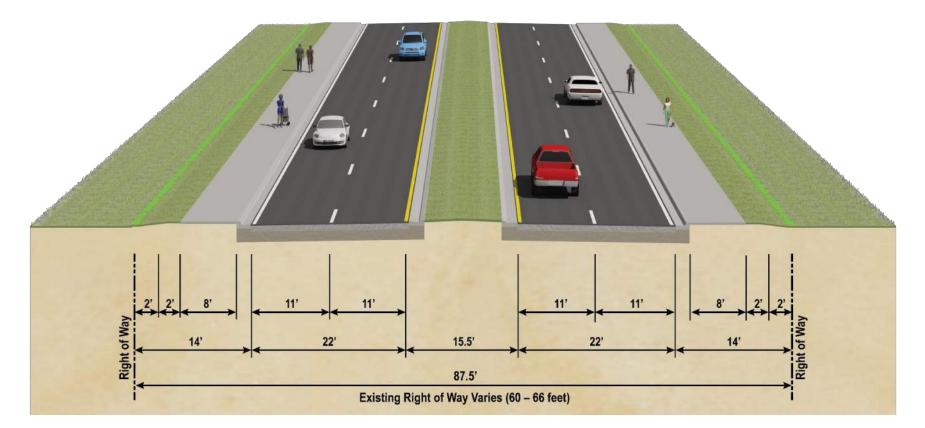


Figure 4: Segment 8 Preferred Typical Section

2.0 EXISTING UTILITIES

The Utility Agency/Owners (UAOs) in the study area were determined using a variety of sources. First, a Sunshine 811 Design Ticket was made to identify the utility providers and operators registered with the locate service. All utilities were verified with the utility providers and operators during the coordination process for the project. A list of the UAOs identified on the project are summarized in **Table 1**.

Table 1 Summary of Utility Contact Information

Company	Contact	Email Address	Phone #	Utilities in Corridor
Century Link Winter Garden	Ken Lutz	ken.lutz@centurylink.com	Unknown	Yes
Century Link / Level 3 Communications	Ron Prario	ron.prario@centurylink.com	Unknown	Yes
City of Haines City	Rene Laporte	rlaporte@hainescity.com	863-421- 3777	Yes
City of Winter Haven Utilities	Amin Hanhan	ahanhan@mywinterhaven.com	863-291- 5850	Yes
Duke Energy Distribution	Mark R. Manner	Mark.Manner@duke-energy.com	863-678- 4476	Yes
Duke Energy Transmission	-	-	-	Future, Yes
Florida Public Utilities	-	-	-	No Response
Frontier Communications	Fred Valdes	fred.n.valdes@ftr.com	863-688- 9714	Yes
Spectrum	-	-	-	No Response
Sprint	Jon Baker	jon.baker@sprint.com	321-280- 9596	Yes

Tampa Electric Company	Kim Bailey	csadmin@tecoenergy.com	813-275- 3037	Yes
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2.1 Utility Owners/Providers and Locations

All of the utility providers and operators were contacted in December 5, 2019 and were provided aerial maps of the project for review. Copies of these coordination letters can be found in **Appendix 1**. Based on the aerial maps, UAOs were asked to assist in locating and identifying their existing and planned facilities within the area of study. Through mark-ups and/or verbal descriptions, most utility providers or operators provided information on the location and type of existing facilities and information on the planned facilities anticipated in the future. At the time of utility contact efforts, none of the UAOs indicated any future planned facilities or upgrades to existing facilities within the project limits. The responses from the utility providers are found in **Appendix 2**. A description of the existing facilities and associated relocation costs are outlined in **Table 2**.

Table 2 Existing Utilities and Estimated Relocation Cost

Company	Description	Relocation Cost
Century Link Winter Garden	Buried fiber optic along the south of SR 544 at US 27 and crosses to the north of SR 544 0.25 miles east of US 27 to Peninsular Drive where the fiber crosses back to the south of SR 544 and continues until SR 17.	\$927,000
Century Link / Level 3 Communications	• (3) 1.25-inch HDPE conduit buried facilities cross SR 544 on the south side of Martin Luther King Boulevard and on the west side of US 27 Highway.	\$685,000
City of Haines City	 16" WM on east of US 27 Hwy turns east along the north side of SR 544 from US 27 to just west of Circle Four Drive. 10" WM runs down the north side of Scenis Drive. From Scenis Drive to 5th Street S there is a 10" water main along the north side of SR 544. From 5th Street S to SR 17 Hwy there is a 6" water main along the north side of SR 544. 4" FM along the south side of SR 544 from just west of Circle Four Drive to La Vista Drive. 6" WM runs on the west side of La Vista Drive. Gravity sewer turns into a 4" FM that runs on the east of La Vista Drive. 6" WM runs on the west side of Circle Four Drive. 2" WM and Gravity sewer runs down the east side of Myrtle Ave, turns down the south side of SR 544 	\$2,800,000

I	La Dania de Diva	
	to Peninsular Drive.	
	8" FM from Peninsular Drive to 5th Street S. "" N/M on the west and 8" FM on the cost of 5th	
	6" WM on the west and 8" FM on the east of 5 th Street C	
	Street S	
	Gravity Sewer from Crest Dr to SR 17 Hwy along the Secretary Sewer from Crest Dr to SR 17 Hwy along the	
	south of SR 544.	
	Gravity sewer along the south side of SR 544 from 1st Character North to Warra Avenue N.E. The arrange in the second side of SR 544 from the second s	
	1 st Street North to Ware Avenue NE. The gravity	
	sewer picks up again at 4 th Street NE to Avenue Y	
	NE.	
	Gravity sewer is present along the north side of SR Table Winter Haven Banks and fan 520 fact.	
	544 at Winter Haven Boulevard for 520 feet.	
	Gravity sewer is present along the north side of SR Table 1	
	544 from Lucerne Loop Road NE for 830 feet.	
	Gravity sewer is present on the north side of SR	
	544 from Jacaranda Avenue to the Family dollar at	
	Old Lucerne Park Road.	
	Gravity sewer runs around the RaceTrac at the OR 5144 and US 27	
	south west corner of SR 544 and US 27.	
	6 inch water main runs along the north side of SR 7.44 for the Market	
	544 from Martin Luther King Drive to Avenue Y NE	
	At second street north, a 14" main begins on the At second street north, a 14" main begins of the	
	south of SR 544 until the Winter Haven Fire	
	Department Station 2 where the main transitions to	
	16 inches.	
Cit. of Minter	At Lucerne Loop Road NE, the 16" WM transitions 13" N/M on the court side of CR 514 until UC	
City of Winter	to a 12" WM on the south side of SR 544 until US	\$22,000,000
Haven Utilities	27	
	At Lucerne Loop Road NE the water main is 12 inches until Conterestate Bank where the main is 8	
	inches until Centerstate Bank, where the main is 8 inches until the main ends at SR 27.	
	8 inch water main on the north side of SR 544 from	
	Old Lucerne Park Road for 400 feet.	
	16 inch force main along the north of SR 544 from	
	_	
	Martin Luther King Boulevard to Avenue V.	
	 A 20 inch force main runs along the north side of SR 544 from Avenue Y NE to Old Lucerne Park 	
	Road, where the main transitions to 12 inches and ends at Jacaranda Avenue.	
	 An 8 inch force main starts along the north side of 	
	SR 544 from Old Lucerne Park Road to just west of Hideaway Lane, where the force main transitions to	
	10 inches and ends at US 27.	
	 A 2 inch force main starts at Unnamed Street and 	
	ends just west of US 27	
	 20 inch reuse runs along the south of SR 544 from 	
	Avenue Y to the Lakeside Landings Development.	
	 City Fiber runs from Avenue Y to US 27 on the north 	
	- City Fiber rans from Avenue 1 to 05 27 on the florth	

	side of SR 544.	
Duke Energy Distribution	12.4 kV 3 phase overhead electric lines along SR 544 from Old Lucerne Park Road to SR 17.	\$1,700,000
Duke Energy Transmission	Osprey transmission line proposed on south side of SR 544	\$5,250,000 (reimbursable)
Florida Public Utilities	No Response	TBD
Frontier Communications	 Buried fiber lines west of SR 544 from Martine Luther King Boulevard and on both sides of SR 544 from Maxine's Barber Shop to 0.25 miles past Lakeside Landings neighborhood entrance, where the north side of the fiber ends. The north side of SR 544 has buried fiber again at Old Lucerne Park Road, and fiber on both sides of SR 544 continue until the southern fiber ends at US 27. At US 27, the buried fiber line on the north side of SR 544 continues and the buried fiber line on the south side of SR 544 ends At Lake Hamilton Drive, the buried fiber line crosses SR 544 from the north to south side until Crest Drive where buried fiber continues on the north and south side of SR 544 until the end of the project area. 	\$3,400,000
Spectrum	No Response	TBD
Sprint	4-2 inch buried fiber optic conduits along the south side of SR 544 from US 27 for 950 feet, where the line crosses to the north side of SR 544 and remains until crossing back to the south side of SR 544 just west of SR 17.	\$2,800,000
Tampa Electric Company	 Overhead feeder along the north side of SR 544 from Martin Luther King Drive to Old Lucerne Park Road. From Old Lucerne Park Road to just west of US 27 there is overhead non-feeder along the south side of SR 544. 	\$4,100,000

3.0 UTILITY MITIGATION AND COST

Due to the nature of the existing conditions throughout the project corridor, it is anticipated that the widening of State Road 544 (Lucerne Park Road) will impact a large number of the existing utility facilities on the project. The extent of the widening, anticipated right-of-way acquisition, and related improvements are shown on the recommended alternative conceptual plans included in **Appendix 3**. Mitigation measures would be taken during the design phase of the project to minimize impacts to the existing utilities to the fullest extent possible.

Since relocations of facilities located in easements would likely be eligible for reimbursement if impacted, all measures will be taken to avoid impacting facilities identified in lands of compensable interest. **Table 3** outlines companies that have been identified as having potential easements on the project. Utility coordination should be performed during the design phase of the project to clearly identify all utility easements and potential reimbursable relocations on the project.

Table 3 Summary of Potential Utility Easements Identified

Company	General Easement Description
Century Link Winter Garden	• In ROW
Century Link / Level 3 Communications	 BFO outside of ROW south of SR 544 and west of Martin Luther King Boulevard BFO outside of ROW west of Martin Luther King Boulevard and crossing SR 544
City of Haines City	Easement for 8" FM that runs south of SR 544 and east of Peninsular Drive until 5th Street S
City of Winter Haven Utilities	 10" Reuse in an easement to the east of the Lake Smart neighborhood 4" Force Main and 6" WM in an easement to Willowbrook Golf Course Lift Station #164 to the east of Winter Haven Blvd. Gravity Sewer outside of ROW on the north of SR 544 starting just east of Lucerne Loop Rd NE and continuing outside of the ROW until it passed the entrance to Walmart (near the First Baptist Church of Lucerne Park) 20" Reuse and 12" Water outside of ROW at Lakeside Landing neighborhood entrance South of SR 544 Utility easement OR 1671 PG 156 carries gravity sewer from SR 544 to Old Lucerne Pard Road cutting the corner after the Family Dollar North of SR 544 Force Main private lift station by StoreRight Self Storage South of SR 544 8" WM to Safe Haven Storage South of SR 544 Fire Hydrant Storage in front of the IdentoGo and Dollar General

Company	Company General Easement Description		
	 South of SR 544 Private Lift Station at Bigz BBQ and South State Bank south of SR 544 Lift Station #168 north of SR 544 on the northwest corner of SR 544 and US 27 Force Main to Racetrack on southwest corner of SR 544 and US 27 		
Duke Energy Distribution	Unknown – only		
Duke Energy Transmission	Unknown – facilities are proposed only at this point		
Florida Public Utilities	No Response		
Frontier Communications	• In ROW		
Spectrum	No Response		
Sprint	• In ROW		
Tampa Electric Company	 Feeder line exits ROW just west of Lakeside Landing neighborhood and continues outside of ROW until just east of Lakeside Landing neighborhood on north side of SR 544 		

Appendix 1 Utility Contact Letters

Kate Guevara

From: David Ledgerwood

Sent: Thursday, December 5, 2019 8:39 AM

To: darin.daniels@charter.com; fchatham@chpk.com; rlaporte@hainescity.com;

Sharon.Dear@duke-energy.com; defdistributiongov@duke-energy.com; fred.n.valdes@ftr.com; csadmin@tecoenergy.com; jon.baker@sprint.com;

ken.lutz@centurylink.com; NationalRelo@centurylink.com;

ahanhan@mywinterhaven.com; JEWilliams@pike.com; DEFTransmissiongov@duke-

energy.com

Subject: 440273-1 SR 544 PD&E Utility Submittal

This contact is being done completely electronically, but if you need anything in a hard copy format or an electronic copy of the plans, please let me know.

FP ID: 440273-1-22-01

SR: SR 544 County: Polk

Description: SR 544 PD&E Study from Avenue T NW to SR 17

Inwood Consulting Engineers has been selected to represent the Florida Department of Transportation in utility coordination between the Department and your agency on the above referenced project. Please address all correspondence, verbal and written to Inwood.

In an effort to better coordinate the selection of corridor alternatives and their impact on utilities, I am providing for your review the project base maps to be used to identify your existing facilities on the project. Due to file size, the pdf of the base maps has been placed on the Inwood SharePoint site for download.

Click the following link to access the project base maps:

440273-1 SR 544 PD&E Utility Submittal

I am requesting you to provide/prepare a rough cost estimate for relocation of your facilities (per mile basis is acceptable), indicating the impact you anticipate with your facilities. Also, please mark-up and return one (1) set of maps indicating the location, size and type, etc., of your existing and proposed facilities. The mark-up should also identify all known **EASEMENTS** or other lands of ownership rights. If your company does not have any facilities within the project limits, you may respond to this email stating this fact.

In your correspondence to my office, please make reference to the FPID, county road number, and description as listed above. This information will need to be returned by **January 10, 2020**.

Thank you for your cooperation. The Department will make sure the information, which you have furnished, will be considered prior to establishing future corridor(s). Please feel free to contact me should you have any questions regarding the project or need any additional information.

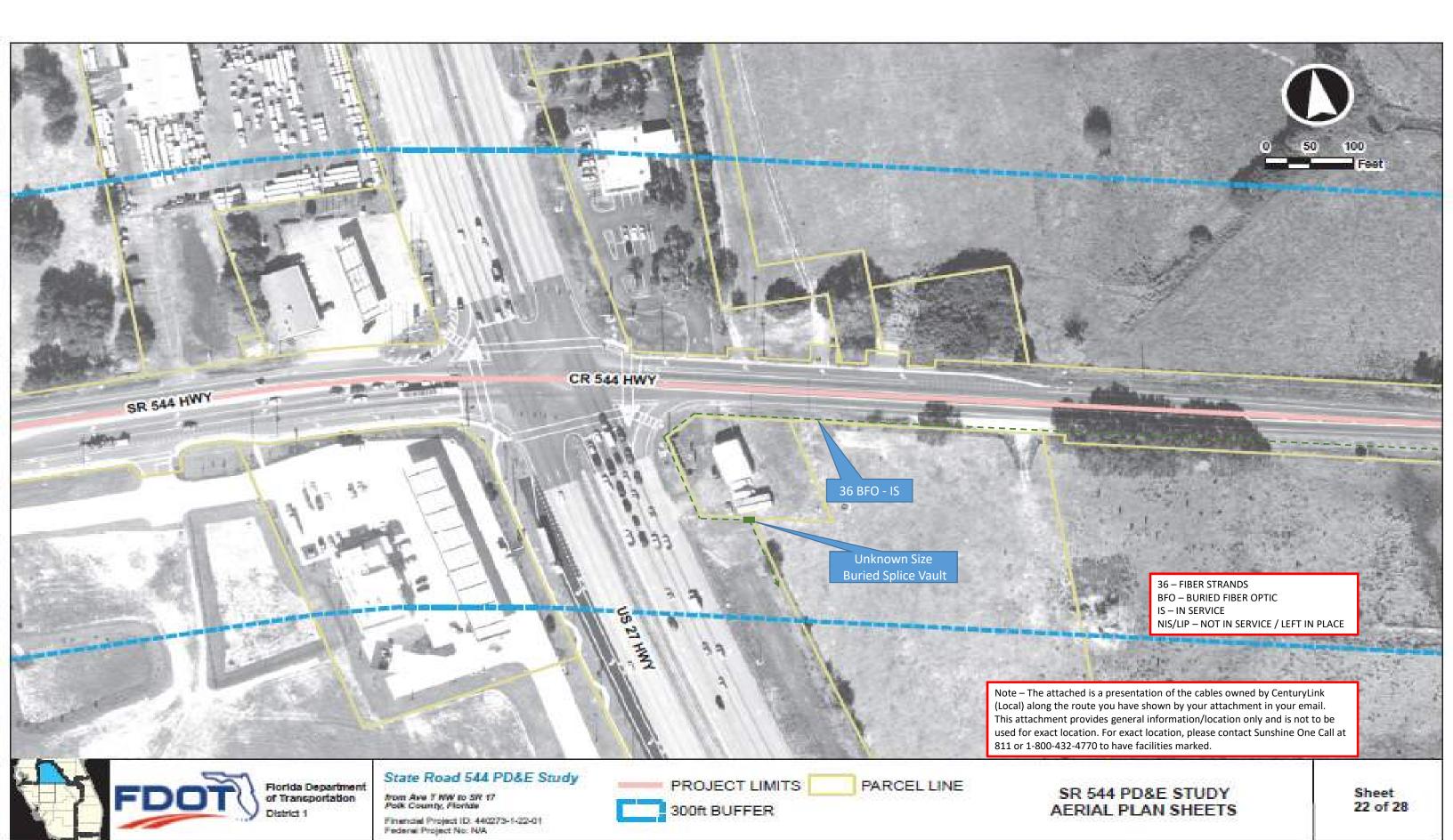
Thank you.

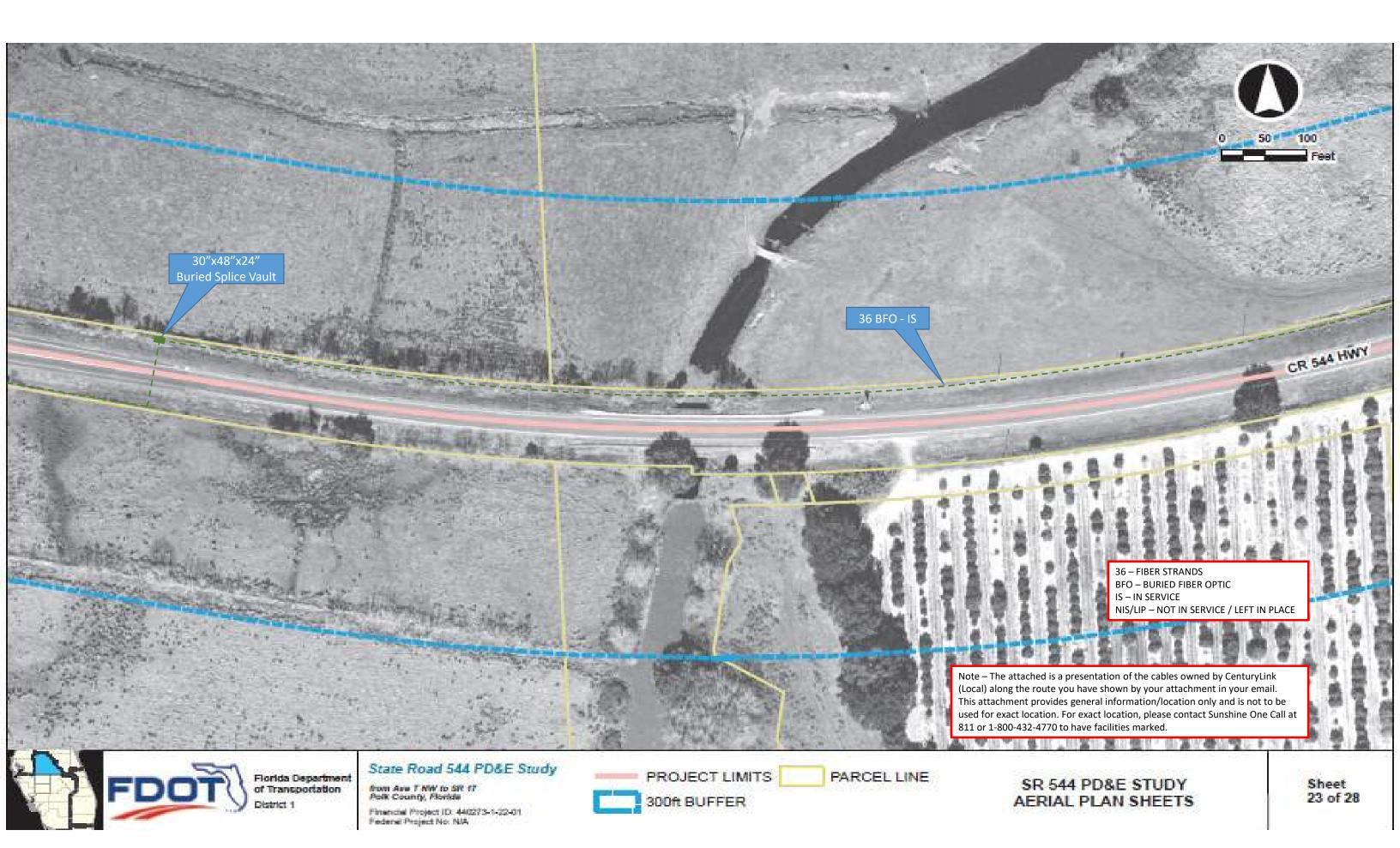
David Ledgerwood, PE
UTILITY COORDINATOR
INWOOD CONSULTING ENGINEERS
3000 Dovera Dr., Suite 200, Oviedo, Fl 32765

Office: 407-971-8850

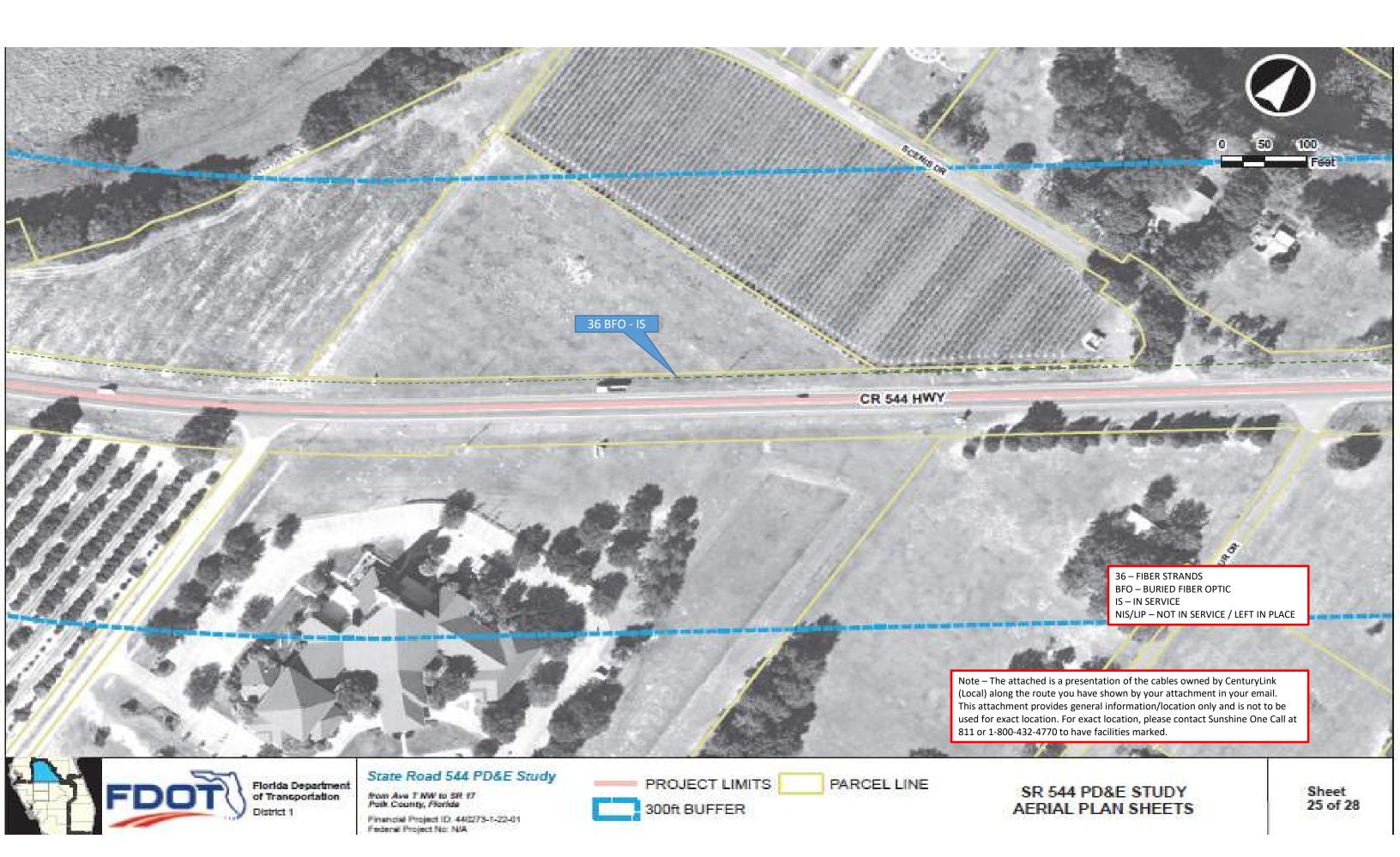
Appendix 2 Utility Responses

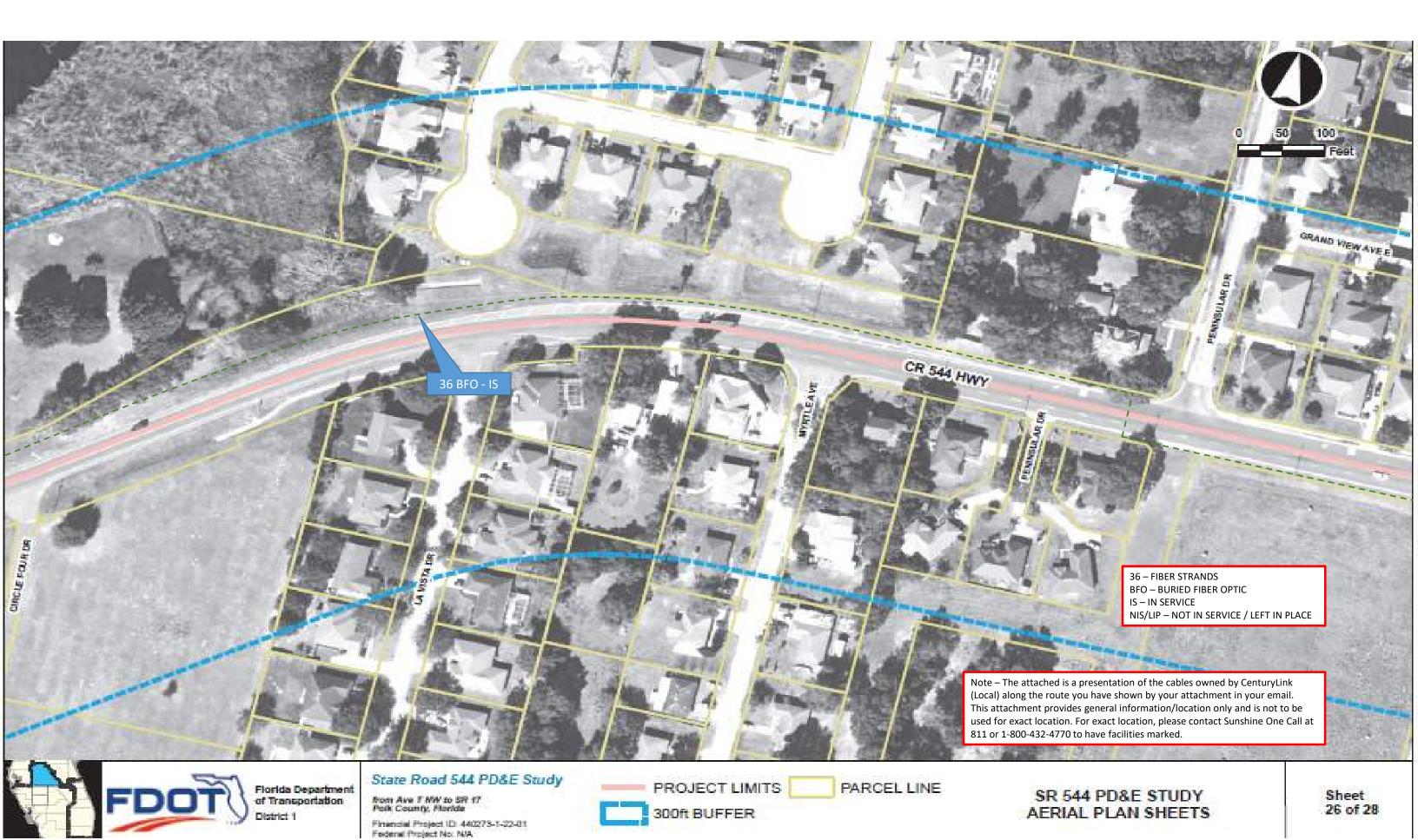
CenturyLink Local

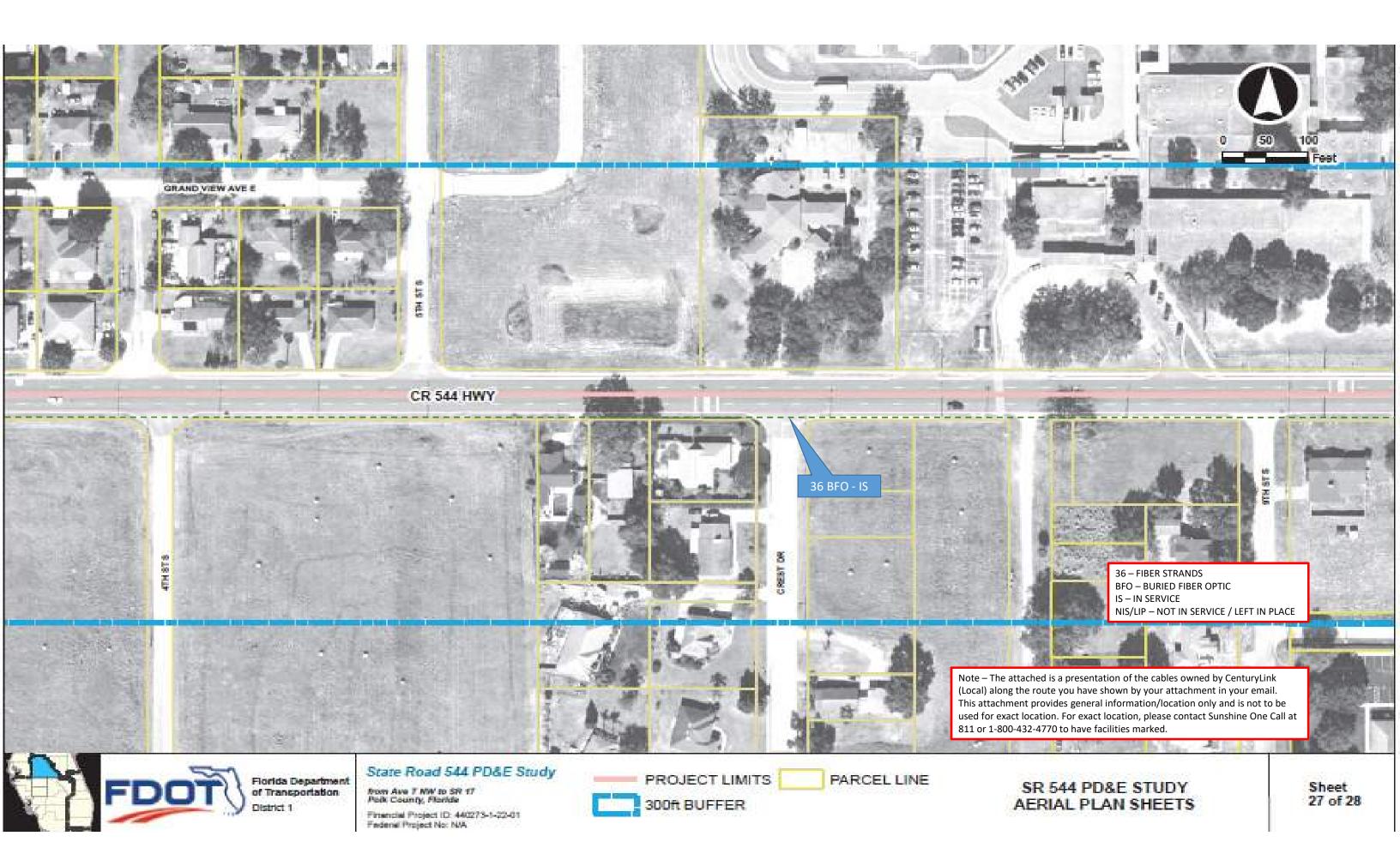


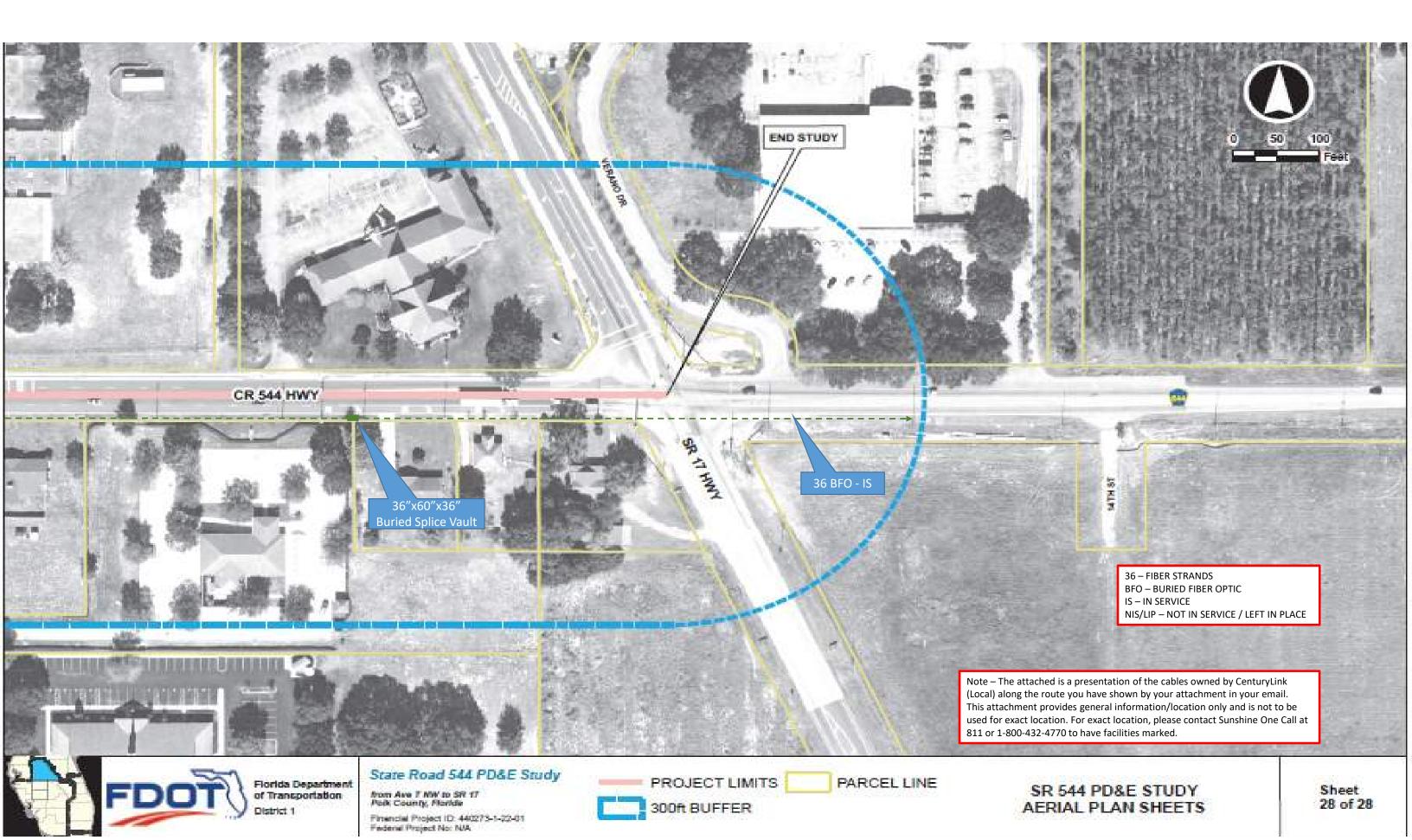




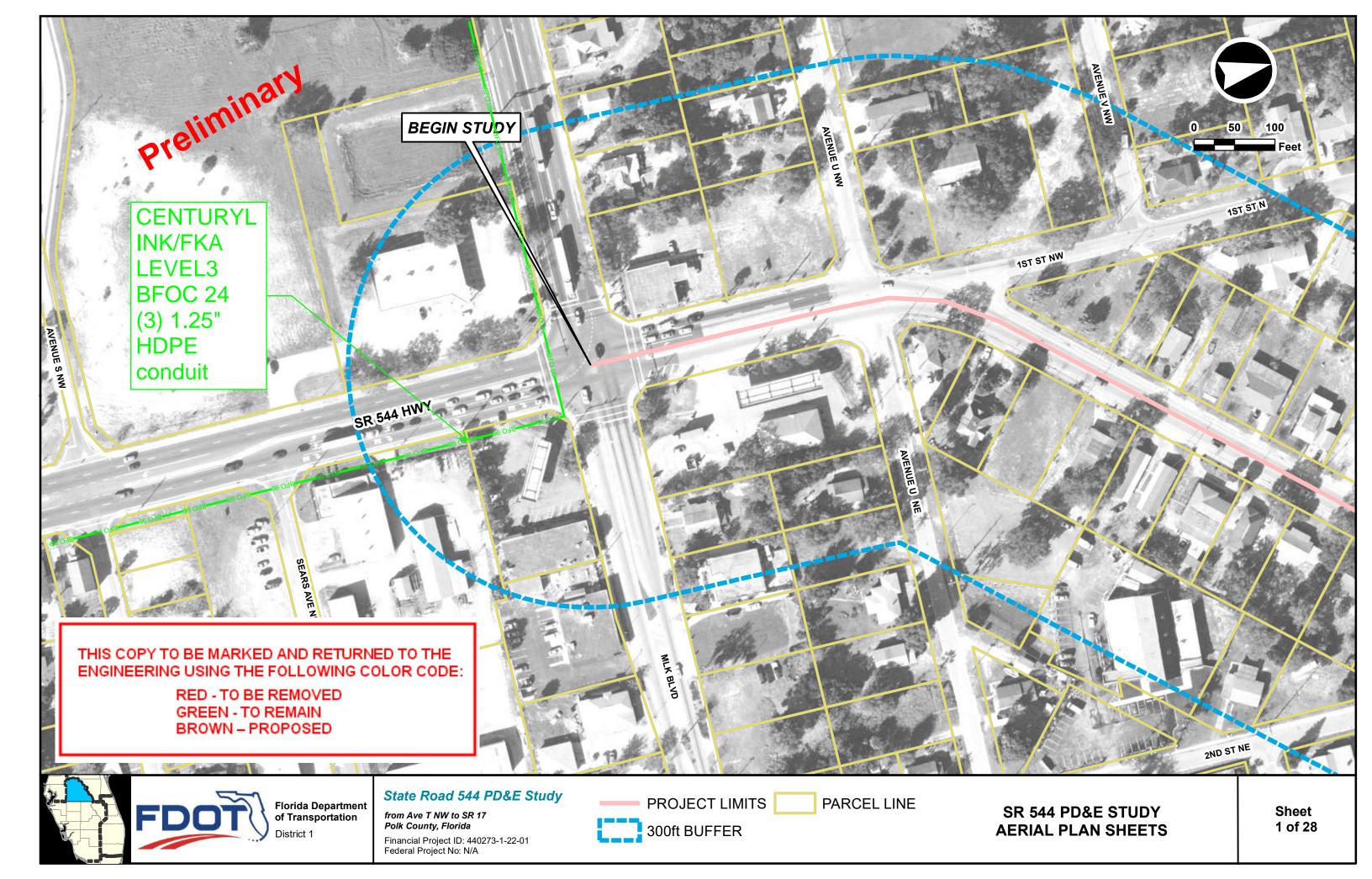


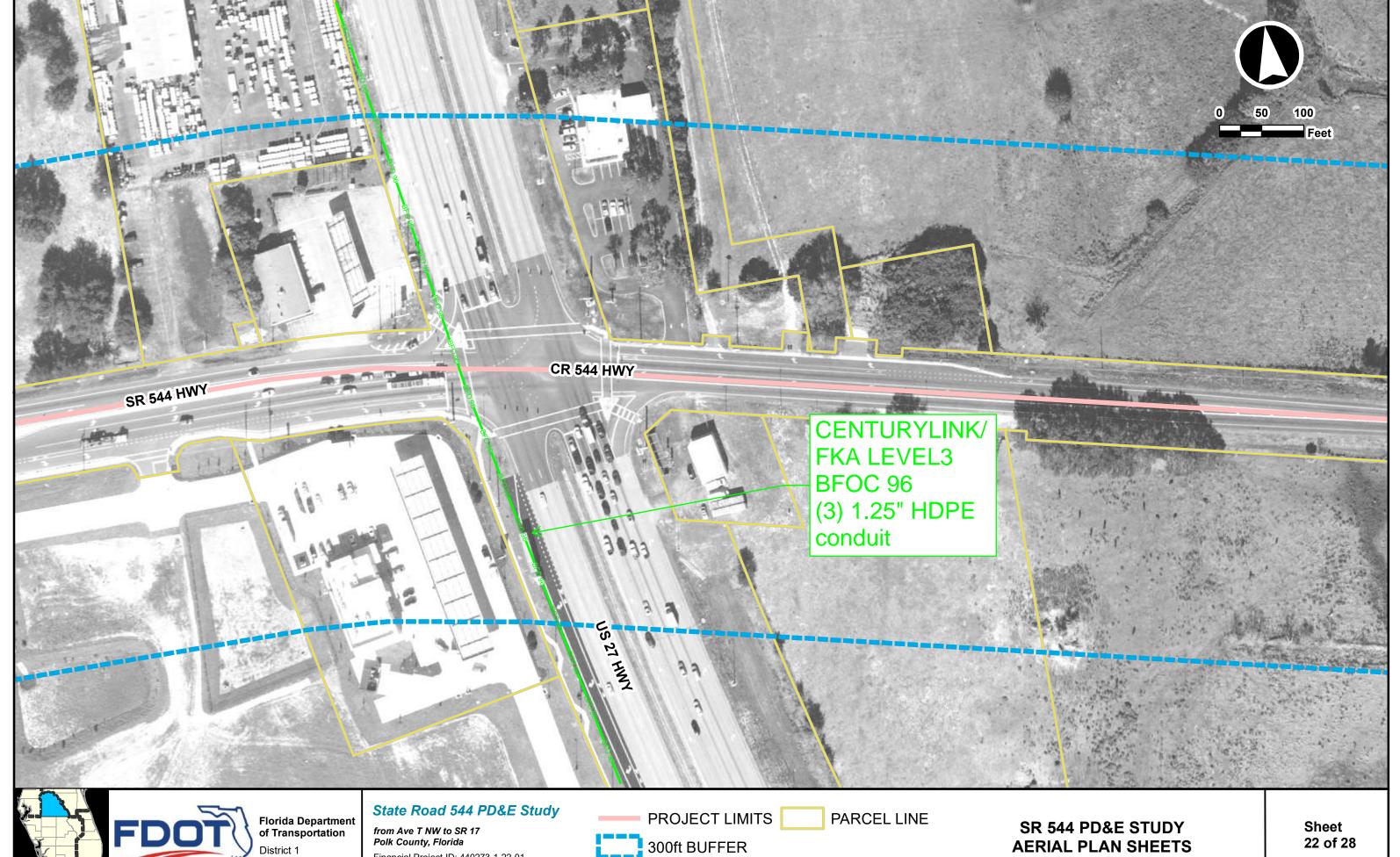






CenturyLink National





Financial Project ID: 440273-1-22-01 Federal Project No: N/A

AERIAL PLAN SHEETS

Duke Energy Distribution

Kate Guevara

From: Manner, Mark Robert <Mark.Manner@duke-energy.com>

Sent: Thursday, December 19, 2019 3:37 PM

To: David Ledgerwood

Subject: RE: RE:FW: 440273-1 SR 544 PD&E Utility Submittal

I can tell you this much immediately that Duke Energy Distribution has no facilities along CR 544 West of the big curve where Old Lucerne Park Rd forks off (Duke Energy 12.47 kV 3 phase line goes along Old Lucerne Park Rd). Duke Energy has 12.47 kV 3 phase overhead electric along the county road from SR 17 to Old Lucerne Park Rd fork.

Mark R. Manner Sr. Engineer (Distribution) Duke Energy tel. (863) 678-4476

e-mail: Mark.Manner@duke-energy.com

From: David Ledgerwood <dledgerwood@inwoodinc.com>

Sent: Thursday, December 19, 2019 3:27 PM

To: Manner, Mark Robert < Mark.Manner@duke-energy.com> **Subject:** RE: RE:FW: 440273-1 SR 544 PD&E Utility Submittal

*** Exercise caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

That will work, Mark. Thanks for the heads up.

David Ledgerwood, PE INWOOD CONSULTING ENGINEERS

Office: 407-971-8850 Cell: 407-625-9808

From: Manner, Mark Robert < Mark.Manner@duke-energy.com>

Sent: Thursday, December 19, 2019 3:25 PM

To: David Ledgerwood <<u>dledgerwood@inwoodinc.com</u>> **Subject:** RE:FW: 440273-1 SR 544 PD&E Utility Submittal

Mr. Ledgerwood, I will be unable to meet your requested dead line. I will be out of the country between 12/24/2019-Jan 7 2020. May we try to provide info by end of January instead.

Regards,

Mark R. Manner Sr. Engineer (Distribution) Duke Energy tel. (863) 678-4476

e-mail: Mark.Manner@duke-energy.com

Duke Energy Transmission



December 19, 2019

David Ledgerwood, Utility Coordinator c/o Inwood Consulting Engineers 3000 Dovera Drive, Suite 200 Oviedo, FL 32765

Re: Project #: 440273-1-22-01

Project Phase: PD&E Study

Plan Date: Date Not Specified

County: Polk State Road: SR 544

Description: State Road No. 544 from Avenue T Northwest to State Road No. 17

We hereby certify that **Duke Energy Florida**, **LLC**, a Florida Limited Liability Company, **d/b/a Duke Energy Transmission**, does not have facilities located within the limits of the above-referenced project. No alterations are required.

Please find enclosed items listed below for the above-referenced project:

- 1. One (1) copy of correspondence requesting facilities review
- 2. One (1) project area exhibit

If you have further questions, I can be reached by sending an email to DEFTransmissionGov@duke-energy.com.

(Scott Van Velzor in lieu of) Francis Castro

Duke Energy Transmission Line Engineering

Kate Guevara

From: David Ledgerwood

Sent: Tuesday, May 25, 2021 4:32 PM

To: David Dangel
Cc: Mark Hales

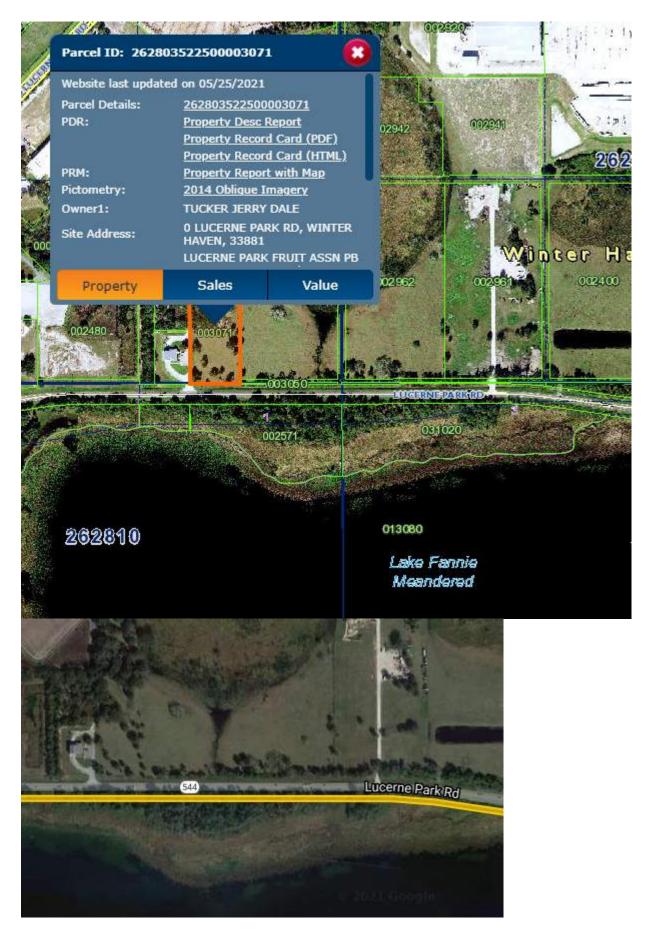
Subject: RE: FPID: 440273-1/SR 544 PDE Study Comment

David,

I had to dig back into this one. Duke has their Osprey 230-kV Transmission line that runs in the area. I searched for permit plans through SWFWMD and FDOT One Stop permitting and couldn't find any plans. It sounds like Duke are still working on easements and finalizing the corridor, so final plans and pole locations are probably not available. I located Mr. Dales property next to the WH fire station (screen shot below). Based on the interactive map published by Duke, the preferred transmission route is on the other side of SR 544. I don't know if this is the most up to date route, but it's the only information I have currently.

Here is a link to the Duke project website: https://www.power-viz.com/DukeEnergyOspreyProject/

It is interactive and you can zoom in on specific sites.



David Ledgerwood, PE

INWOOD CONSULTING ENGINEERS

Office: 407-971-8850 Cell: 407-625-9808

From: David Dangel <ddangel@inwoodinc.com>

Sent: Tuesday, May 25, 2021 2:13 PM

To: David Ledgerwood <dledgerwood@inwoodinc.com>

Cc: Mark Hales < mhales@inwoodinc.com>

Subject: FW: FPID: 440273-1/SR 544 PDE Study Comment

David,

Please see the question below. The location of the property is down at the bottom of the email. Do we have any info from Duke?

From: bill@watsonandwatsonrealtors.com <Bill@watsonandwatsonrealtors.com>

Sent: Tuesday, May 25, 2021 11:13 AM

To: david.turley@dot.state.fl.us

Cc: David Dangel <ddangel@inwoodinc.com>; mbruno@aimengr.com

Subject: FPID: 440273-1/SR 544 PDE Study Comment

Good morning David and others

Would you(or anyone) have a map showing the proposed easement for the DUKE over head service and showing the proposed location of the poles. This site has a City of Winter Haven approve plans for a min warehouse project . Someone that claimed they worked for Duke contacted the owner (I do not have his name) and made a offer of \$ 6,000 for the easement and it will cost considerable more to modify the plans and change all of the permits already issues. I represent the Buyer that would like to construct the warehouse project as soon as possible. Anything you can provide will help us in the redesign stage of this project . We hope to be able to work with Duke if at all possible but we need to see what and where.

With kindest regards Bill Watson, Realtor

Owner: Tucker Jerry Dale

262803 352250 003071 Polk County

Site location:) Lucerne Park Rd, Winter Haven Fla

5.08 acres

Located: on the east side of the Winter Haven fire department.



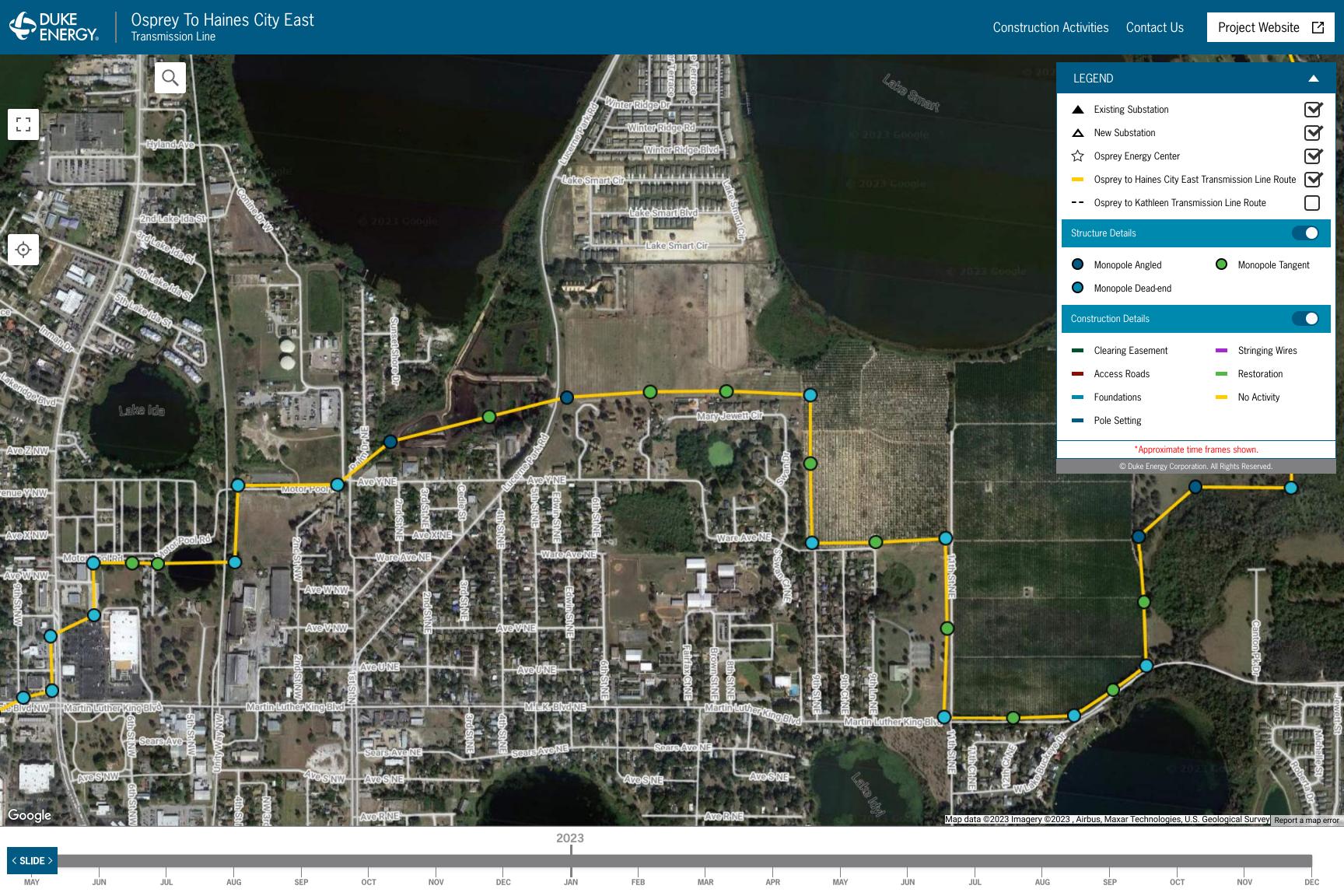
Billl@WatsonandWatsonRealtors.com 6650 SR 544 East

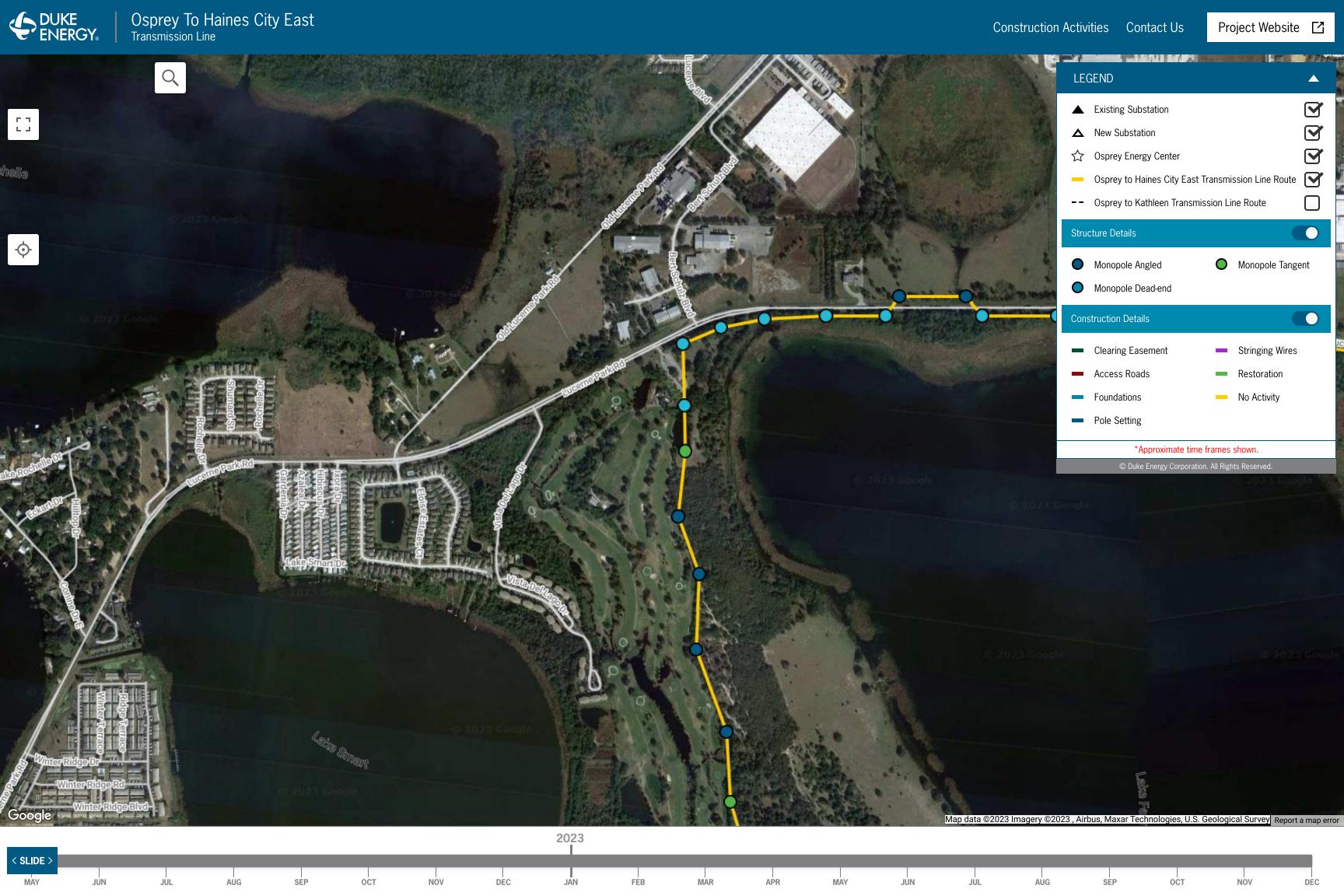
6650 SR 544 East (Lucerne Park Road) Winter Haven, FL 33881

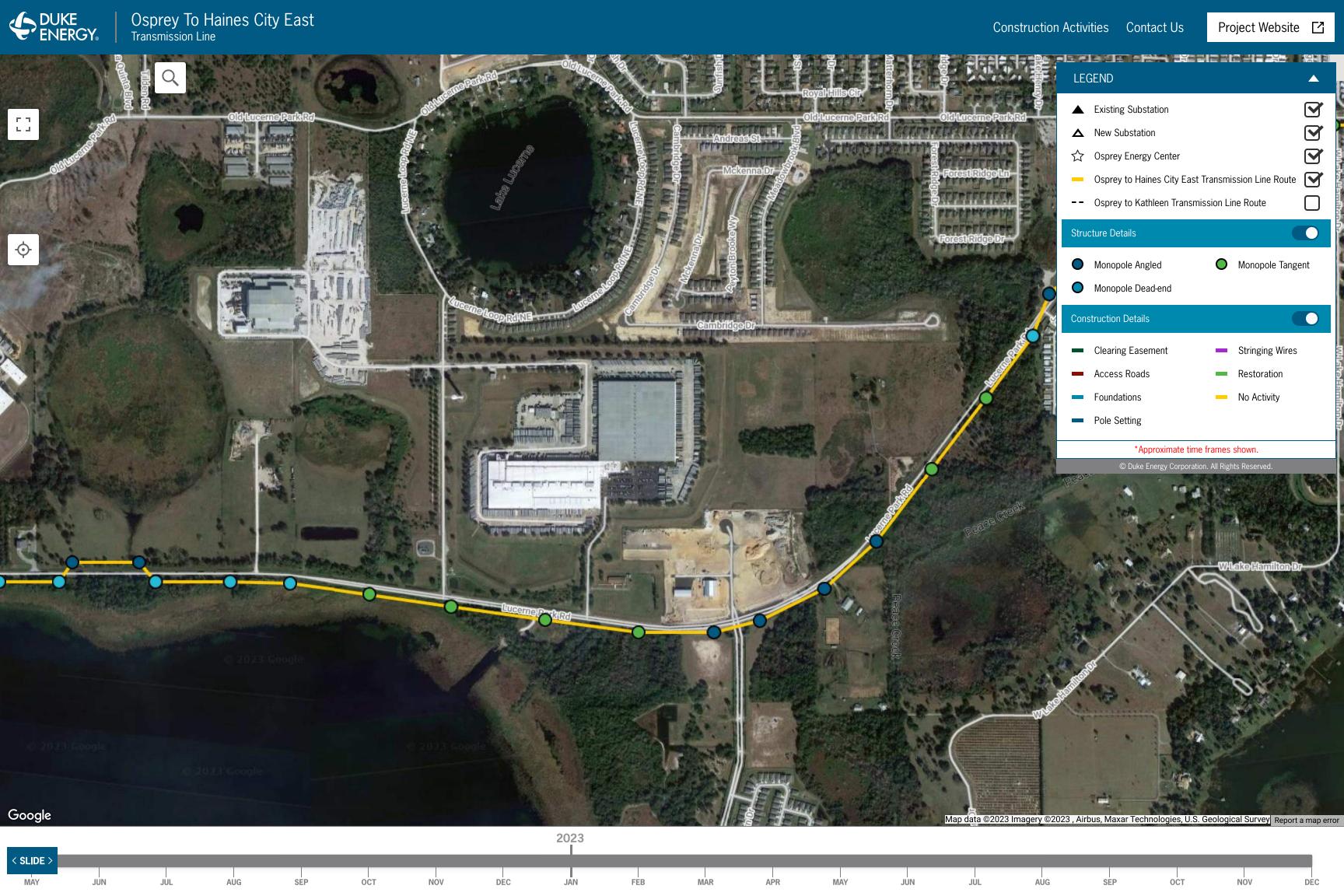
(Office) **863-294-4149**

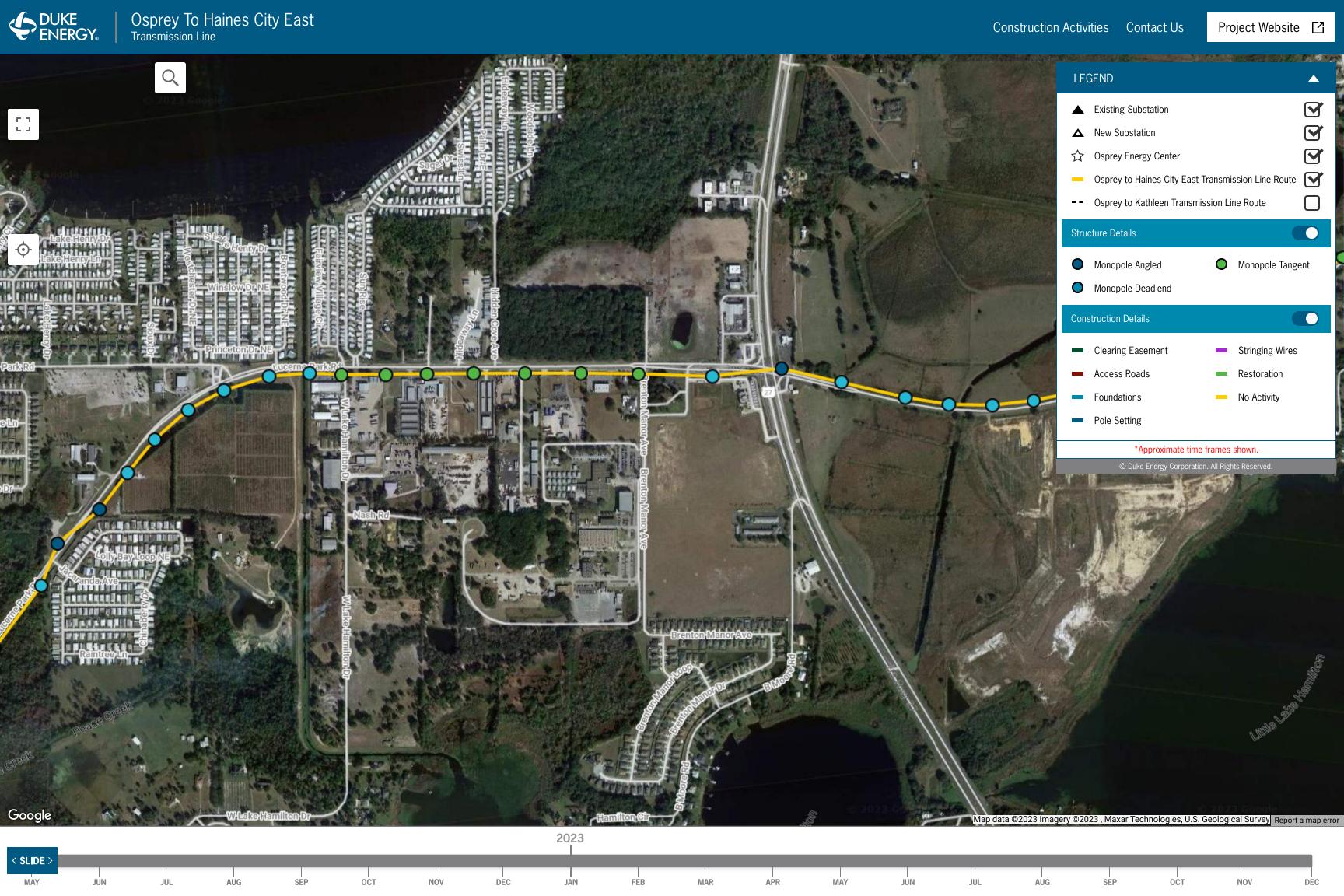
(Cell) **863-289-1414**

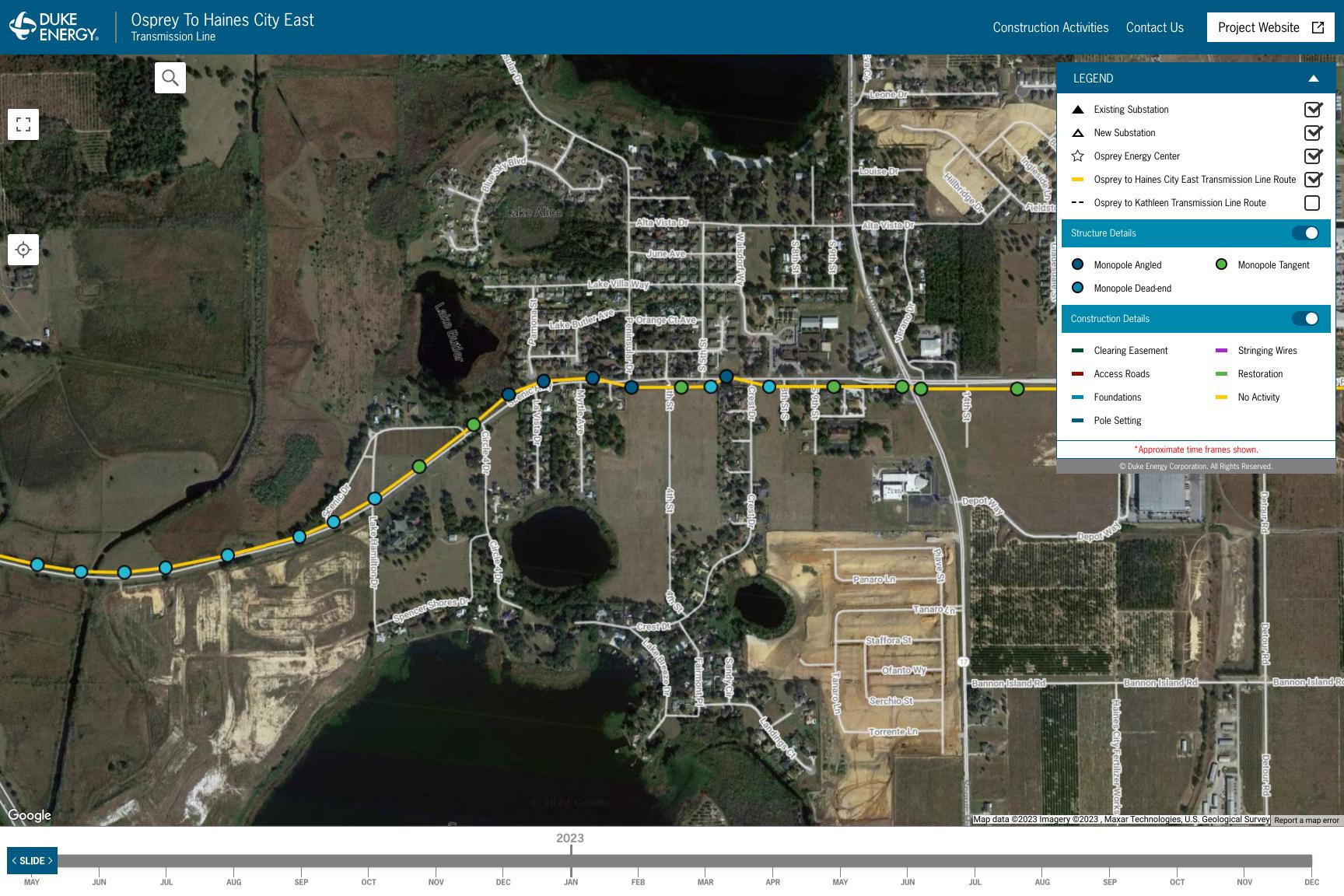
(Fax) **863-353-6801**



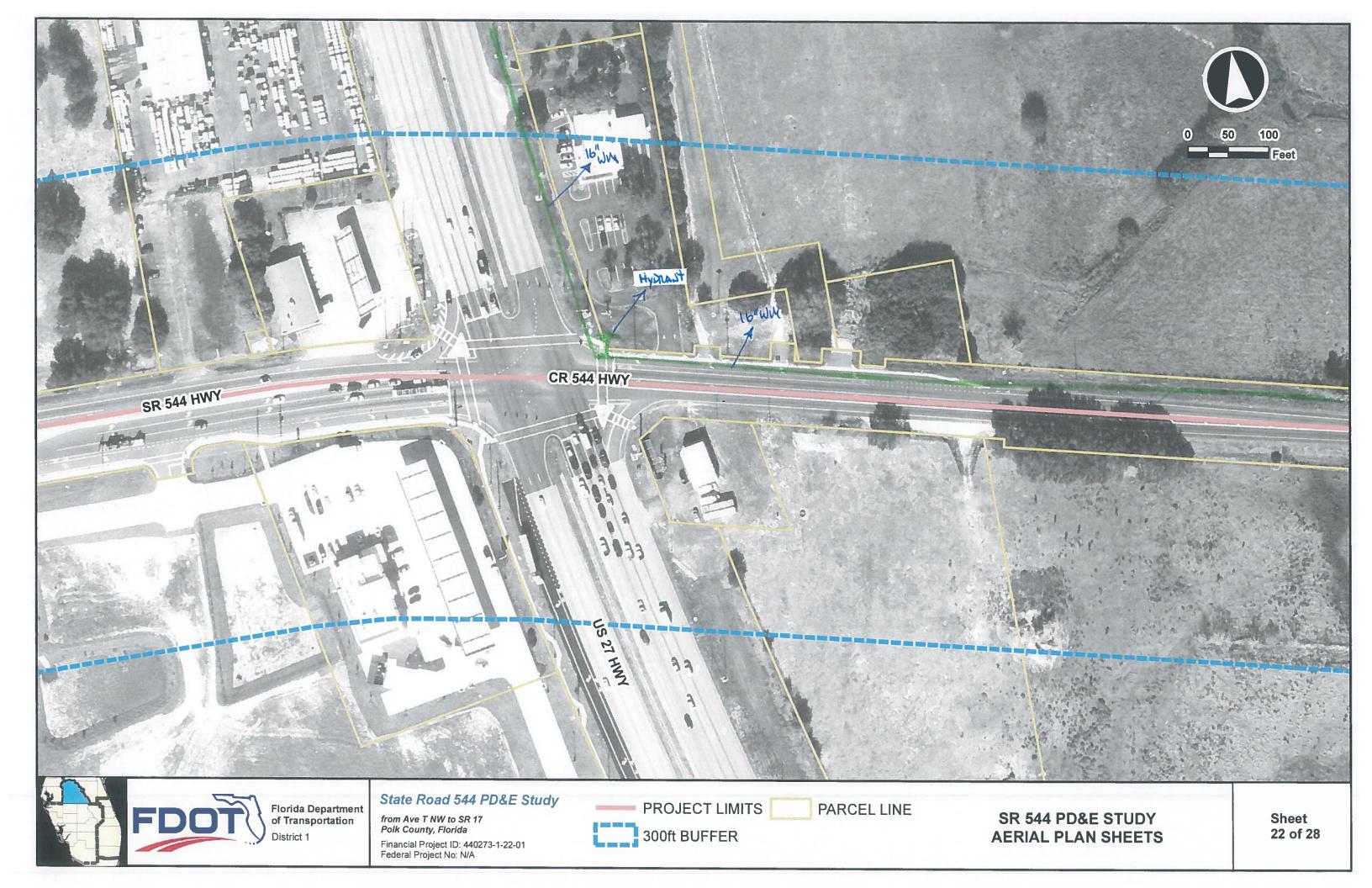


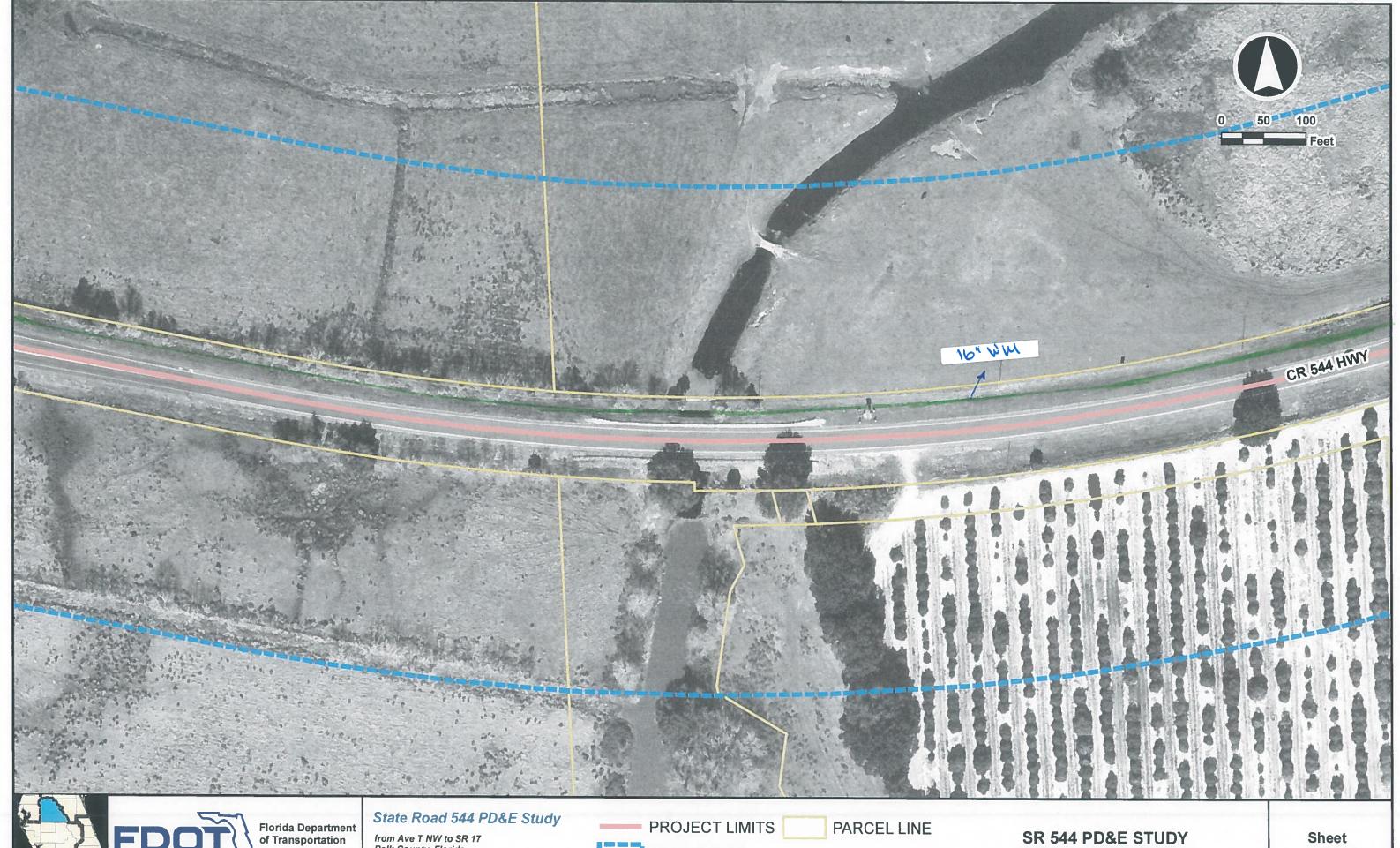






City of Haines City





Florida Department of Transportation

from Ave T NW to SR 17 Polk County, Florida

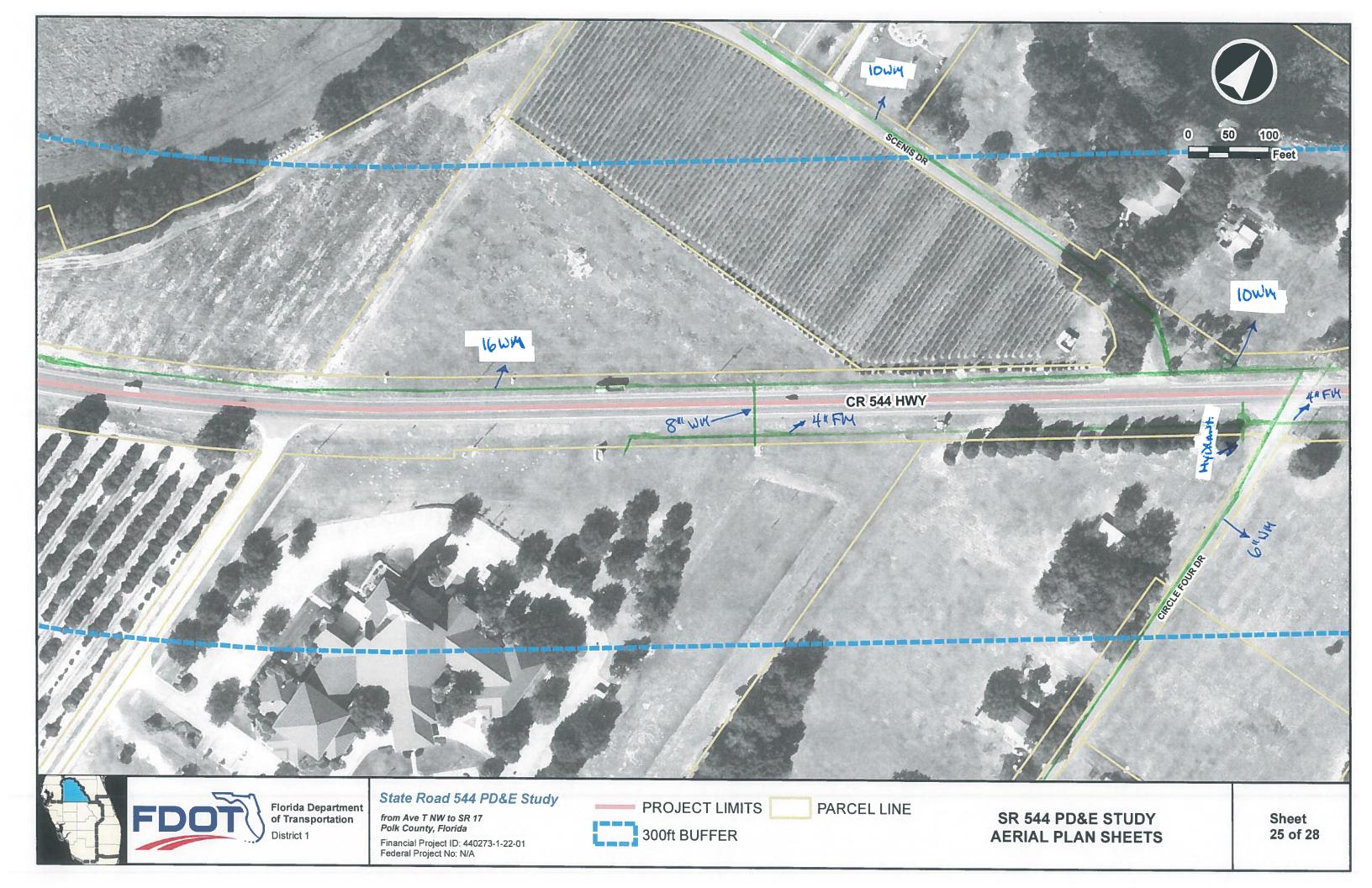
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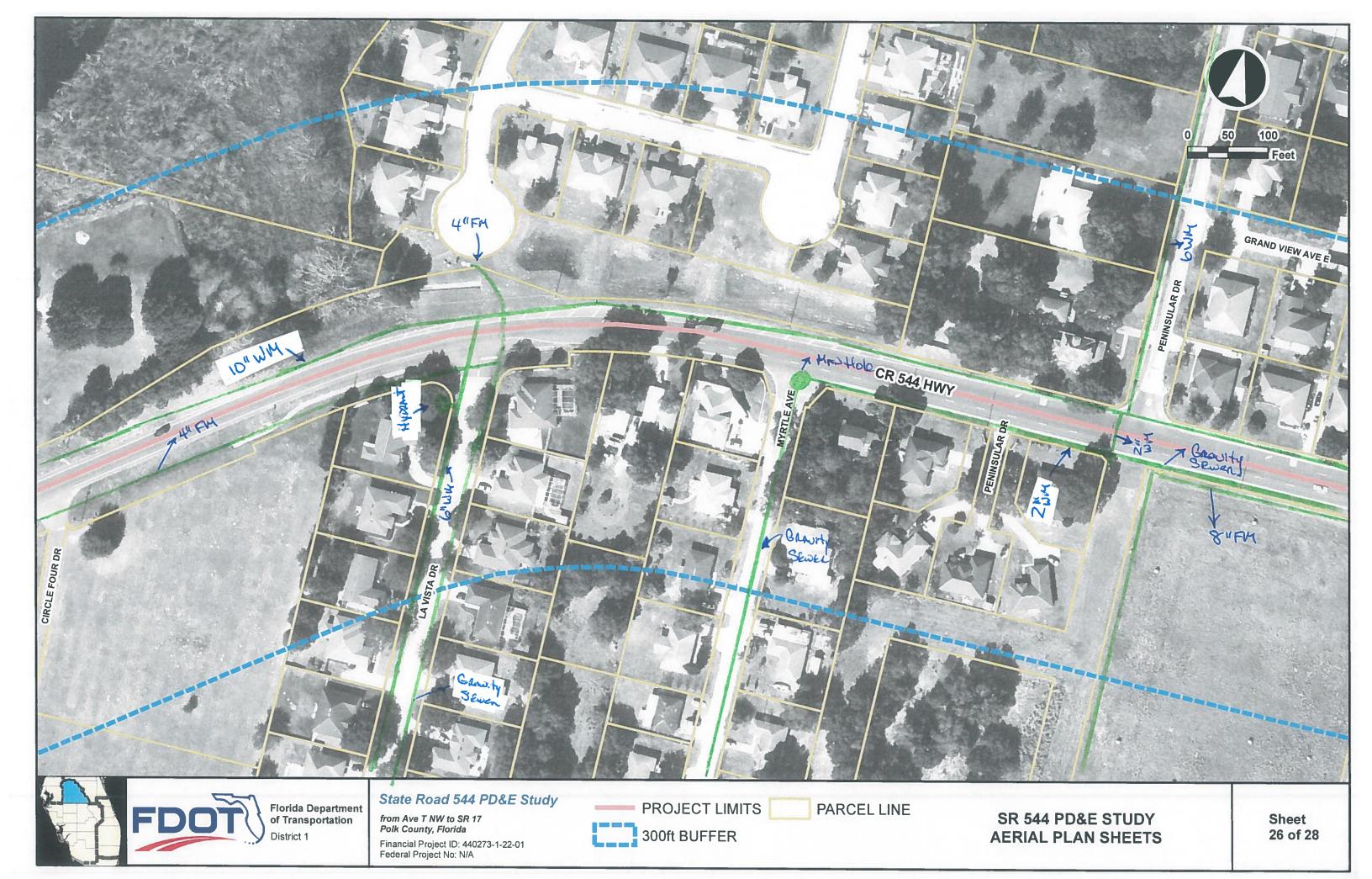


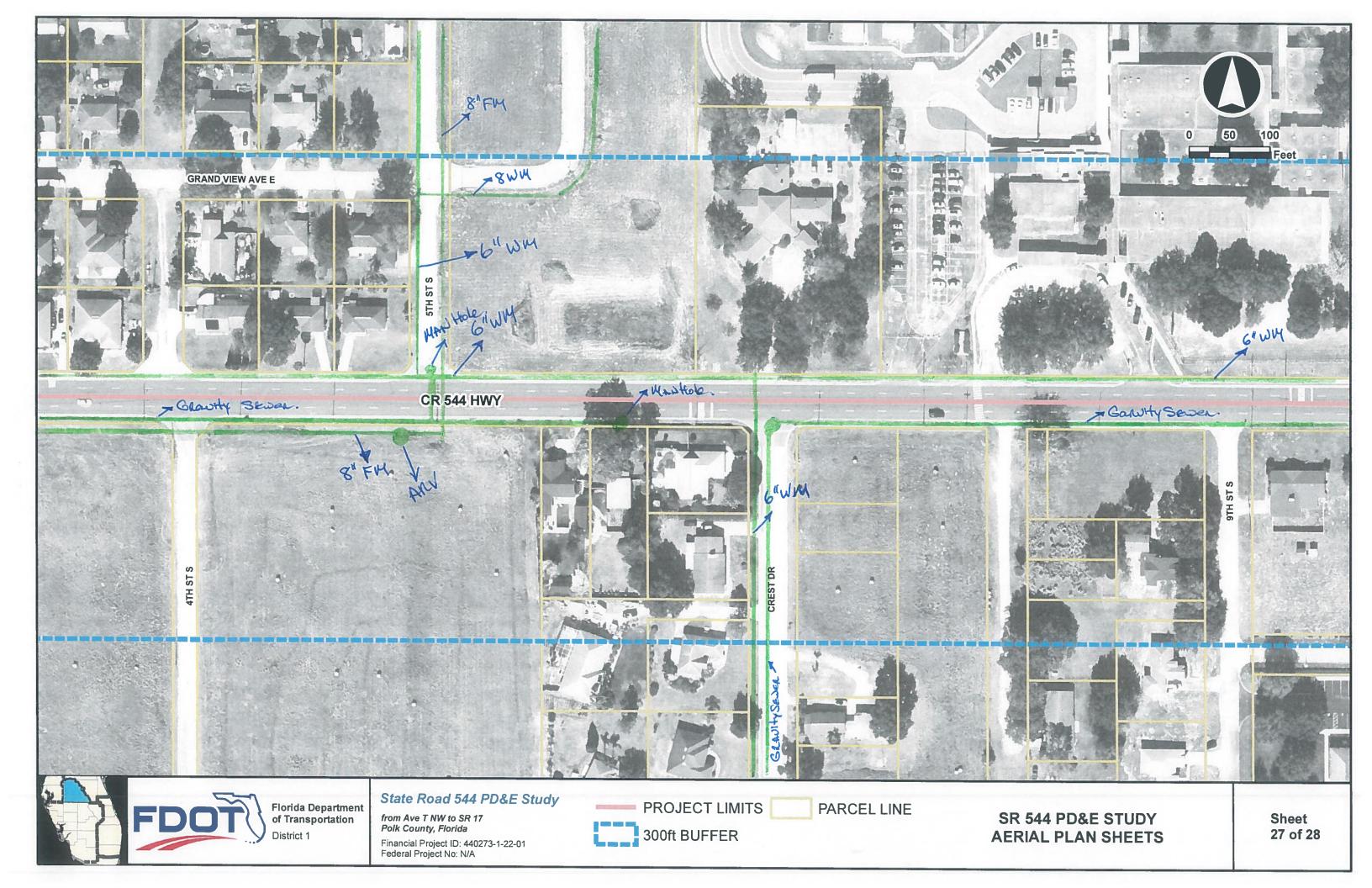
AERIAL PLAN SHEETS

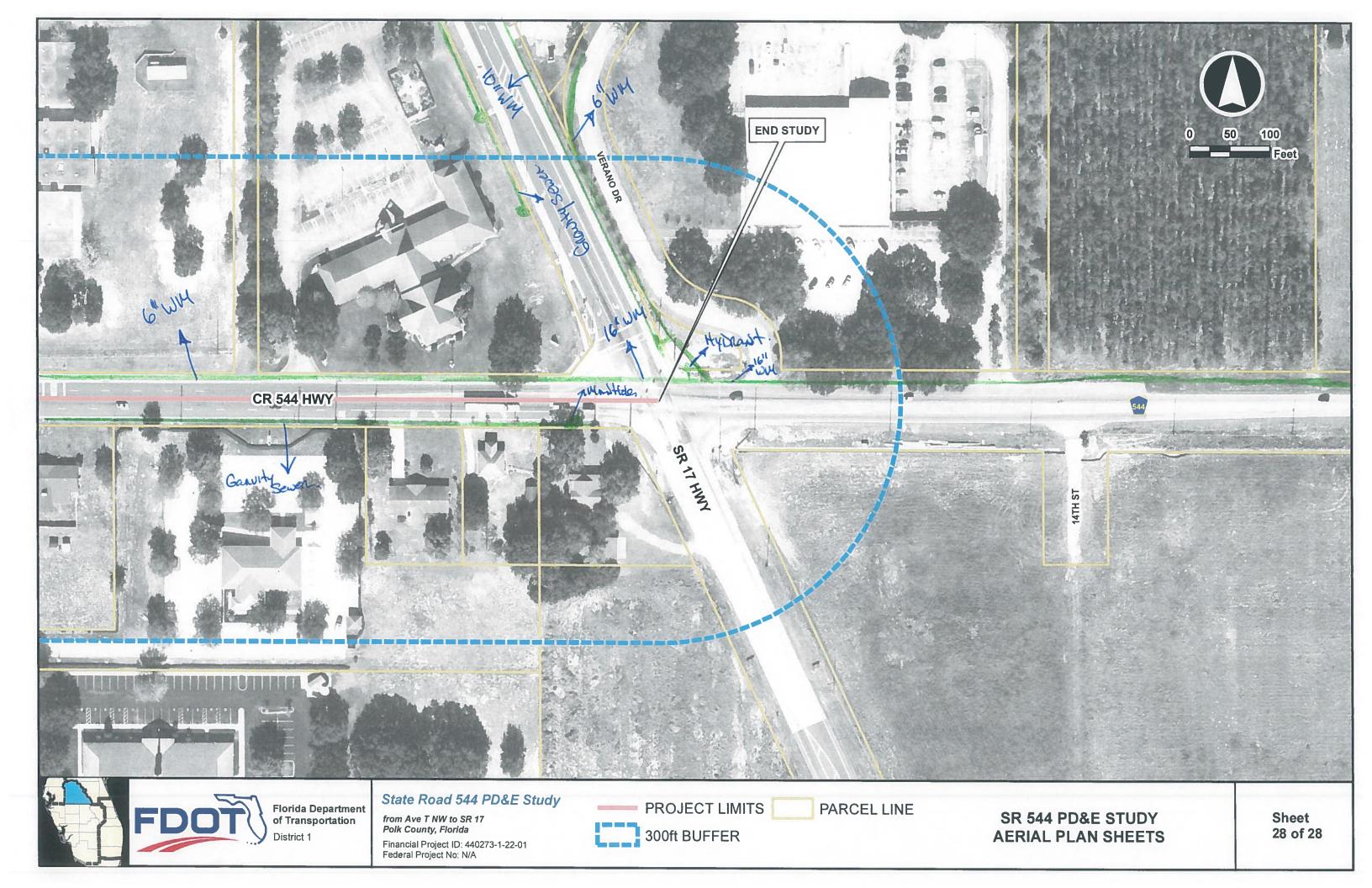
23 of 28





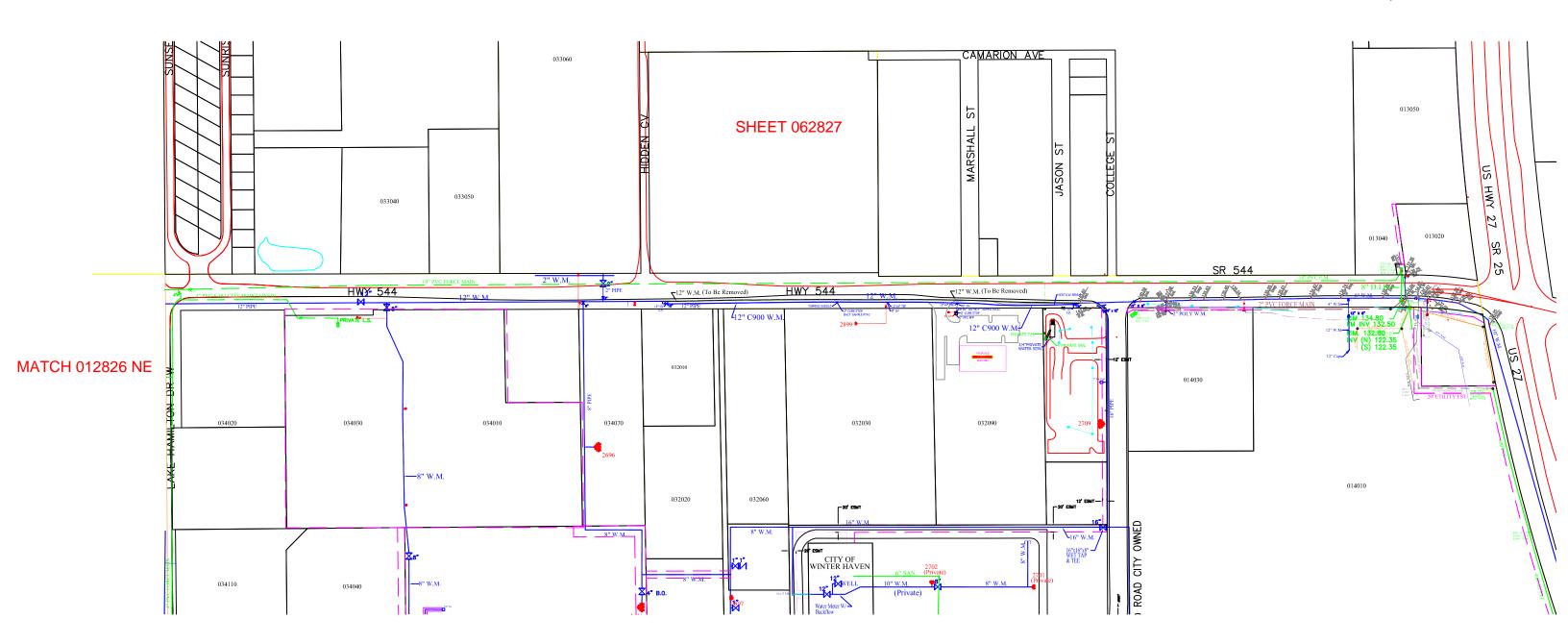


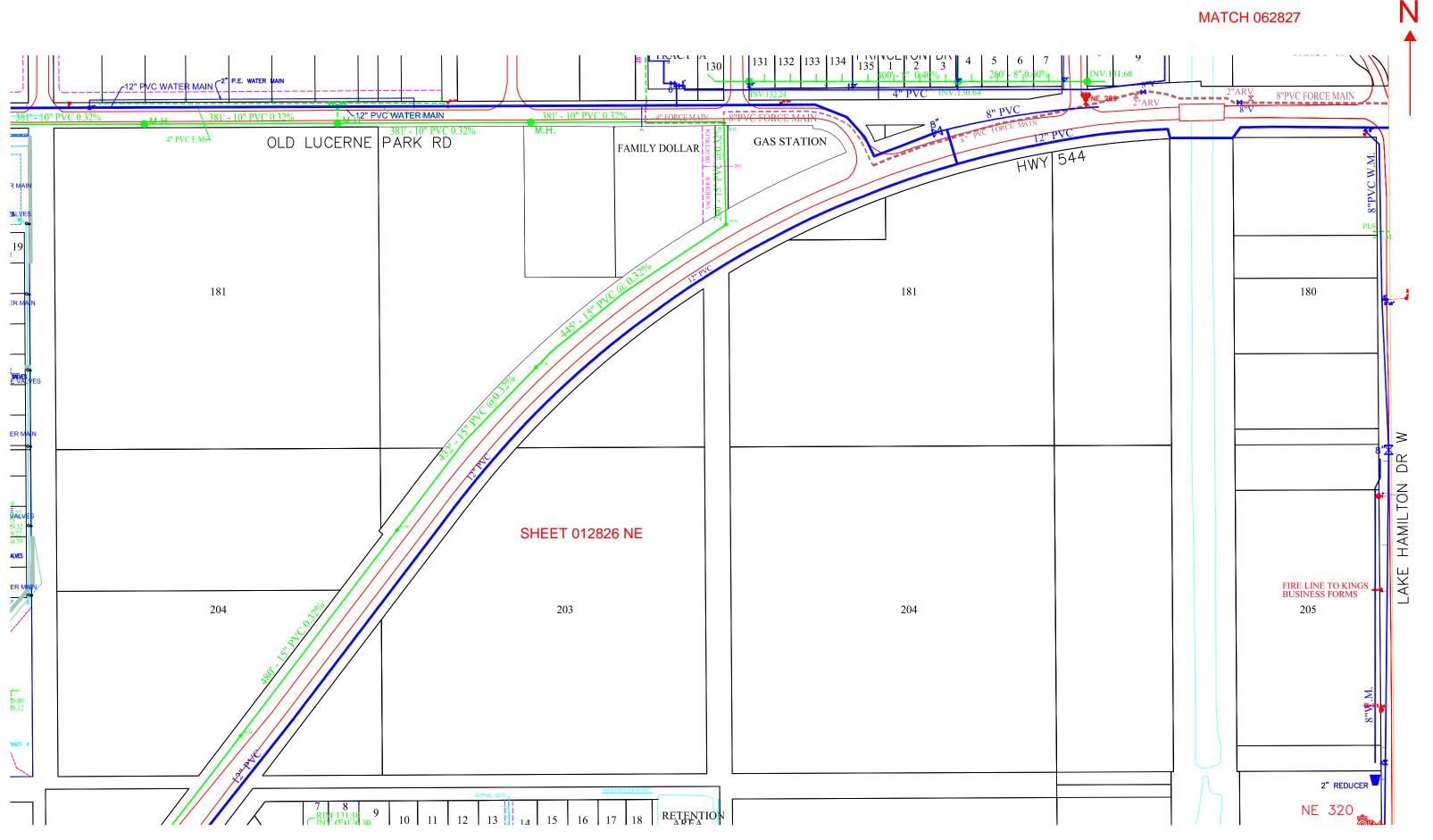


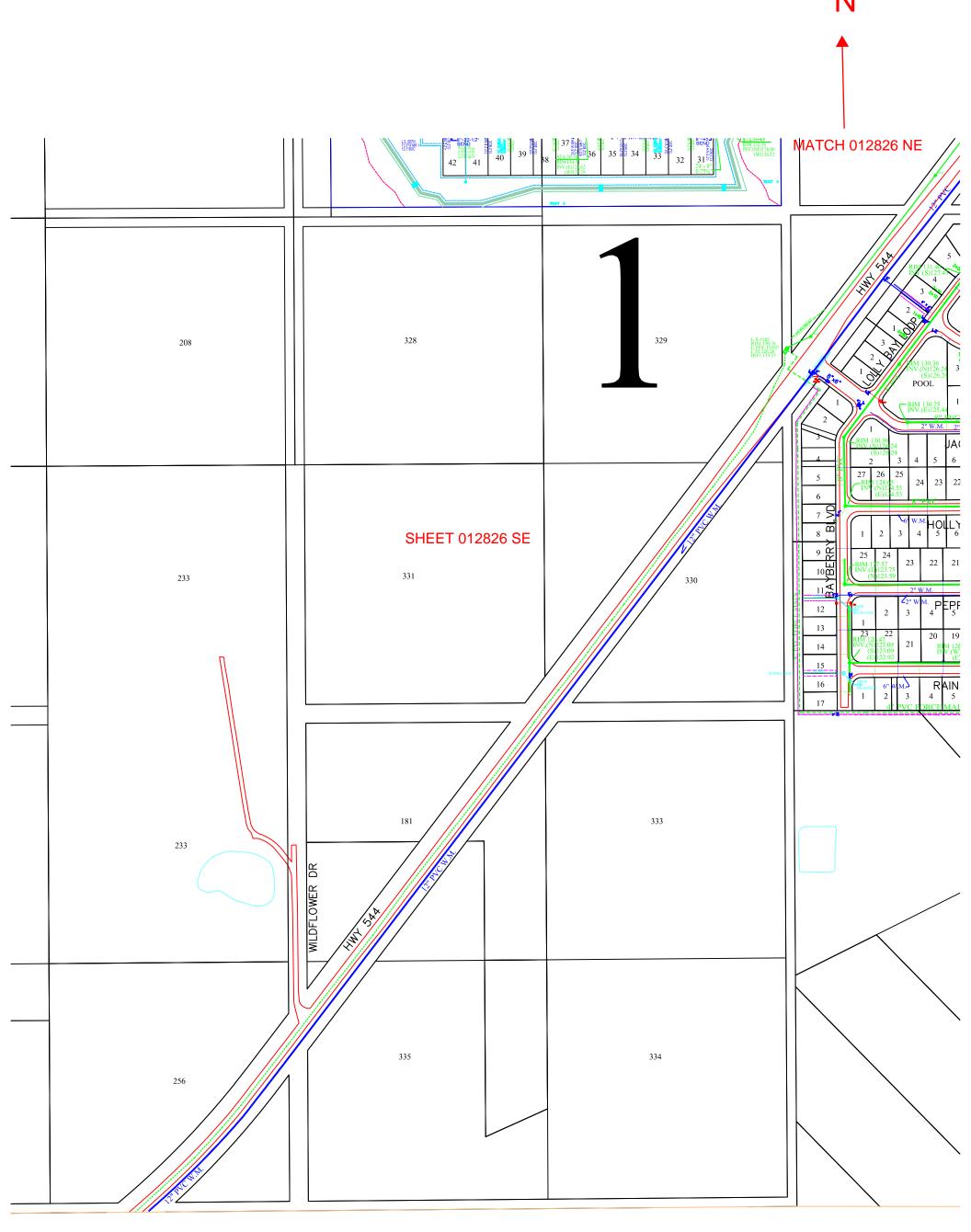


City of Winter Haven Utilities

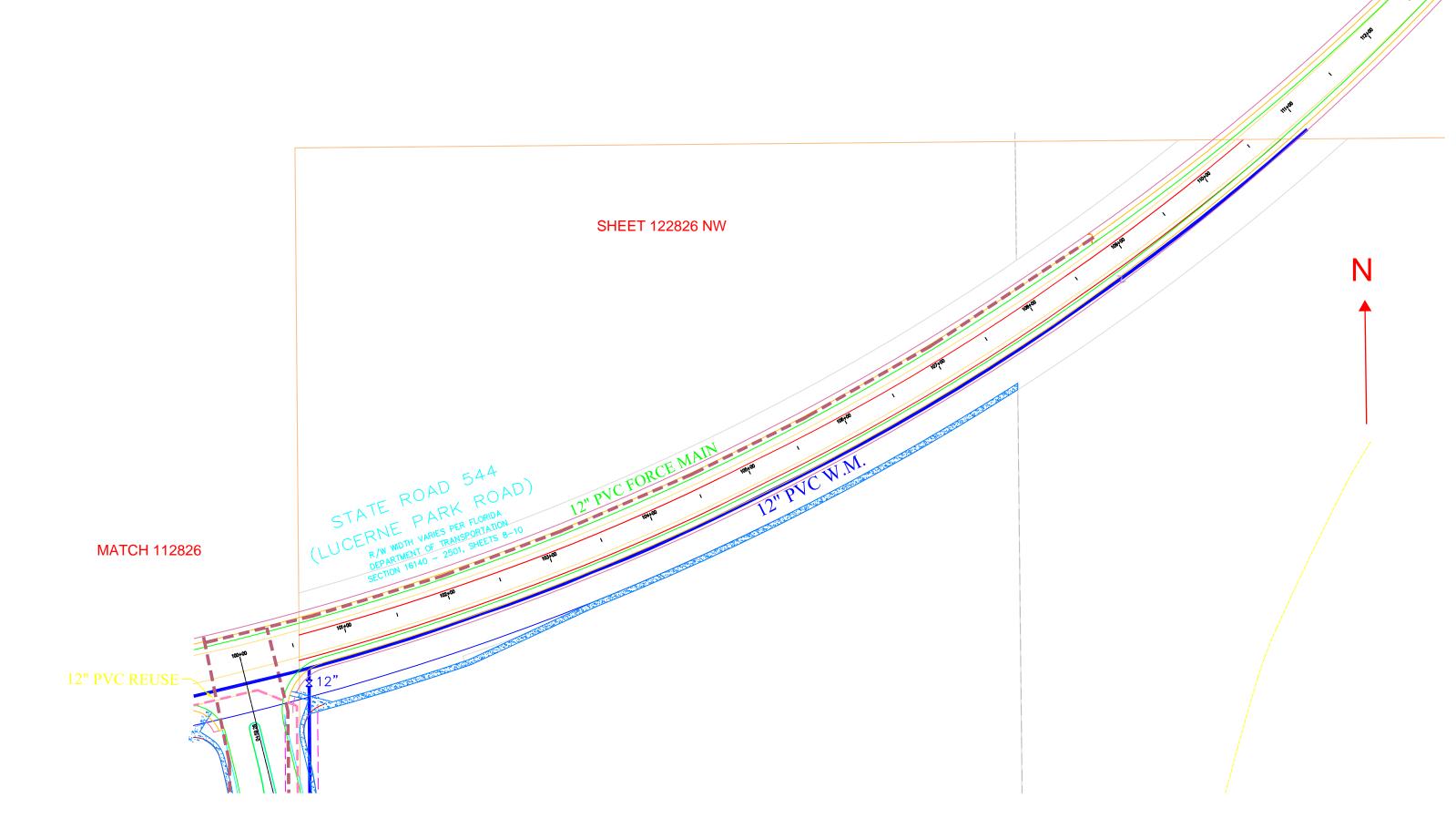








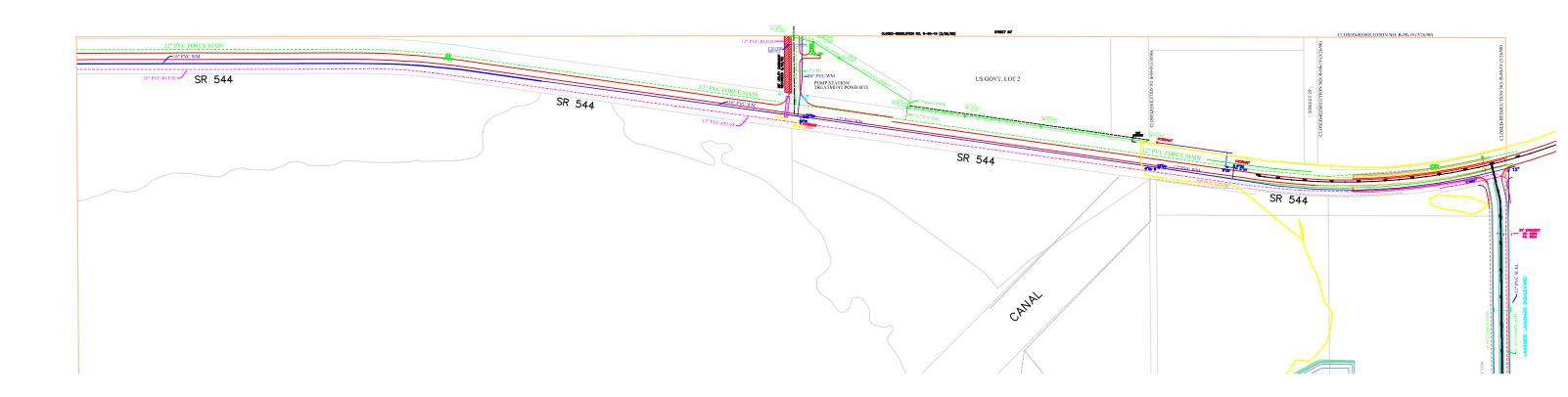
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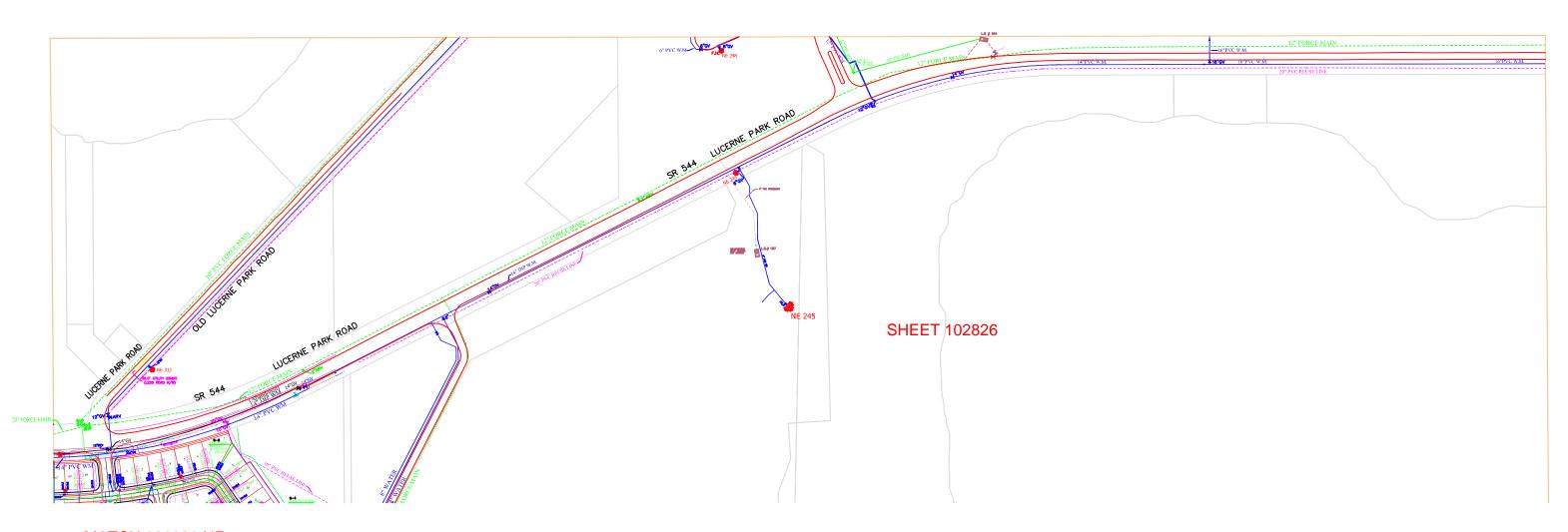
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SHEET 112826

MATCH 102826 NW

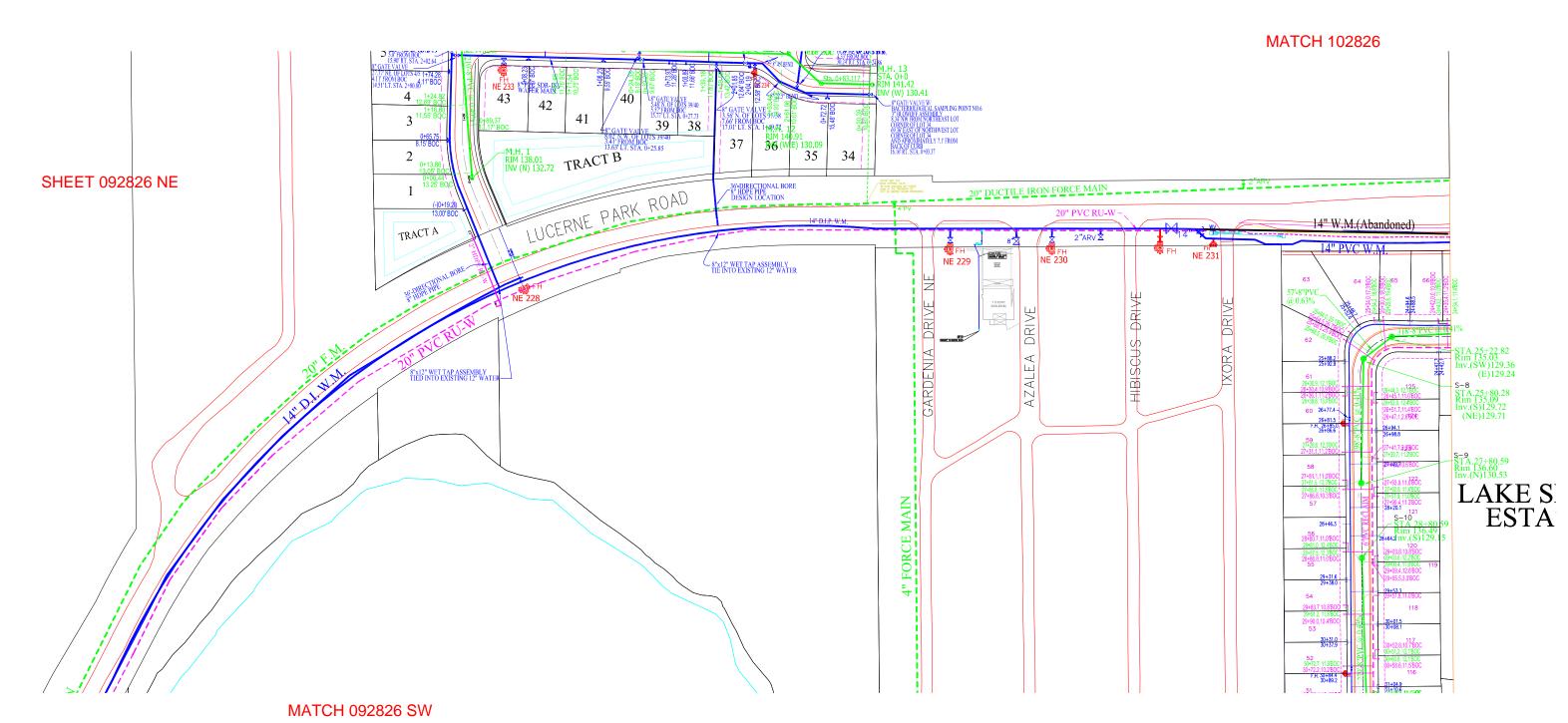


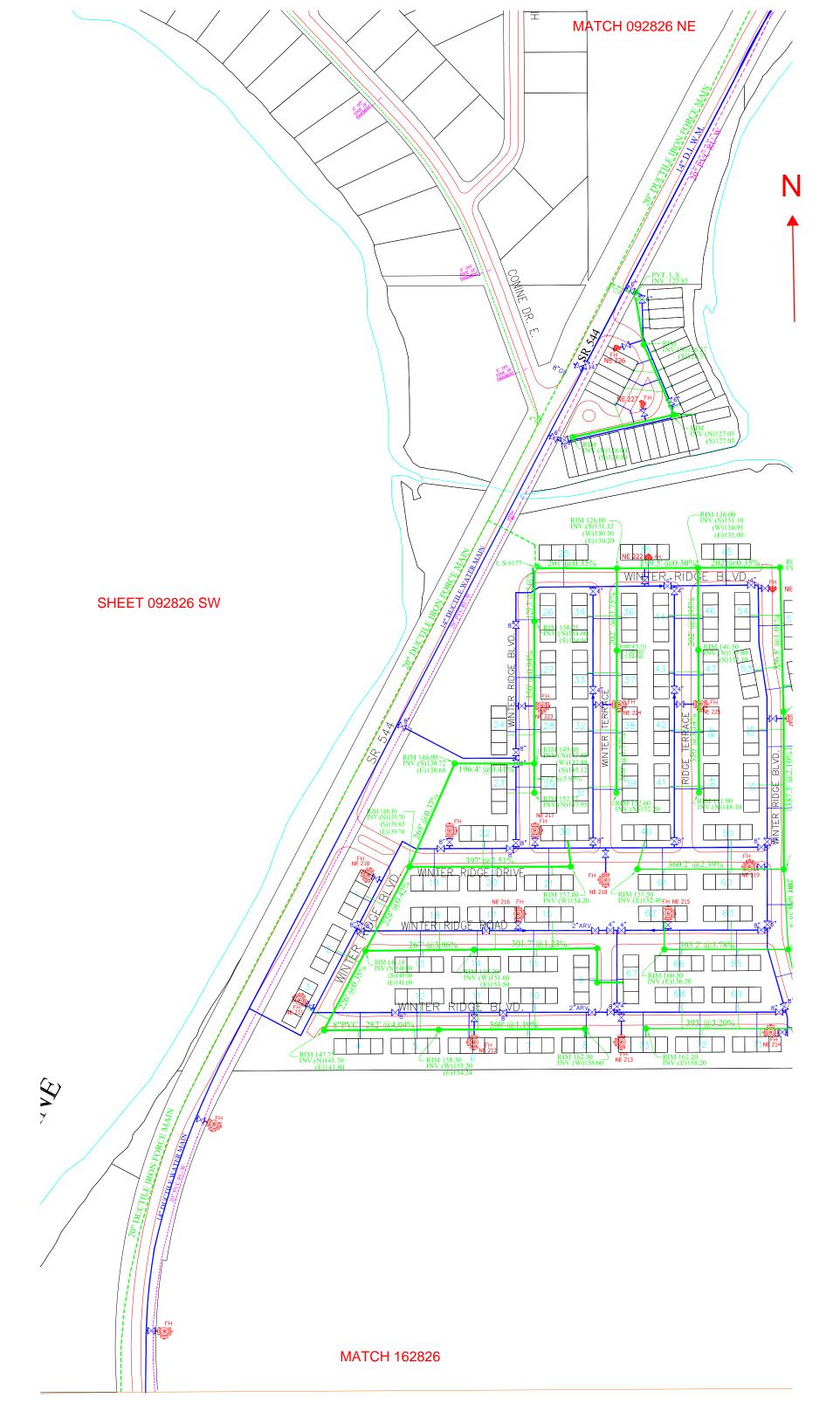
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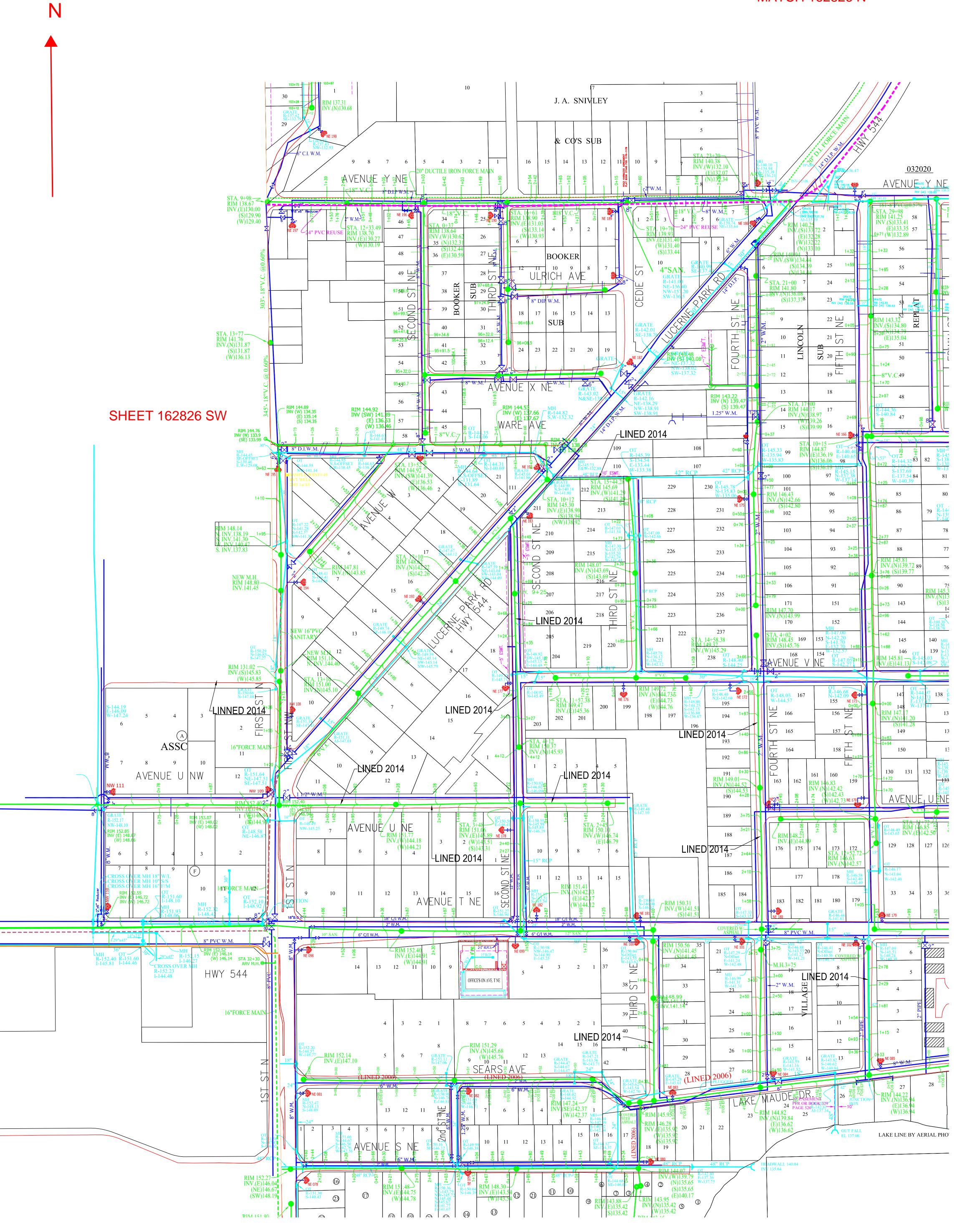


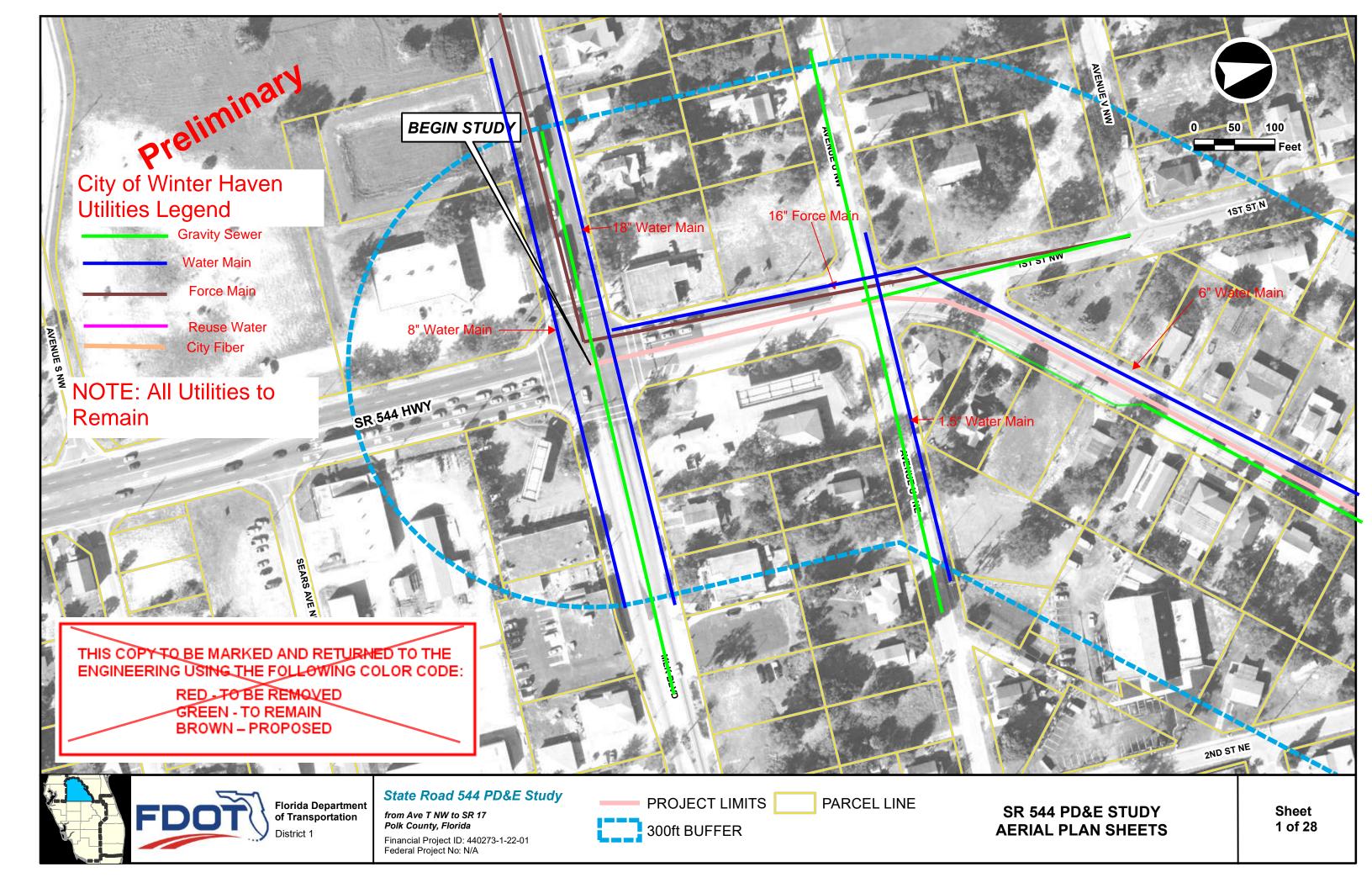
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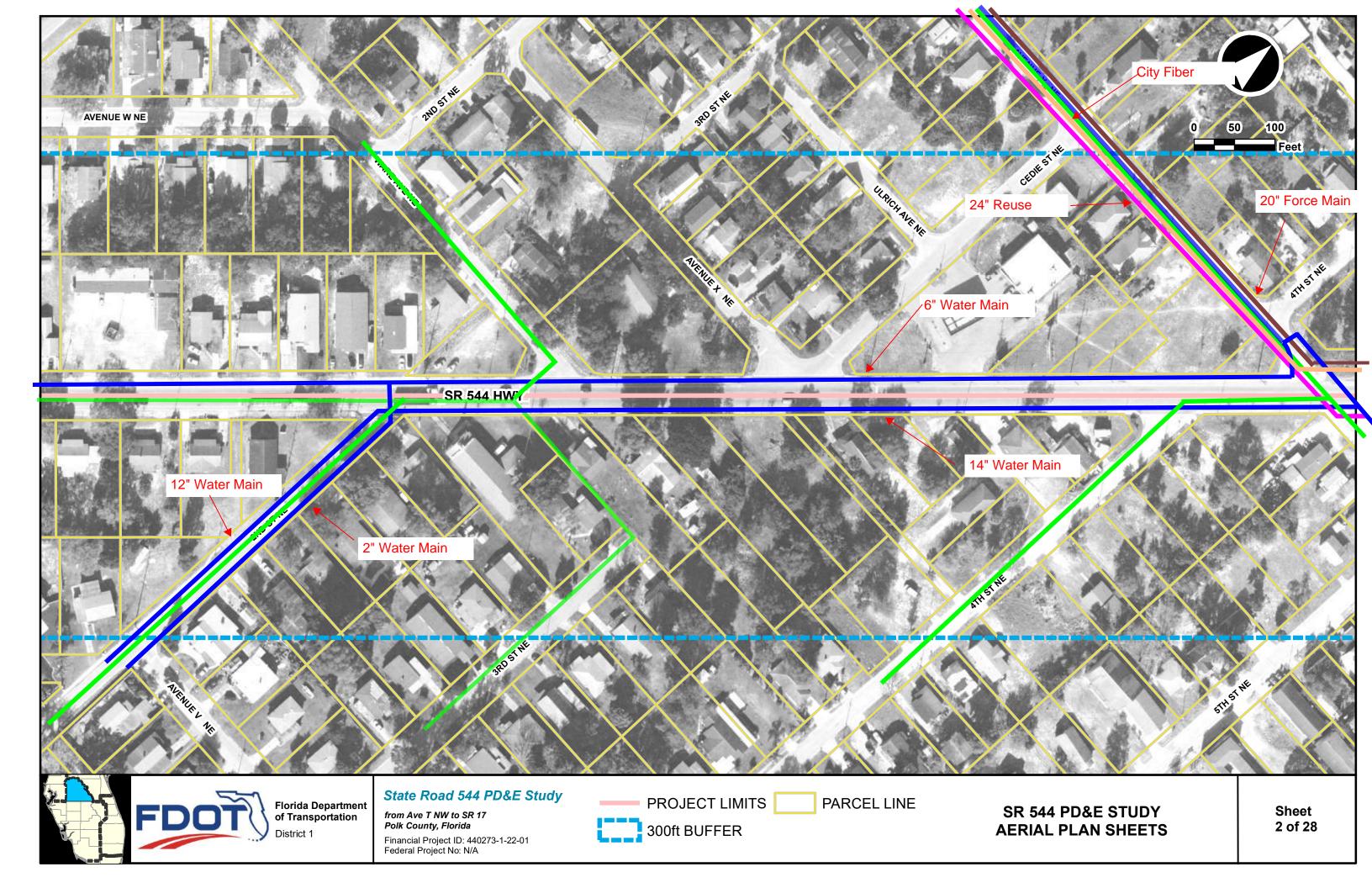


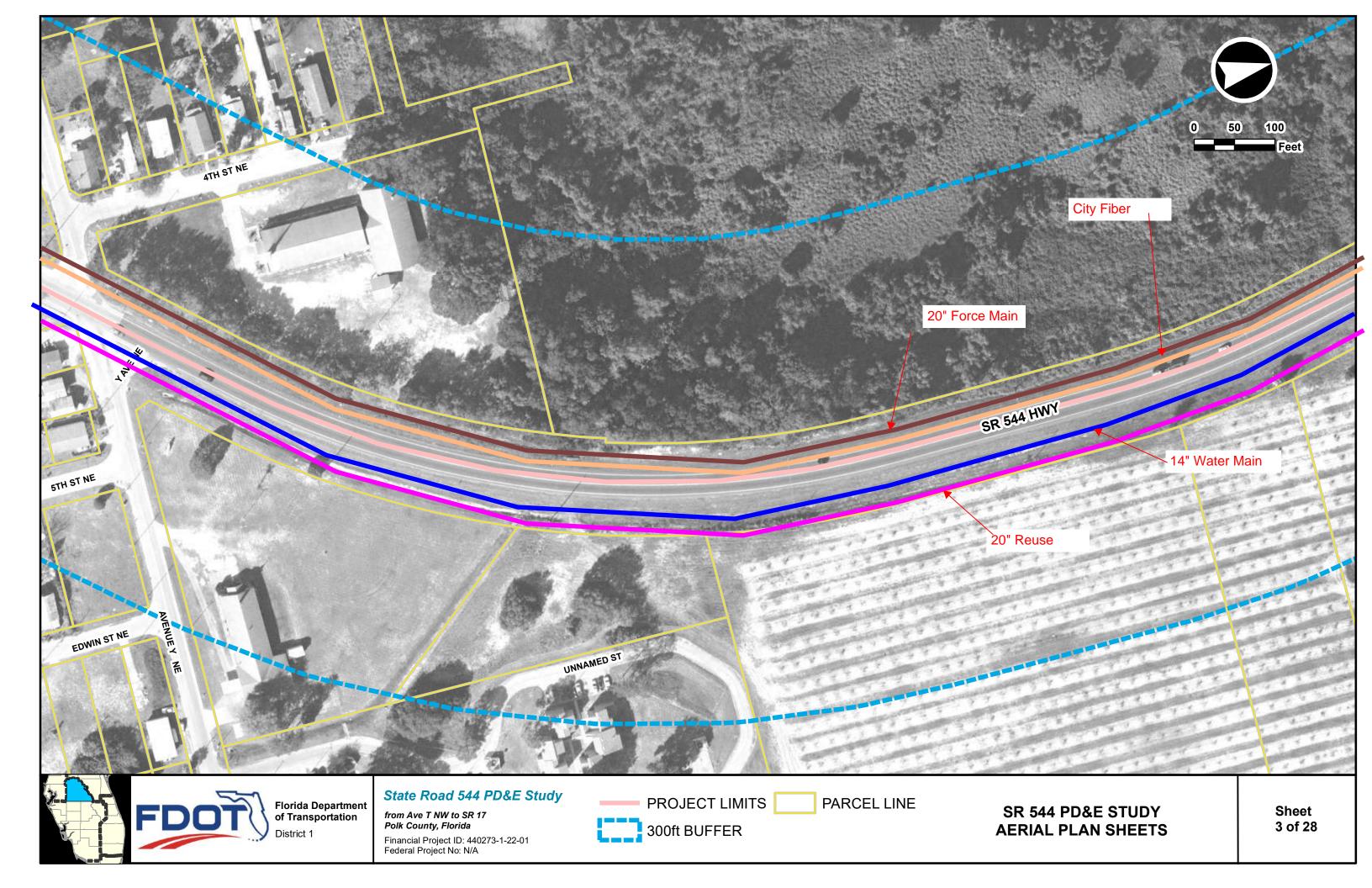


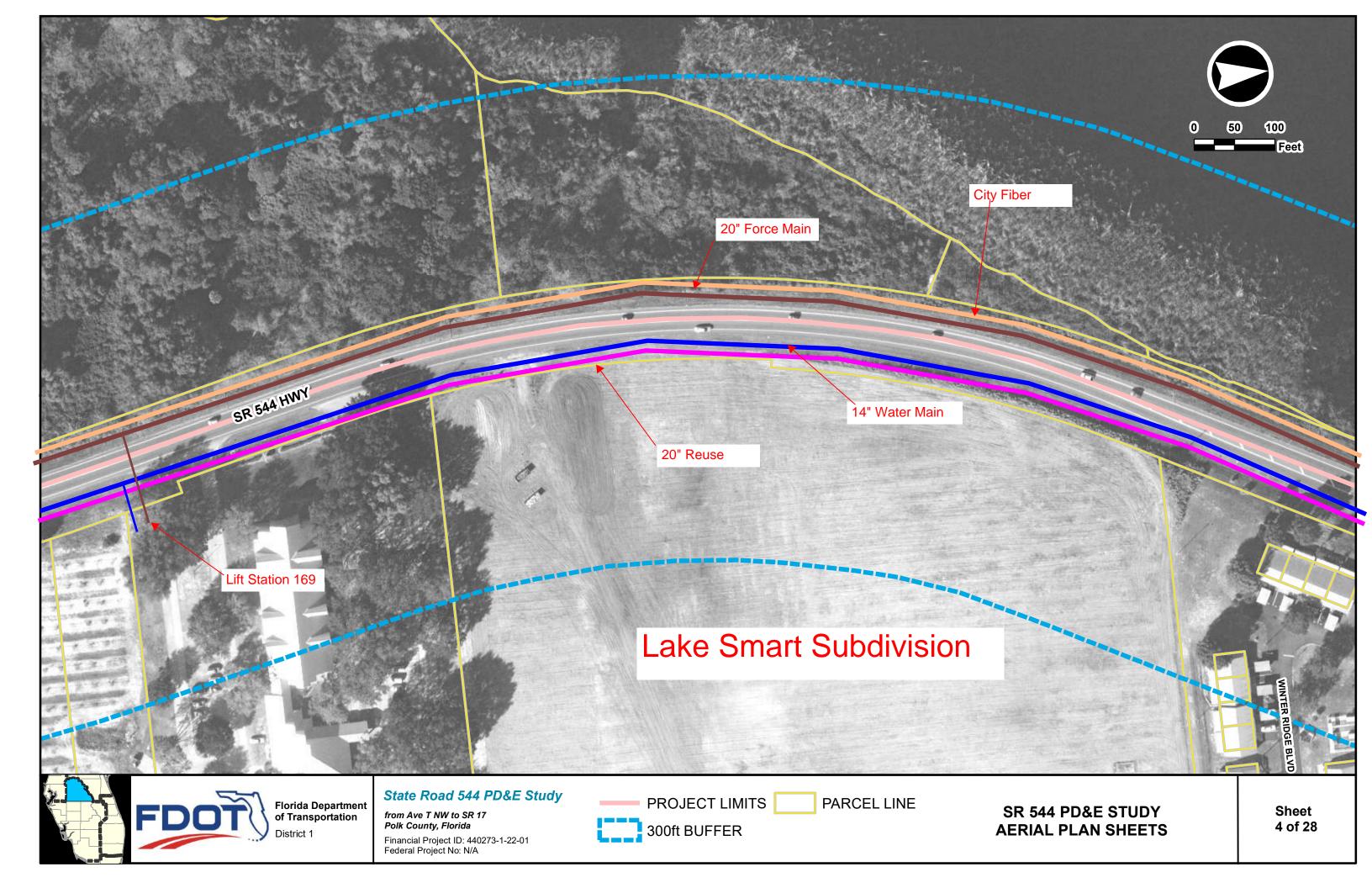


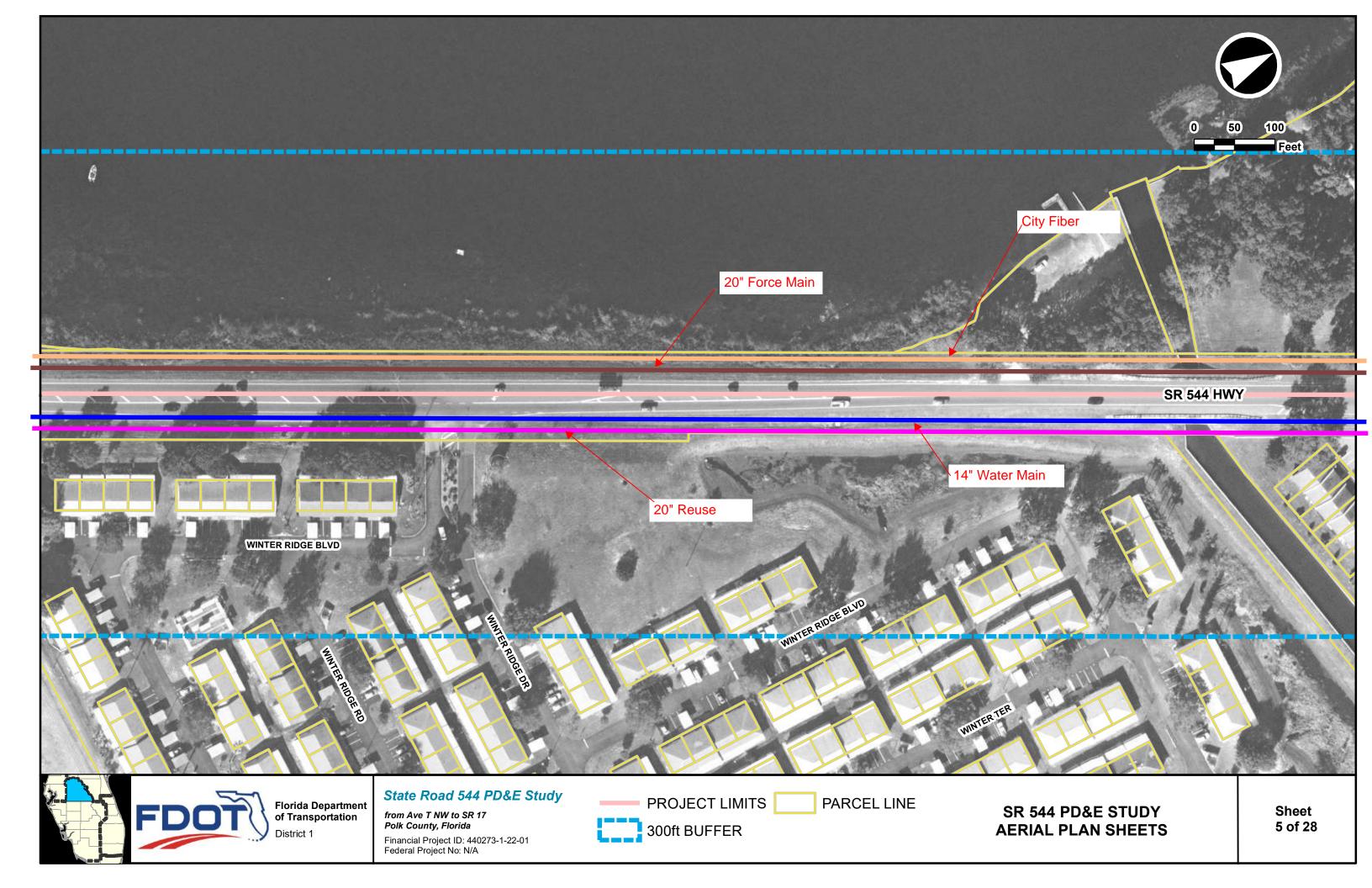


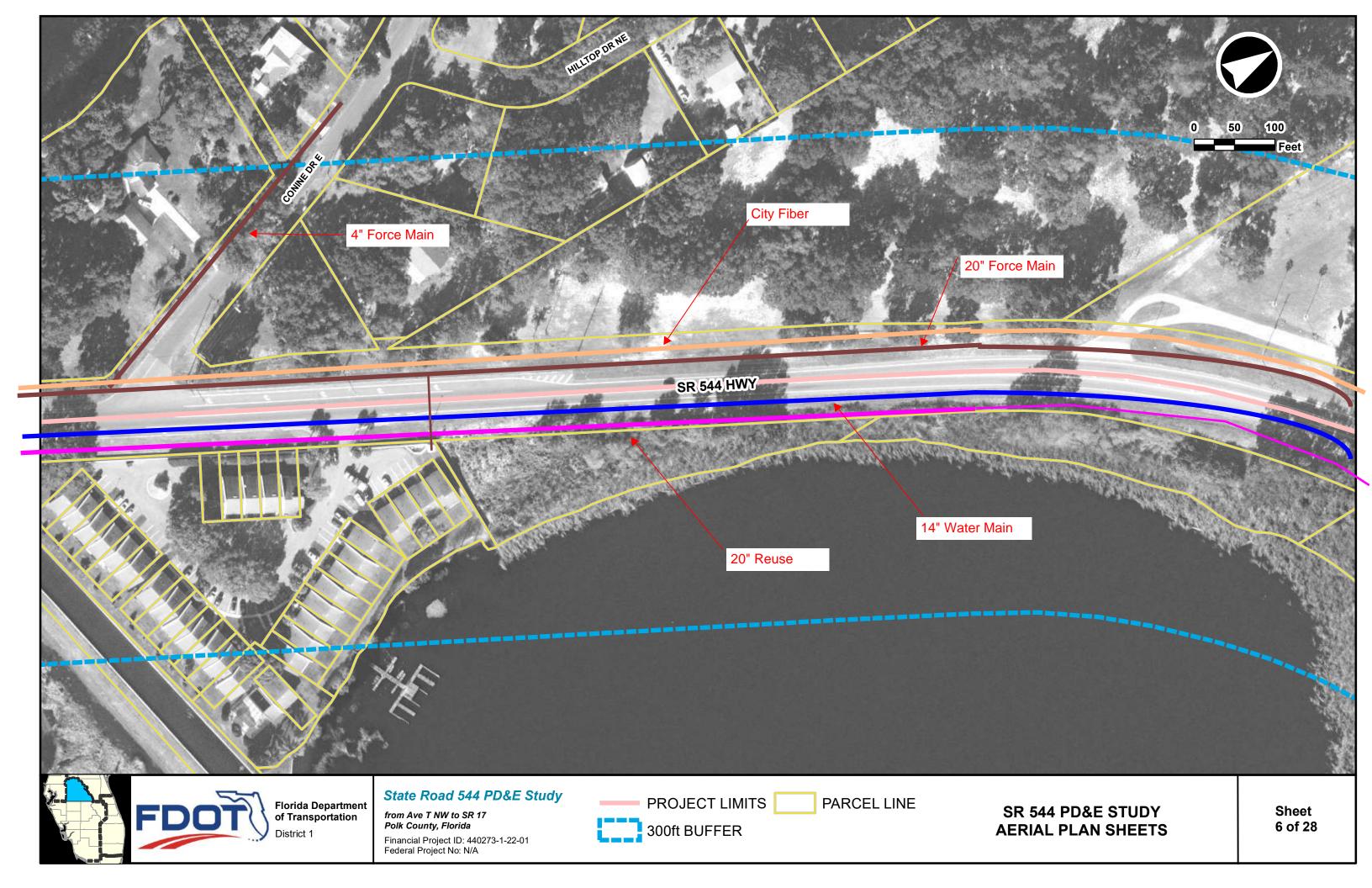


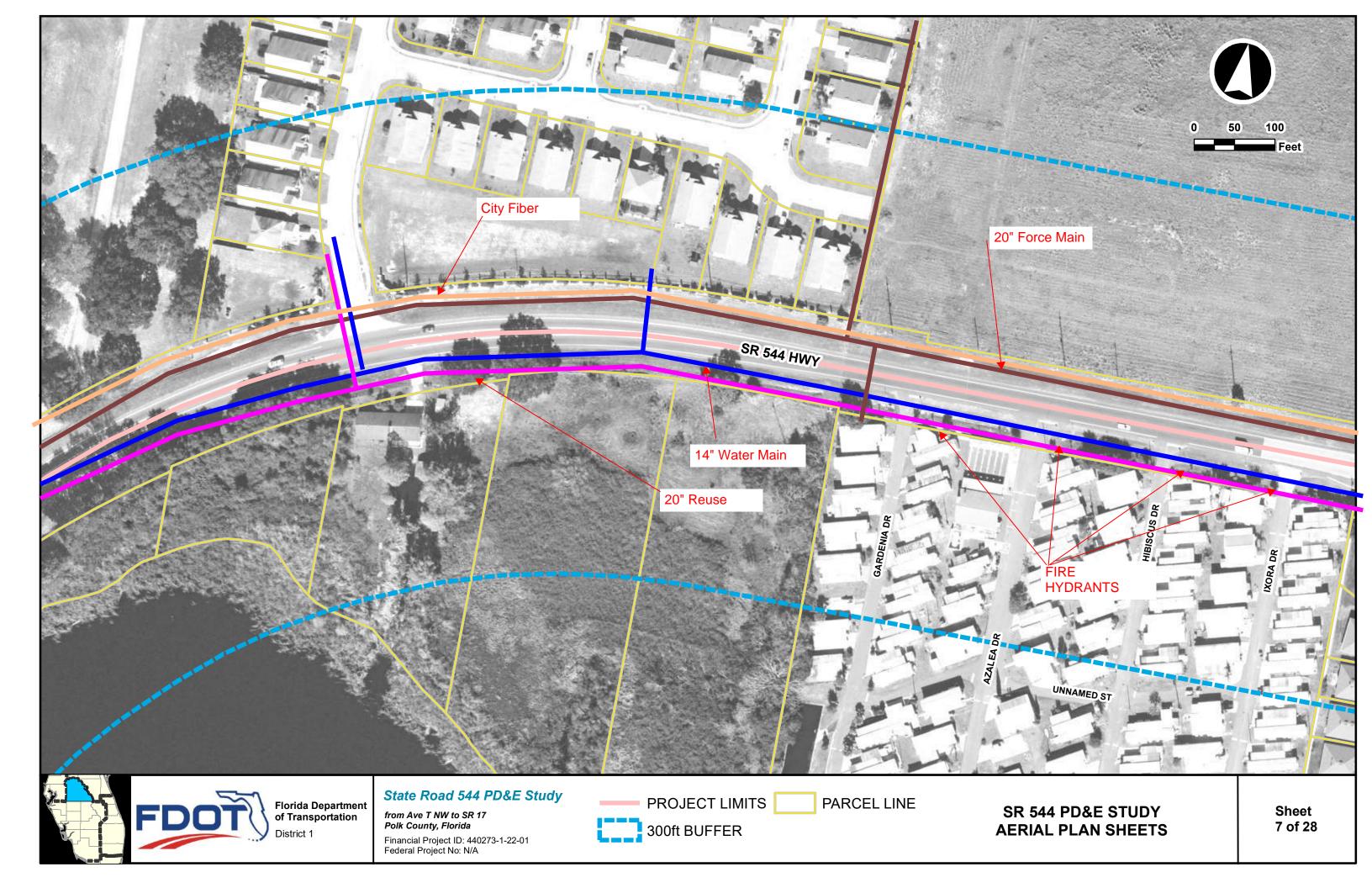


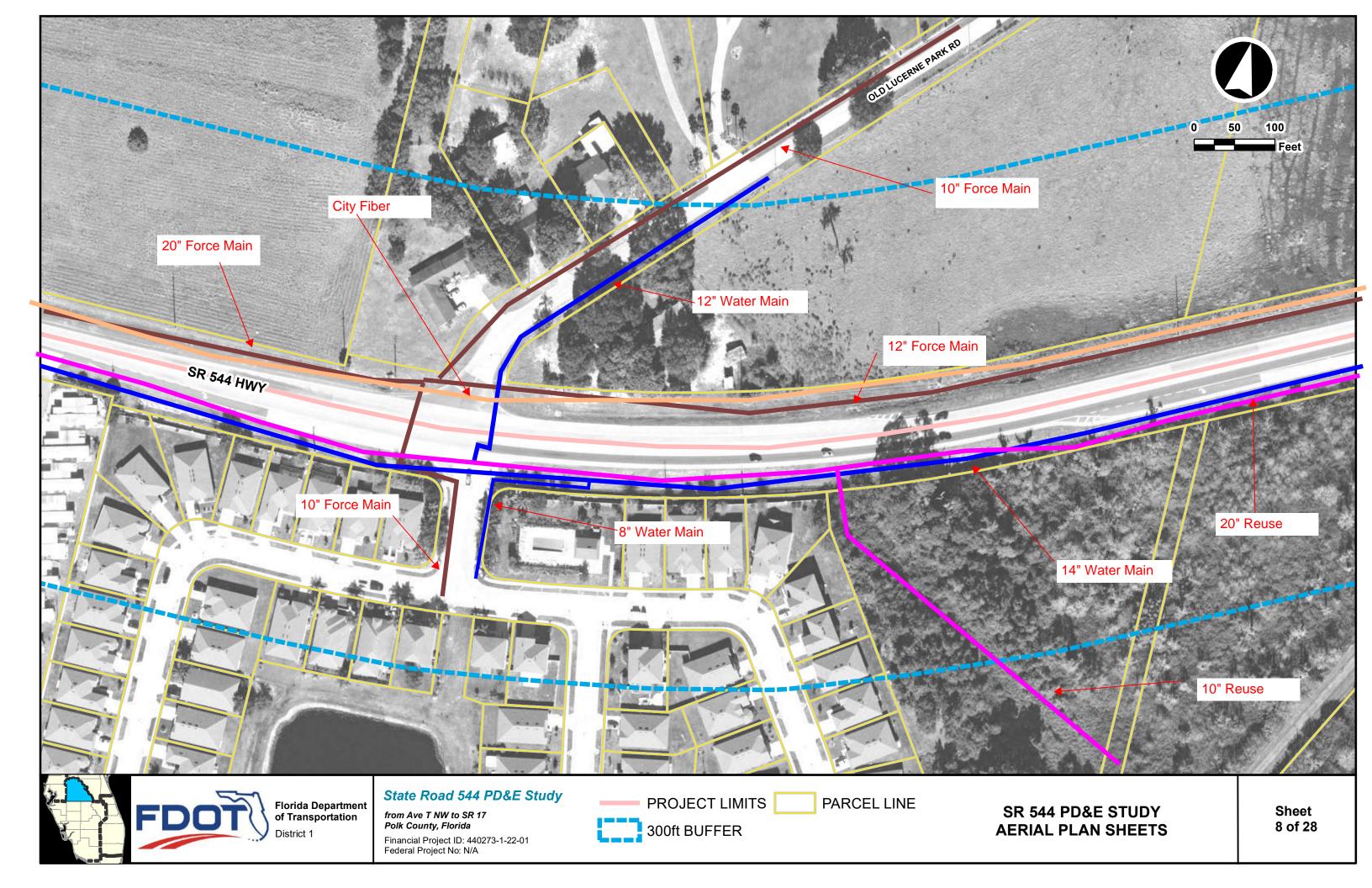


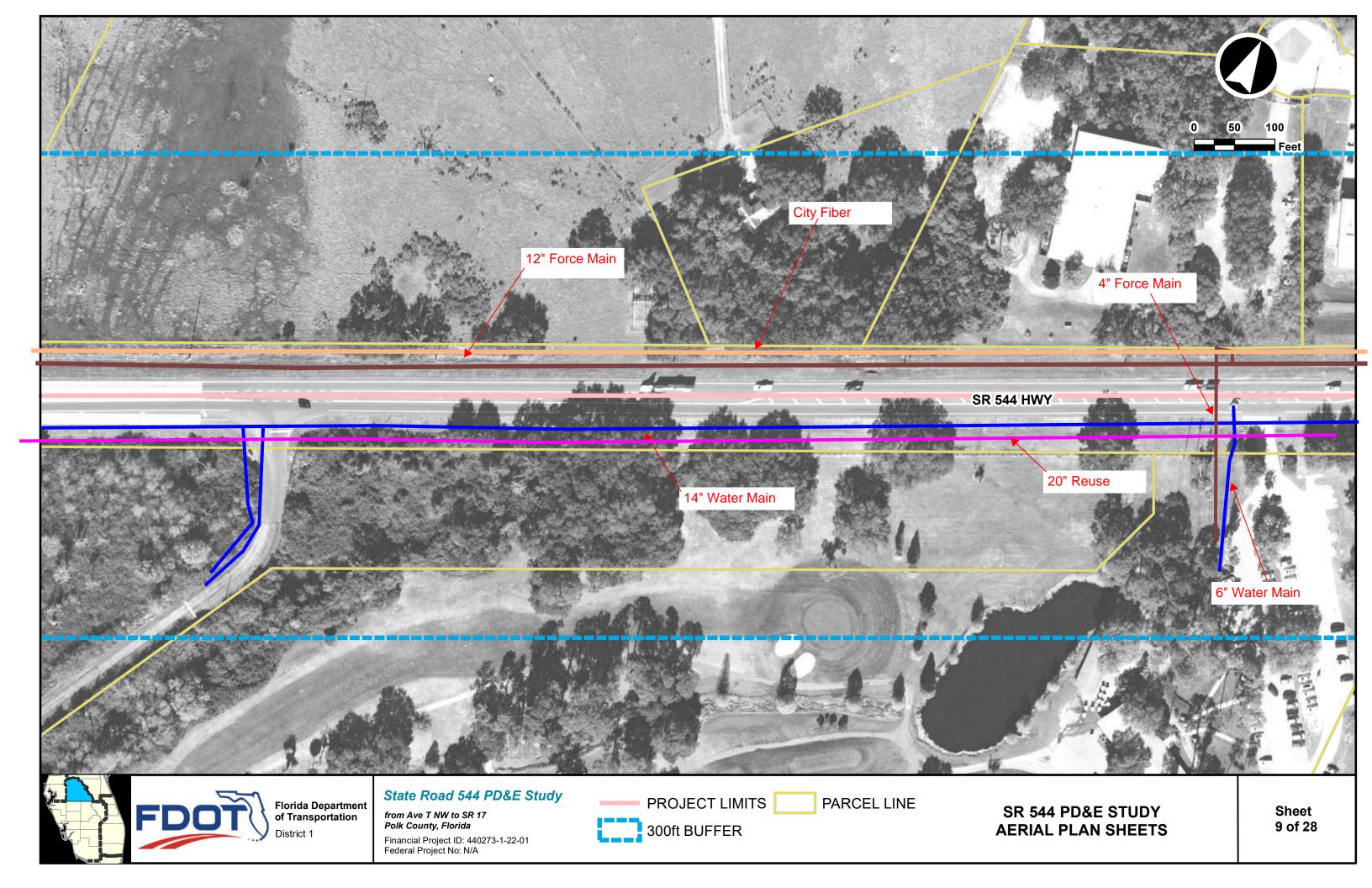


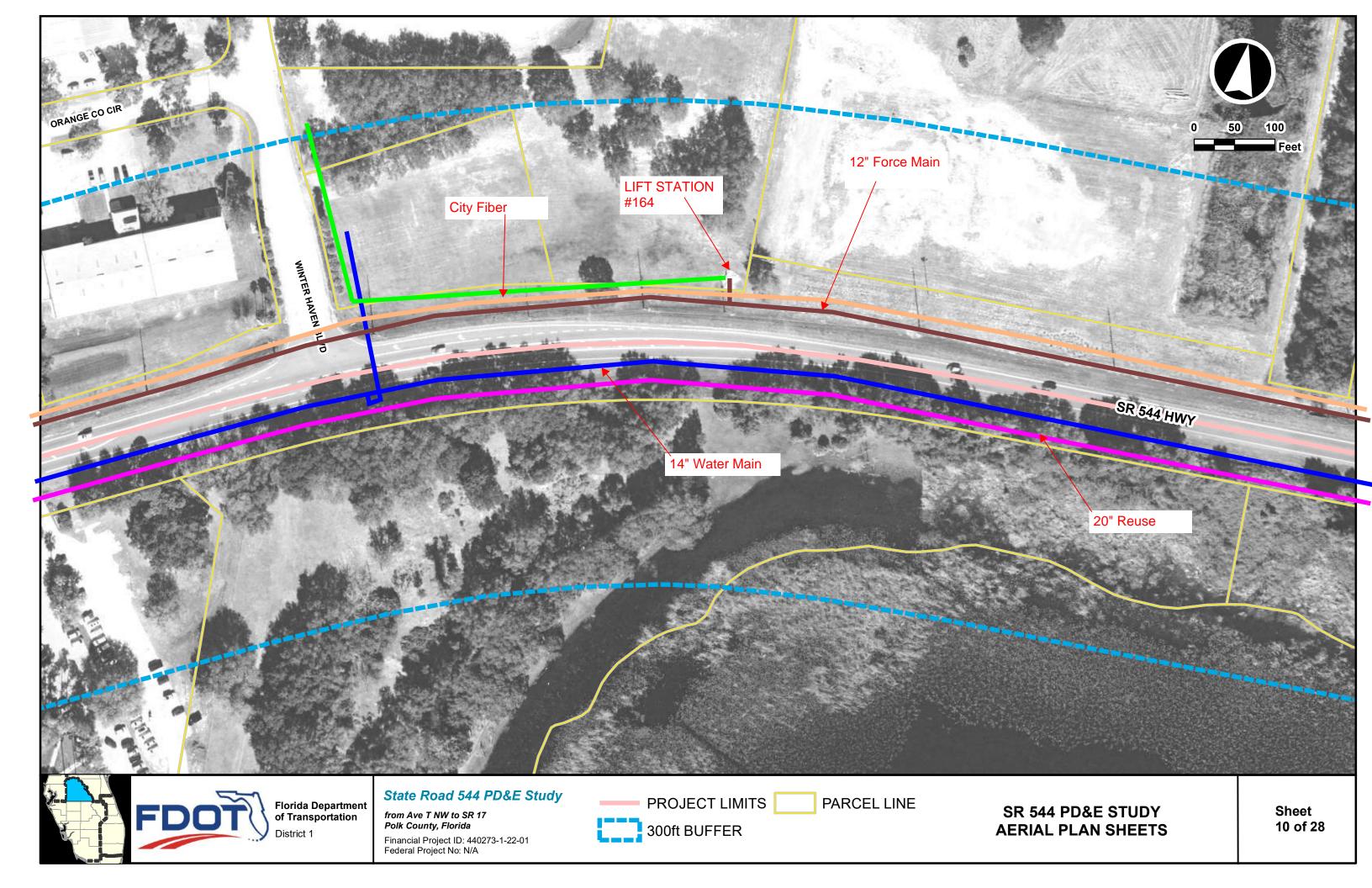


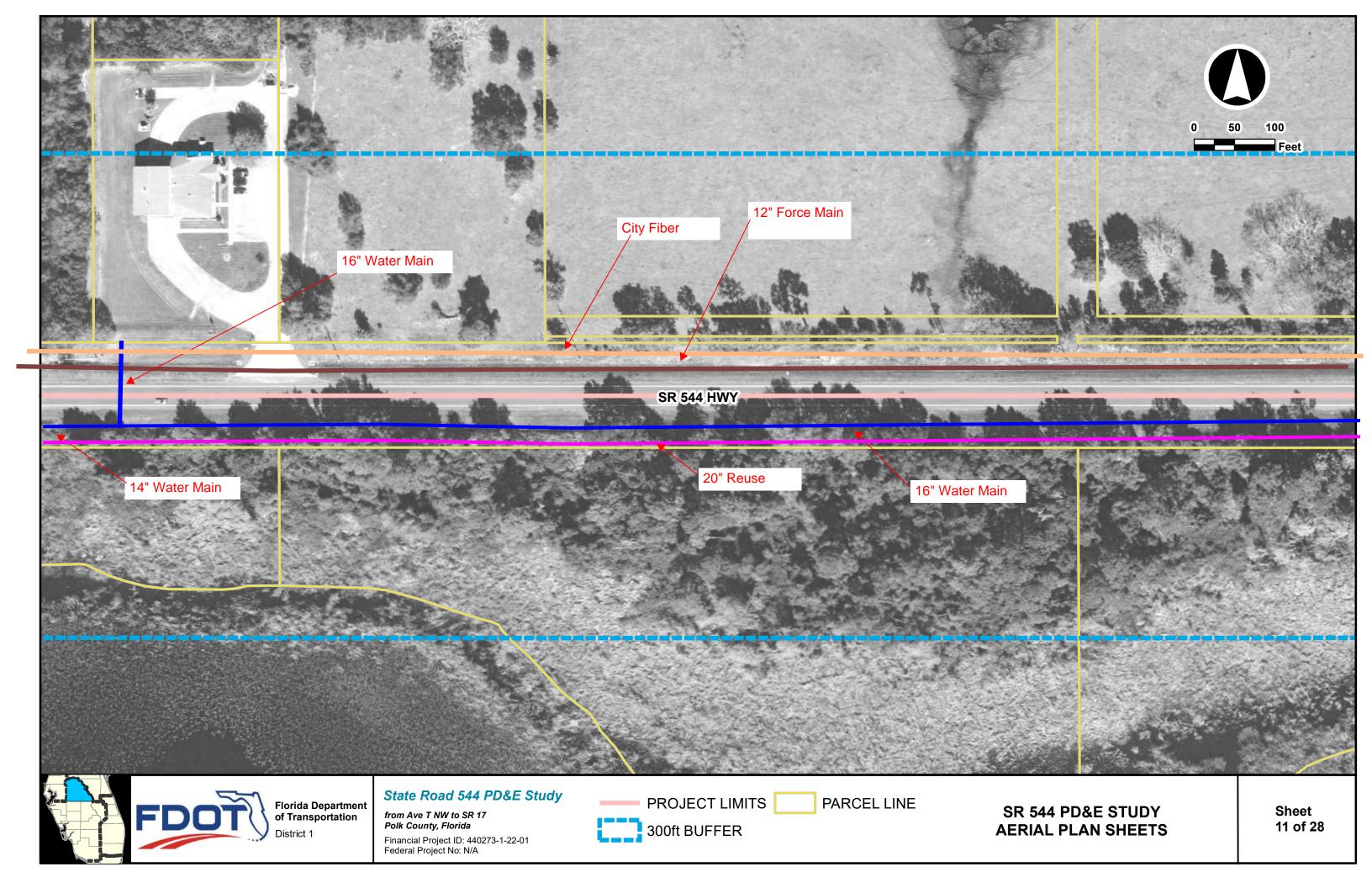


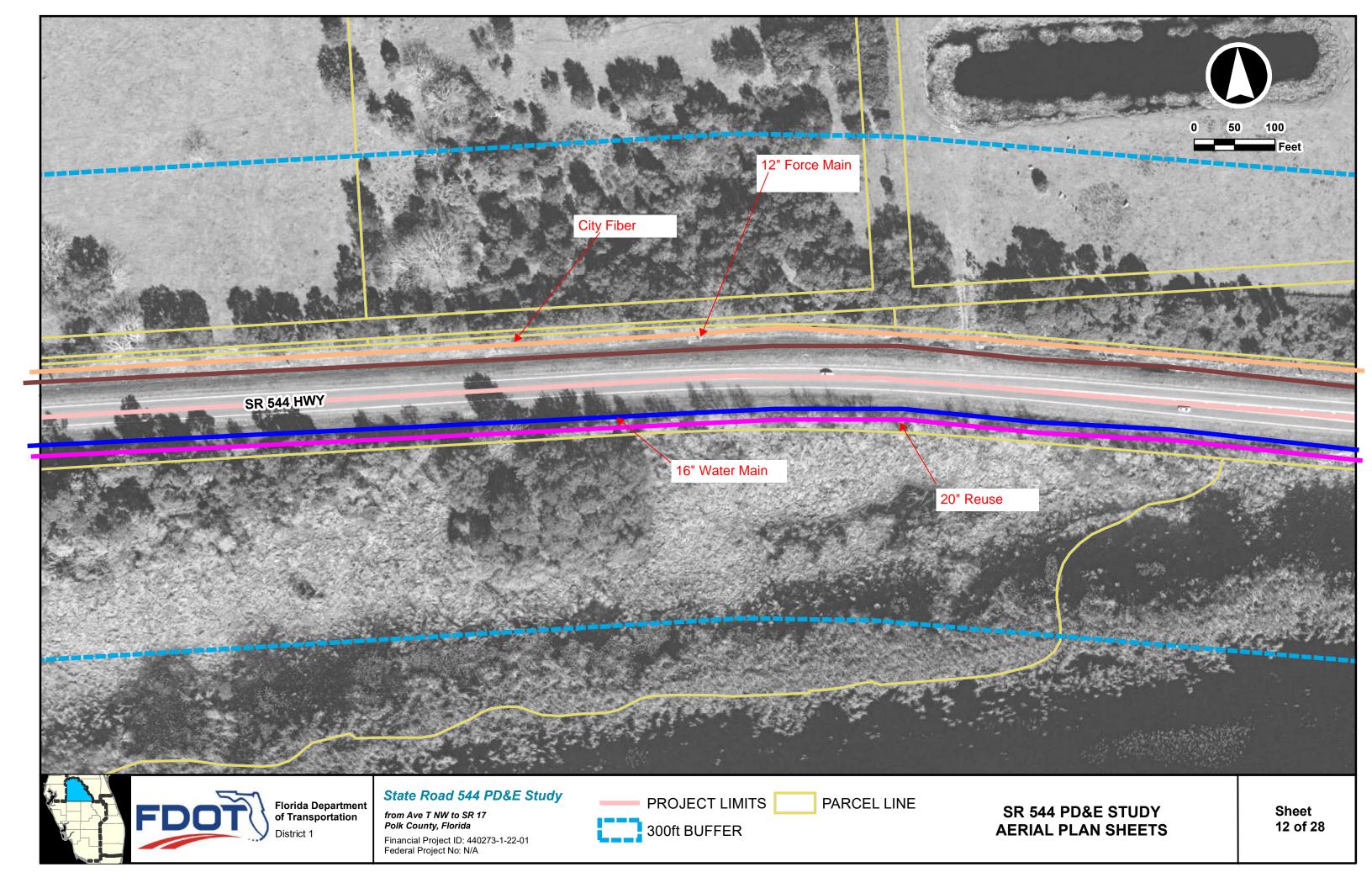


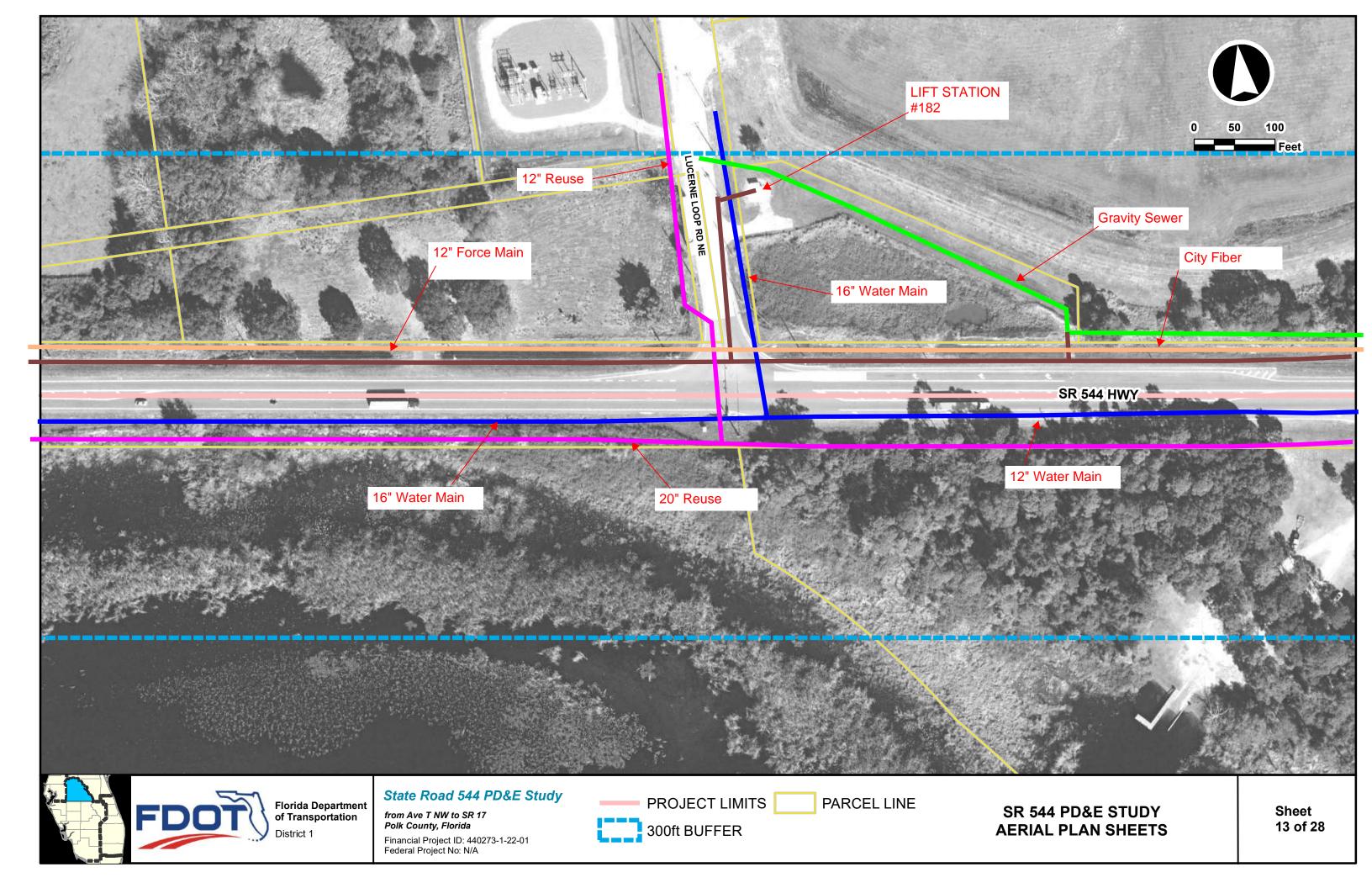


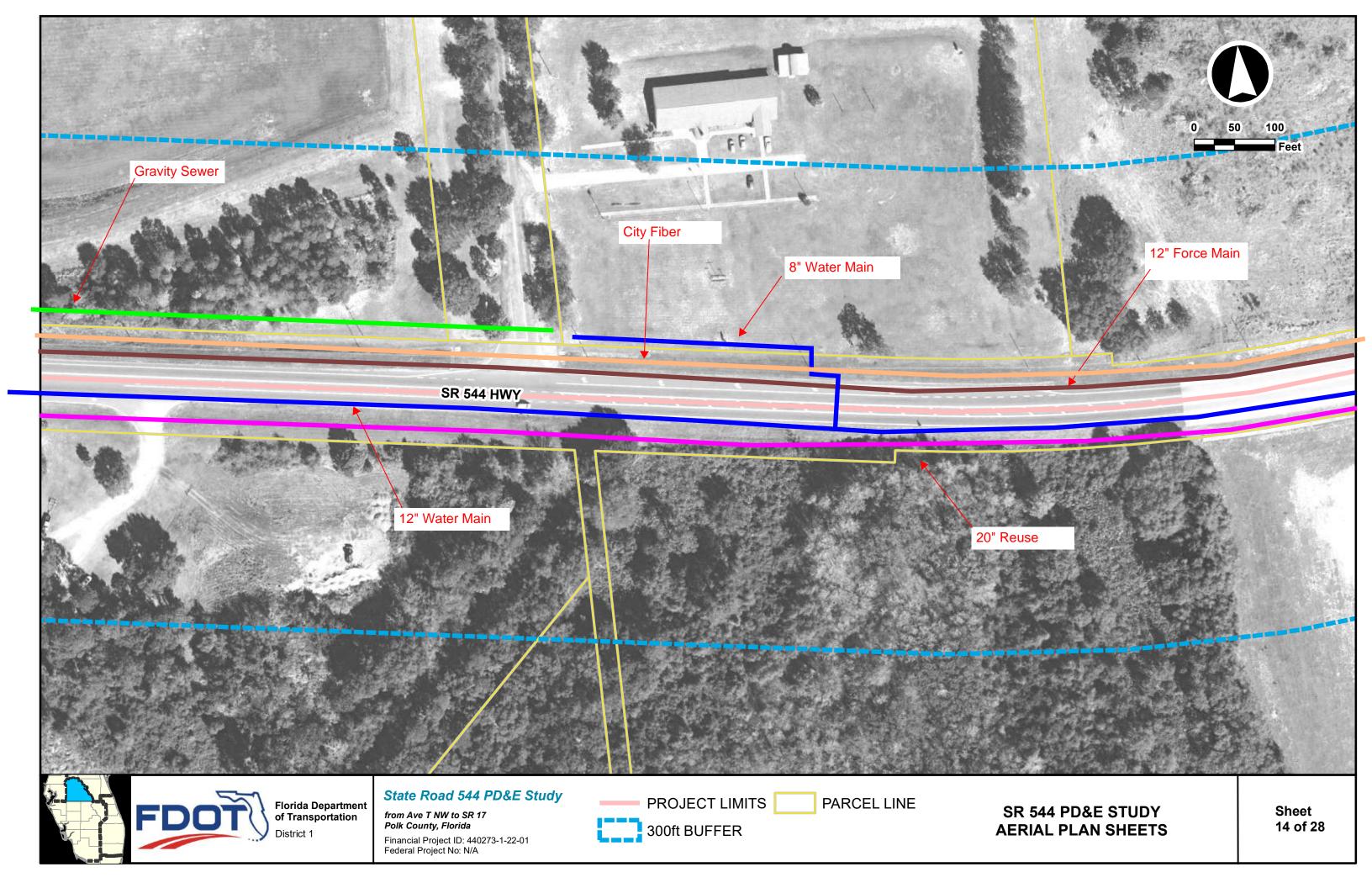


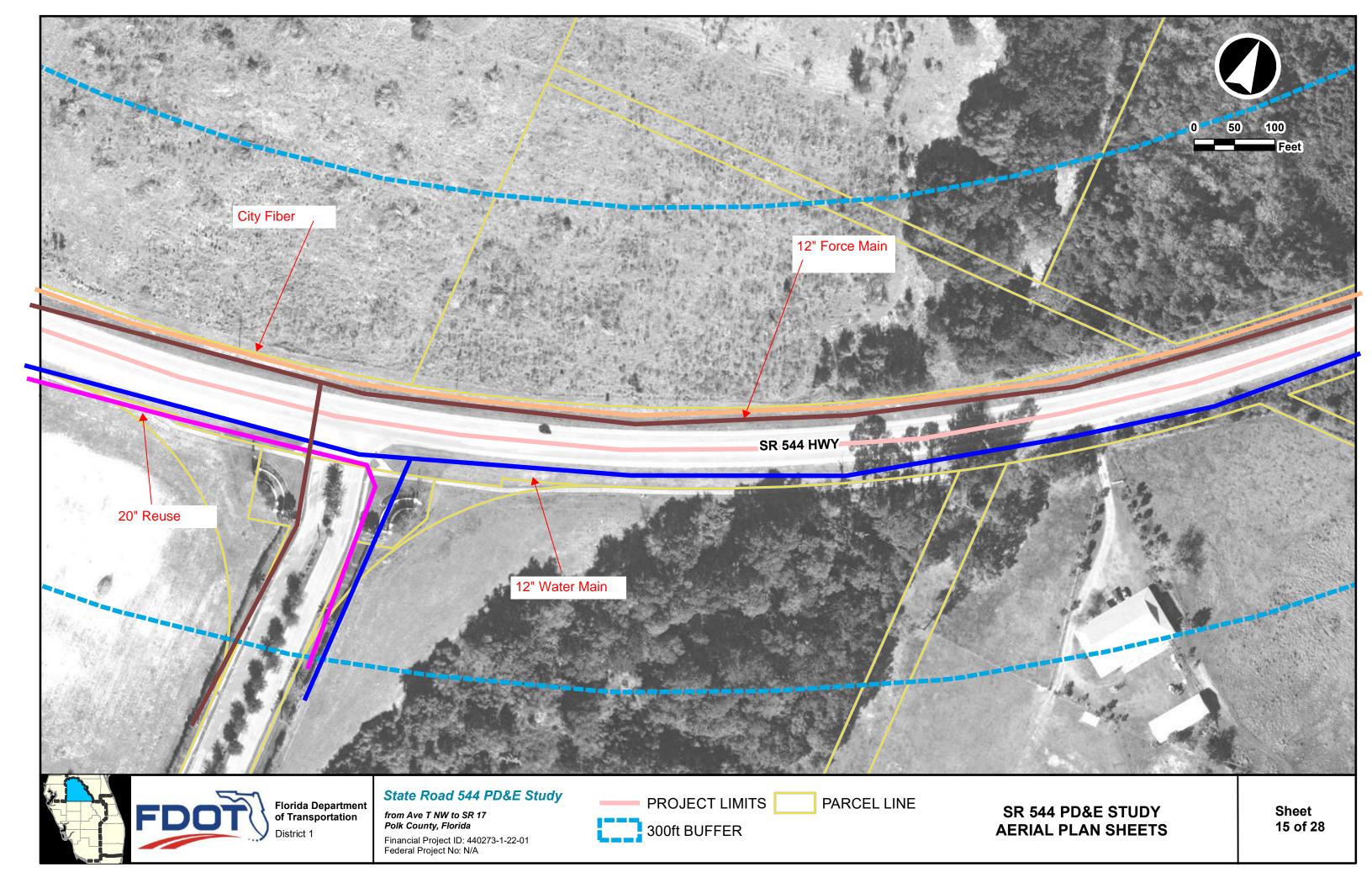


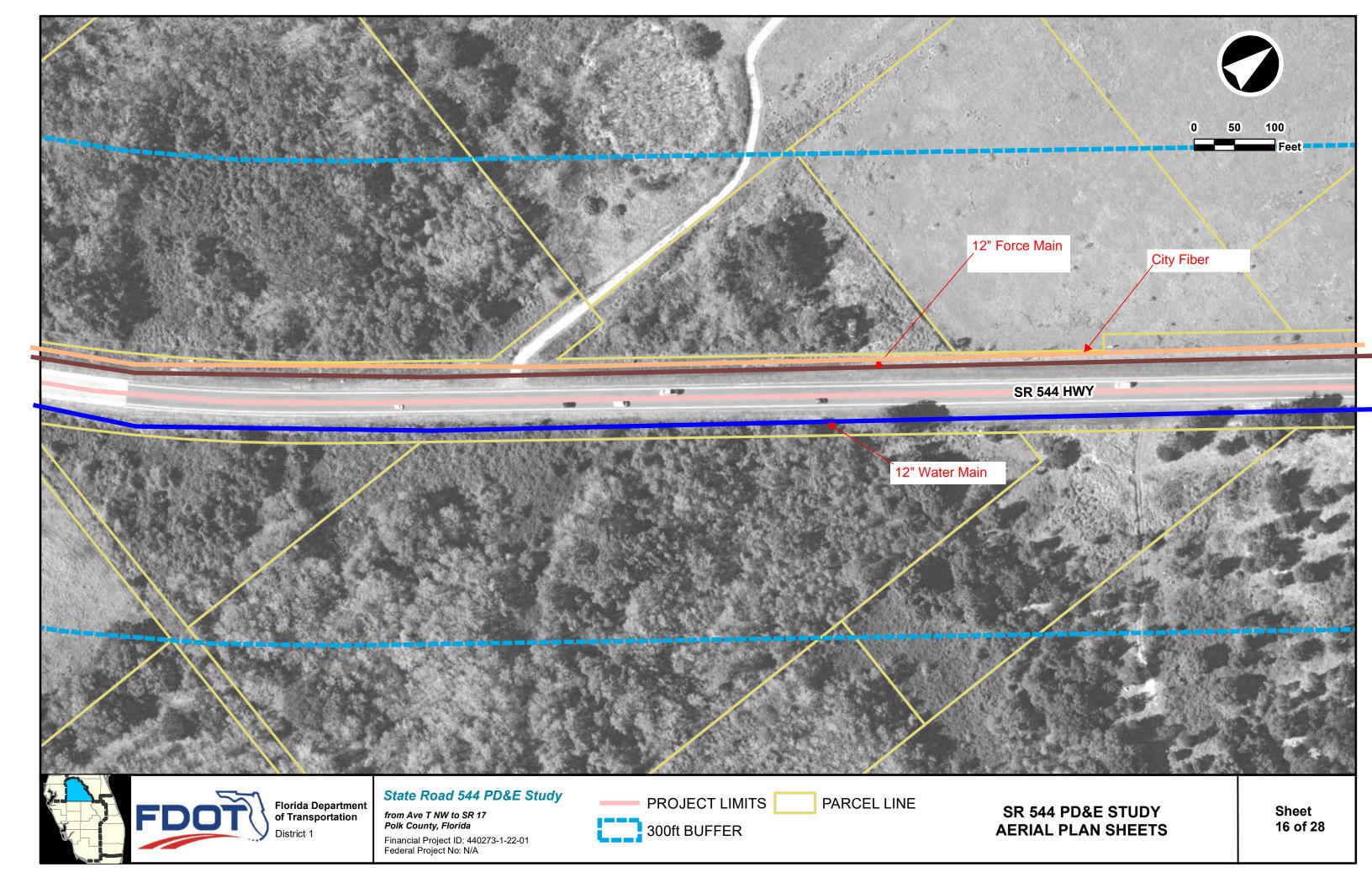


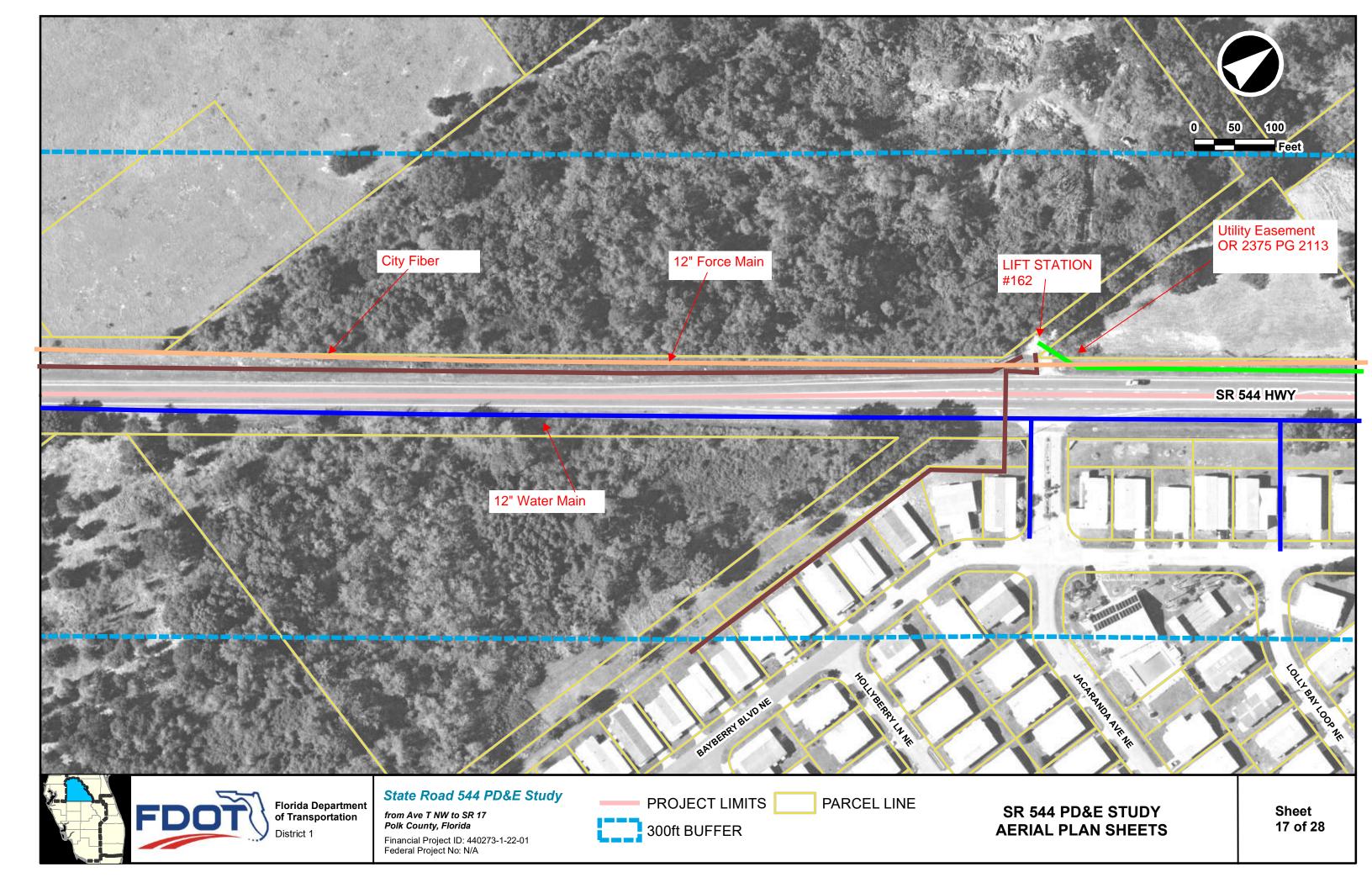


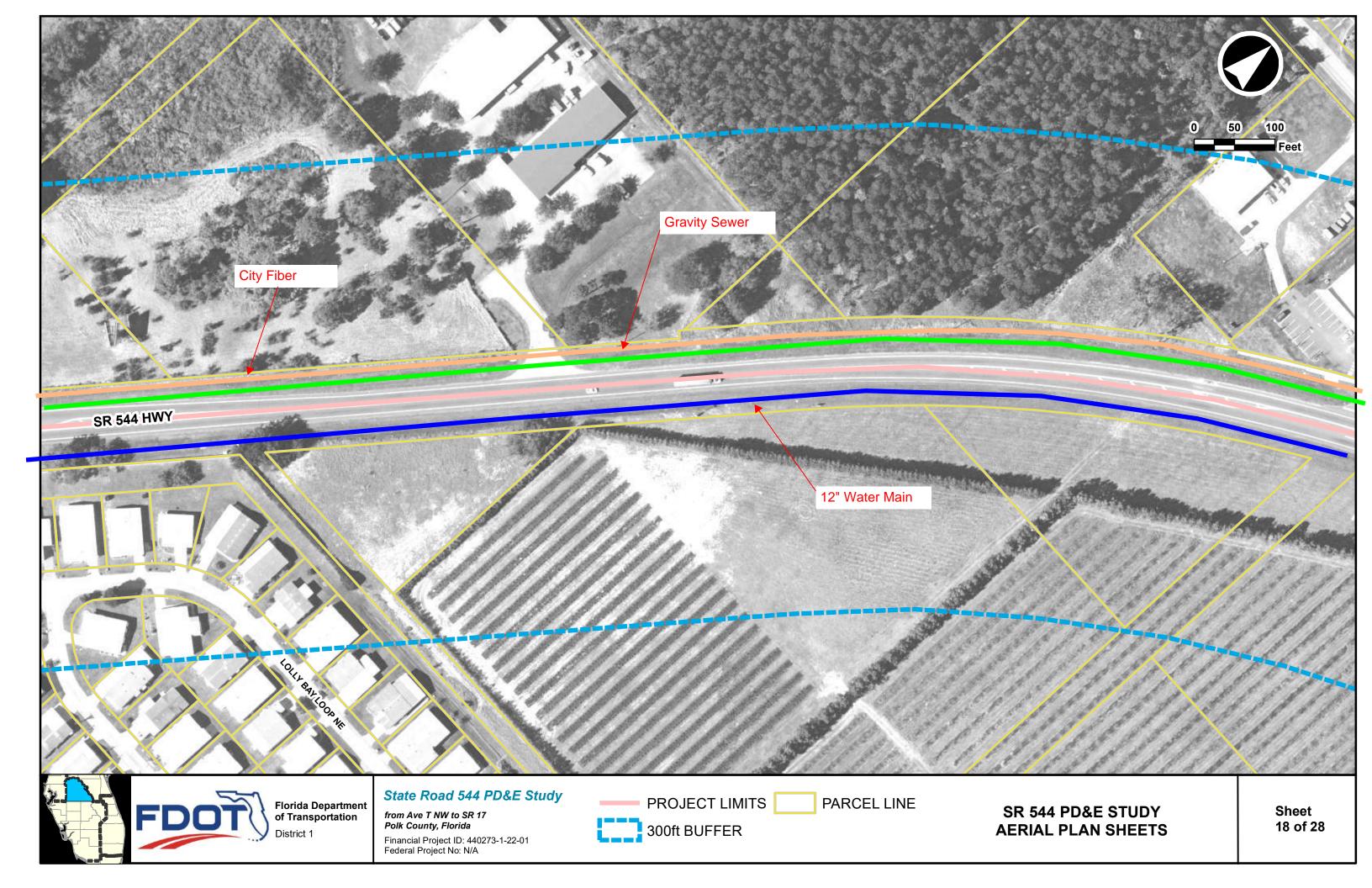


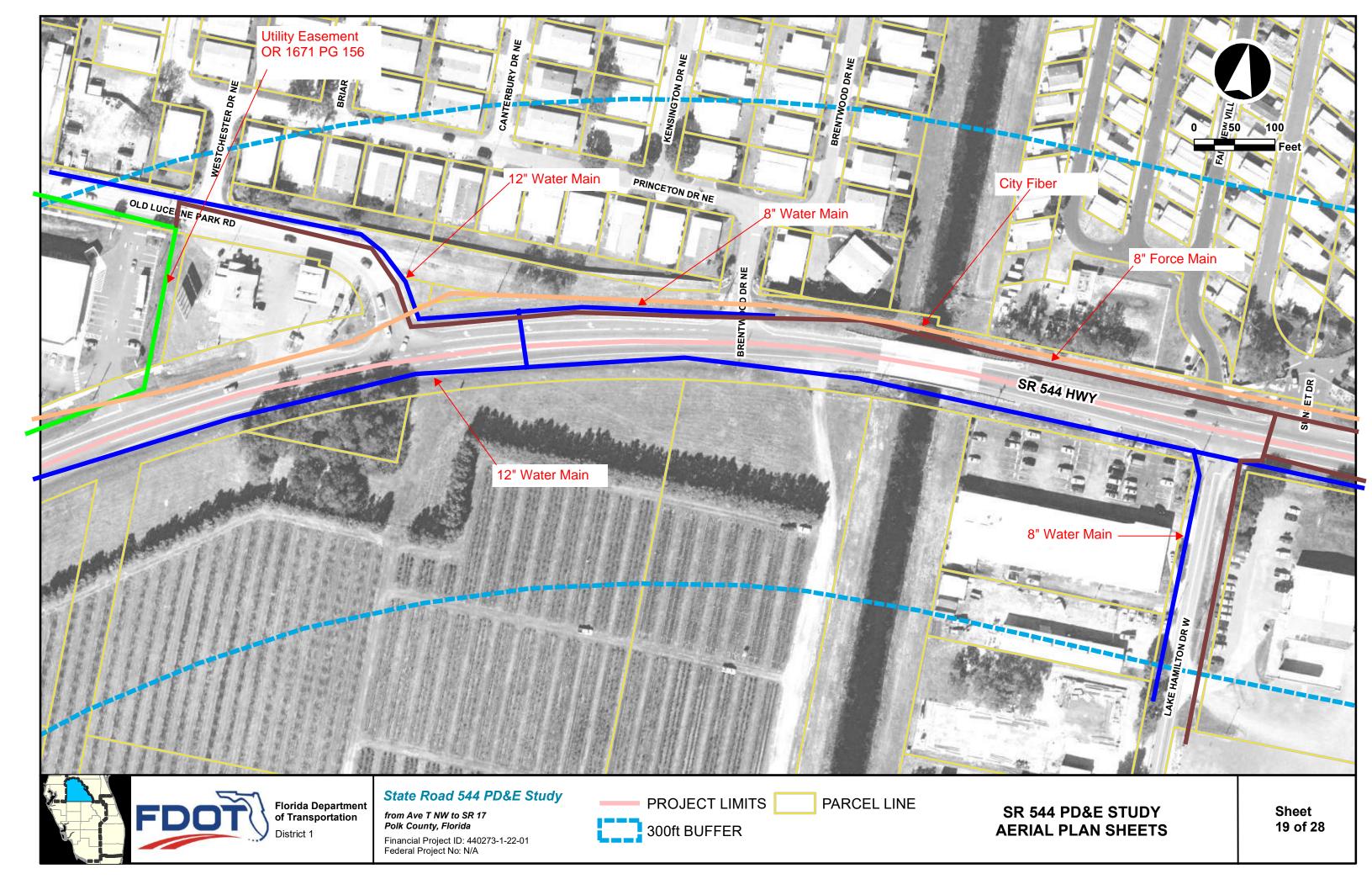


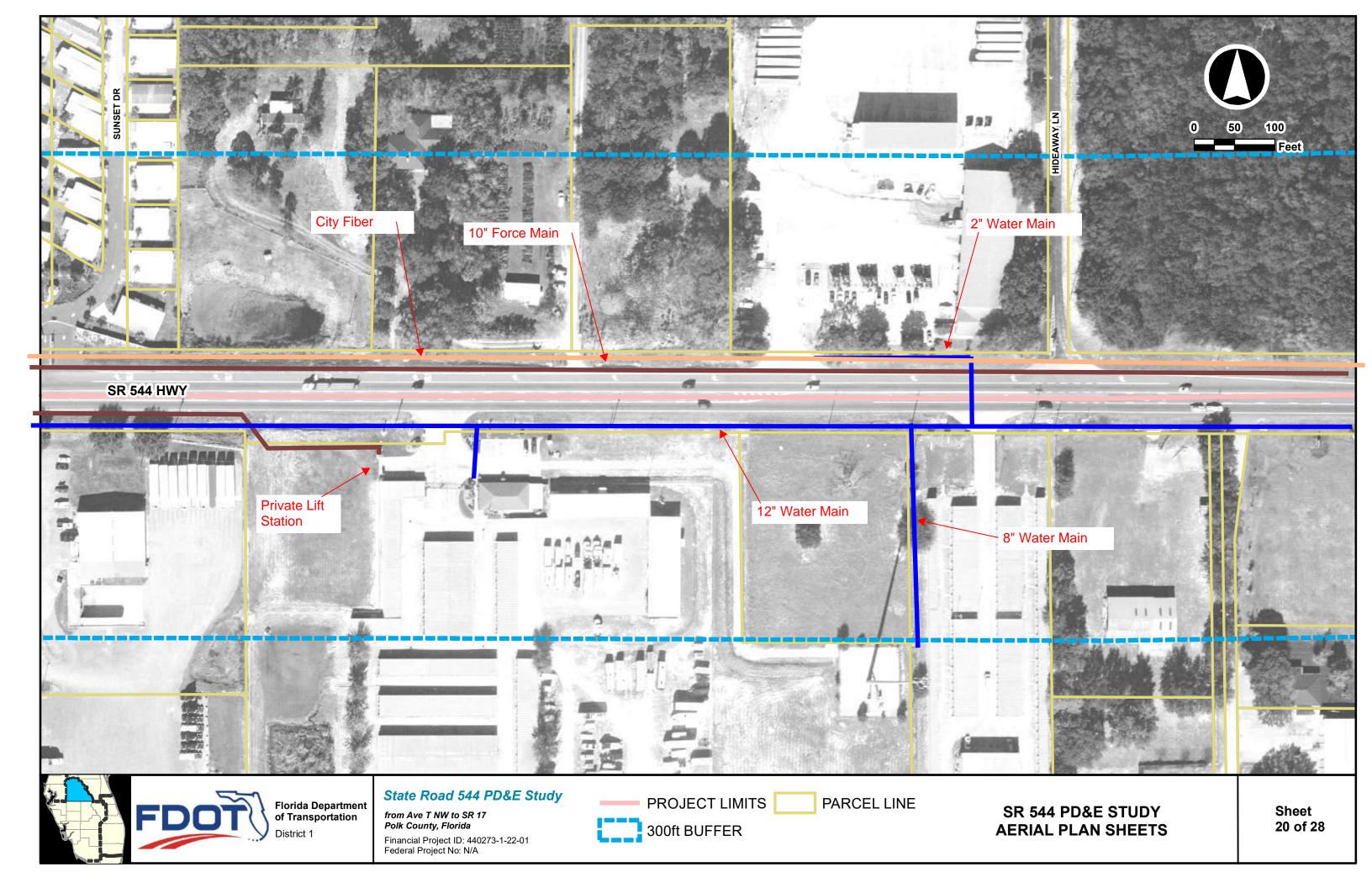


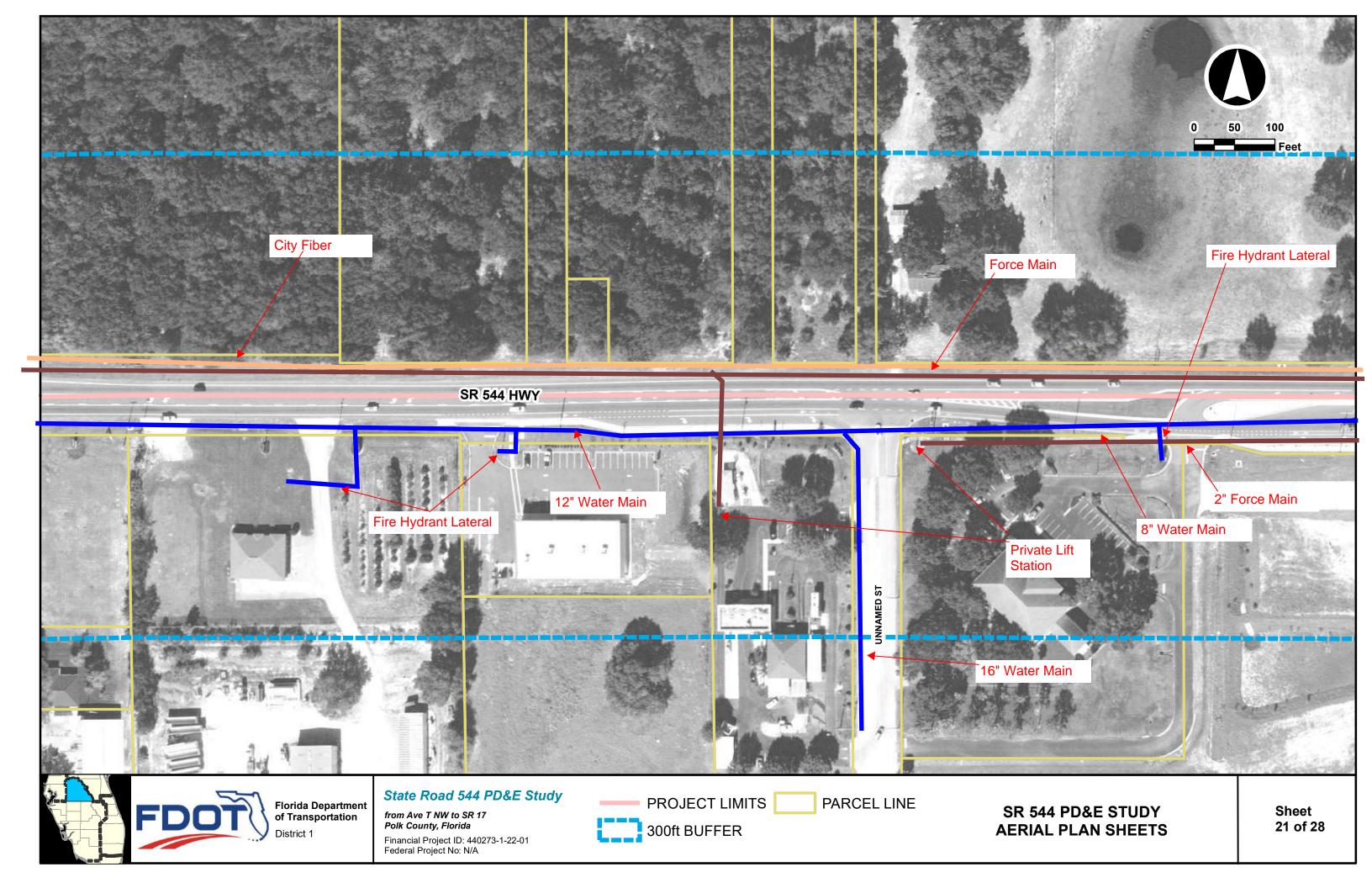


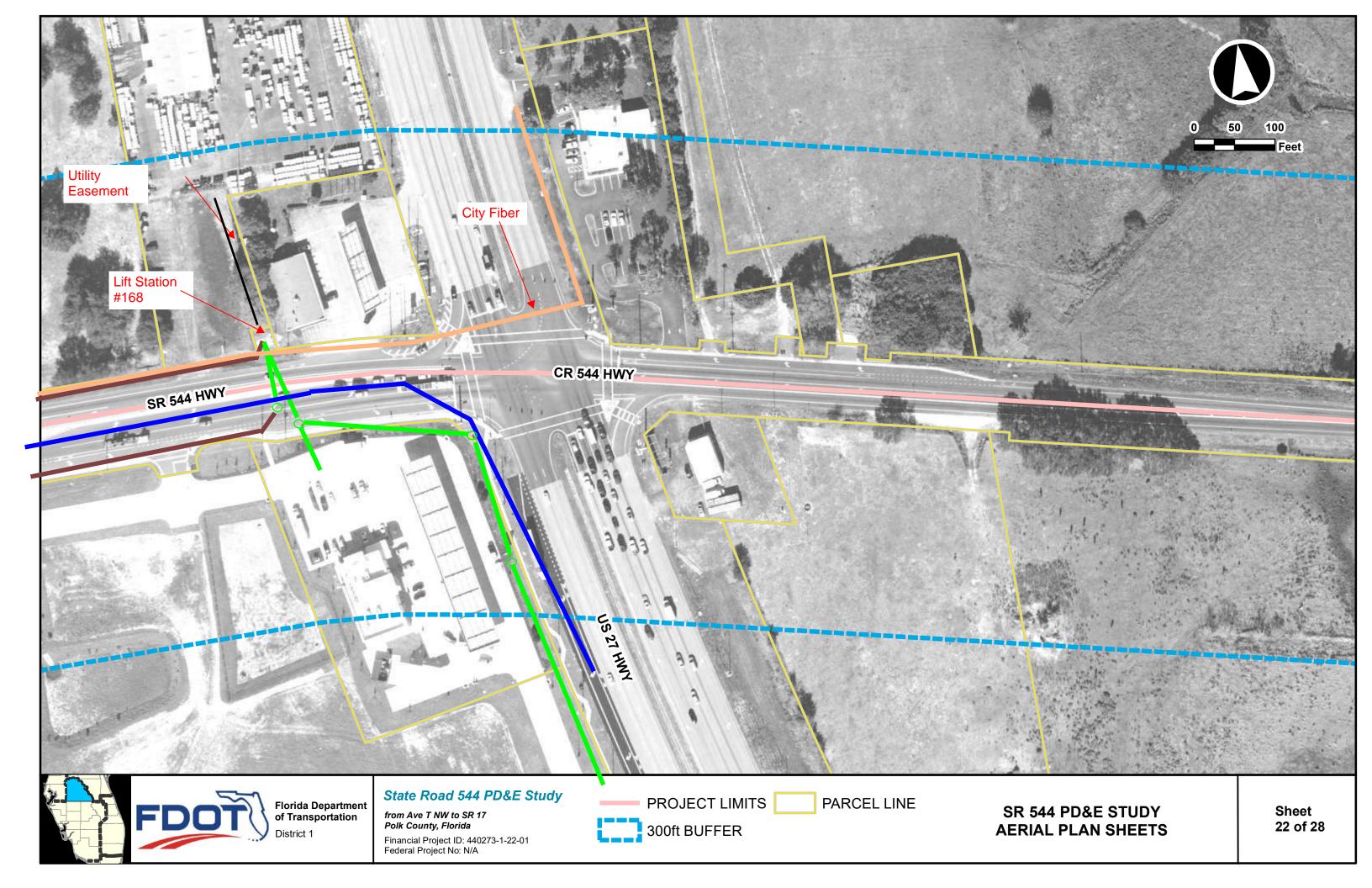










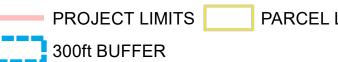




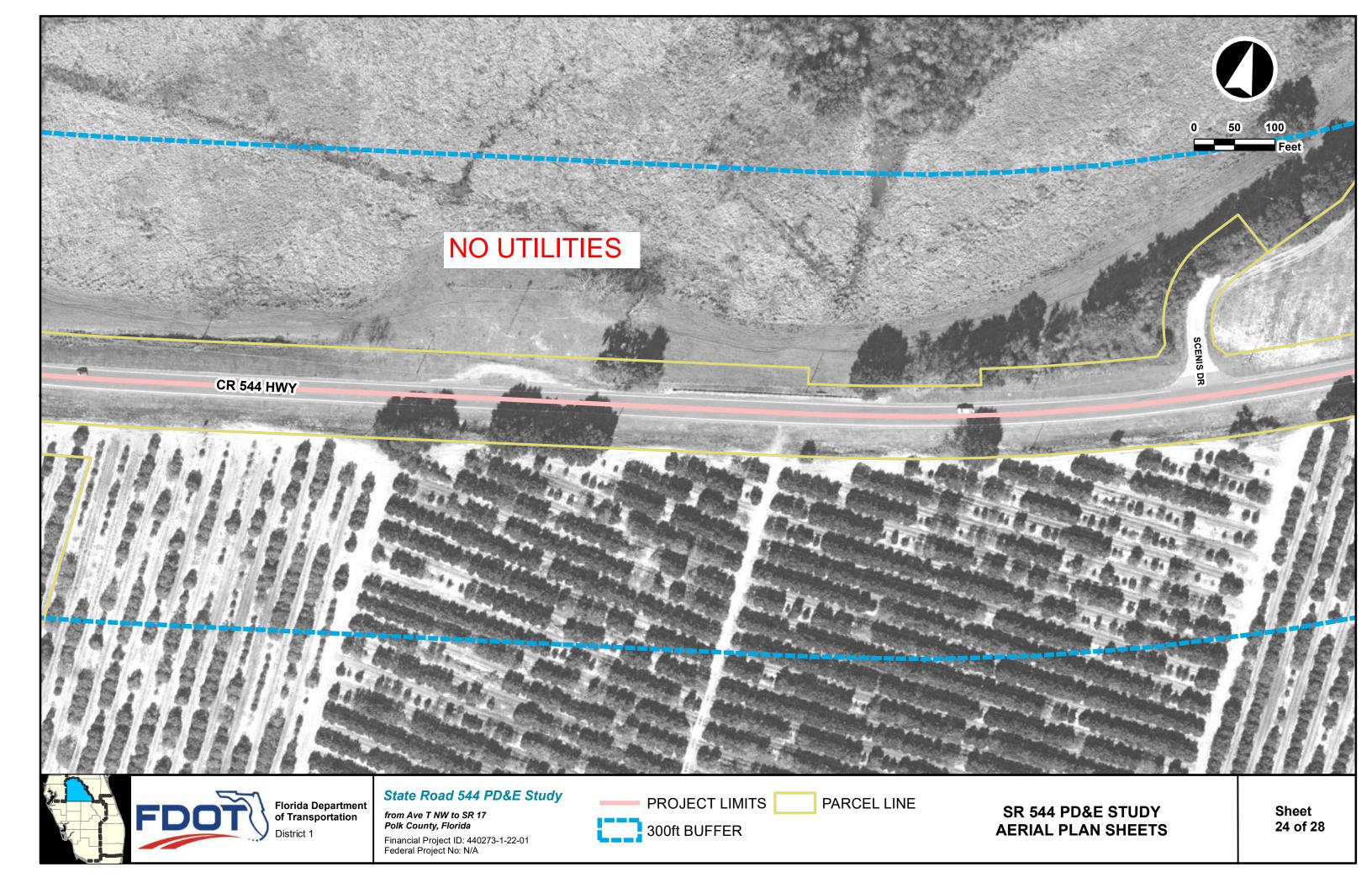


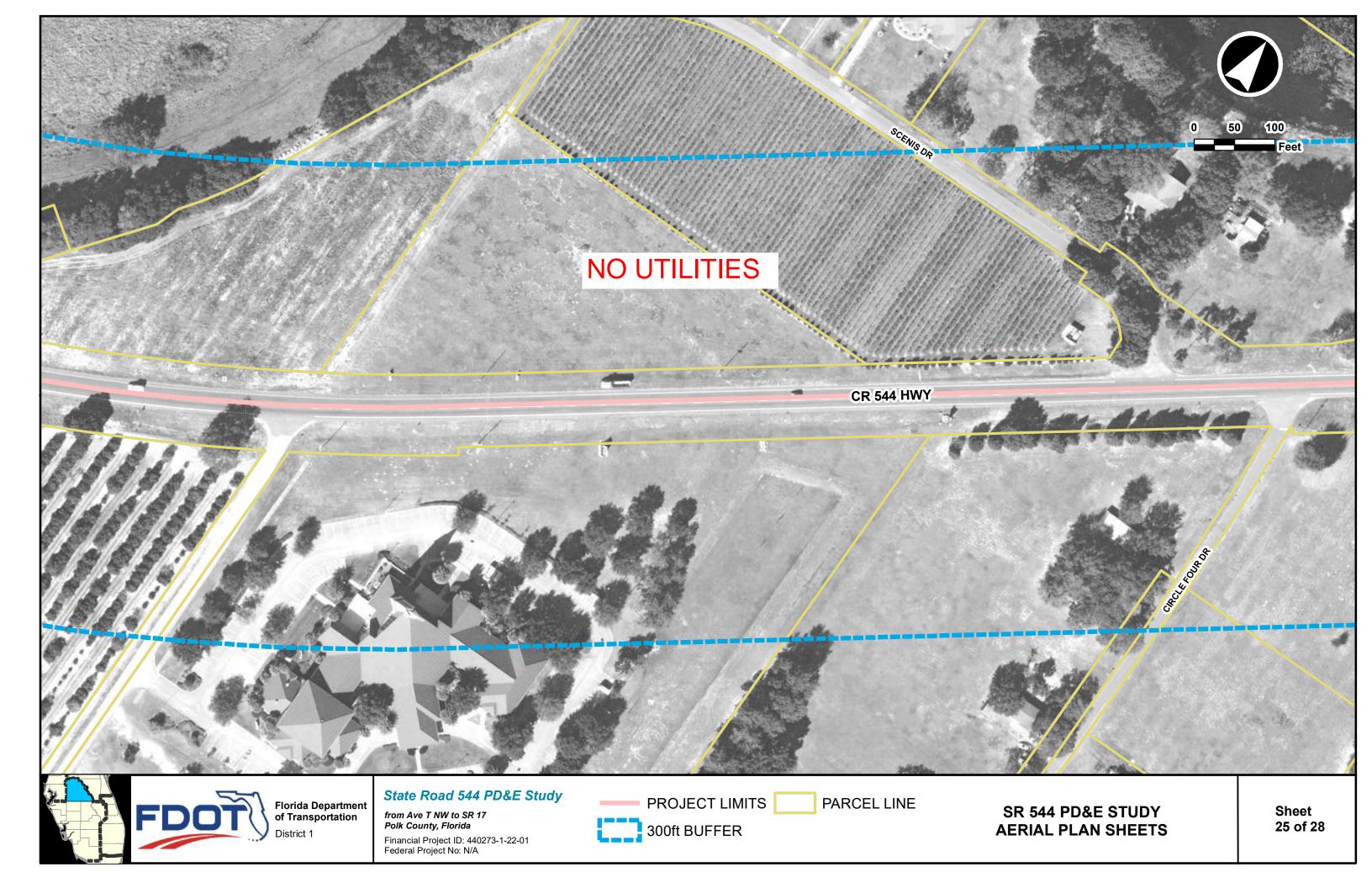
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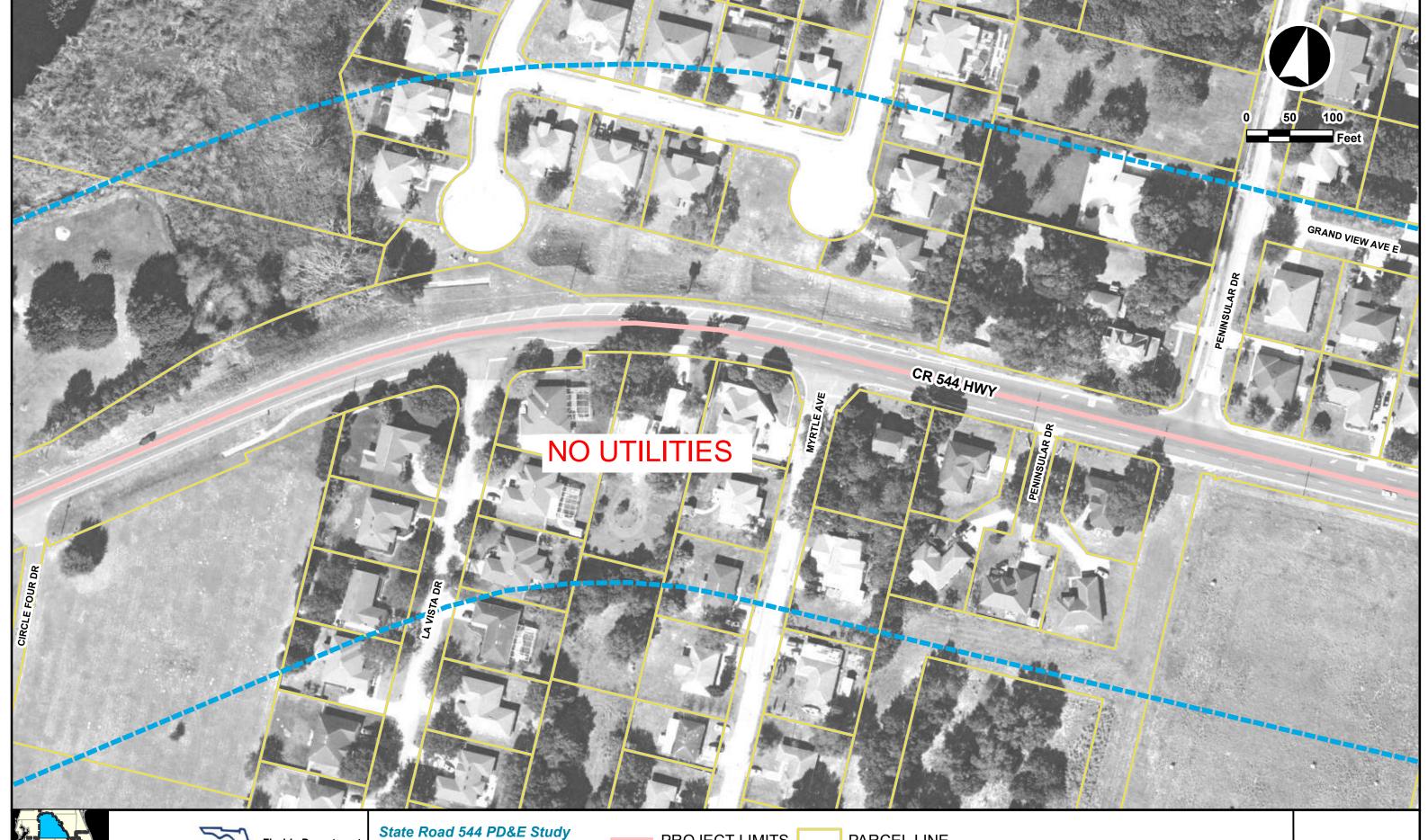
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SR 544 PD&E STUDY AERIAL PLAN SHEETS Sheet 23 of 28



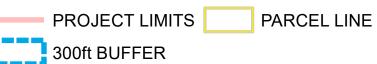




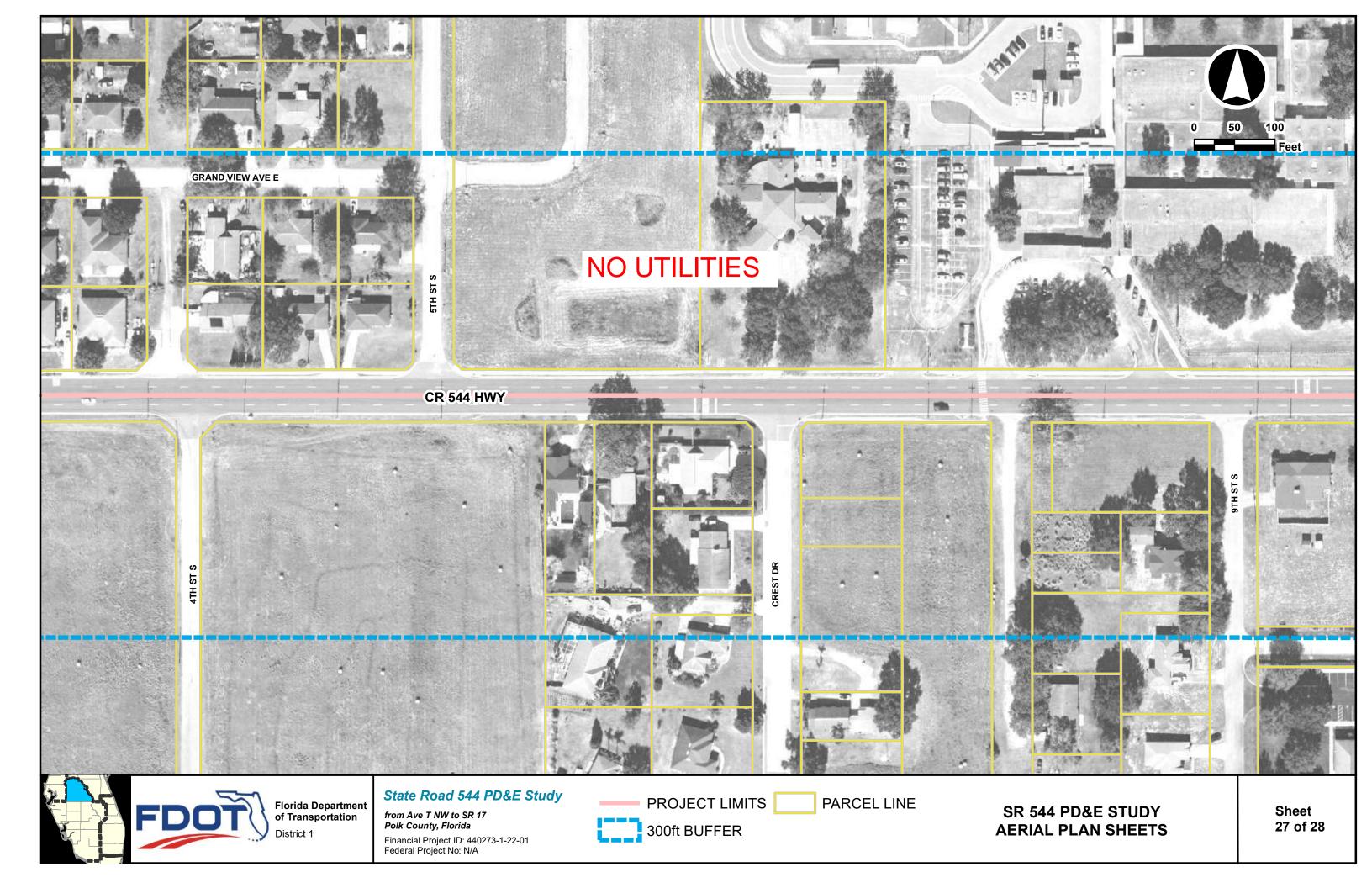


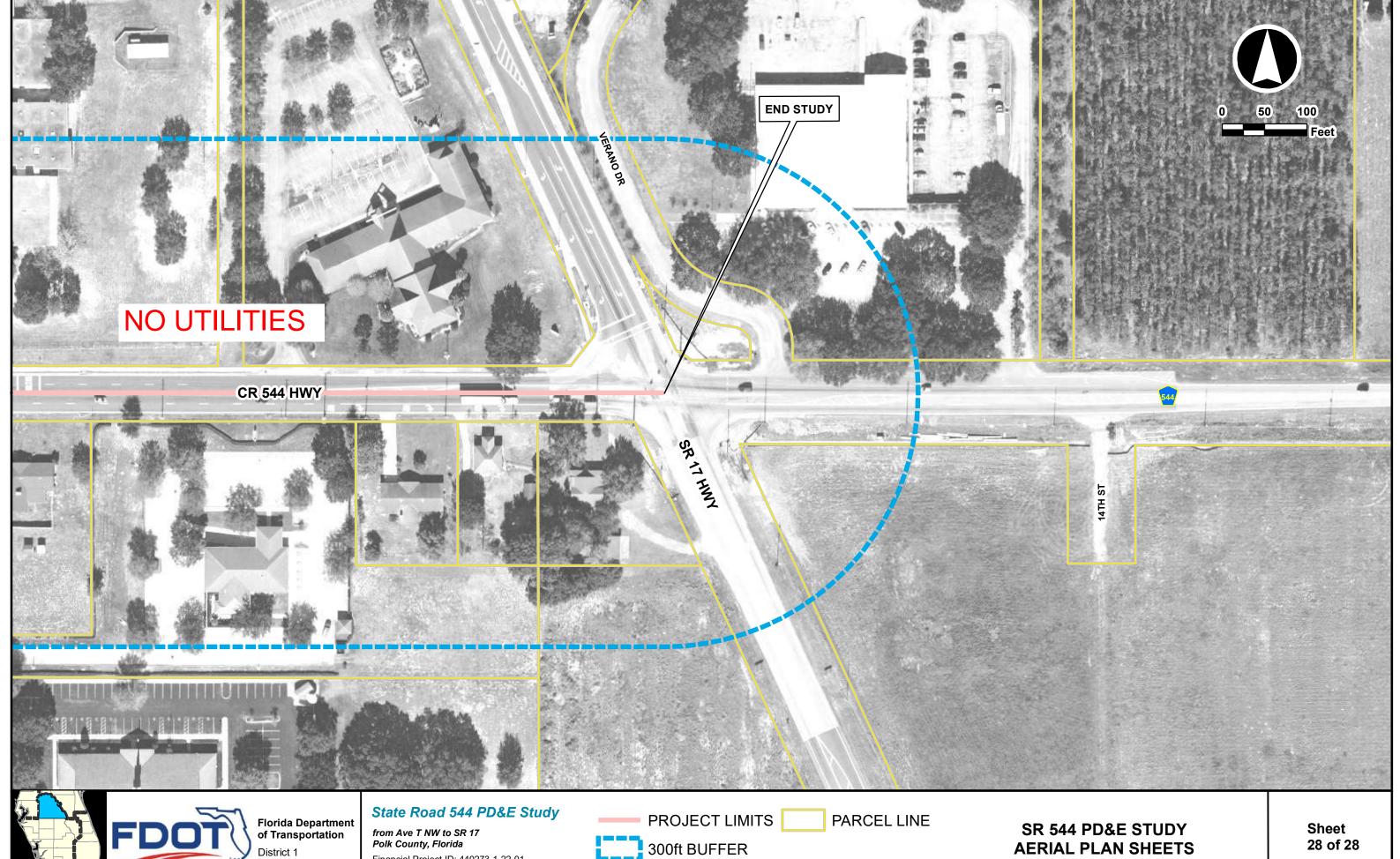
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Financial Project ID: 440273-1-22-01 Federal Project No: N/A



SR 544 PD&E STUDY AERIAL PLAN SHEETS Sheet 26 of 28





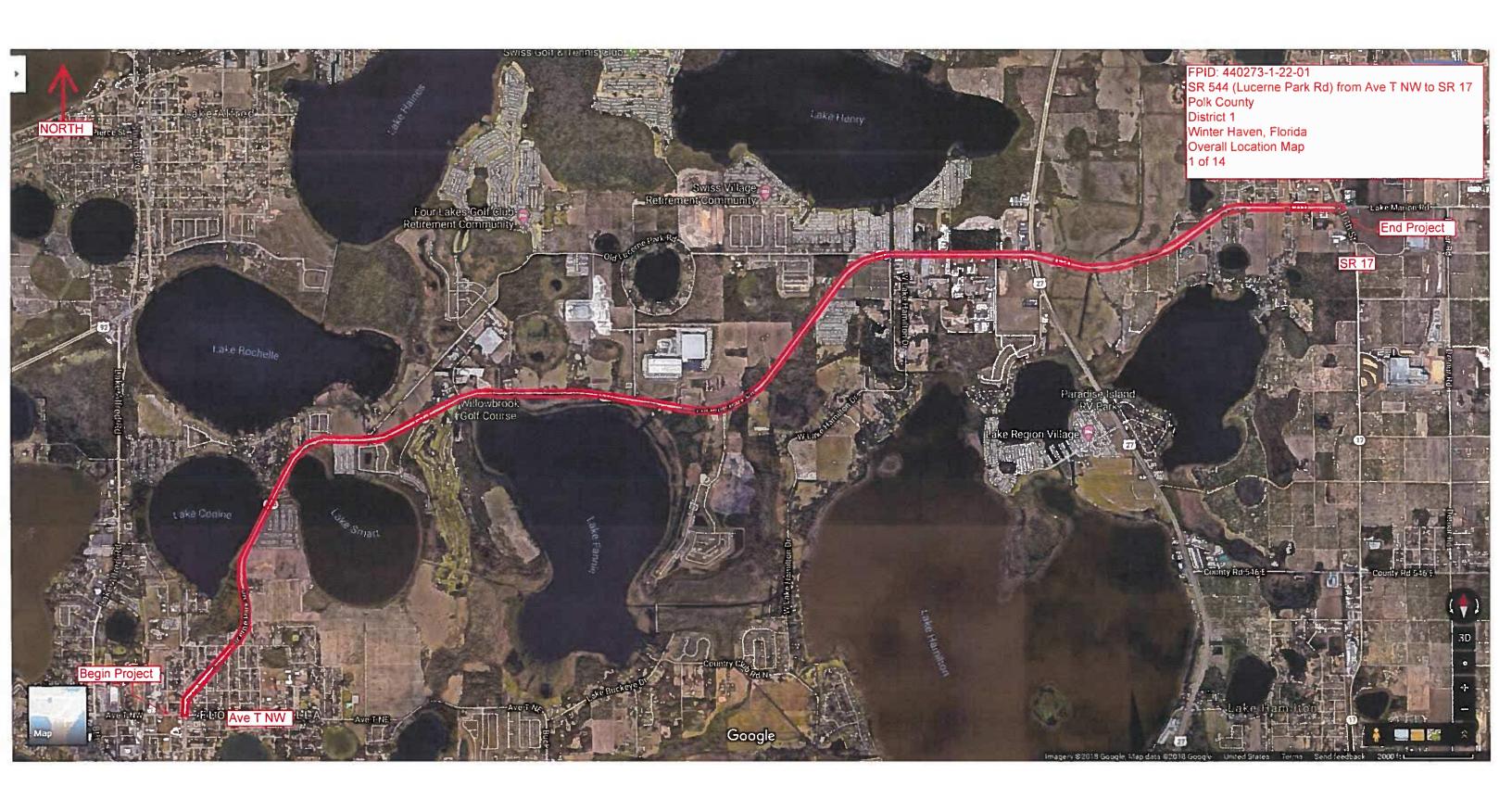
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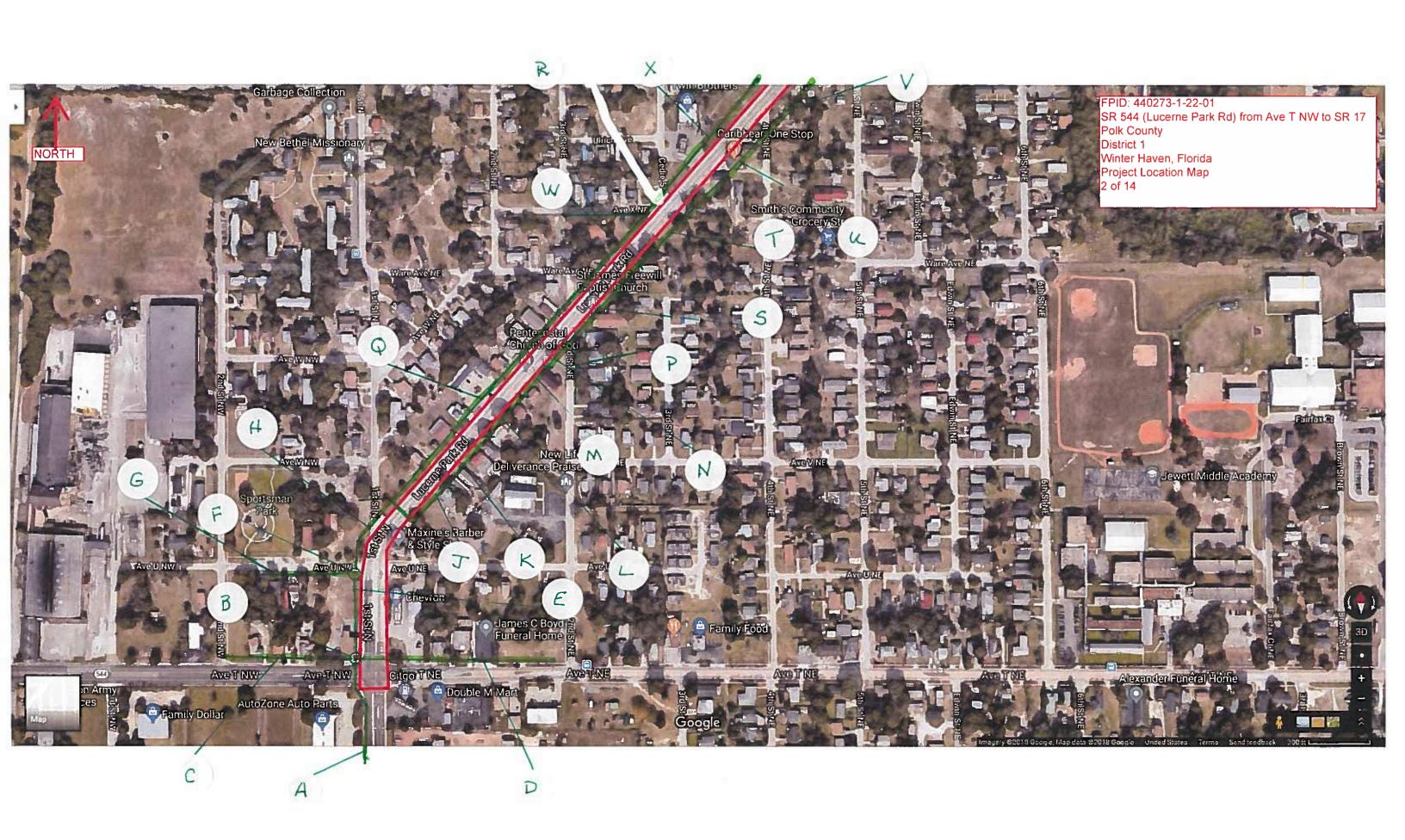
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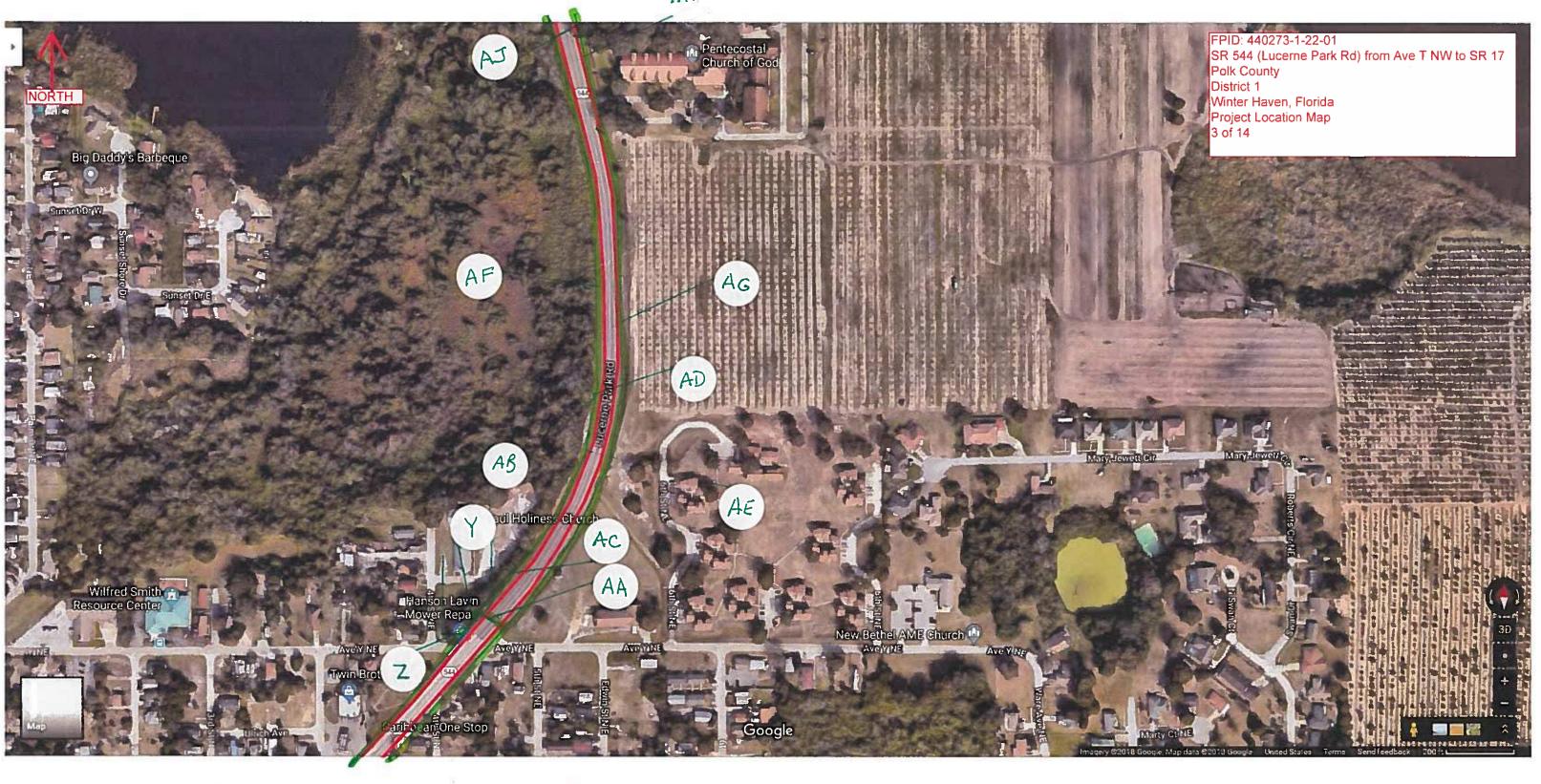
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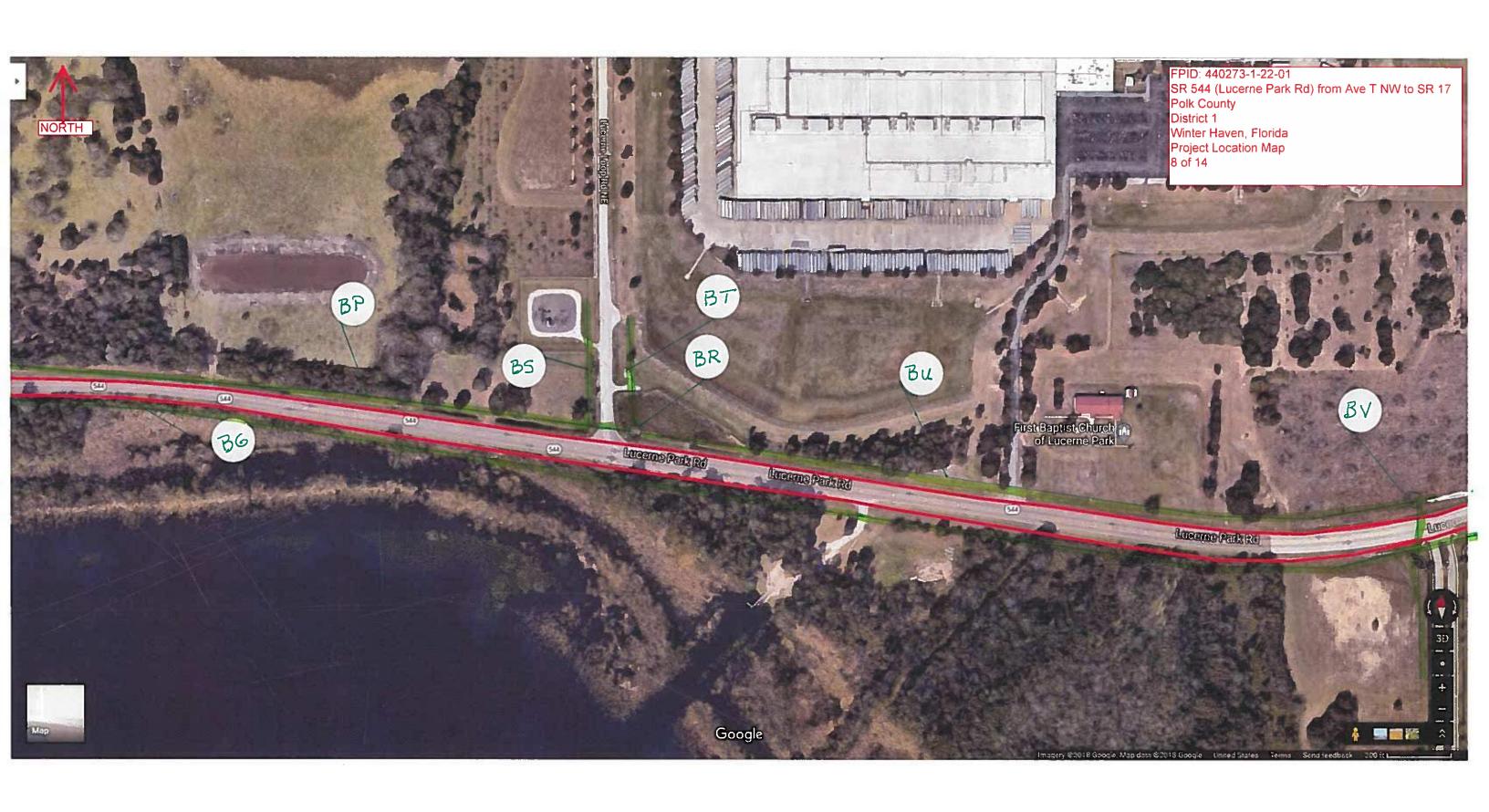


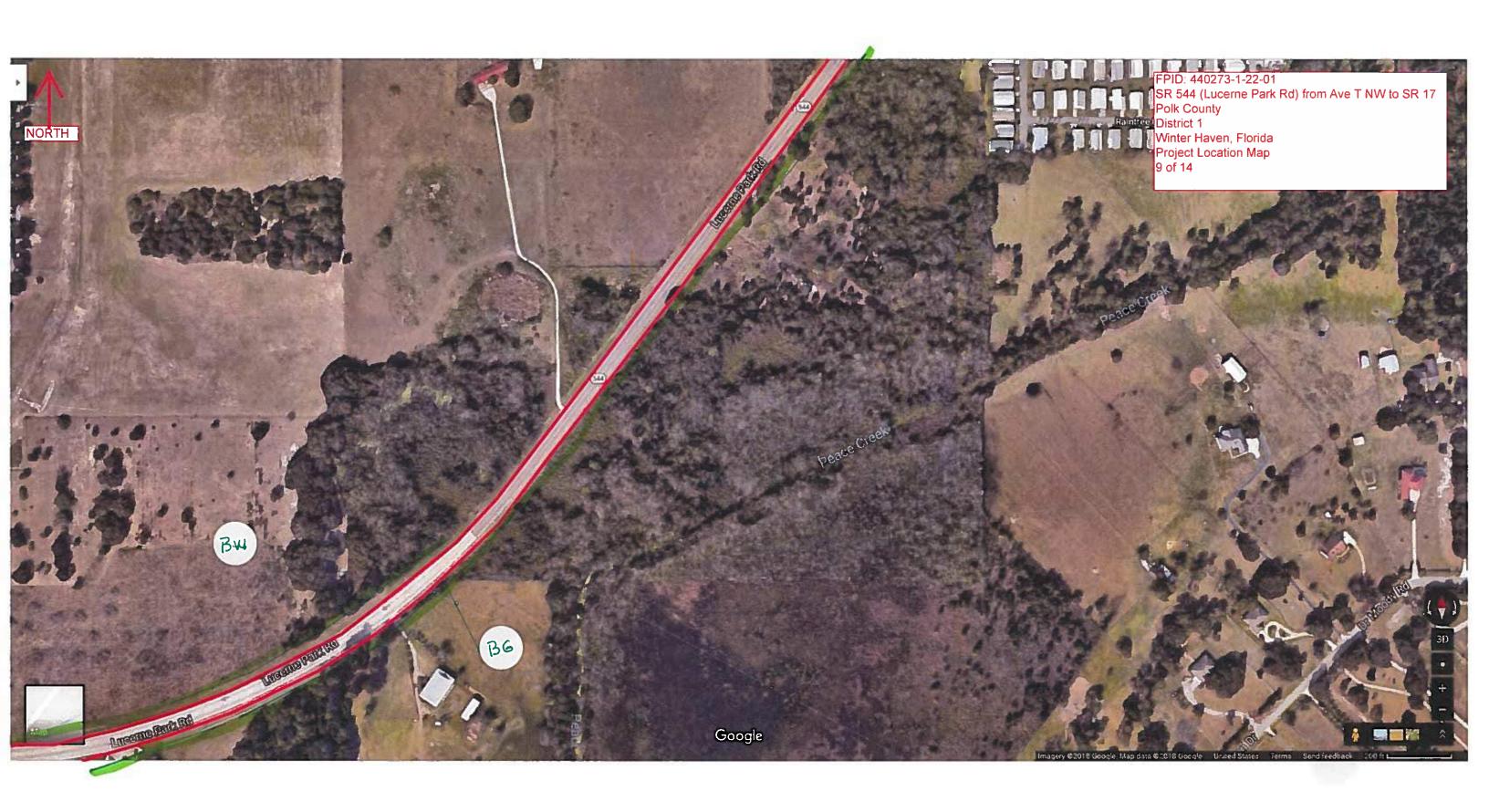






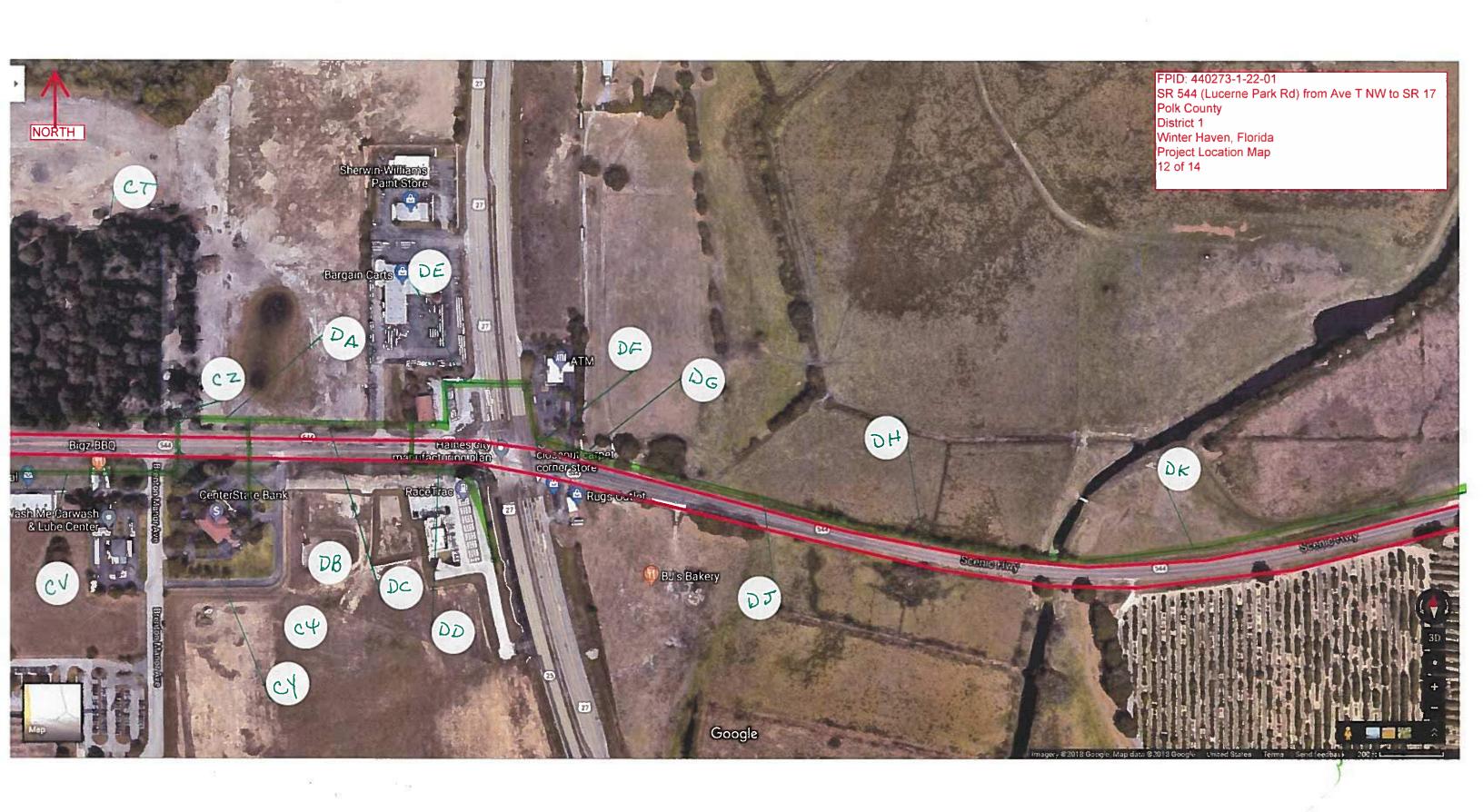
















- A (10) EXIST. FRONTIER
 UNDERGROUND FIBURS
 (3) EXIST. BUPLED CABLES
 (8) WAY CONDUIT SYSTEM
- B EYST, FROLTIER MANHOLE
- (C) (B) EYIST. FRONTIEX UNDER GROWING FIBERS (H) WAY CONDUIT SYSTEM
- (2) WAY CONDOIT SYSTEM
- (3) EXIST. FRONTIER

 UN DER GROUID FIBERS

 LI) EXIST. BURIED CABLE

 (3) EXIST. CORPUITS
- F EYIST. FRONT IER THAN HOLE
- (1) WAY CONDOIT SYSTEM
- (H) (2) EXIST. FRONT IER UNDER 9" OUND FIBERS (I) EXIST. BURIED CABLE (2) EXIST. CONDUITS
- J (1) EXIST, FRONT LOR BURLED CABLE (1) EXIST, FIBER

- (z) EYIST. FRONTIER (z) EYIST. FIBERS
- L) (NEXIST. FRONT LER BU. CABLE (Z) LEXIST. FIBERS
- (3) EYIST. FIBERS
- N (DEXIST FRONTIER BURIED CABLE (H) EXIST FIBERS
- P (6) EXIST. FRONT LER BULLED FIBLERS
- (P) (H)EYIST: FRONTIGR UNDERGROUID FIBERS (3) EHST CONDUITS (1) EHST: BURLED CABLE
- BU. FIBEL
- (S) (2) EXIST. FRONTIGR BURIDD FIBERS (1) EXIST. BU CABIE
- TO DEXIST FRONTIER
 BURIED FIBER
 (1) YEARST. BU CABLE
- W (1) EXIST. FRONTIER BU CABLE

- (V) (Z) EXIST. FROM / LOR BU CABLES
- W (3) EXIST FRONTIER

 UNDER GROWP FIRETS

 (1) EXIST. BURIED GABLE

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- (2) EXIST. FRONTIER
 UNDERGROOM FIBERS
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 (1) EXIST. BURION CABLE
- (3) EXIST. FRONTIER
 BURIED FIBERS

 (3) EXIST. BURIED CABLES

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- AA (2) EYIST. FRONTIL'R BU. CABLES
- (1) EXIST. FRONTIER

 UNDERGROUND FIBERS

 (1) EXIST BU CABLE

 (2) CONDUITS EXIST.
- AS FRONTIER MANHOLE
- AD FRONTIER MANHOLE

- AE (3)EYIST, FROLTIER
 UNDERGROUND FIBERS
 (2)EYIST, CONDUITS
 (1)EYIST, BU. CABLE
- (AF) (3) EXIST. FRONTIERS

 UNDERGROUND FIBERS

 (2) EXIST. BU. CABLE

 (1) EXIST. BU. CABLE
- (1) EXIST. FRONTIER

 BU. FIBER

 (3) EXIST. BU. CABLES

 (1) EXIST. CURPUIT
- AH (2) EXIST. FRONTIER BU. CABLES
- A) (DEHST. FRONTIEN BU. CABLE
- AF EXIST FRONTILLAL MANHOLE
- (1) EXIST. FRONTIER

 UNDERGROUND FIBERS

 (1) EXIST. BU. CABLE

 (2) EXIST. CONDUITS
- AN (2) EX57 FRONTIER BU. (ABLES
- AP (1) EXTIST. FRONTIER BU. CABLE
- AD LIJEHST. FRONT HEA BU. CABLE

- (AP) (3) EYIST. FRONTIEL UNDER GROUND FIBERS (4) EXIST. BU. CABLES (2) EXIST. CONDUITS
- AS MEUST. FRONT IEAL BU. CABLE
- AT FROMIER KBOY (Renote)
- QUI FRONTIER THAN HOLE
- (AV)(4)EXIST. FRONTIER

 UNDERGROUND FIBLIRS

 (3)EXIST. BU. CABLES

 (1) CONDUIT
- (AW) PRONTIER MAN HOLE
- (1) EXIST. FRONTION BU.
- AY (1) GWST. FRONTIUR BU. CABLE
- (3) EXIST. FLOTIERS

 UNDERSHOUND FIBERS

 (3) EXIST. BU. CABLES

 (2) CONDUITS
- (BA) FRONTIEL YBOY (Remote)

- BB) (2) EYDT. FRONTILL BU. CABLES
- (2) EXIST. FROMILE

 UNDER GROUND FIBERS

 (2) CONDUITS

 (4) EXIST. BUI CABLES
- BD (4) EXIST. FRONTIUS BU. MBLES
- BE WEXIST. FRONTIER
 BU. CABLES
- (2) CONDUITS
 (1) BU. CABLE
- BG (DEXIST. FRONTIER BU. CABLE
- BH WEYST, FROUTIER.
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- (8) WE WST. FROM ION BU. FIBLER
- BK (1) EXIST. FRONTION BU. CABLE
- BU. CABLES
- BU. CABLES

- (BN) (2) EVIST. FRONT ICAL BU. CABLES
- (BP) (I) EXIST. FRONTIER

 UNDER GROUND FIBER

 (2) CONDUITS

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 - (1) EXIST. FRONTION BU. CABLE
 - BR FRONTIER YMAN HOLE
 - BS (DEVIST. BU. CABLE FRONTIER
 - BT (2) EYIST: FRONTIUR BU. FIBERS (1) CONPUIT
 - (Bu) (1) EXIST. FRONT ICAL
 BU. FIBER
 (1) CONDUIT
 (1) EXIST. BU. CABLES
 - BY FRONTIEL MANHOLE
 - BW SPARE COMPUIT
 - BY FRONTIER CROSSBOY
 (Ronde)
 - BY (3) EXIST. FRONTICE BU. CABLES

- BZ (Z) EXIST. FRONTIUR BU. CABLES
- CA (4) EXIST. FROTICE BU. CABLES
- (B) (Z) EXIST, F ROLTIGE BU. CABLES
- CO(1) EXST. FRONTIOR BU. CABLE
- (D) (1) EYIST, FRONTIEL BU. CABLE
- (E) (3) EXIST. FROW IER BU. CABLES (1) EXIST, FIBER (1) COLDVIT
- CF FRONTIER MANHOLE
- CG WEXIST. FRONTICE FIBER

 B) CONDUITS

 LI) BU. CABLE
- CH WEXIST FRONTIER BU. CABLE
- CO FRONTIEL MANHOLE
- CK (1) EYIST. FRONTIER FIBER
- CL (3) EXIST. FRONT IER BU. CABLES
- CM FRONTIOR X-BOY (Remote)

- (2) CONDUITS
 (1) EXIST. BU. PIBER
- (1) COLDUIT
- (CQ) (4) EXIST. FROLTIER BU. CABLES
- CR PRONTIEK X-BOX (Remote)
- CS (1) EXIST. FROMTIER BU. CABLE
- CT (H) EYET. FRONTIER
 BU_CABLES

 (1) CONDUIT
- (CU) (Z) EYIST. AENAL CABLES
- (c) (2) EXIST. FRONTIEN BU, FIBERS (1) CONDUIT (1) EXIST. BU. CABLE
- (W) (1) E415TO FROW IER
- CY (1) EXIST. FRONTIER BU FIBER
- CY FRONTIER MANHOLE

- (2) FRONTIER THAN HOLE
- (DA) (1) EXIST. FRONTIER
 BU. FIBER
 (2) CONDUITS
 (4) EXIST. BU. CABLES
- OB (DEXIST, FRONT LEDE BU. CABLE
- DC (1) EWST. FRONTIER
 BU. FIBER
 (2) CONDUITS
 (4) EYIST. BU. (ABLES
- (1) EYIST BURIOD FIBER (1) EYIST BU, CABLE
- DE (3) EXIST. FRUCTIENT BUI CABLES (2) BURIED FIBERS
- DE FRONTIER MANHOLE
- DO (1) EXIST. FRONT IUR BU OABLE (1) BU FIBER
- (DH) FRONTIER MANHOLE
- BU FIBER
 (1) CONDUIT

- OF (DEVIST, FRONTIER BU. FIBER (DONDUIT
- (D) (1) EXIST. FRONTIEN

 BU FIBER

 (1) CONDUIT

 (1) EXIST. AERIAL CABLE
- OM (DEXIST. FRONTIER
 BU FIBER
 (1) CONPUT
 (1) EXIST. BU. CABLE
- (DP) (1) EXIST. FRONTIER
 BU FIBER
 (2) EXIST. BU. (ABLES
- BU CABLE
- DR) (1) EYIST, FRONT IER BU. FIBE (3) EYIST. BU CABLES
- DS) (1) EXIST. FROM IGR BU. CABLE
- DT (1) EXIST. FRONTIER
 BU FIBE

 (1) CONDUIT

 (1) BU CABLE
- DW (DEWIST. FRONTIUR BU, CABLE

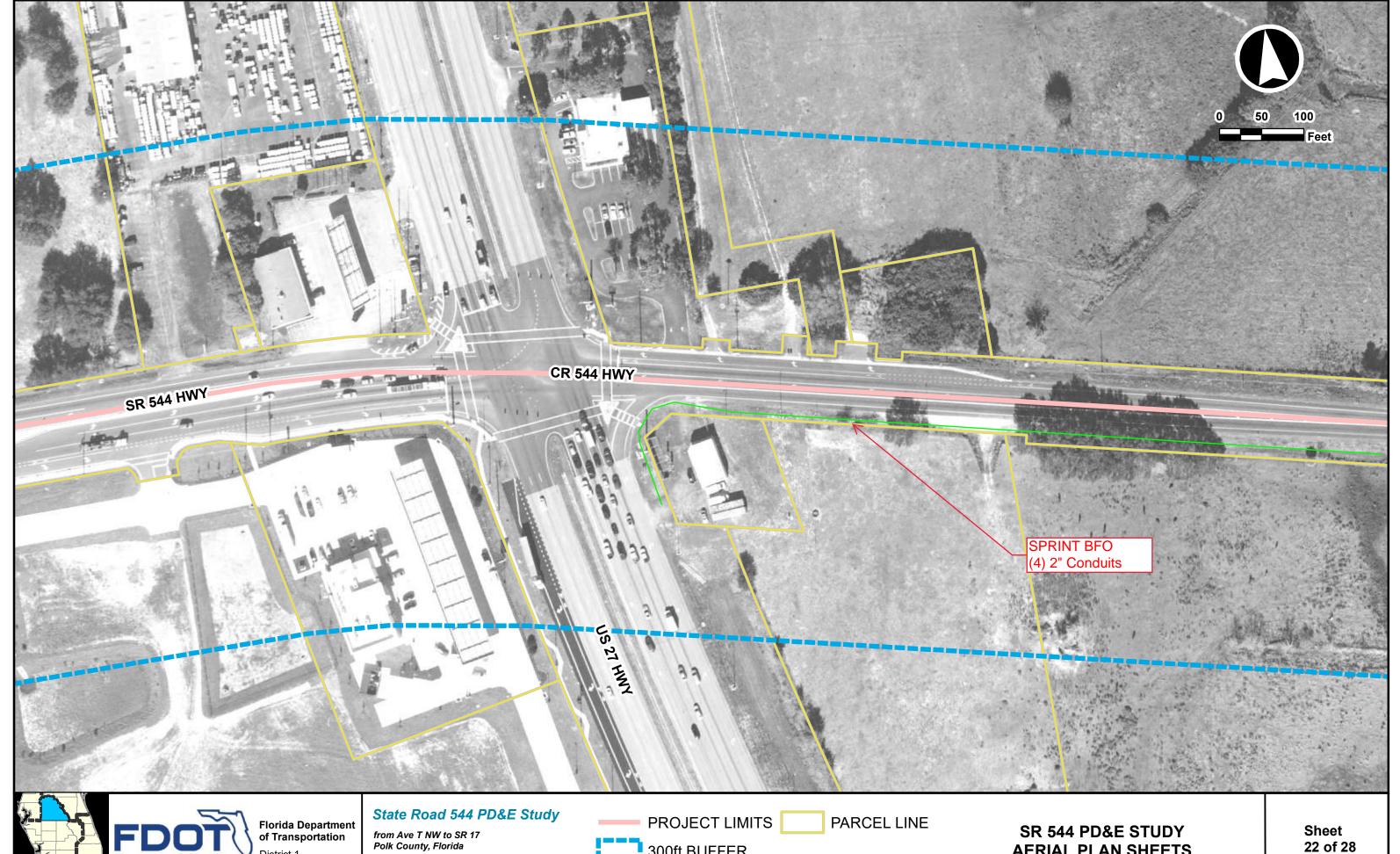
- (1) COLPUIT
- DAN (1) EXIST. FRONTIOR BO CABLE
- DX (1) EYIST. FRONTICE BU CABLE
- (DY) (1) EXIST. FRONTIER BU CRBLE
- DZ (1) EXIST. FRONTION BU. CABLE
- (2) EXIST. FRONTION BU.

 (2) EXIST BU CABLES
- (1) EXIST. BU. CABLE
- (1) EPIST. BU. CABLE
- ED (1) EXIST. BU. CABLE
- (EE) (1) EXIST. BU. CABLE
- (2) EXIST. FRONTION
 BU CABLES
 (1) EXIST. BU FIBER
- EG (1) EYST. FRONTIER BU. CABLE

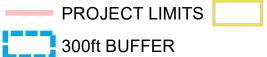
- EH (VEYIST, FRONTIER
 BU, FIBER
 I CONDUST
- (1) COLDUTT
- (1) EXIST. FRONTIER

 (1) EXIST. BU FIBEL
- EM (2) EYIST, FRONTIGE BU CABLES (3) EYIST, BU FIBLERS (2) CONDUITS
- (3) EXIST. BU CABLES
- EP (Z) EYIST. BU. CABLES
- ED (2) EYIST FRONTIER BU FIBERS (1) CONDUIT

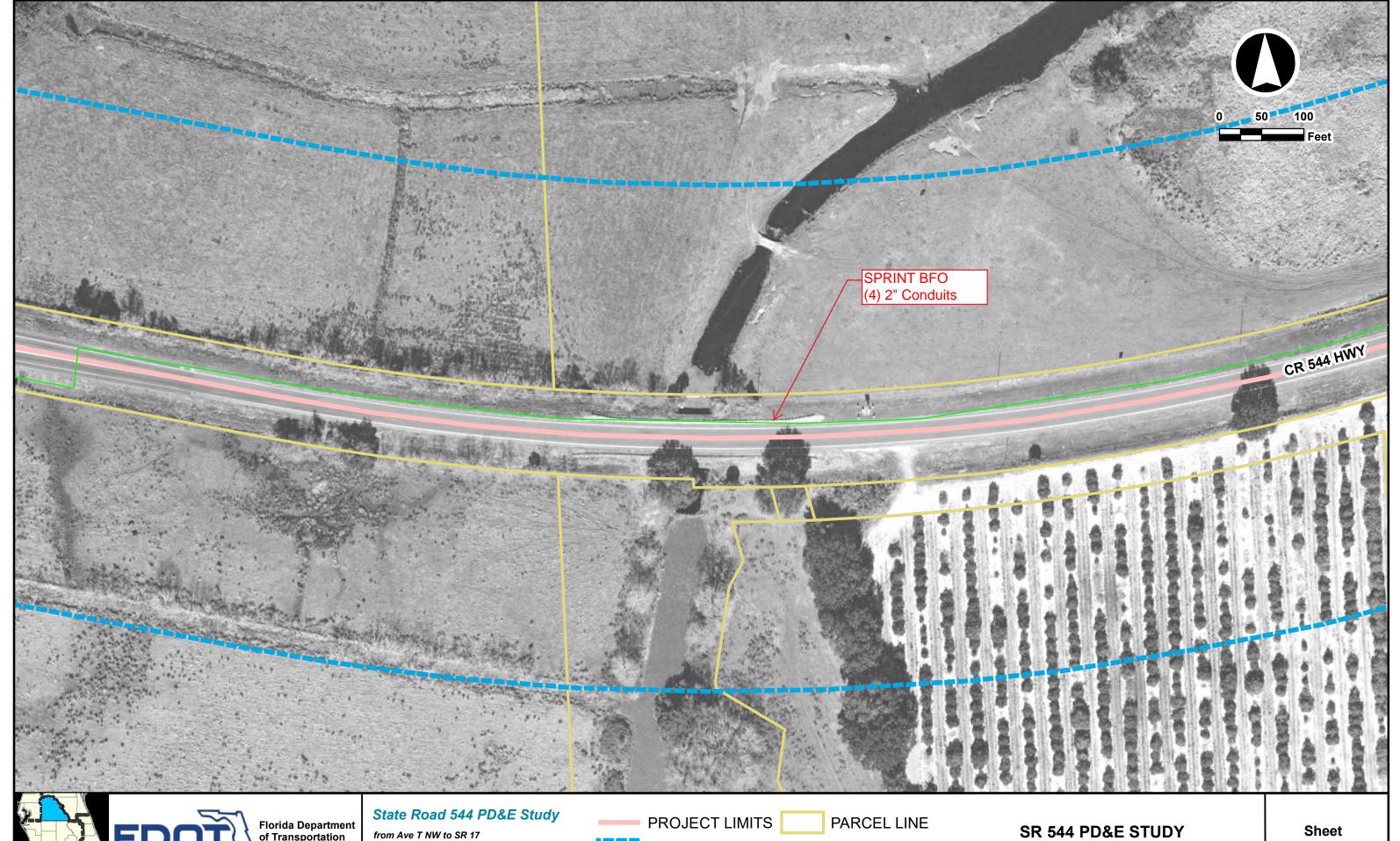
Sprint



Financial Project ID: 440273-1-22-01 Federal Project No: N/A



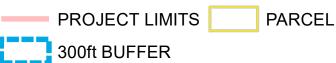
AERIAL PLAN SHEETS



Florida Department of Transportation

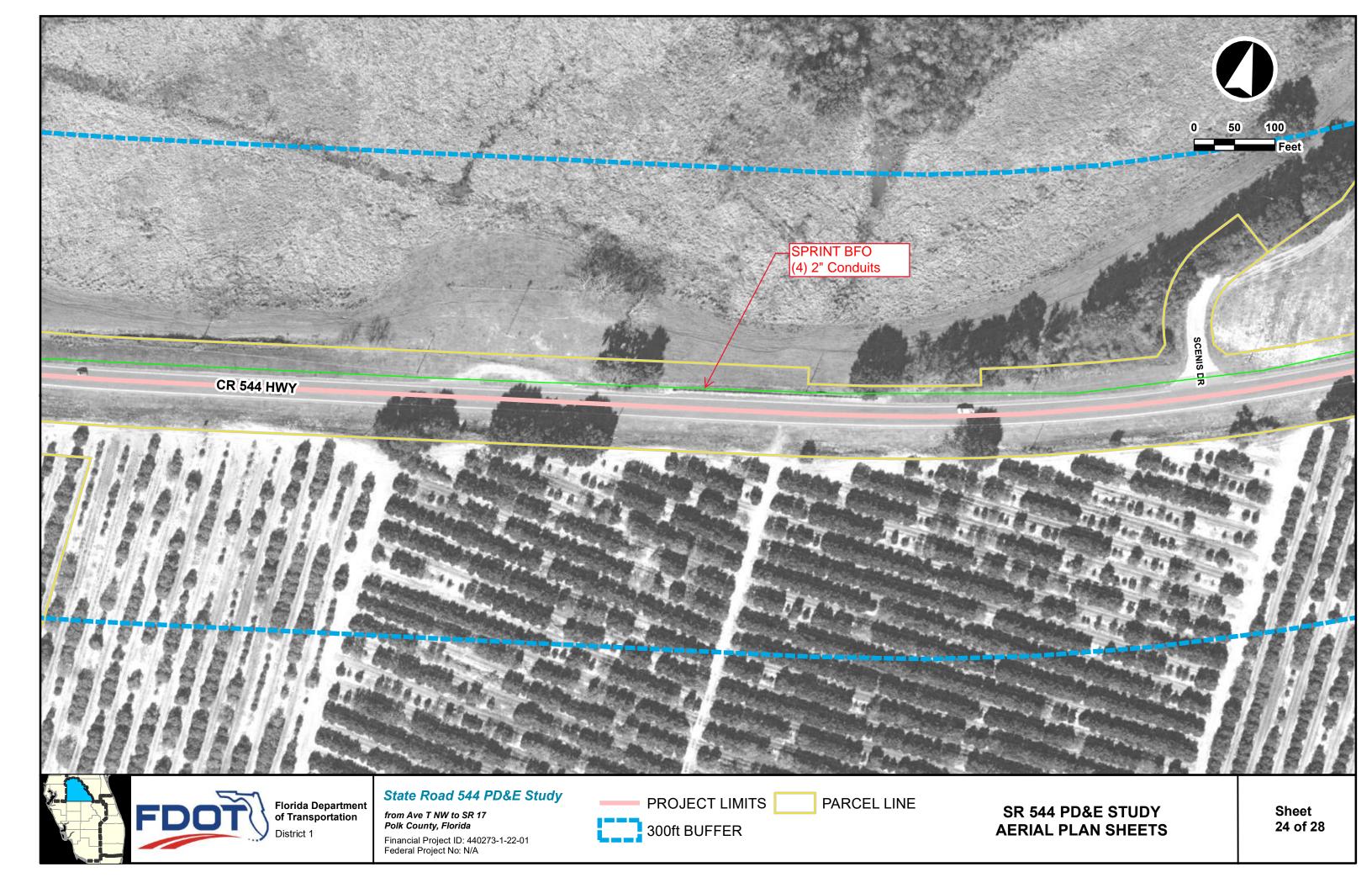
from Ave T NW to SR 17 Polk County, Florida

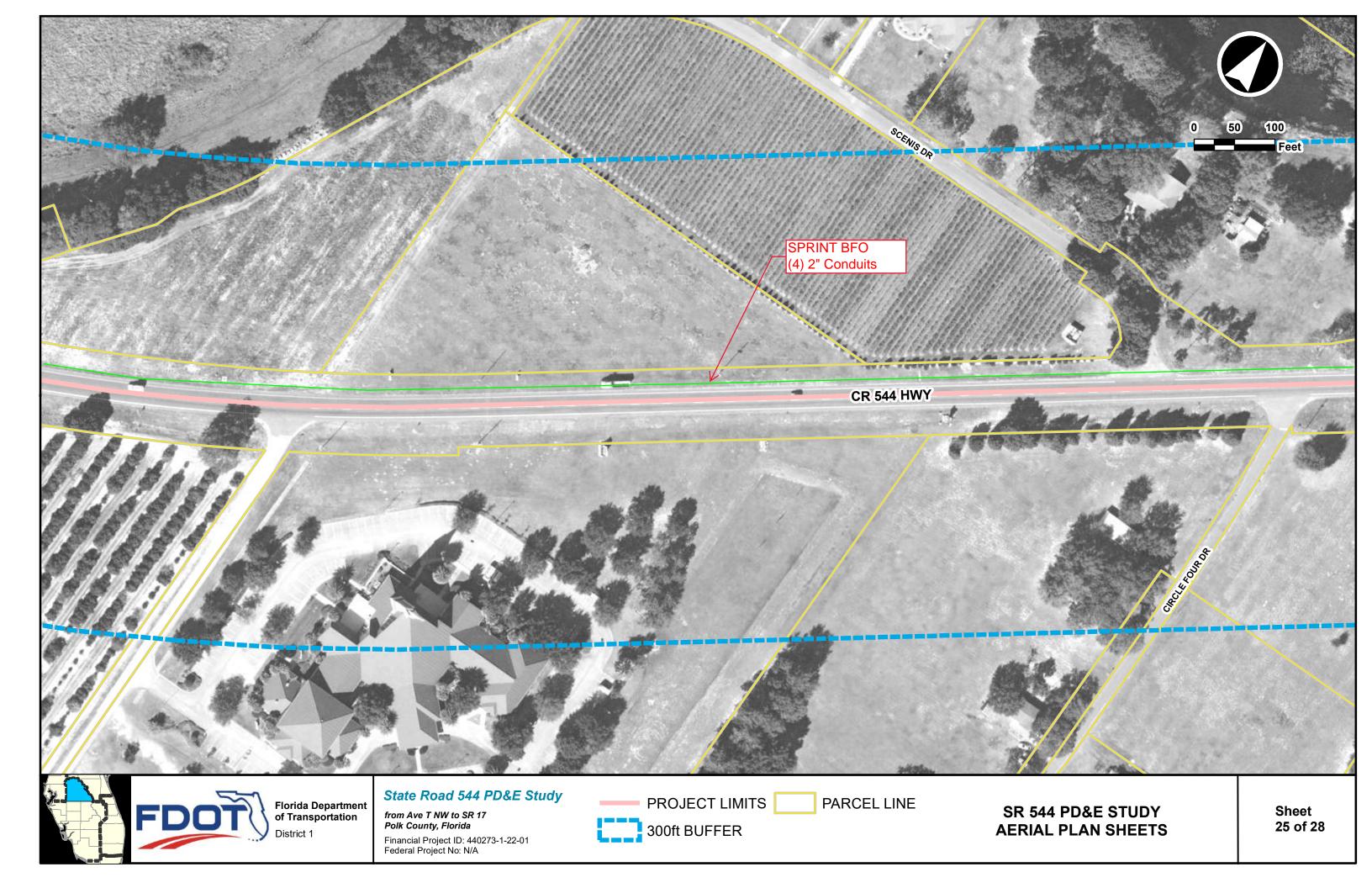
Financial Project ID: 440273-1-22-01 Federal Project No: N/A



AERIAL PLAN SHEETS

23 of 28



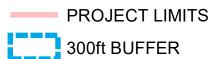




Florida Department of Transportation
District 1

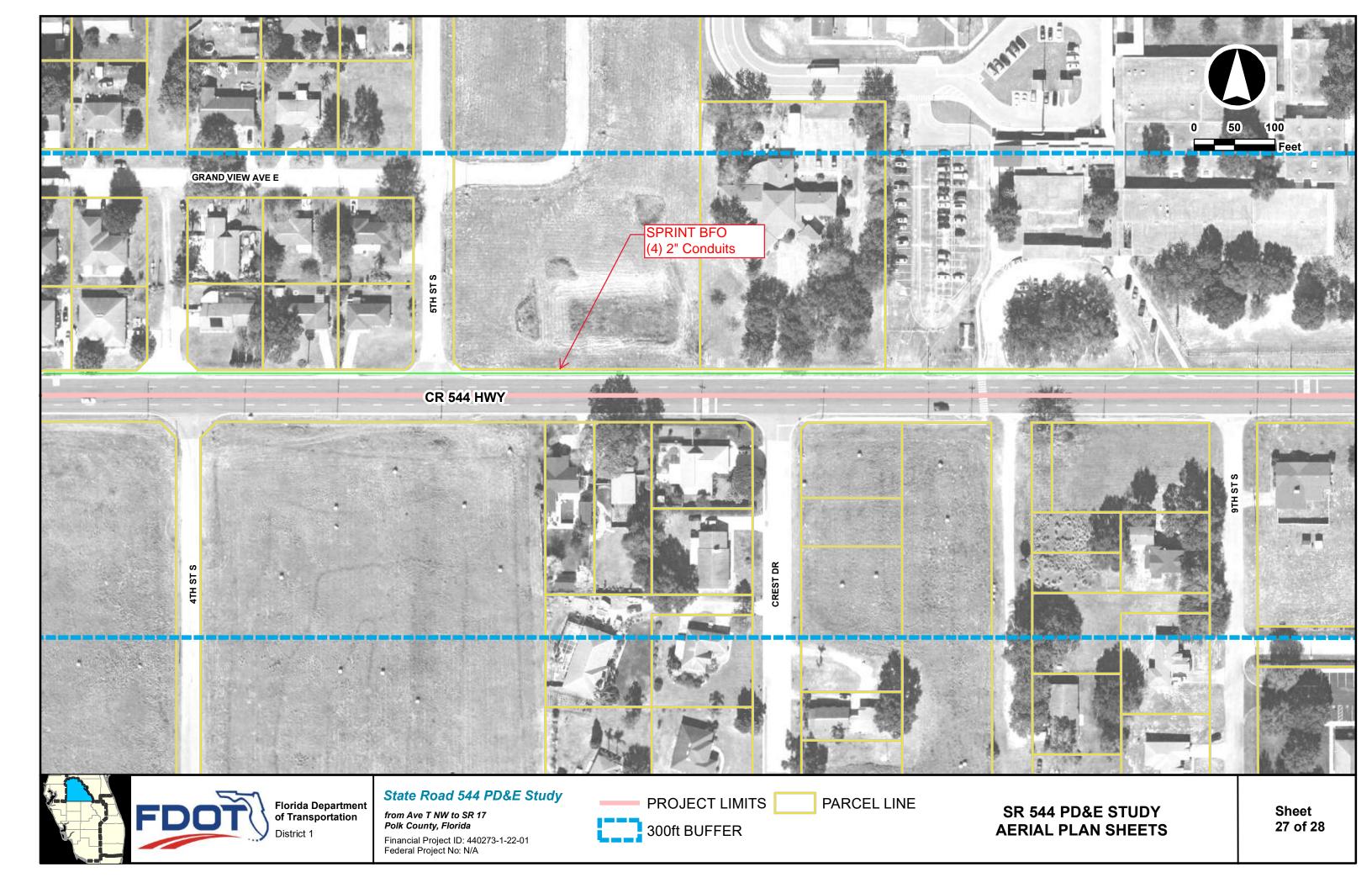
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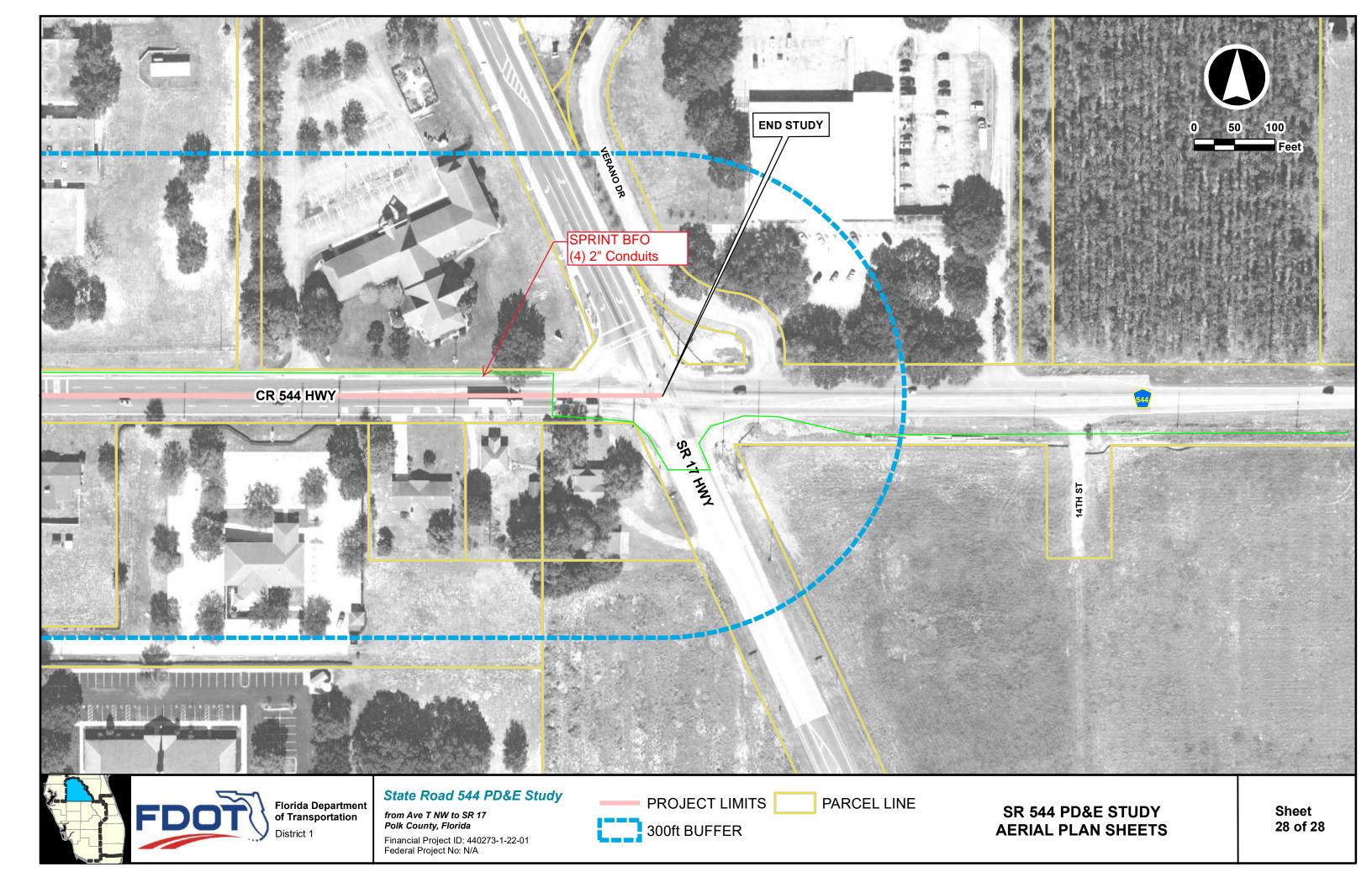
Financial Project ID: 440273-1-22-01 Federal Project No: N/A



PARCEL LINE

SR 544 PD&E STUDY AERIAL PLAN SHEETS Sheet 26 of 28





Tampa Electric Company

OVERHEAD DISTRIBUTION	SYMBOLS
POLE	0
FOREIGN POLE	\otimes
OVERHEAD FEEDER	———— F———
OVERHEAD NON-FEEDER	
WIRE OPEN	———
DEAD-END	———
DEAD-SPAN (PRIMARY ONLY)	- $-$ $-$
DOUBLE DEAD-END WITH JUMPERS	
SINGLE PHASE TRANSFORMER	\triangle
TWO OR THREE PHASE TRANSFORMER BANK	
OVERHEAD PRIMARY METER	0/L
CAPACITOR BANK	-\-
REGULATOR	─ Ø─
FUSE	\circ
DISCONNECT SWITCH, SINGLE BLADE STATUS OPEN	~
DISCONNECT SWITCH, SINGLE BLADE STATUS - CLOSED	
DISCONNECT SWITCH, GANG OPERATED, STATUS - OPEN	_/_
DISCONNECT SWITCH, GANG OPERATED, SUPERVISORY OPERATED STATUS- CLOSED	
DISCONNECT SWITCH, GANG OPERATED, MOTOR OPERATED- STATUS- CLOSED	<u></u>
RECLOSER	
INTERRUPTER	-[]-
SECTIONALIZER	-S-

TRANSFORMERS

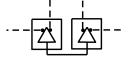
3-PHASE FEED THROUGH PAD-MOUNTED TRANSFORMER.



SINGLE-PHASE TRANSFORMER, FEED THROUGH (WITH FUSE). RIGHT SIDE BUSHING IS OPEN.



TWO SINGLE-PHASE TRANSFORMERS CONNECTED IN AN OPEN DELTA BANK.



THREE-PHASE LOOP TRANSFORMER WITH MULTI-POSITION FEED THROUGH BUSHING ON L/S



THREE-PHASE TRANSFORMER RADIAL FEED



TRANSCLOSURE (TCL)



SINGLE-PHASE TRANSFORMER, MULTI-POSITION FEED THROUGH BUSHING ON R/S.



SINGLE /THREE-PHASE DUMMY TRANSFORMER FEED THROUGH



RADIAL FEED



UNDERGROUND CONDUCTORS

UNDERGROUND PRIMARY CONDUCTOR - FEEDER

•

UNDERGROUND PRIMARY CONDUCTOR - NON FEEDER

UNDERGROUND SECONDARY

UNDERGROUND SERVICE

MANHOLE

RESIDENTIAL

HANDHOLE (SECONDARY)

PULLBOX

CABINET

PRIMARY CAPACITORS

PAD-MOUNTED PRIMARY METER

SECONDARY PAD-MOUNTED

TERMINAL POLE (T.P.) BETWEEN
THE OH. DIST. AND THE UG. DIST.
OFTEN REFERRED TO AS THE
"TAKEOFF POLE" OR THE
"POTHEAD POLE".

AIR CIRCUIT BREAKERS (ACB's)
IN SUBSTATION OR
CUSTOMER SWITCHGEAR

PAD MOUNTED SWITCHING EQUIPMENT

LBC 200A-THREE-PHASE

PSE 600A

LBC 200A-SINGLE-PHASE

OVERHEAD DISTRIBUTION	SYMBOLS
POLE	0
FOREIGN POLE	\otimes
OVERHEAD FEEDER	———— F———
OVERHEAD NON-FEEDER	
WIRE OPEN	———
DEAD-END	———
DEAD-SPAN (PRIMARY ONLY)	- $-$ $-$
DOUBLE DEAD-END WITH JUMPERS	
SINGLE PHASE TRANSFORMER	\triangle
TWO OR THREE PHASE TRANSFORMER BANK	
OVERHEAD PRIMARY METER	0/L
CAPACITOR BANK	-\-
REGULATOR	─ Ø─
FUSE	\circ
DISCONNECT SWITCH, SINGLE BLADE STATUS OPEN	~
DISCONNECT SWITCH, SINGLE BLADE STATUS - CLOSED	
DISCONNECT SWITCH, GANG OPERATED, STATUS - OPEN	_/_
DISCONNECT SWITCH, GANG OPERATED, SUPERVISORY OPERATED STATUS- CLOSED	
DISCONNECT SWITCH, GANG OPERATED, MOTOR OPERATED- STATUS- CLOSED	<u></u>
RECLOSER	
INTERRUPTER	-[]-
SECTIONALIZER	-S-

TRANSFORMERS

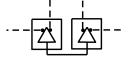
3-PHASE FEED THROUGH PAD-MOUNTED TRANSFORMER.



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TWO SINGLE-PHASE TRANSFORMERS CONNECTED IN AN OPEN DELTA BANK.



THREE-PHASE LOOP TRANSFORMER WITH MULTI-POSITION FEED THROUGH BUSHING ON L/S



THREE-PHASE TRANSFORMER RADIAL FEED



TRANSCLOSURE (TCL)



SINGLE-PHASE TRANSFORMER, MULTI-POSITION FEED THROUGH BUSHING ON R/S.



SINGLE /THREE-PHASE DUMMY TRANSFORMER FEED THROUGH



RADIAL FEED



UNDERGROUND CONDUCTORS

UNDERGROUND PRIMARY CONDUCTOR - FEEDER

•

UNDERGROUND PRIMARY CONDUCTOR - NON FEEDER

UNDERGROUND SECONDARY

UNDERGROUND SERVICE

MANHOLE

RESIDENTIAL

HANDHOLE (SECONDARY)

PULLBOX

CABINET

PRIMARY CAPACITORS

PAD-MOUNTED PRIMARY METER

SECONDARY PAD-MOUNTED

TERMINAL POLE (T.P.) BETWEEN
THE OH. DIST. AND THE UG. DIST.
OFTEN REFERRED TO AS THE
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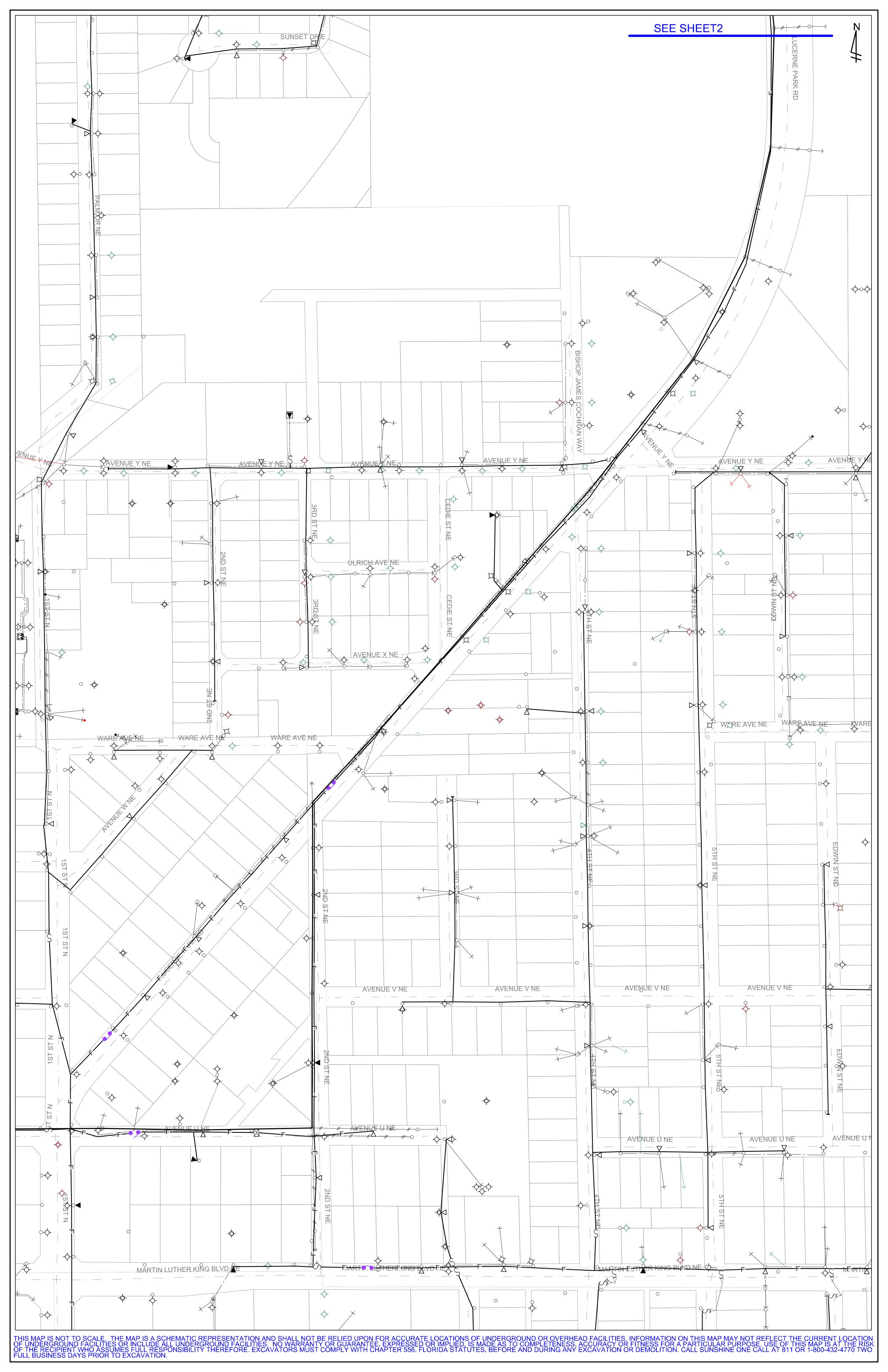
AIR CIRCUIT BREAKERS (ACB's)
IN SUBSTATION OR
CUSTOMER SWITCHGEAR

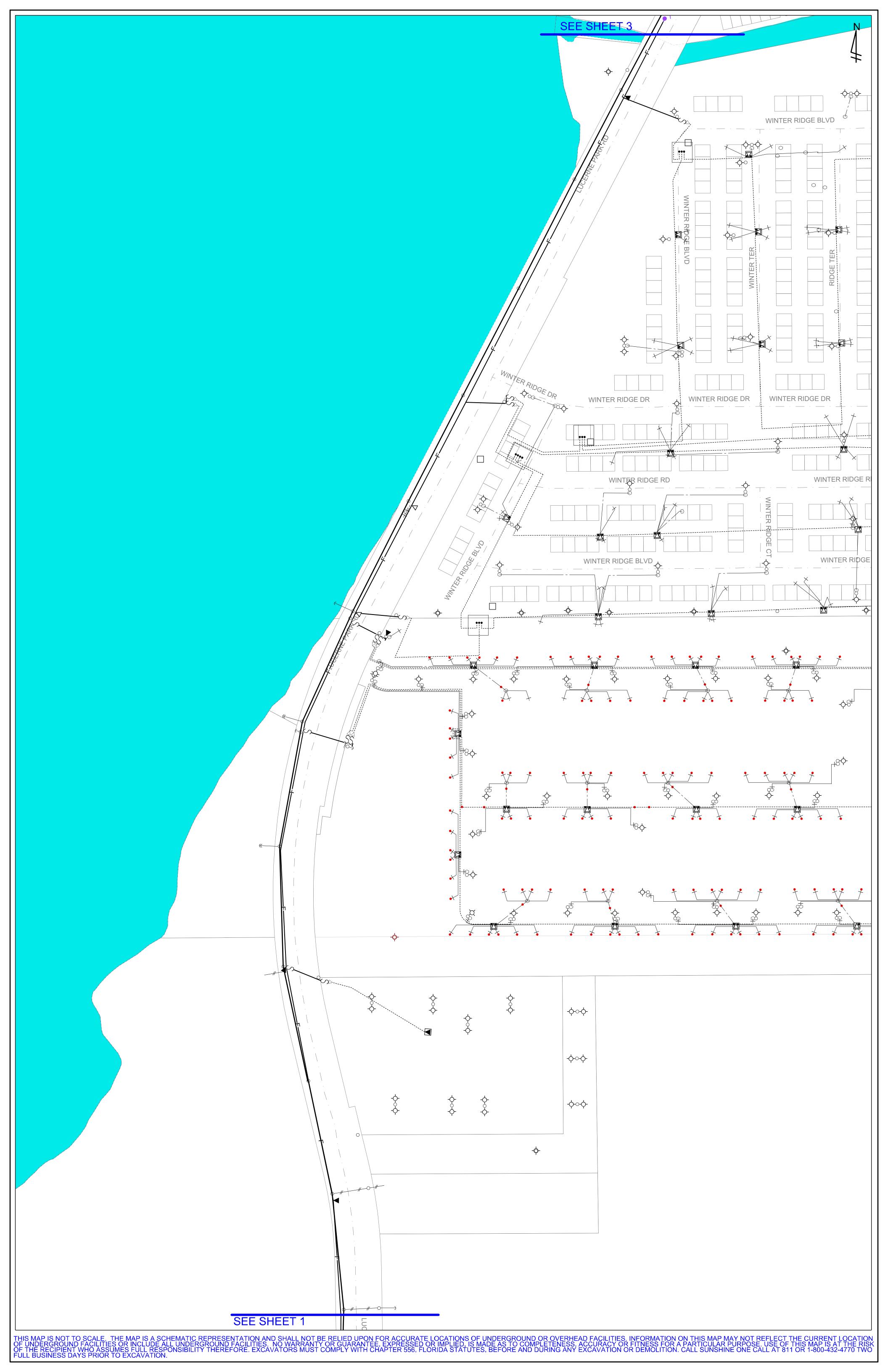
PAD MOUNTED SWITCHING EQUIPMENT

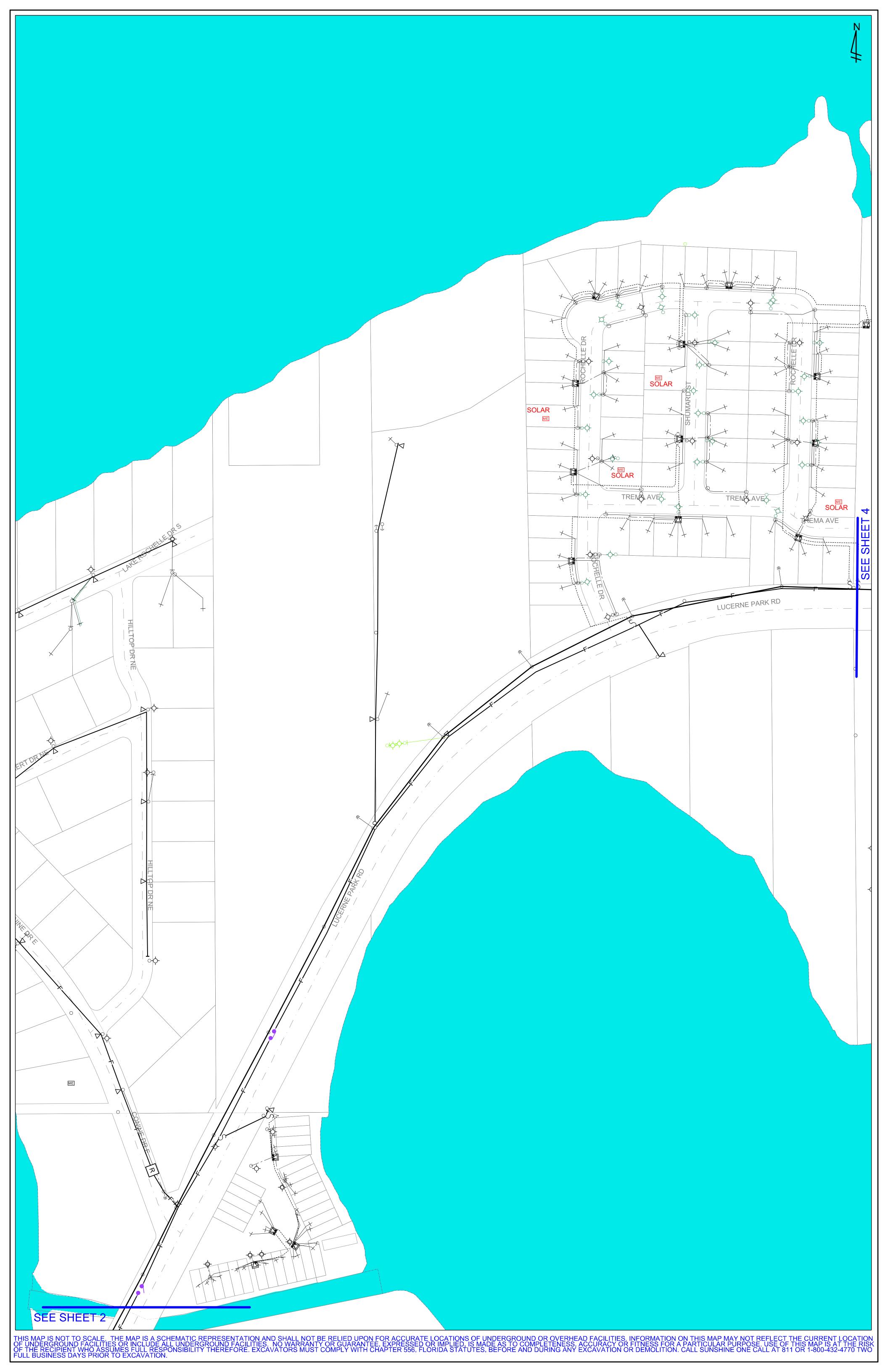
LBC 200A-THREE-PHASE

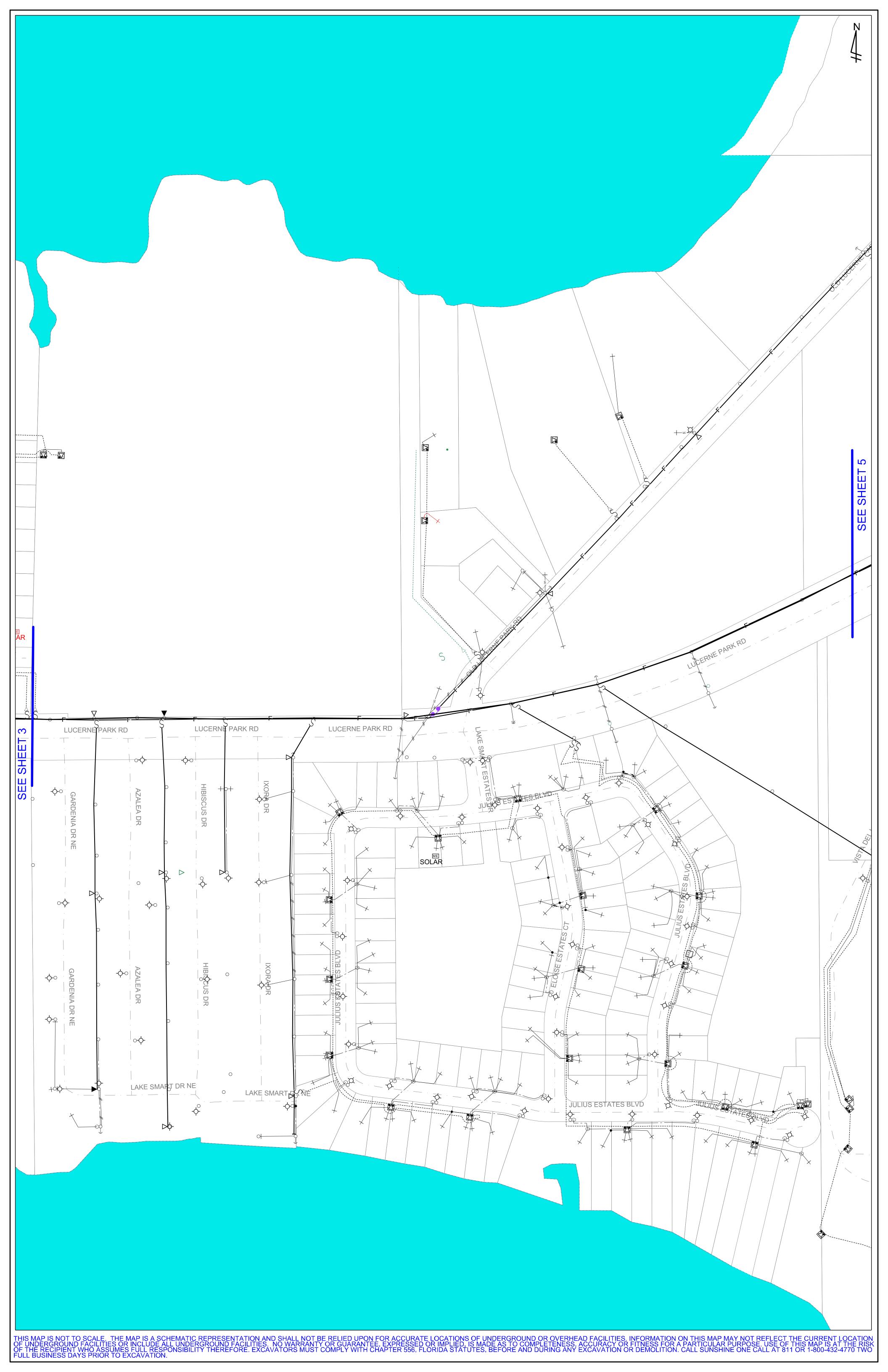
PSE 600A

LBC 200A-SINGLE-PHASE

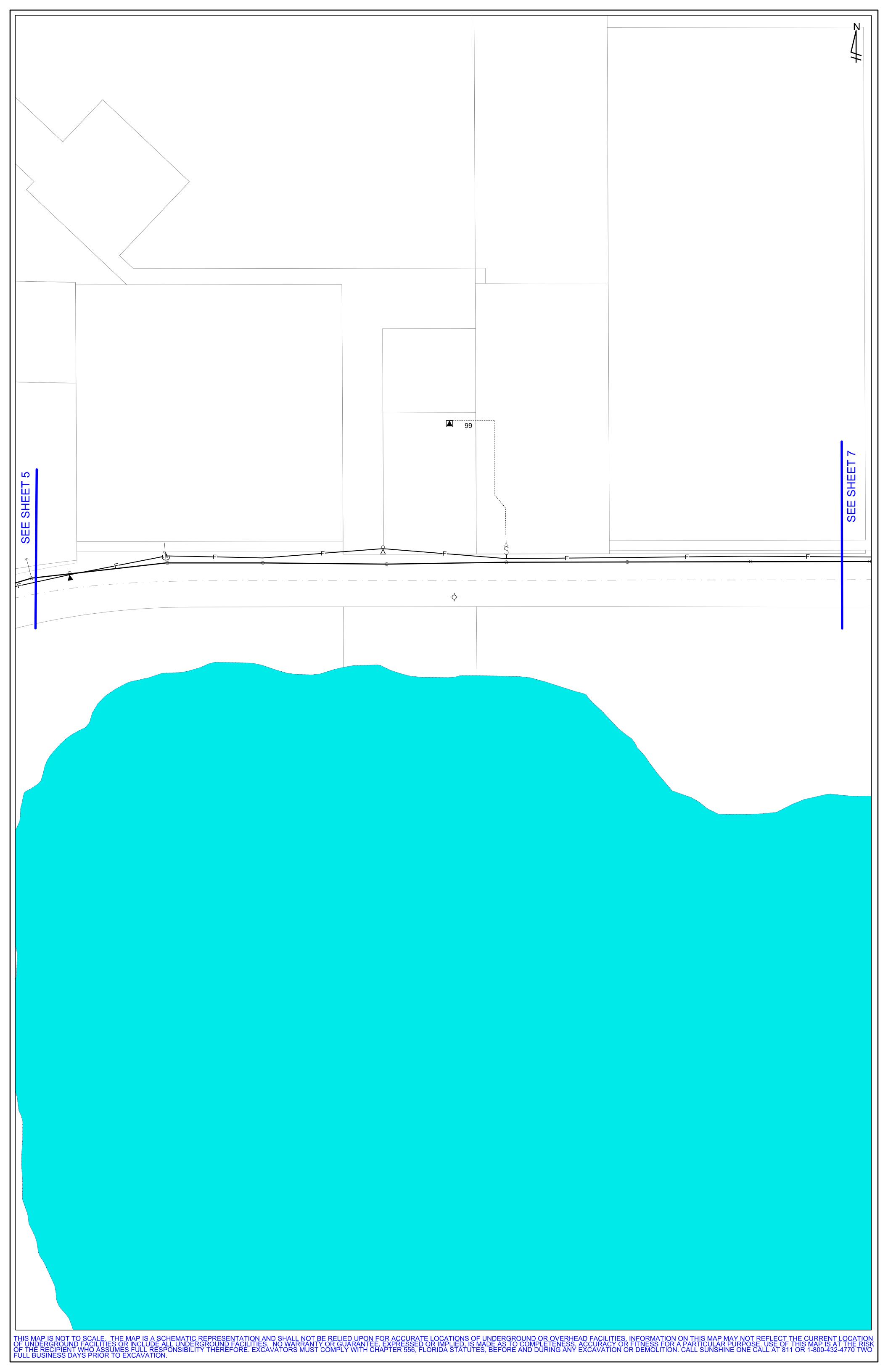


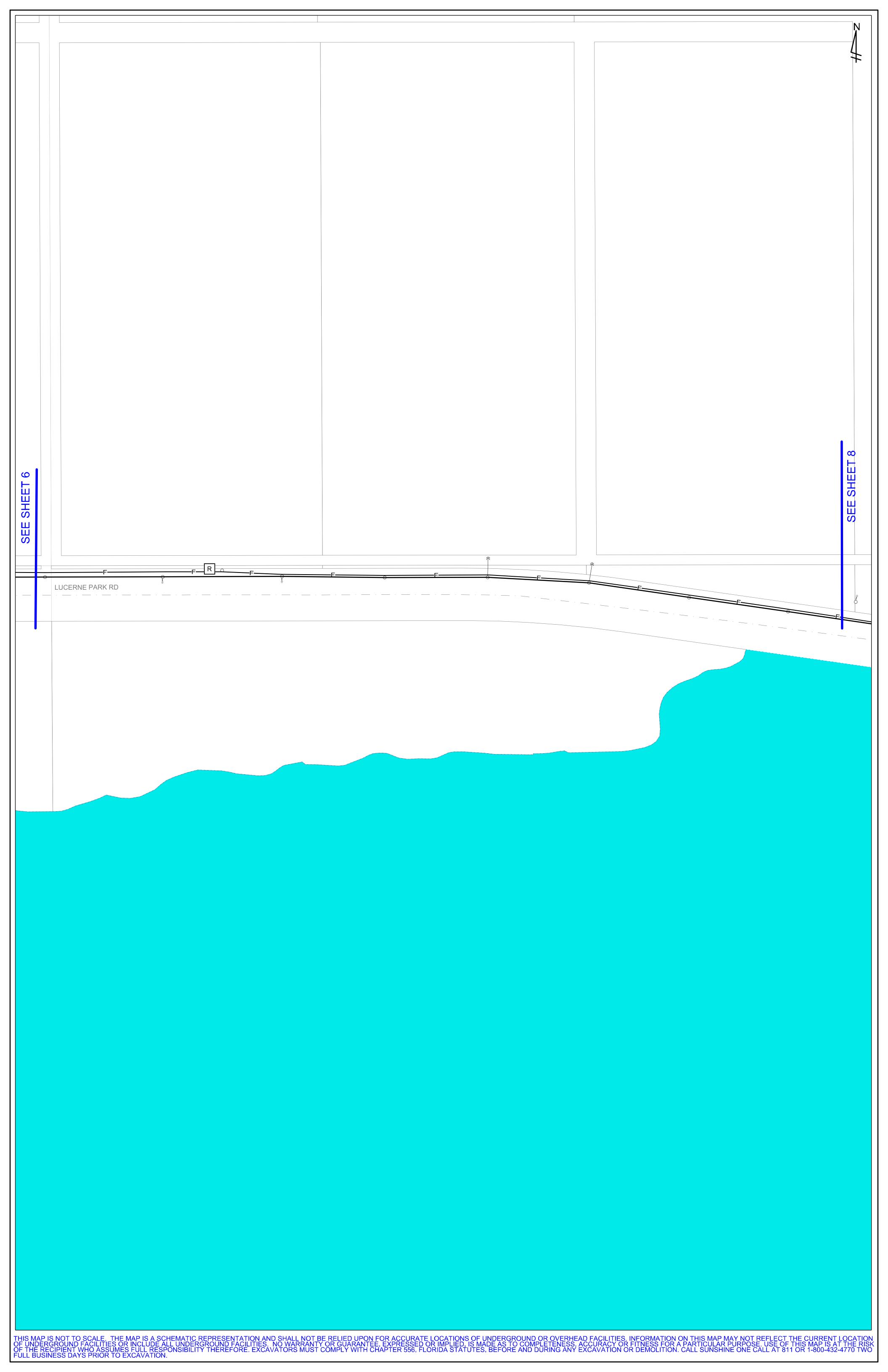


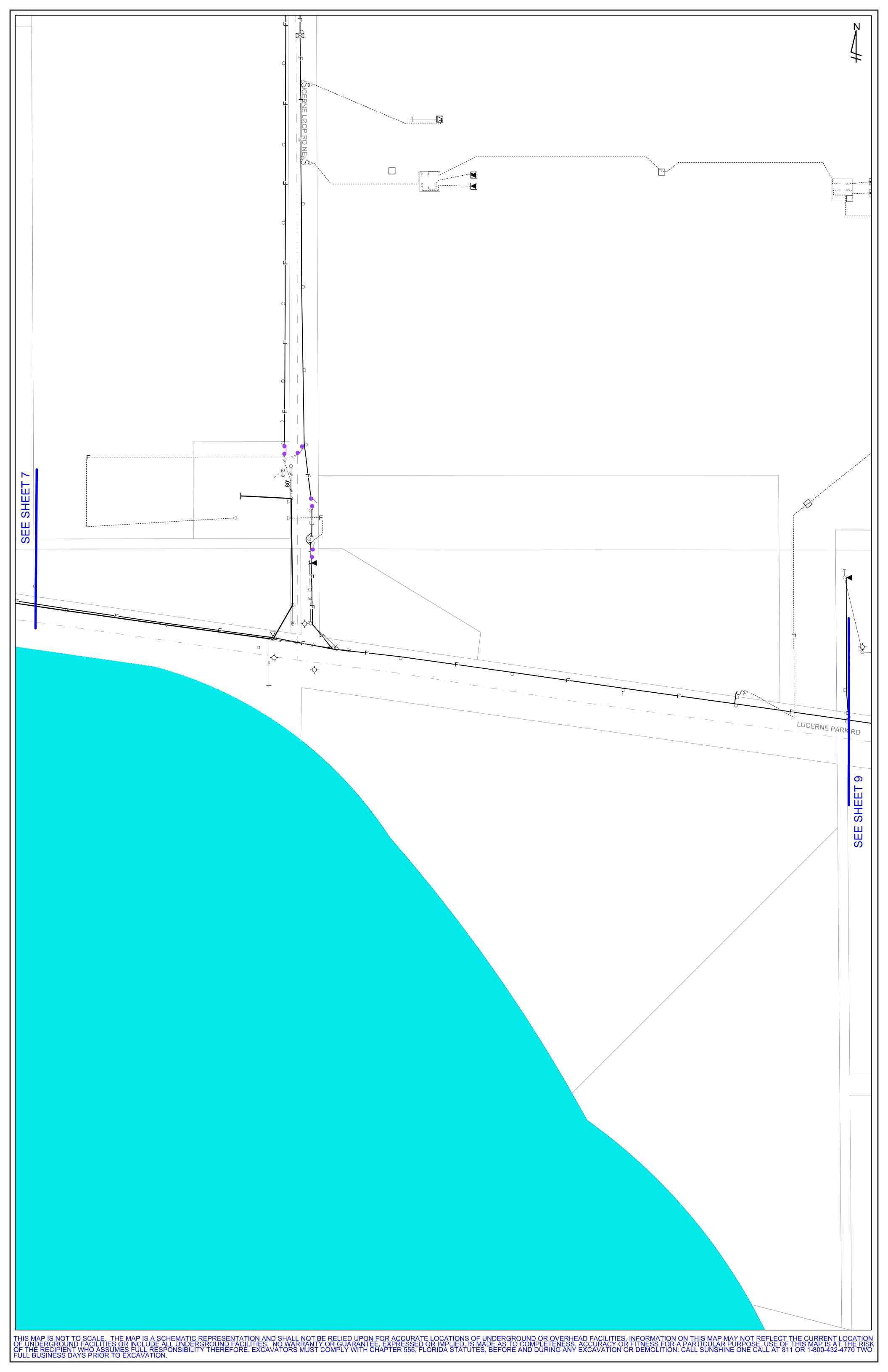


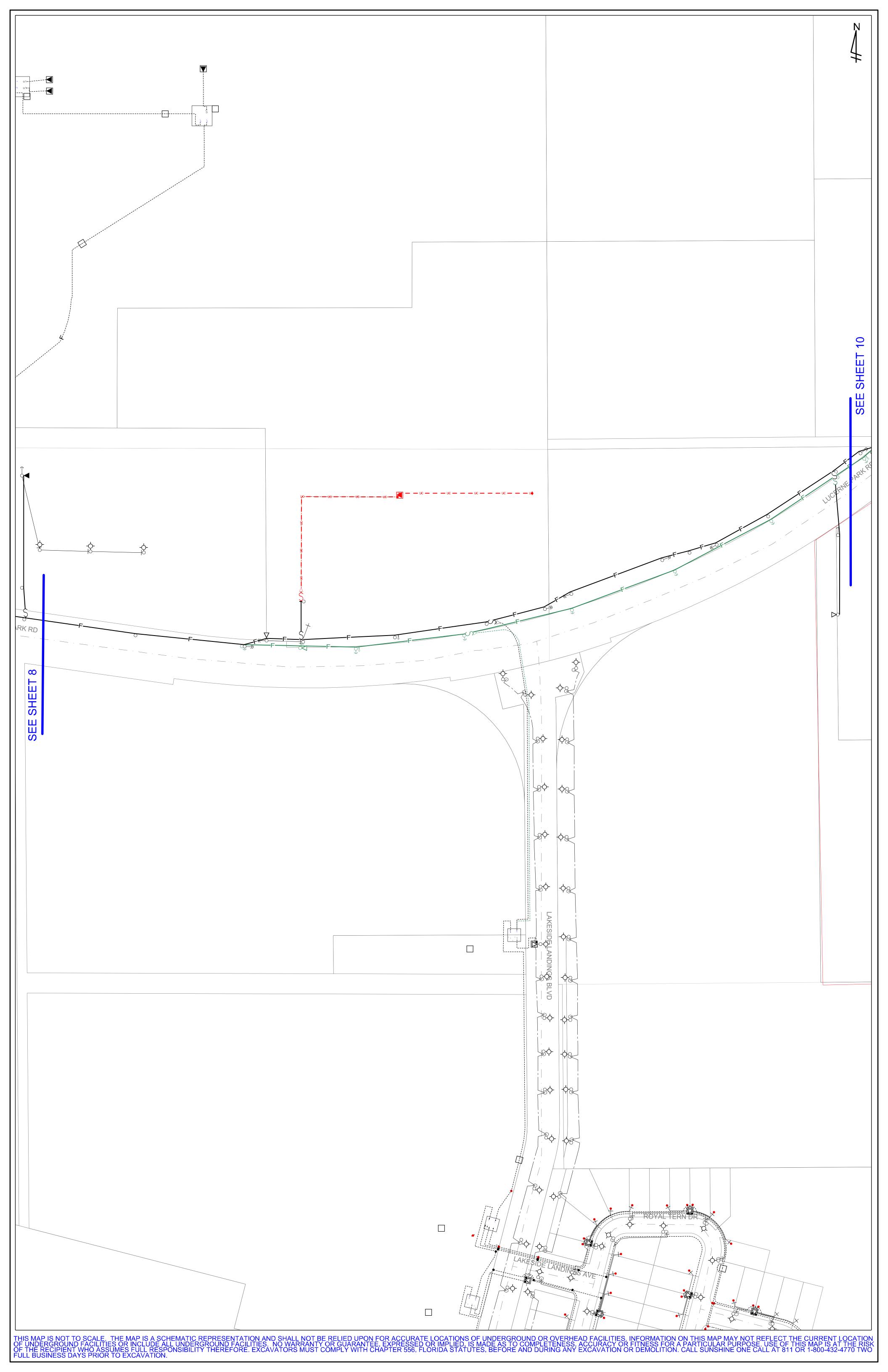


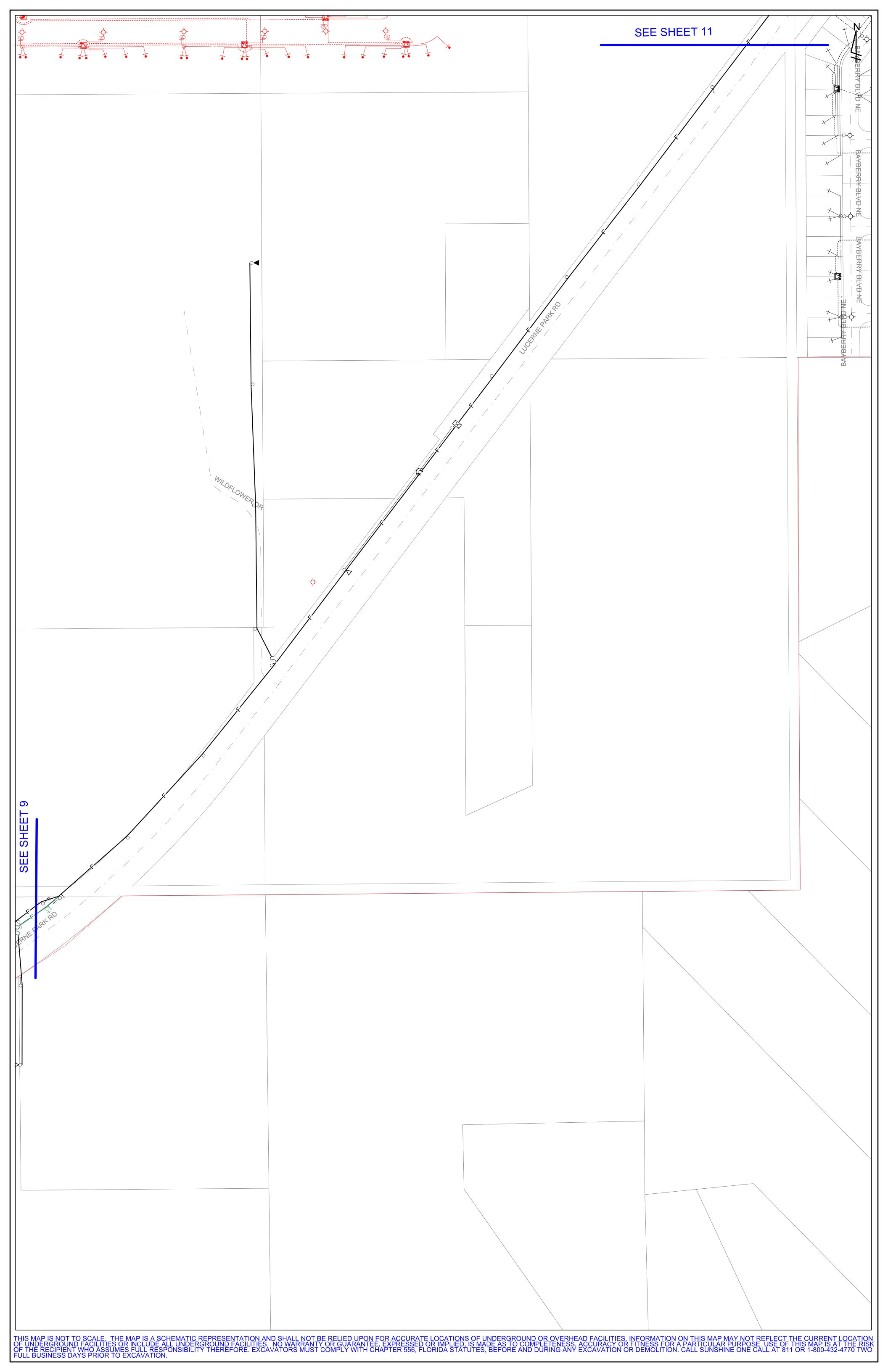


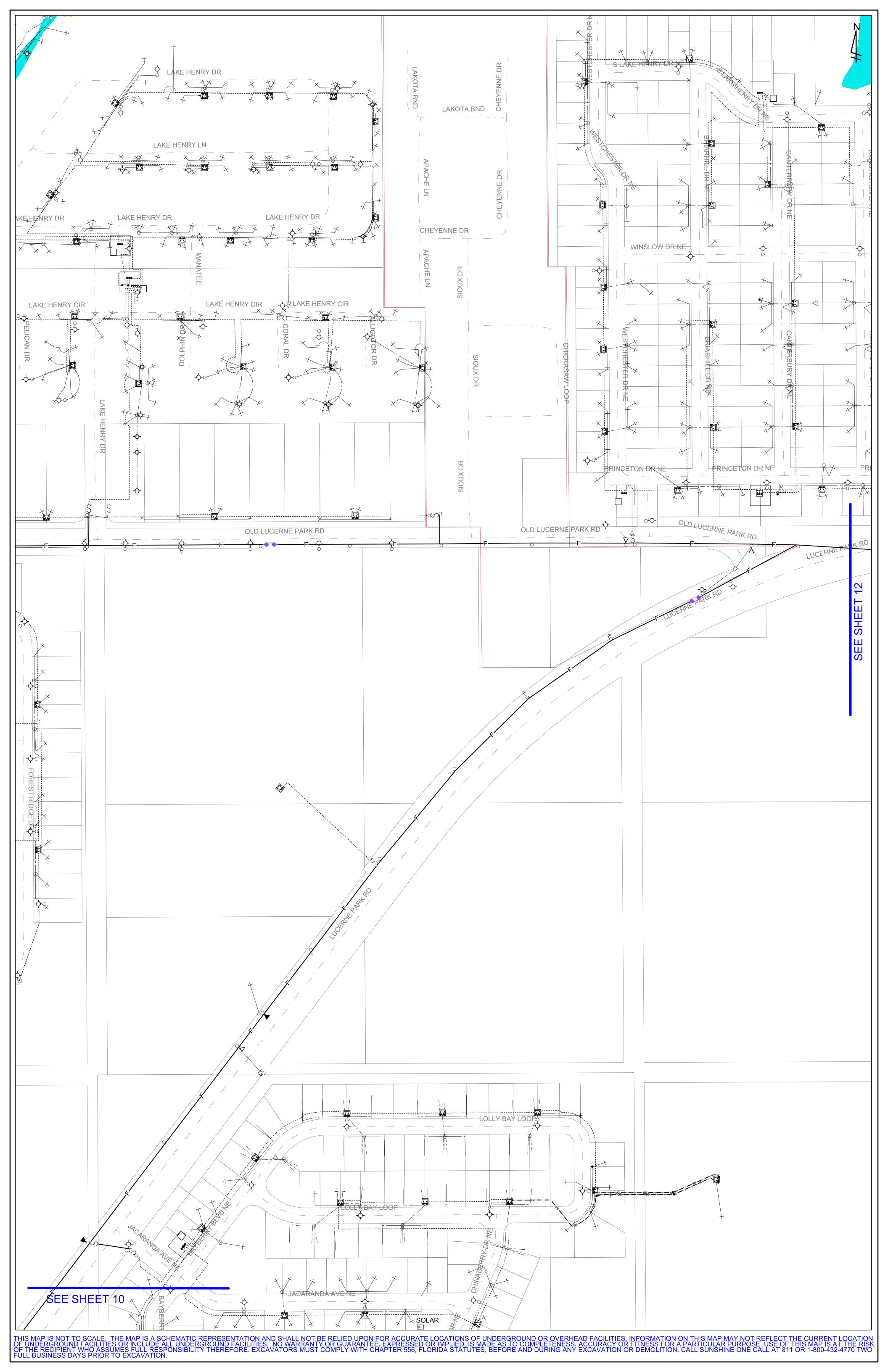


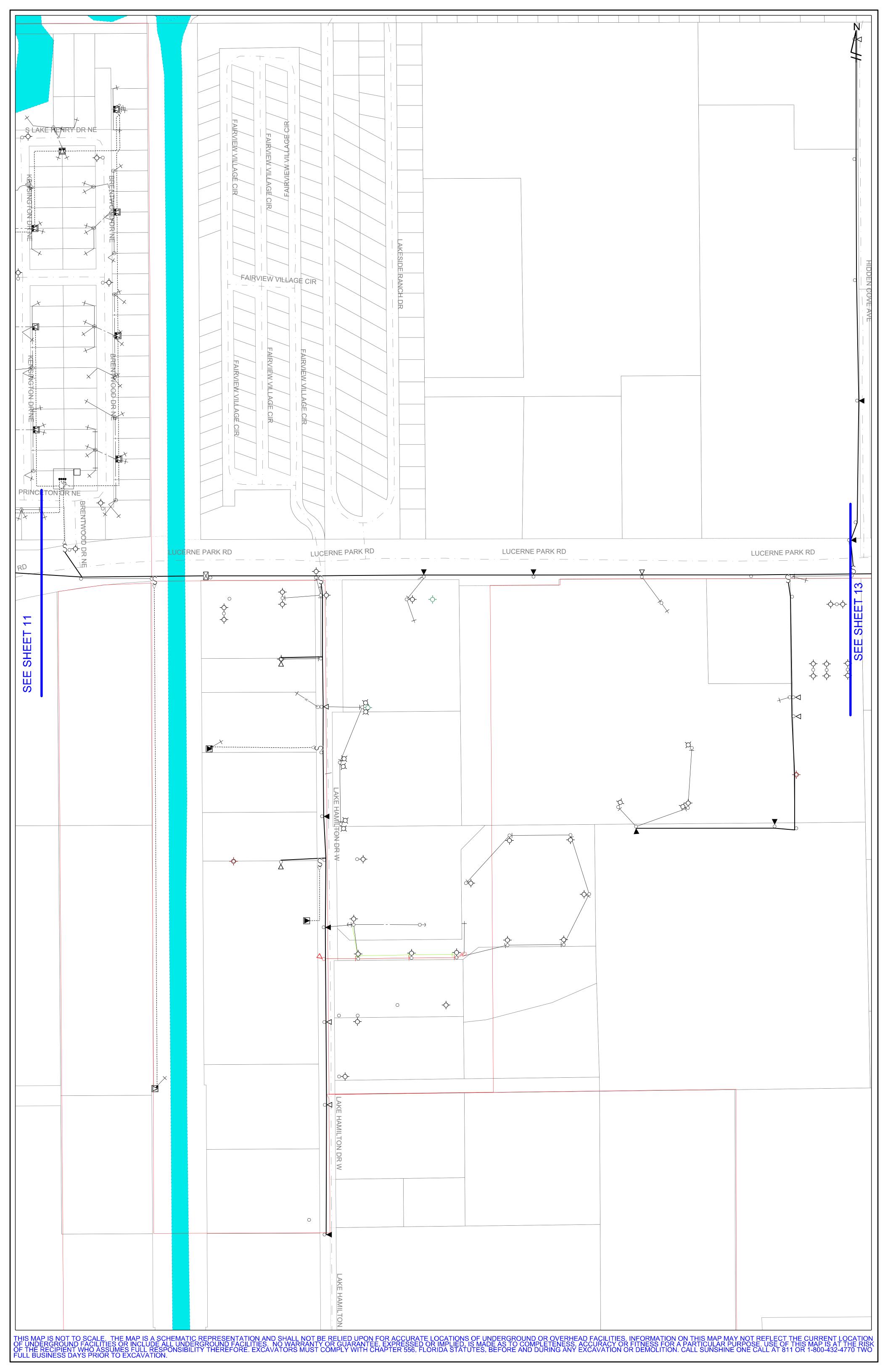
















Appendix 3 PD&E Project Recommended Preferred Alternative Concept Plans

