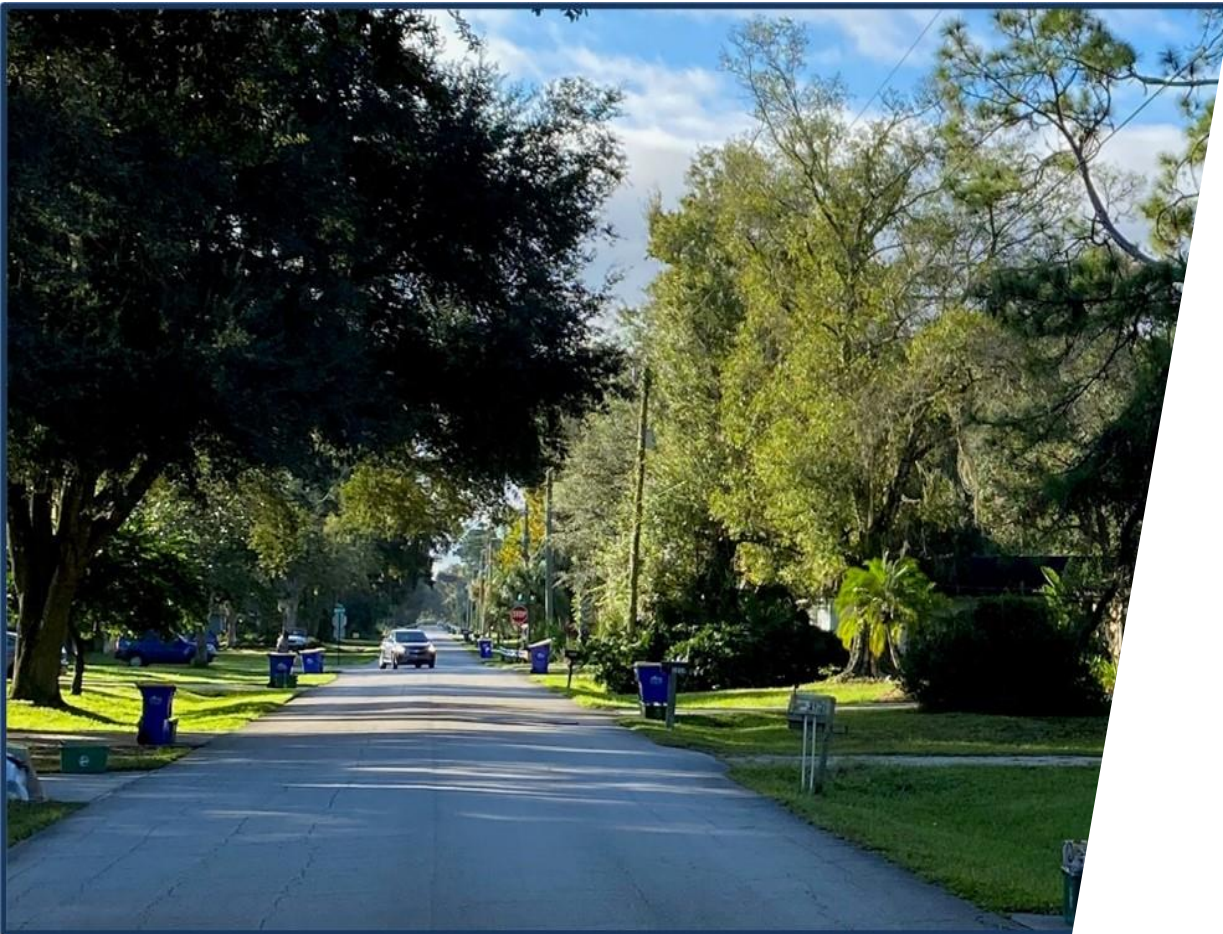


FINAL REPORT – FEBRUARY 18, 2021

Air Park Road Sidewalk Feasibility Study

City of Edgewater



Prepared For:
River to Sea TPO

Prepared By:
RS&H, Inc.



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EXECUTIVE SUMMARY

The City of Edgewater submitted an Application for Project Prioritization to the River to Sea Transportation Planning Organization for a sidewalk along Silver Palm Drive from 30th Street to 22nd Street, turning into Air Park Road from 22nd Street to ~1400 feet south of SR 442, for a project length of approximately 1.4 miles. Due to the corridor's apparent limited right-of-way width (50 feet), the presence of numerous utilities including electrical transmission poles and fire hydrants, and based on current design guidelines and criteria for pedestrian accommodations, it was determined that a 5-foot wide sidewalk would be appropriate and financially feasible from 30th Street to 22nd Street and an 8-foot wide sidewalk is feasible from 22nd Street to the end of the project. Upon evaluation of the corridor's unique features, conceptual plans for the new 5-foot sidewalk along Silver Palm Drive and an 8-foot wide sidewalk located along the east side of Air Park Road were developed. This concept, presented in **Appendix A**, can be implemented within the apparent existing right-of-way along Silver Palm Drive and agreements with adjacent property owners will be required along the east side of Air Park Road. It will not impact any designated wetlands or listed species habitat therefore it will be exempt from environmental permitting. The project is exempt from stormwater permitting under Florida Administration Code FAC 62-330.051 Part IV of chapter 373, F.S. or FAC 62-330.051 (10)(c). The preliminary probable cost estimate for this concept is \$1.80 million in 2021 dollars.

INTRODUCTION

This study is provided at the request of the River to Sea Transportation Planning Organization (R2CTPO) in response to an Application for Project Prioritization submitted by the City of Edgewater (City). Over the past 10 years, the City has worked on providing sidewalk connectivity to the primary corridors (US 1 and SR 442) and is now focused on giving residents within communities neighboring those corridors access to the facilities now available to them. The Glenbrooke Subdivision, a new 200 single family home community, recently constructed 1400 feet of 8-foot wide sidewalk along Air Park Road from SR 442 to the south. In 2013 sidewalk was constructed along 30th Street from Silver Palm east to US-1. The proposed section of sidewalk would fill a gap within Florida Shores, one of the City's largest communities by providing continuous sidewalk between 30th Street and SR 442. This 1.4 mile connection would greatly enhance the safety characteristics of the corridor for all travel modes, advance the City's Comprehensive Plan's policy to continue to maintain and update the Bicycle/Pedestrian Facility Master Plan, and provide an upgraded pedestrian option for students walking or riding their bicycles to Indian River Elementary School located east on 30th Street of Silver Palm Drive.

PROJECT PURPOSE AND SCOPE

The purpose of this study is to determine the feasibility of providing an 8-foot wide sidewalk along Silver Palm Drive between 30th Street and 22nd Street as well as along Air Park Road from 22nd Street to 1,400 feet South of SR 442. The sidewalk will fill a critical gap in the City's Bicycle/Pedestrian Facility Master Plan, improve the overall safety characteristics of the corridor and provide an enhanced pedestrian facility for students walking and biking to Indian River Elementary School. The sidewalk will also connect additional community assets including the City's Whistle Stop Park 1.2 miles east of Silver Palm Drive as well as a shopping plaza slightly further east of the park. The sidewalk will begin at the intersection of Silver Palm Drive and 30th Street east and extend to the recently constructed Glenbrooke subdivision located in the southeastern quadrant of the Air Park Road/SR 442 intersection. Additional residential developments are planned within the corridor including Elegant Manors Estates, a 54 single family home community, and Air Park Village, a community of 111 townhomes. Current plans for the proposed communities are located in **Appendix H**. For the purpose of this study, it is assumed that Elegant Manors Estates will be constructed prior to the construction of this sidewalk. Furthermore, planned improvements along SR 442 (FDOT Project #441132-

1) propose pedestrian facilities to connect Interstate 95 to Air Park road by adding a sidewalk on the north side of the road and a trail along the south side of the road. These improvements are planned to begin in late 2021/early 2022 and expect to take two years to complete. This will connect an already existing sidewalk network between the Air Park Road/SR 442 intersection and US 1/SR 442 intersection, providing access to the Edgewater Public Library. A project location map, with limits is provided in **Figure 1**.

Field reviews were conducted for the purposes of data collection, concept development, corridor evaluation and cost estimation. The concept plans, analysis and cost estimate are based on field observations and available project information provided by the City. As such, this document should only be used for planning, estimating, and budgeting purposes. If the project is advanced to final design additional work, including the preparation of a detailed right-of-way survey, construction plans and an updated cost estimate will be required.

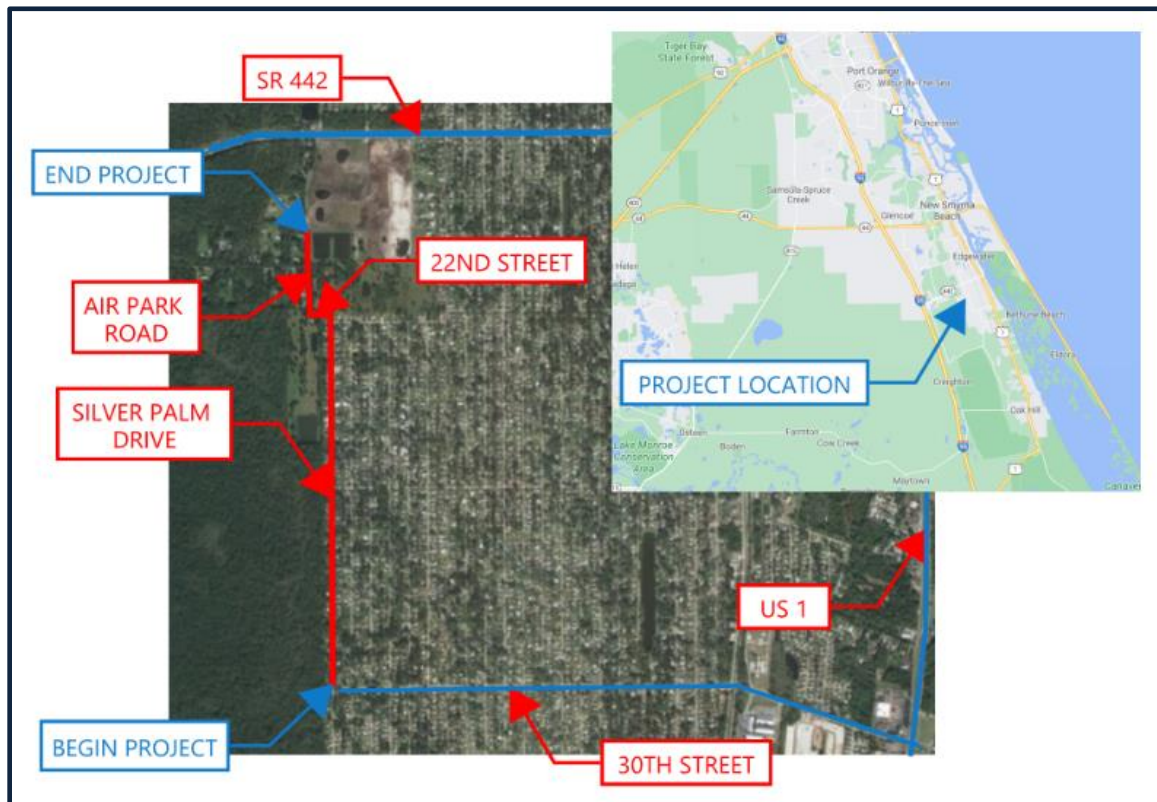


FIGURE 1: PROJECT LOCATION MAP

While the City requested the analysis of an 8-foot wide sidewalk, it was determined that although feasible along Air Park Road, provision of an 8-foot wide path would require additional right-of-way along Silver Palm Drive. Therefore, due to right-of-way constraints, engineering design standards and criteria and the corridor's unique

characteristics a 5-foot wide sidewalk is proposed and reflected on the Concept Plans presented in **Appendix A**. The preliminary cost estimate for this concept is \$1.80 million in 2021 dollars.

The graphics within this report include notes, diagrams and callouts identifying the apparent right-of-way, existing utilities, location of proposed sidewalk, and street names. Considerations include conformance to the requirements of the Americans with Disabilities Act (ADA), Florida Department of Transportation (FDOT) Florida Design Manual, American Association of State Highway and Transportation Officials (AASHTO) and the Manual on Uniform Traffic Control Devices (MUTCD).

EXISTING CONDITIONS

GENERAL DESCRIPTION

As stated previously, the project corridor is located within the City of Edgewater extending from 30th Street to 1,400 feet south of SR 442, approximately 1.4 miles. The continuous corridor consists of Silver Palm Drive from 30th street to 22nd Street and turns into Air Park Road at 22nd Street. Silver Palm Drive is a two-lane residential street with 12-foot wide travel lanes and a 30 mph posted speed limit, **Figure 2**. Similarly, Air Park Road is a two-lane residential street with 11-foot wide travel lanes and a 30 mph posted speed limit, **Figure 3**. There are numerous driveway connections on both sides of the roadway along Silver Palm Drive, some of which are unpaved leading to a concrete pad. Shallow swales channel stormwater runoff through pipes to canals along Silver Palm Drive. The apparent right-of-way width is 50 feet. The Silver Palm Drive and Air Park Road existing typical sections are provided in **Appendix B**.



FIGURE 2: SILVER PALM DRIVE LOOKING NORTH



FIGURE 3: AIR PARK ROAD LOOKING NORTH

TRAFFIC CONTROLS

Stop signs control the “T” intersections along Silver Palm Drive with all-way stops at 30th Street and 26th Street and a stop condition at the intersecting 23rd and 22nd Street where Silver Palm Drive traffic does not stop. Air Park Road currently only has one intersecting element, Oak Trail, controlled by a stop sign where Air Park Road traffic does not stop. A future all-way stop condition is proposed by Elegant Manor Estates at 22nd Street and Air Park



FIGURE 4: 30TH STREET PEDESTRIAN CROSSING

Road, reflected in the concept plans in **Appendix A**. A crosswalk is provided across 30th street to connect existing sidewalks along 30th Street, **Figure 4**.

DRAINAGE

The existing drainage along Silver Palm Drive from 30th Street to 22nd Street consists of swales with HDPE (high-density polyethylene) side drains under each driveway. The existing swales along Silver Palm Drive capture runoff from the properties and half of the roadway. The side drains are approximately one foot in diameter and convey stormwater from the swales to two existing canals along Silver Palm Drive that outfall to Little Cow Creek. The existing swales are either a V-Ditch or a ditch with a 3-ft or 5-ft bottom. See **Figure 5** for an existing swale along Silver Palm Drive with a side drain. There are two outfalls along Silver Palm Drive, each with a headwall with two concrete 24-inch pipes, which serve as a cross drain under the roadway and two 12-inch HDPE pipes connected perpendicular to the canal bank on both sides of the roadway. The roadside ditches discharge to the canal via the 12-inch HDPE pipes. See **Figure 6** for the existing headwall. The first outfall is approximately 500 feet north of 30th Street and the second outfall is approximately 2700 feet north of 30th Street. Throughout the corridor there are dry retention areas on both the east and west side of Silver Palm Drive. Portions of the ditches discharge to these existing retention areas via side drains. The retention areas are interconnected via a cross drain on the east and west side of Silver Palm Drive and ultimately outfalls to Little Cow Creek.



FIGURE 5: EXISTING DITCH WITH SIDE DRAIN



FIGURE 6: EXISTING HEADWALL

Along Air Park Road from 22nd Street to 400 feet south of Air Park Road is an existing ditch on the east side that drains to an existing 15-inch cross drain that is 200 feet west

of 22nd Street and outfalls to Little Cow Creek. From the intersection at Air Park Road to the Glenbrooke Subdivision, storm water sheet flows into an undeveloped parcel.

According to the FEMA FIRM Panel 12127C0685J effective September 29, 2017, the project area is within a Zone X, which is an area of minimal flood hazard. The FEMA maps are provided in **Appendix C**.

According to the St. John's River Water Management District, there are no existing permits for Air Park Road or Silver Palm Drive.

APPARENT RIGHT-OF-WAY

Based on right-of-way and parcel boundary information generated from Volusia County GIS information, the apparent Air Park Road and Silver Palm Drive right-of-way is generally 50 feet wide throughout the corridor. Parcel line information and Volusia County Property Appraiser public maps reflect that the roadways within the corridor are not centered within the right-of-way and consideration of design decisions reflect this fact as mentioned in later sections. Additional information was provided by the City of Edgewater regarding future and potential right-of-way agreements as part of the Elegant Manors Estates development and Air Park Village. Elegant Manors Estates right-of-way agreements are designated in concept plans as "Prop. City of Edgewater R/W". Air Park Village is still in the earlier stages of development during this feasibility study so plans show "Prop. R/W Easement" and "Work by Others" as the preferred future agreements for work within the future development.

UTILITIES

A utilities assessment was made during field reviews and supplemented with information provided by the City. Numerous above and below ground utilities are located along Silver Palm Drive and Air Park Road. Overhead transmission and distribution power lines are located along the entire length of the corridor on the west side of Silver Palm Drive and on the east side of Air Park Road as shown in **Figure 7**. The poles are placed approximately five to ten feet from the edge of pavement along Silver Palm Drive and four to six feet from the edge of pavement along Air Park Road. Streetlights are installed on several, but not all of the electrical poles. Conduit pull boxes for communications are also located along the entire corridor, more prevalent along the western side of Silver Palm Drive and evenly distributed between the east and west sides of Air Park Road.



FIGURE 7: TYPICAL FEATURE LAYOUT FOR SILVER PALM DRIVE (WEST SIDE)

The City provides potable water and sanitary sewer along the entire corridor. Fire hydrants are located throughout the corridor on the east side of Silver Palm Drive offset ten to nineteen feet from the edge of pavement.

WETLANDS AND SURFACE WATERS

The project area was evaluated for wetlands and surface waters in accordance with Florida Administrative Code (FAC) 62.302.400 and the United States Army Corp of Engineers (USACE) 1987 Wetland Delineation Manual. Project scientists identified no wetlands within the project corridor; therefore, no impacts to wetlands are anticipated.

Two surface waters are located within the project limits. These two drainage ditches cross underneath Silver Palm Drive and are part of a drainage system that outfalls to wetlands west of the project area. Impacts to these drainage structures is anticipated to be de minimis. A map of wetlands and surface waters within the area is shown in **Figure 8**.

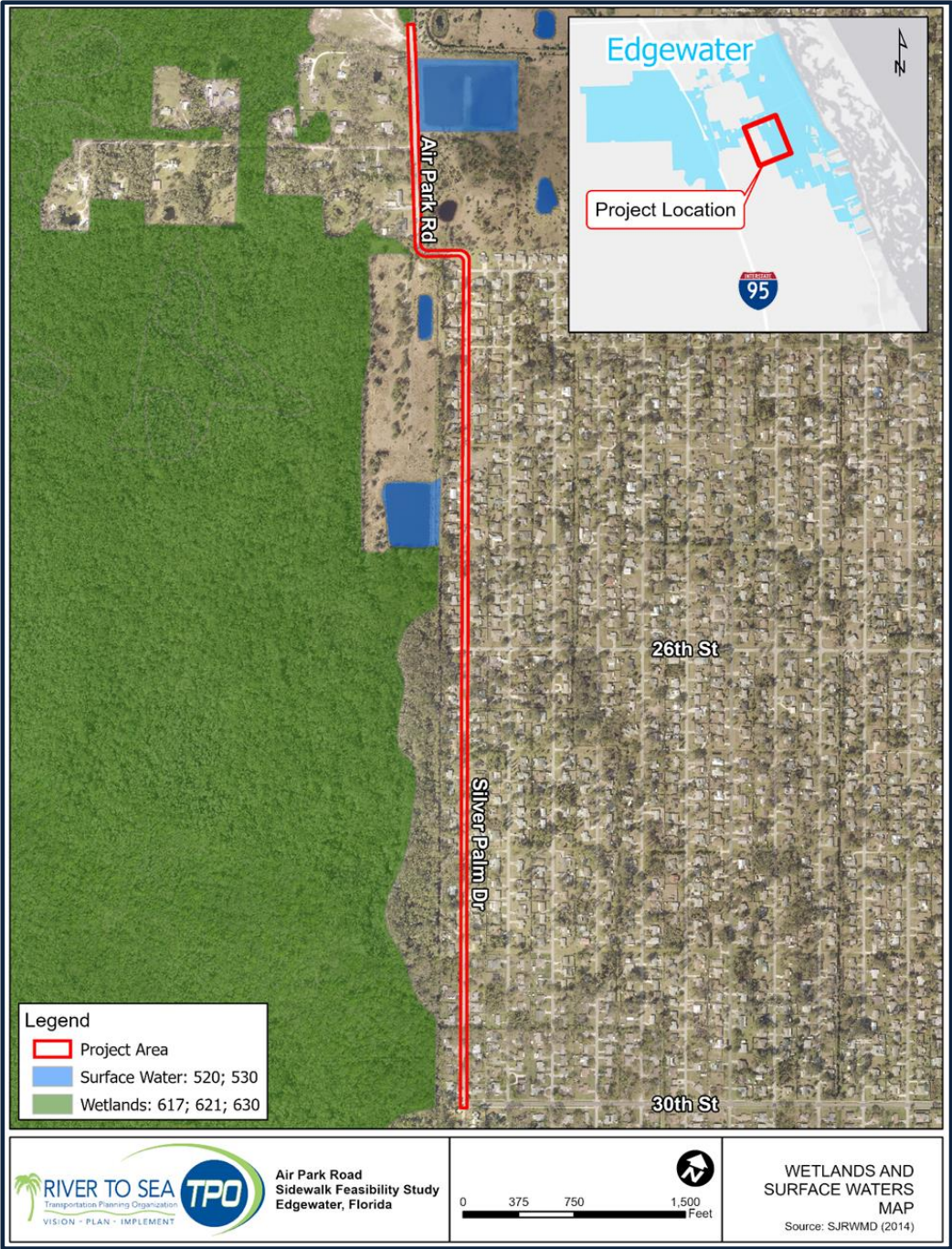


FIGURE 8: WETLANDS AND SURFACE WATERS MAP

SOILS AND CONTAMINATION

The study corridor consists of an even mix of moderately well drained soils (Daytona Urban Land Complex, 0 to 5% slopes) and poorly drained soils (Immokalee Sand and Myakka-Myakka, wet, fine sands, 0 to 2% slopes) with sparse areas of somewhat poorly drained soils (Arents) as depicted on the soils survey map prepared from United States Department of Agriculture Natural Resources Conservation Service, **Appendix D**.

A contamination screening evaluation of the project limits was conducted in accordance with FDOT's *PD&E Manual, Part 2, Chapter 20*. Desktop research was performed to identify potential contamination sites defined by the following distances from the ROW that have the potential to impact the project corridor or adjacent properties:

- All contamination sites within 500 feet
- Non-landfill solid waste sites within 1,000 feet
- Solid waste landfills, Comprehensive Environmental Response Compensation, and Liability Act (CERCLA), or National Priority List (NPL) sites within a ½ mile

Resources included historical aerial photographs, FDEP Map Direct Website, FDEP OCULUS Document Management System, DEP Enterprise Information Portal, topographic maps, soil surveys, and other information provided by the Florida Department of Environmental Protection. No contamination sites were identified.

THREATENED AND ENDANGERED SPECIES

An environmental field review was performed for this project on October 19, 2020. The project limits are located within an area of predominantly residential structures. No evidence of gopher tortoises or any other listed were observed within the limits of the project during the field review.

For wildlife information, several resources were used to determine the potential issues with state and federally listed species. Information was obtained from the Florida Fish and Wildlife Conservation Commission (FFWCC) concerning species observations and Bald Eagle nests (FFWCC, 2018). State and federally listed species potentially occurring within the project area are outlined in **Table 1**.

TABLE 1: POTENTIAL SPECIES LIST

SCIENTIFIC NAME	COMMON NAME	STATUS
Birds		
Mycteria americana	Wood stork	FT
Reptiles		
Drymarchon corais couperi	Eastern indigo snake	FT
Gopherus polyphemus	Gopher tortoise	ST

NOTE: SSC = SPECIES OF SPECIAL CONCERN; ST = STATE-DESIGNATED THREATENED; FT = FEDERALLY-DESIGNATED THREATENED; FE = FEDERALLY-DESIGNATED ENDANGERED

SOURCE: FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION. FLORIDA'S ENDANGERED AND THREATENED SPECIES. OFFICIAL LISTS, OCTOBER 11, 2018; U.S. FISH AND WILDLIFE SERVICE, COUNTY LISTED SPECIES; AND FLORIDA'S IMPERILED SPECIES MANAGEMENT PLAN 2016

SIDEWALK CONCEPT PLAN

The City application requested evaluation of an 8-foot wide sidewalk on Silver Palm Drive and Air Park Road from 30th Street to 1,400 feet south of SR 442. Development of the concept plan began with an evaluation of the east and west sides of Silver Palm Drive and Air Park Road to determine the most appropriate location for the path. As mentioned previously, the roadway within the apparent right-of-way of both Silver Palm Drive and Air Park Road is not centered within the right-of-way. Along Silver Palm Drive, the roadway favors the west side of the right-of-way, providing more space between the edge of pavement and the apparent right-of-way line along the eastern side of the road. Additionally, numerous electrical transmission and distribution poles and communication pull boxes are positioned along the west side of Silver Palm Drive. Potential impacts to the major corridor features were estimated for each side of the roadway and documented below in **Table 2**.

TABLE 2: SILVER PALM DRIVE EXISTING CONDITIONS

EXISTING CONDITIONS: SILVER PALM DRIVE		
CORRIDOR FEATURE	WEST SIDE	EAST SIDE
# of Electric/Light Poles	15	1
# of Driveways	50	54
# of Fire Hydrants	0	4
# of Utility Pull Boxes	15	5
# of Mailboxes	89	0

Constructing the sidewalk on the west side of Silver Palm Drive would require relocating multiple electric poles and utility pull boxes to meet minimum ADA clearance requirements, as well as relocating mailboxes for every residence along the Silver Palm Drive corridor. Although four fire hydrants are located on the east side of the Silver Palm Drive, three will have to be adjusted and one has sufficient offset from roadway to place a sidewalk within the space. The costs associated with relocations along the western side of Silver Palm Drive would render the project impractical. Furthermore, due to the reduced space between the edge of pavement and apparent right-of-way, it would be likely that right-of-way would need to be acquired if placed along the west side of Silver Palm Drive. Therefore, it is recommended that the sidewalk be placed on the east side of Silver Palm Drive.

A street realignment and intersection layout proposed by the future Elegant Manor Estates development to implement a 4-way stop control at the southern terminus of Air Park Road is reflected in the concept plans. Along Air Park Road, an 8-foot sidewalk has already been constructed by a new residential development, Glenbrooke, from SR 442 to 1,400 feet south of the SR 442/Air Park Road intersection on the eastern side of the corridor. The end of the newly constructed sidewalk is the proposed end point of this feasibility study, therefore, it was evaluated that the sidewalk should continue along the eastern side of Air Park Road to avoid any mid-block crossings for pedestrian safety. The Florida Department of Transportation (FDOT) District 5 owns one of the two parcels along the eastern side of Air Park Road and a future residential development, Air Park Village, is proposed along the other parcel. Both of these parcel owners will require continued coordination as agreements are met to construct the concept in this report.

The FDOT Design Manual, January 1, 2021 (FDM) provides various guidelines and criteria for pedestrian facilities. Chapter 222 of the FDM provides the following description:

“Pedestrian facilities are features or elements used to support pedestrian travel. Pedestrian facilities may include sidewalks, pedestrian signals, curb ramps, public loading zones, crosswalks...”

Key features of the FDM Pedestrian Facilities sections relevant to this project are provided below:

- 222.2.1 Sidewalks - Sidewalk on flush shoulder roadways is not to be constructed directly adjacent to the roadway or shoulder pavement. Nearing intersections, the sidewalk should be transitioned as necessary to provide a more functional crossing location that also meets driver expectation.
- 222.2.1 Grades and Cross Slope - When sidewalk is adjacent to the roadway, sidewalk grades may mirror the roadway profile. When sidewalk is not adjacent to a travel way, sidewalk grades are not to exceed 5%, unless accessible ramps are provided. There should be enough sidewalk cross slope to allow for adequate drainage; however, to comply with ADA requirements, the maximum cross slope is 2%. A clear 1-foot wide graded area with a maximum 1:6 slope should be provided adjacent to the sidewalk. Edge drop-offs should be avoided.

Using these criteria as guides, a conceptual sidewalk plan was generated. The following sections describe the elements that make up the concept for this project. All proposed

elements are depicted graphically on the Concept Plans (Appendix A) and Typical Sections (Appendix B).

SIDEWALK PLAN

The sidewalk is proposed to be located on the east side of Silver Palm Drive and Air Park Road. In order to construct the proposed drainage improvements within the existing right-of-way, a three-foot separation between the roadway edge and the inside edge of the sidewalk will be maintained along Silver Palm Drive. Alternatives for greater separation were considered, but these options caused greater disturbances to the roadway pavement due to placement of drainage structures within the apparent right-of-way. Similarly, due to right-of-way constraints and the meandering nature of the roadway center-line within the right-of-way, an 8-foot sidewalk cannot be provided along Silver Palm Drive between 30th Street and 22nd Street within the existing right-of-way. Therefore, the sidewalk is proposed to be 5-feet wide. An 8-foot wide sidewalk is proposed north of 22nd Street and along Air Park Road for the remainder of the project to tie into the existing 8-foot wide sidewalk at the terminus of the project. Intersections described previously in this report will have pedestrian crossing upgrades to include pavement markings and detectable warnings as recommended by the FDM and Manual on Uniform Traffic Control Devices (MUTCD) as depicted graphically on the Concept Plans.

The proposed sidewalk will potentially impact water meters located in front of most houses, existing communication pull boxes, and 3 fire hydrants, including the one located at the intersection of Silver Palm Drive and 22nd Street shown in **Figure 9**. The proposed sidewalk will eliminate the existing swales and side drains and will be replaced with a ditch behind the sidewalk with a closed drainage system. The proposed ditch will consist of a 3-foot flat bottom and 1 to 3 side slopes. Between each driveway along Silver Palm Drive there will be Type C Ditch Bottom Inlets with 15-inch pipes. The proposed system will either connect directly to the two existing headwalls or discharge into the dry retention areas along Silver Palm Drive and ultimately outfall to Little Cow Creek. Based on one-foot contours provided by Volusia County, the proposed inlets and pipes should be constructible. Further hydrologic and hydraulic analysis will need to be completed when this study



FIGURE 9: FIRE HYDRANT AT SILVER PALM DRIVE AND 22ND STREET

goes into the design phase. Existing drainage patterns are maintained in the proposed condition. Right-of-Entry agreements could be necessary along Silver Palm Drive to excavate for proposed drainage structures in accordance with Occupational Safety and Health Administration (OSHA) trenching and excavation safety (OSHA 2226-10R 2015).

Along Air Park Road from 22nd Street to the Glenbrooke Subdivision, an 8-foot sidewalk will be proposed that will tie into the existing sidewalk. In the existing condition stormwater sheet flowed into an undeveloped parcel with no outlet. In the proposed condition a swale from 22nd Street to the intersection at Air Park Road will be behind the sidewalk and the existing 15" cross drain will be extended and upsized to accommodate the proposed sidewalk and capture the stormwater and flow south towards Little Cow Creek.

A meeting with the St. John's River Water Management District (SJRWMD) was held on November 16th, 2020 to discuss the permitting process when this project goes into the design phase. There are no existing permits for Air Park Road or for Silver Palm Drive. The project would qualify for exemption under Florida Administration Code FAC 62-330.051 Part IV of chapter 373, F.S. or FAC 62-330.051 (10)(c). Under Part IV of Chapter 373, sidewalks having a width of six feet or less would qualify for exemption and under FAC 62-330.051 (10)(c) paths having a width of eight feet or less for pedestrians would also qualify for exemption. See **Appendix E** for the SJRWMD meeting minutes.

As previously mentioned, the proposed sidewalk along Air Park Road runs along two parcels, one owned by FDOT and the other by a future residential development, Air Park Village. Coordination with FDOT regarding impacts to the pond currently located in their parcel have resulted in two options to be considered for final design. The preferred alternative depicted in **Appendix A** considers a transfer of ownership from FDOT to the City of Edgewater. This alternative would give the City of Edgewater the ability to remove the existing fence along the parcel and less restrictions regarding FDOT standards. The second alternative would result in continued ownership of the parcel by FDOT and relocation of the fence along the parcel. The Department has stated the importance of maintaining the functionality, capacity, and maintenance of the pond. It will need to be documented during final design that the pond will not be negatively impacted with the construction of the sidewalk. Examples of transition of ownership were provided to the City of Edgewater for their consideration. Similarly, coordination will continue between the City of Edgewater and the future residential development, Air Park Village. At the time of this study, the timing is unknown for Air Park Village, therefore, if Air Park Village is constructed prior to the letting of the construction of the sidewalk proposed within

this study, the City of Edgewater will coordinate with the developer to construct approximately 800 feet of sidewalk along the parcel. If this study progresses prior to Air Park Village, the City will construct the 800-foot section of sidewalk with an easement agreement needed from Air Park Village. An additional area of easement agreement with Air Park Village will be required along the transition between Silver Palm Drive and Air Park Road as shown in the concept plans. The next section of this report will include two different base costs, one including the sidewalk constructed along Air Park Village and one assuming the future development will construct the sidewalk.

FINANCIAL FEASIBILITY

A preliminary cost estimate for the design and construction of the proposed sidewalk is presented in **Appendix F**. This cost estimate is to be considered an opinion of probable costs based solely on the results of this feasibility study. The item numbers and units of measure are based on the FDOT Basis of Estimates Manual. The unit prices are based on historical average costs for each pay item as provided by FDOT. Some unit prices may have been inflated due to the small nature of the project. Based on the results of this study, no additional right-of-way will need to be purchased to accommodate the proposed conceptual design.

To adjust for potential future increases in the project's cost estimate, an annual inflationary factor may be applied. The FDOT provides annual inflation factors for roadway construction costs which may be used as a guideline for this sidewalk project. The cost estimate provided herein has been adjusted by the FDOT inflationary factors noted in **Appendix G** to determine inflation-adjusted cost estimates for the proposed sidewalk concept. The total cost estimate in 2021 dollars for the sidewalk concept presented in **Appendix A** is \$1.80 million. The inflation-adjusted cost estimates for 2022, 2023, and 2024 are \$1.85 million, \$1.90 million, and \$1.95 million, respectively.

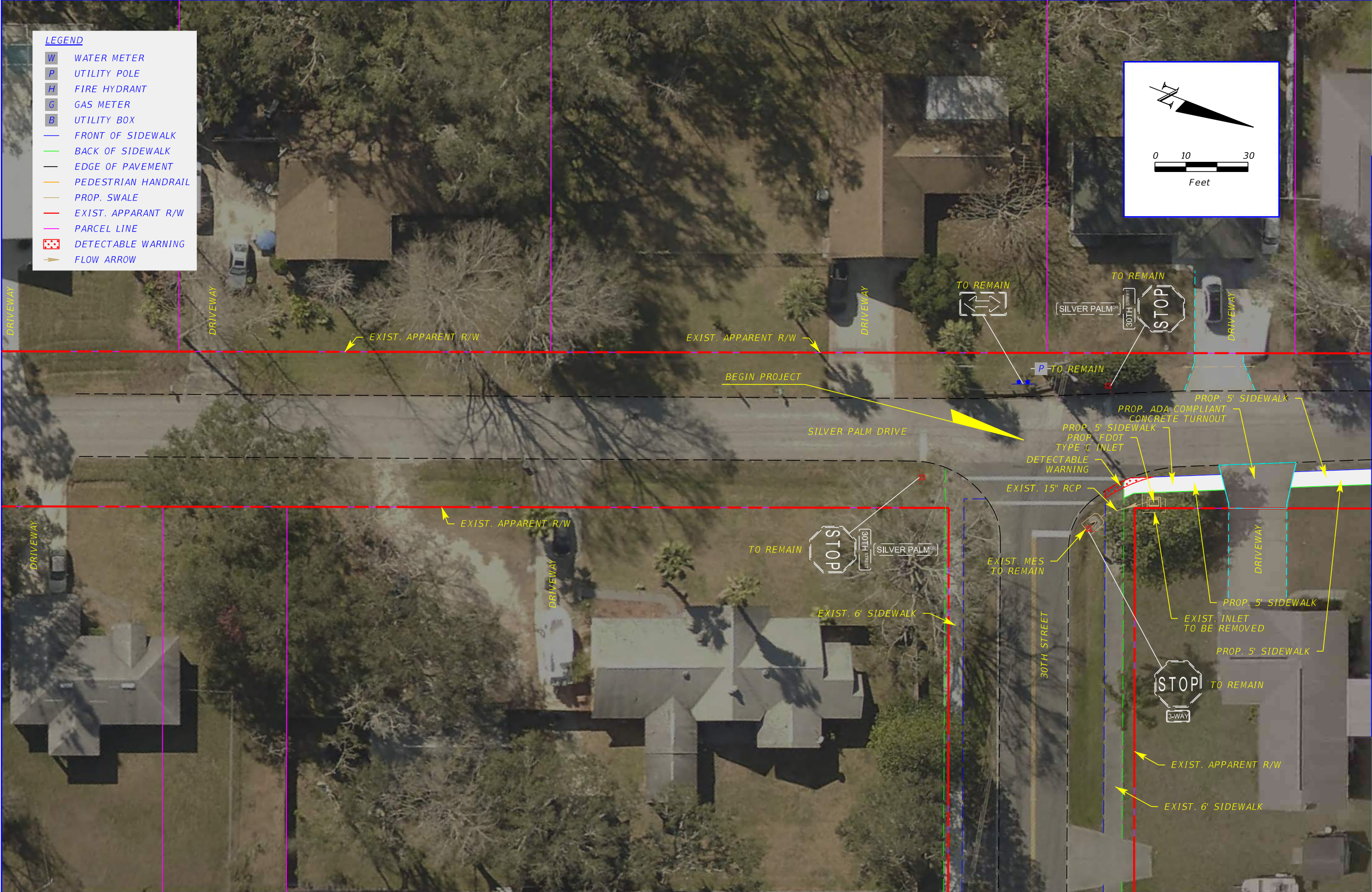
Also included in **Appendix F** is a supplementary cost of items within the future residential development, Air Park Village. The cost associated with the proposed work along this property will be incorporated with the development of the parcel, therefore, if the parcel is developed prior to the design of this feasibility study, then the cost will be reduced by \$117,239. This would result in the total cost estimate in 2021 dollars for the sidewalk concept presented in **Appendix A**, less the work along the Air Park Village development, of \$1.68 million.


CONCLUSION

The purpose of this study was to evaluate the feasibility of constructing an 8-foot wide sidewalk along Silver Palm Drive and Air Park Road from 30th Street to 1,400 feet south of SR 442. Due to right-of-way constraints and the existing conditions of the adjacent properties, it was determined a 5-foot wide sidewalk along Silver Palm Drive would be more appropriate and cost effective for the southern section of the corridor and an 8-foot wide sidewalk would be feasible along Air Park Road. No right-of-way will need to be purchased to accommodate the sidewalk. Agreements with FDOT and the Air Park Village parcel owner will be required. Right-of-entry agreements will likely also be needed from some of the residences along Silver Palm Drive which will need to be coordinated during the final design and construction phases of this project. Moderate impacts to existing utilities are anticipated. No wetland impacts or impacts to threatened and endangered species will occur. As a result of this study, it has been determined that constructing this sidewalk is feasible.

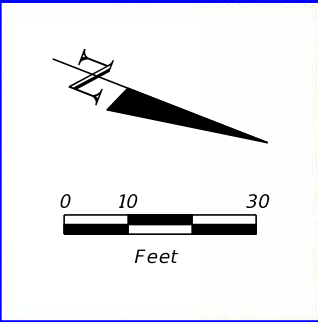
APPENDIX A:

CONCEPT PLAN



REVISIONS				RS&H, INC. 301 E. PINE ST, SUITE 350 ORLANDO, FLORIDA 32801		AIR PARK ROAD SIDEWALK PLAN VIEW	SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION				A-2	

- LEGEND**
- W WATER METER
 - P UTILITY POLE
 - H FIRE HYDRANT
 - G GAS METER
 - B UTILITY BOX
 - FRONT OF SIDEWALK
 - BACK OF SIDEWALK
 - EDGE OF PAVEMENT
 - PEDESTRIAN HANDRAIL
 - PROP. SWALE
 - EXIST. APPARANT R/W
 - PARCEL LINE
 - DETECTABLE WARNING
 - FLOW ARROW

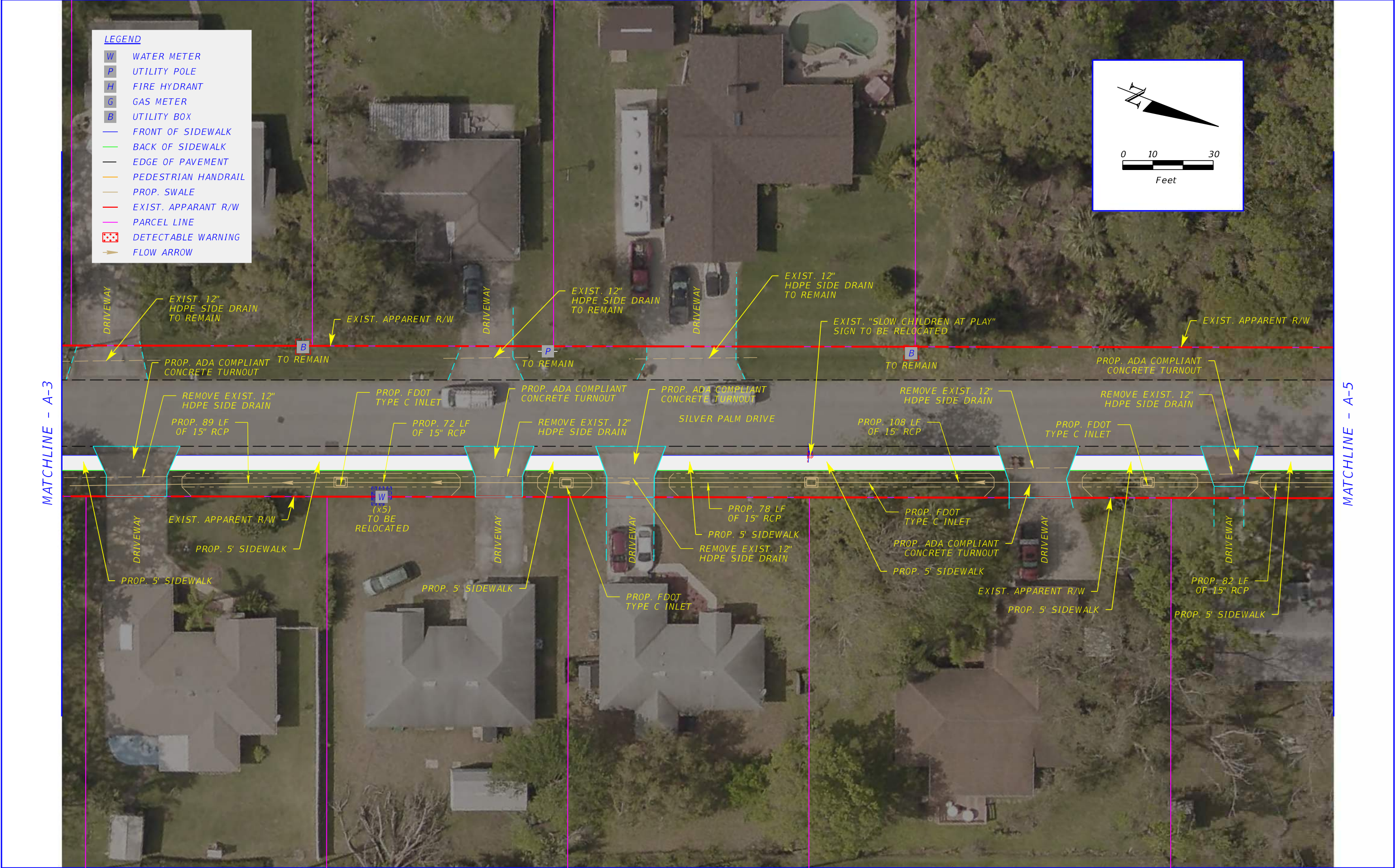


MATCHLINE - A-2

MATCHLINE - A-4



REVISIONS				RS&H, INC. 301 E. PINE ST, SUITE 350 ORLANDO, FLORIDA 32801		AIR PARK ROAD SIDEWALK PLAN VIEW	SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION				A-3	



REVISIONS				SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	
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301 E. PINE ST, SUITE 350
ORLANDO, FLORIDA 32801



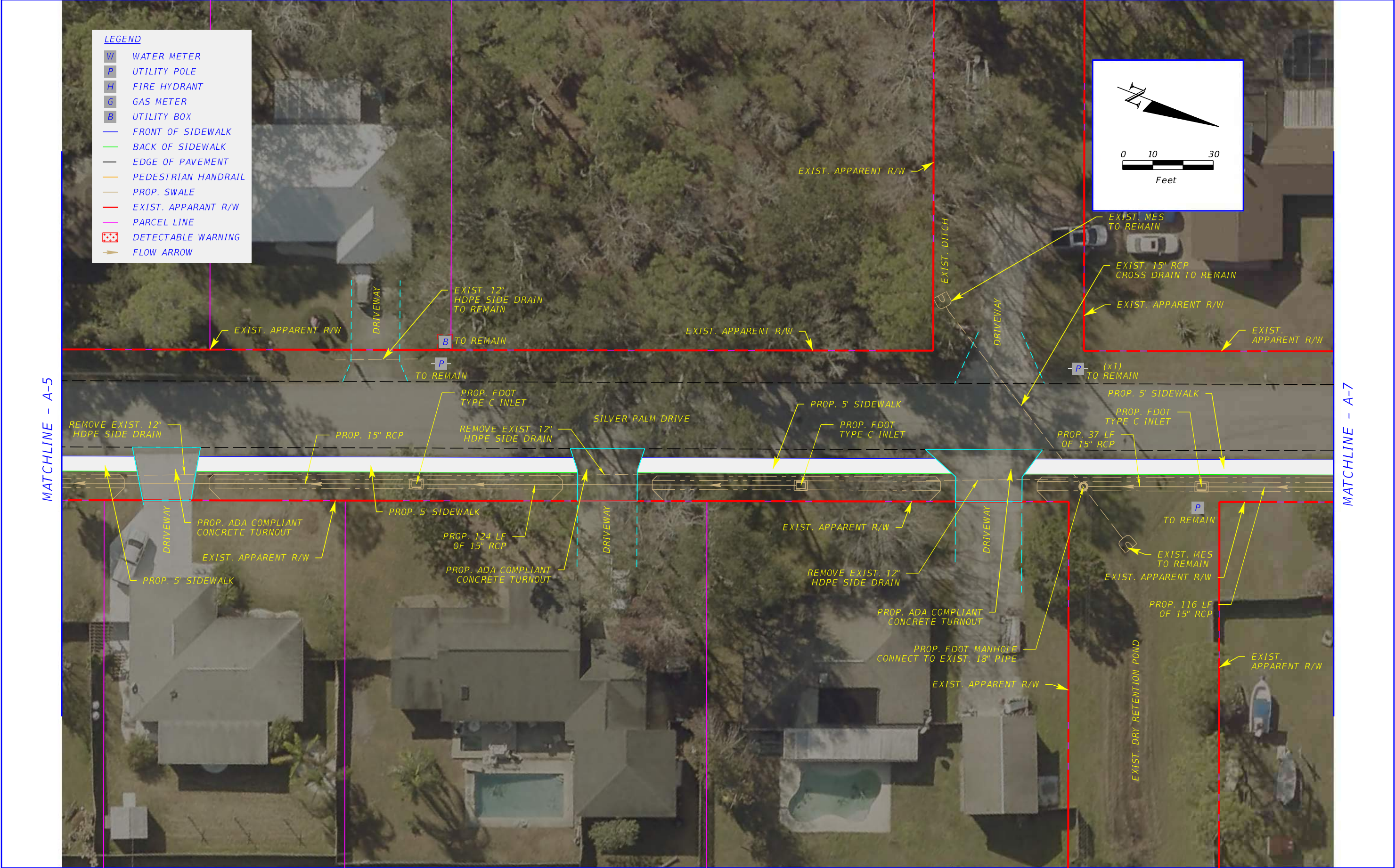
RIVER TO SEA
Transportation Planning Organization
VISION • PLAN • IMPLEMENT

AIR PARK ROAD SIDEWALK
PLAN VIEW

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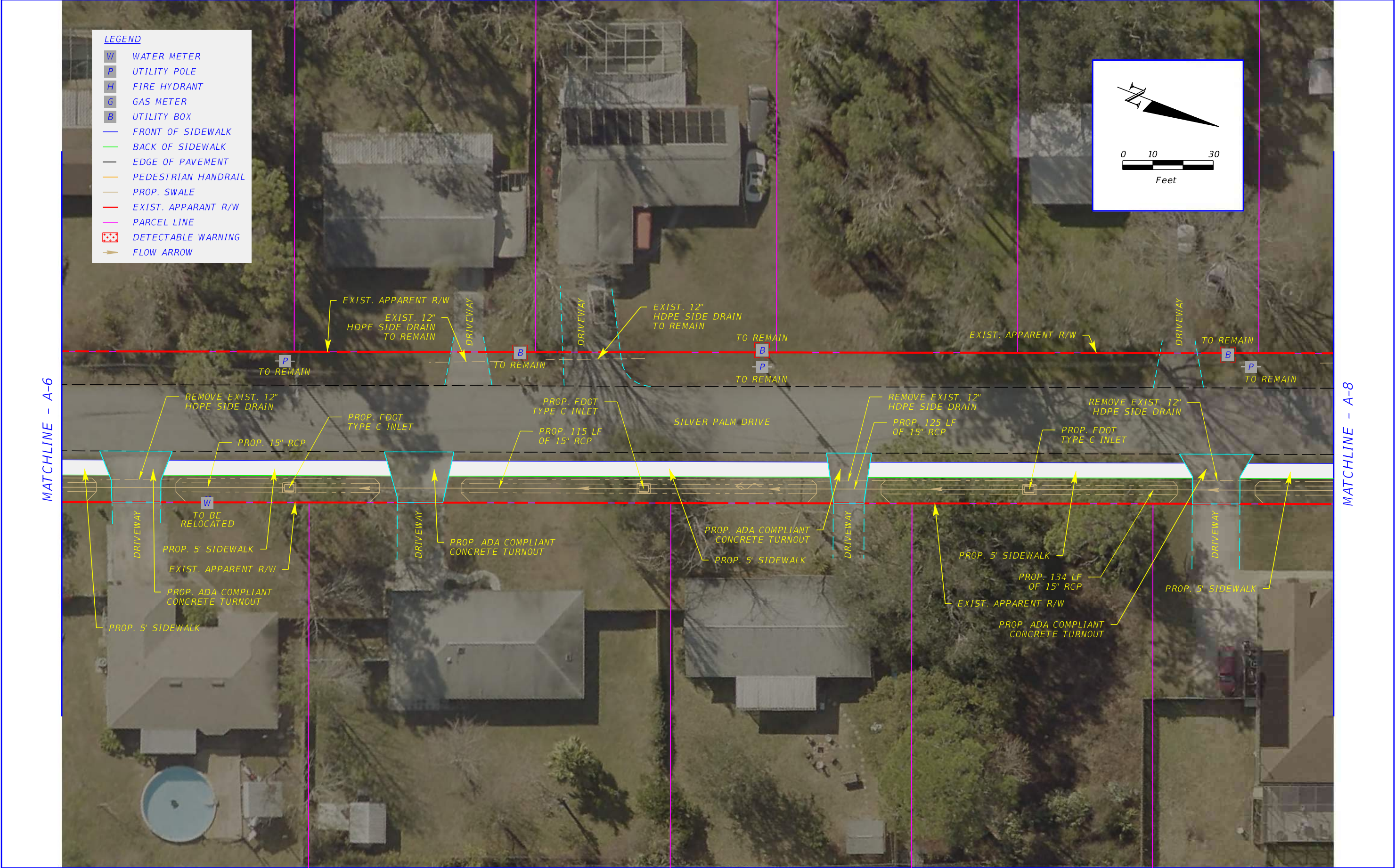
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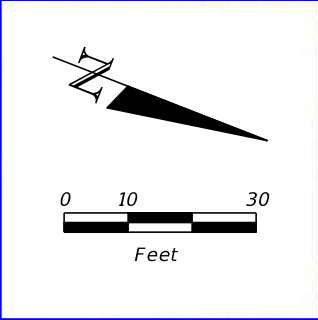
AIR PARK ROAD SIDEWALK
PLAN VIEW

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LEGEND

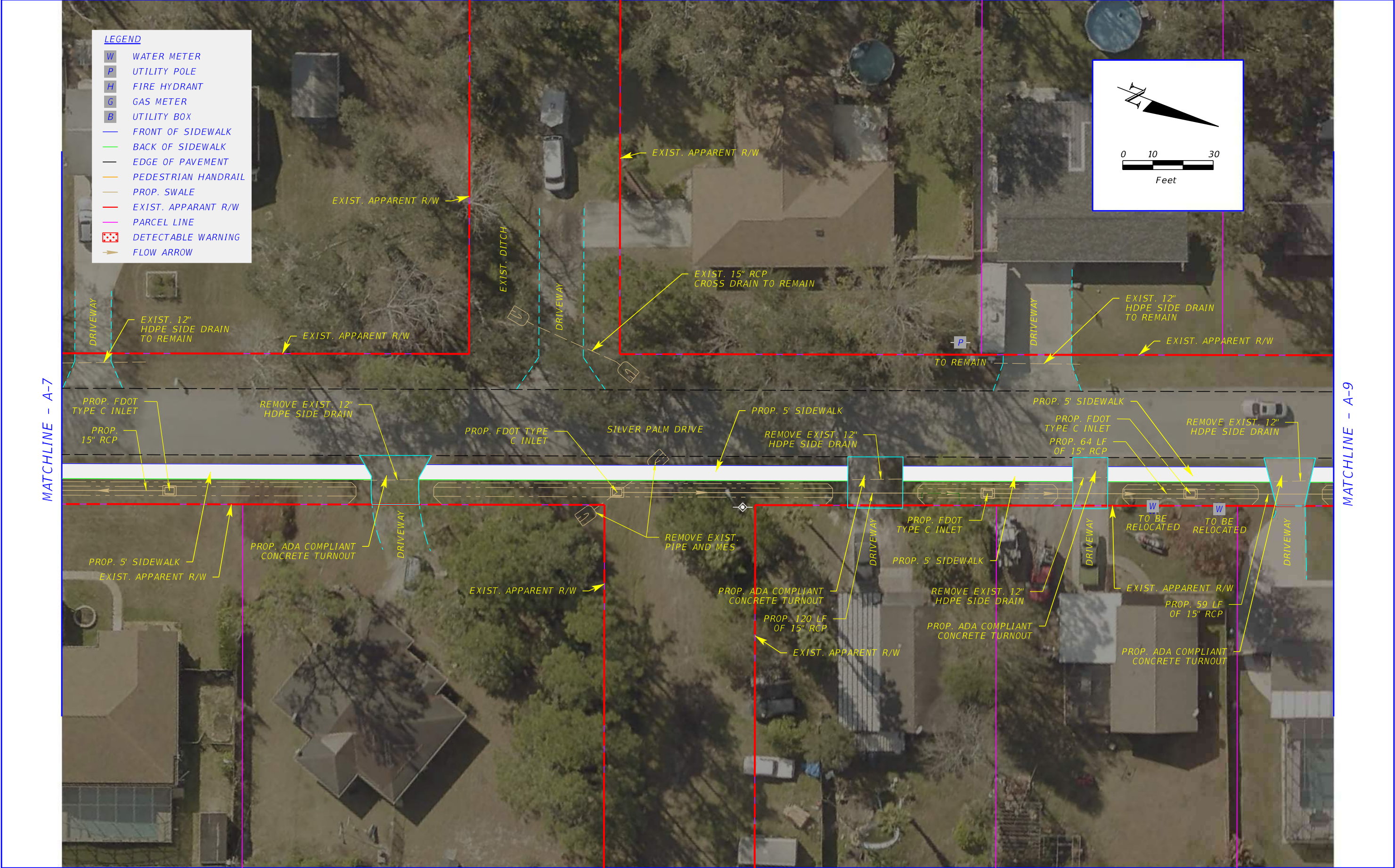
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- P UTILITY POLE
- H FIRE HYDRANT
- G GAS METER
- B UTILITY BOX
- FRONT OF SIDEWALK
- BACK OF SIDEWALK
- EDGE OF PAVEMENT
- PEDESTRIAN HANDRAIL
- PROP. SWALE
- EXIST. APPARANT R/W
- PARCEL LINE
- DETECTABLE WARNING
- FLOW ARROW



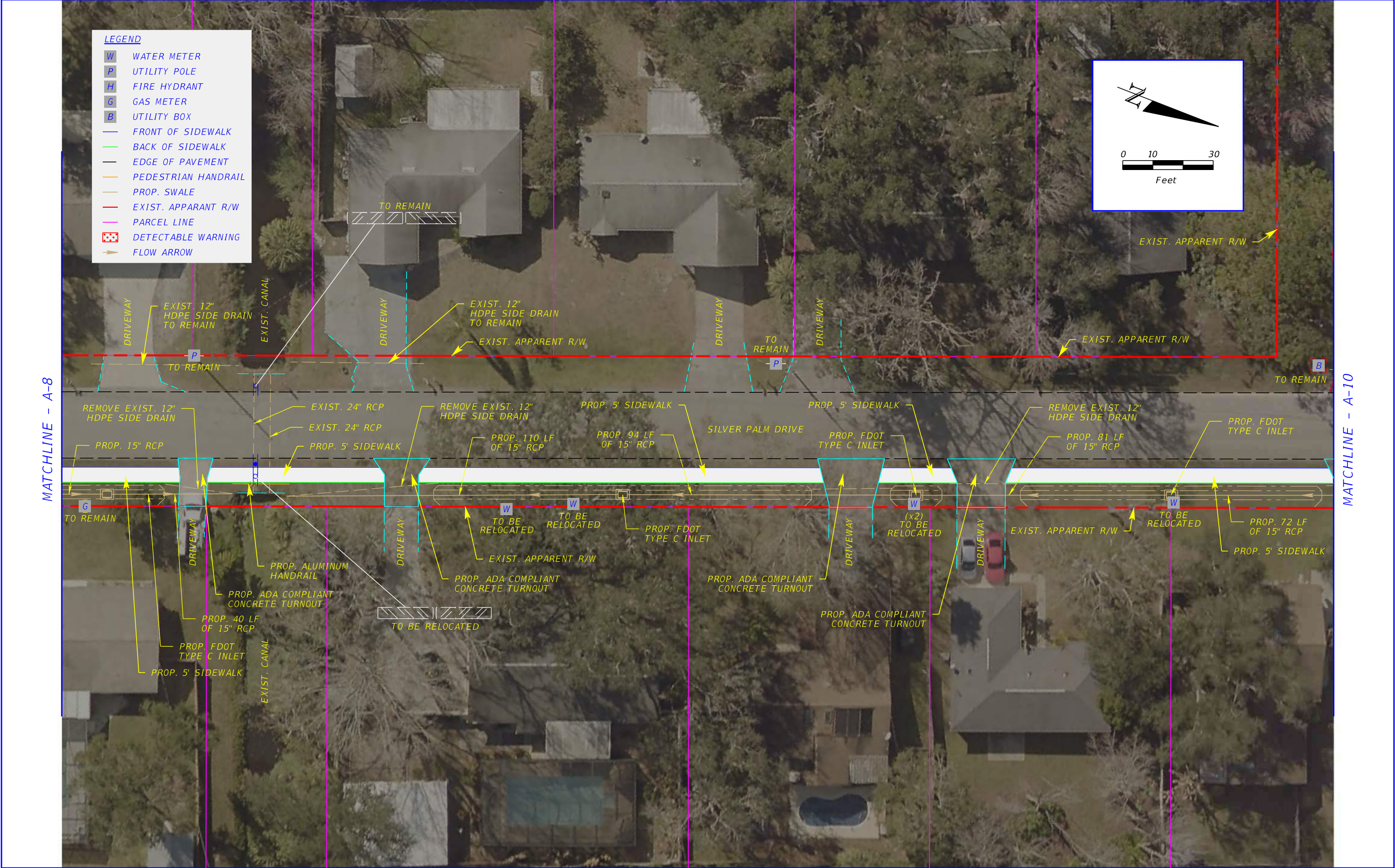
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MATCHLINE - A-8

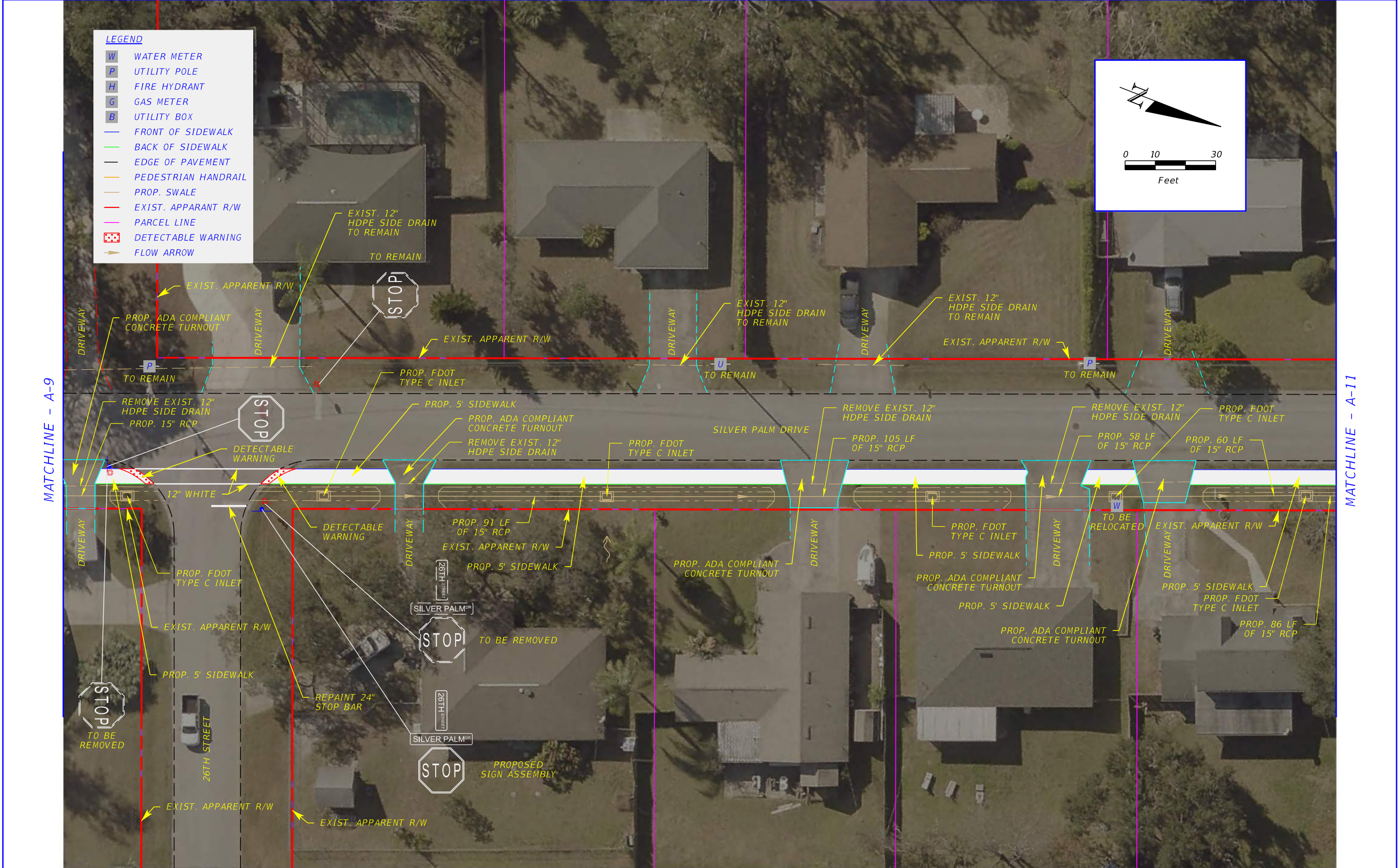
REVISIONS				RS&H, INC. 301 E. PINE ST, SUITE 350 ORLANDO, FLORIDA 32801		AIR PARK ROAD SIDEWALK PLAN VIEW	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION				
							A-7



REVISIONS				RS&H, INC. 301 E. PINE ST, SUITE 350 ORLANDO, FLORIDA 32801		AIR PARK ROAD SIDEWALK PLAN VIEW	SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION				A-8	



REVISIONS				RS&H, INC. 301 E. PINE ST, SUITE 350 ORLANDO, FLORIDA 32801		AIR PARK ROAD SIDEWALK PLAN VIEW	SHEET NO.	
DATE	DESCRIPTION	DATE	DESCRIPTION				A-9	



REVISIONS				RS&H, INC. 301 E. PINE ST, SUITE 350 ORLANDO, FLORIDA 32801		AIR PARK ROAD SIDEWALK PLAN VIEW	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION				
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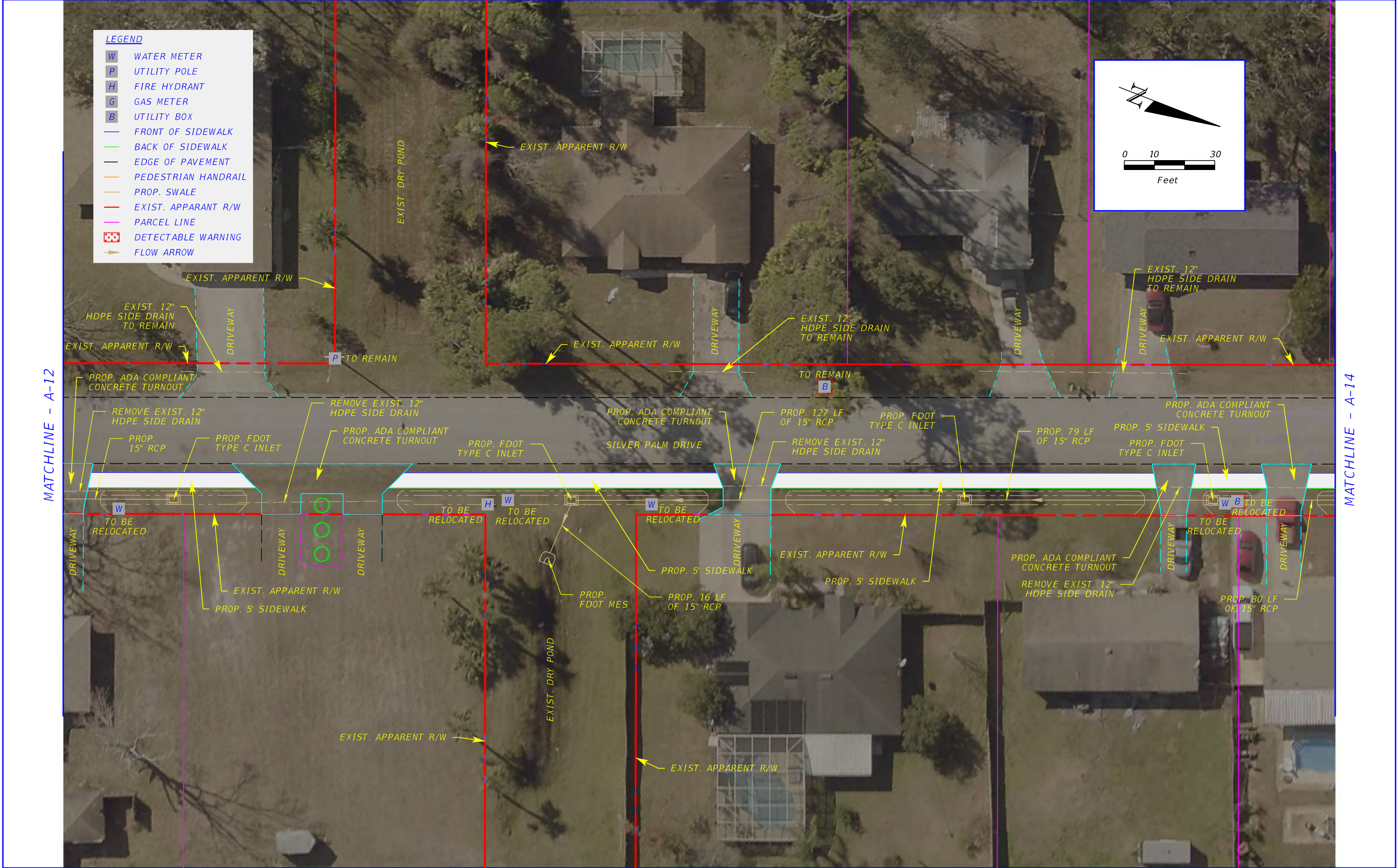
A map of a triangular plot of land. A north arrow is located at the top left, pointing towards the upper left. Below the north arrow is a scale bar labeled "Feet" with markings at 0, 10, and 30. The triangular plot is oriented with its base at the bottom and its apex pointing towards the upper right. The plot is divided into two regions: a white region on the left and a black region on the right, separated by a vertical line. The white region is a smaller triangle, and the black region is a larger triangle that shares the same base as the white region.



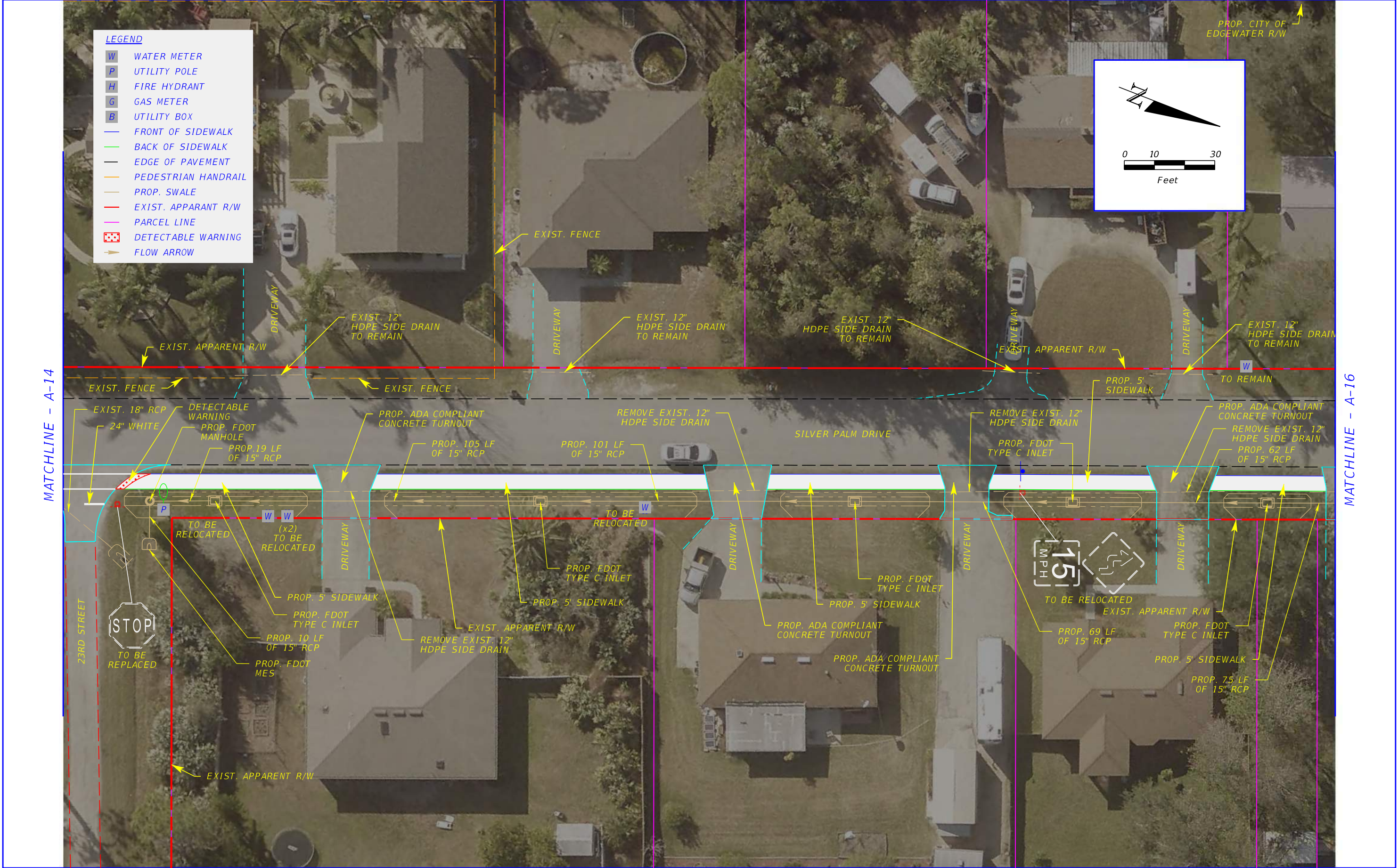
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REVISIONS				RS&H, INC. 301 E. PINE ST, SUITE 350 ORLANDO, FLORIDA 32801		AIR PARK ROAD SIDEWALK PLAN VIEW		SHEET NO.
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								A-12



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DATE	DESCRIPTION	DATE	DESCRIPTION				
							A-13



REVISIONS				SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	
				A-15

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RS&H, INC.
301 E. PINE ST, SUITE 350
ORLANDO, FLORIDA 32801



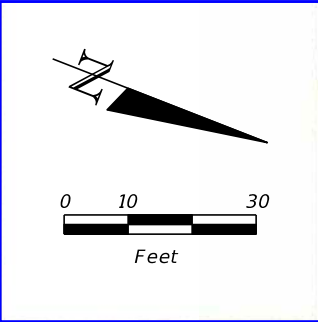
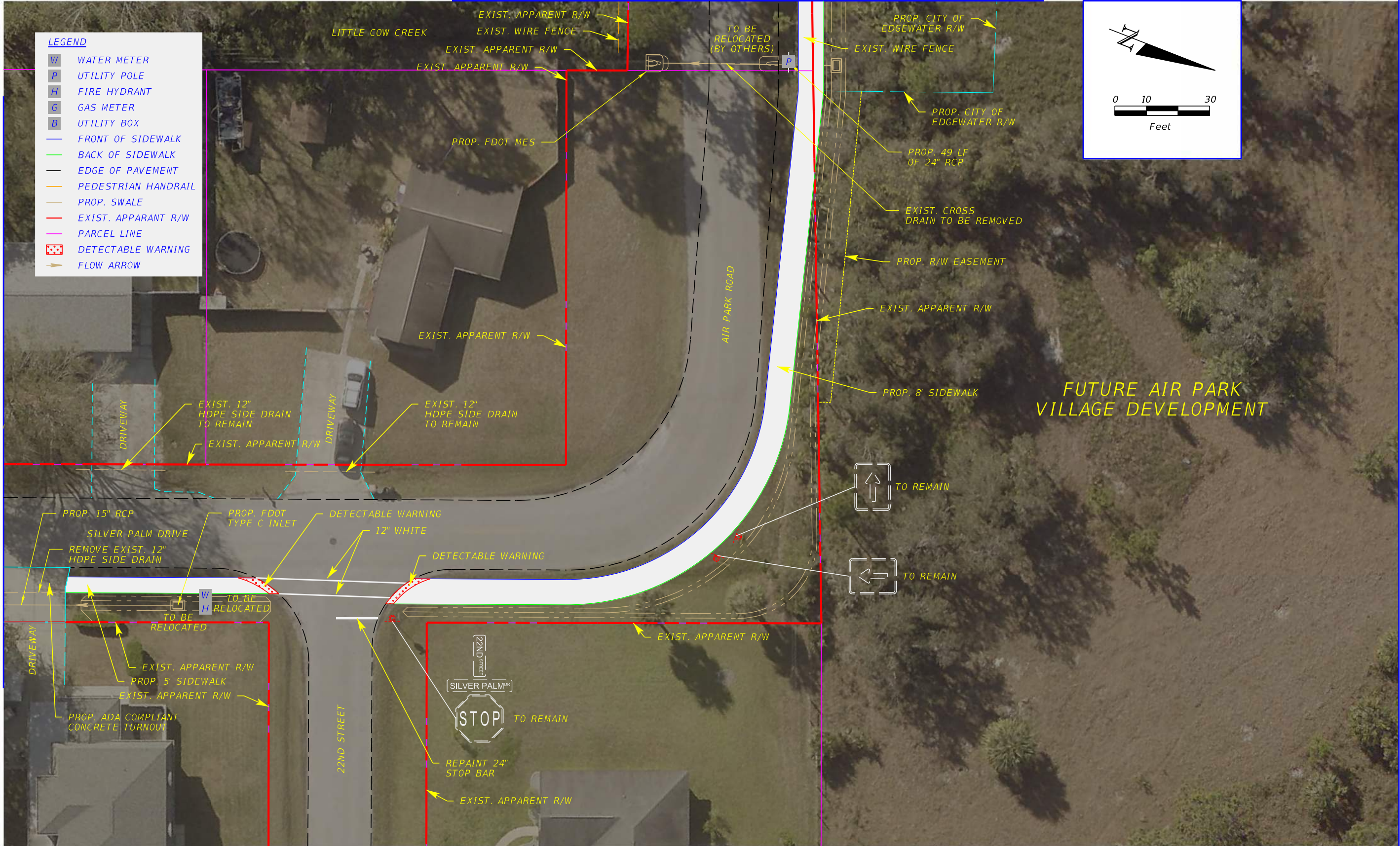
RIVER TO SEA
TPO
Transportation Planning Organization
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AIR PARK ROAD SIDEWALK
PLAN VIEW

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MATCHLINE - A-17

MATCHLINE - A-15



REVISIONS				SHEET NO.
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RS&H, INC.
301 E. PINE ST, SUITE 350
ORLANDO, FLORIDA 32801



RIVER TO SEA
TPO
Transportation Planning Organization
VISION • PLAN • IMPLEMENT

AIR PARK ROAD SIDEWALK
PLAN VIEW

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

RS&H, INC.
301 E. PINE ST, SUITE 350
ORLANDO, FLORIDA 32801



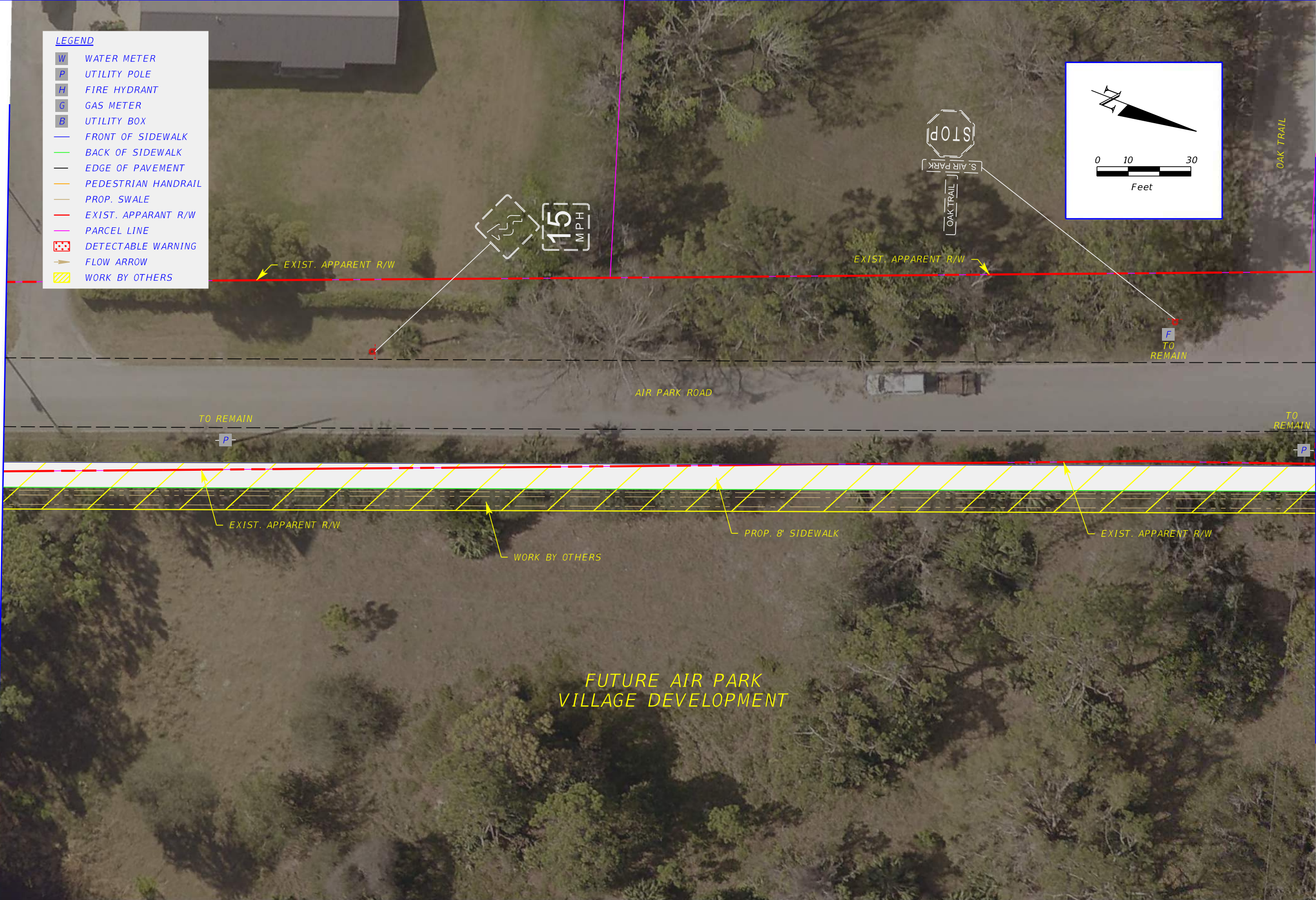
AIR PARK ROAD SIDEWALK PLAN VIEW	
A-17	

SHEET NO.
A-17

LEGEND

- W WATER METER
- P UTILITY POLE
- H FIRE HYDRANT
- G GAS METER
- B UTILITY BOX
- FRONT OF SIDEWALK
- BACK OF SIDEWALK
- EDGE OF PAVEMENT
- PEDESTRIAN HANDRAIL
- PROP. SWALE
- EXIST. APPARENT R/W
- PARCEL LINE
- DETECTABLE WARNING
- FLOW ARROW
- WORK BY OTHERS

MATCHLINE - A-17



MATCHLINE - A-19

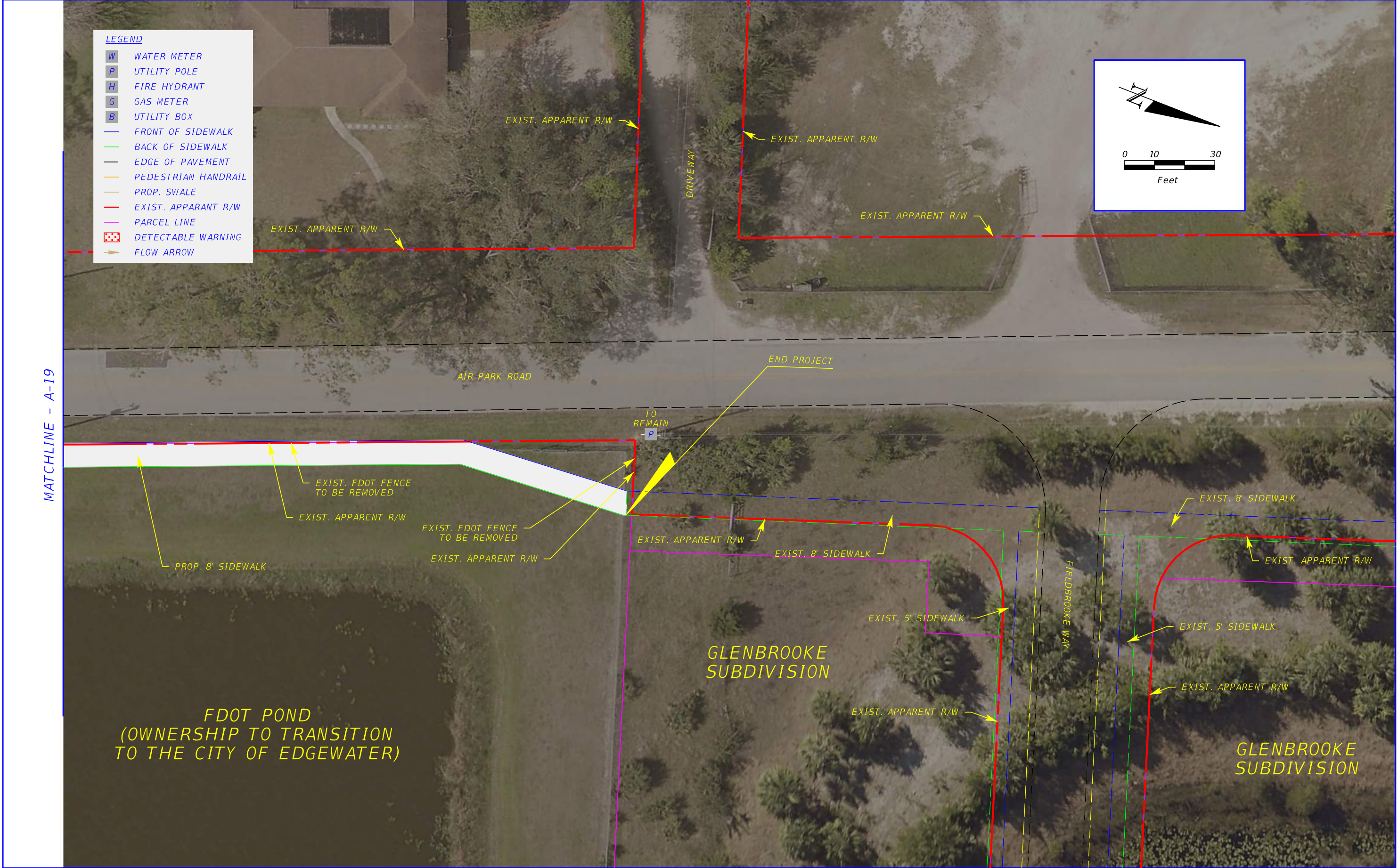
REVISIONS				SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	
				A-18

RS&H, INC.
301 E. PINE ST, SUITE 350
ORLANDO, FLORIDA 32801

AIR PARK ROAD SIDEWALK
PLAN VIEW



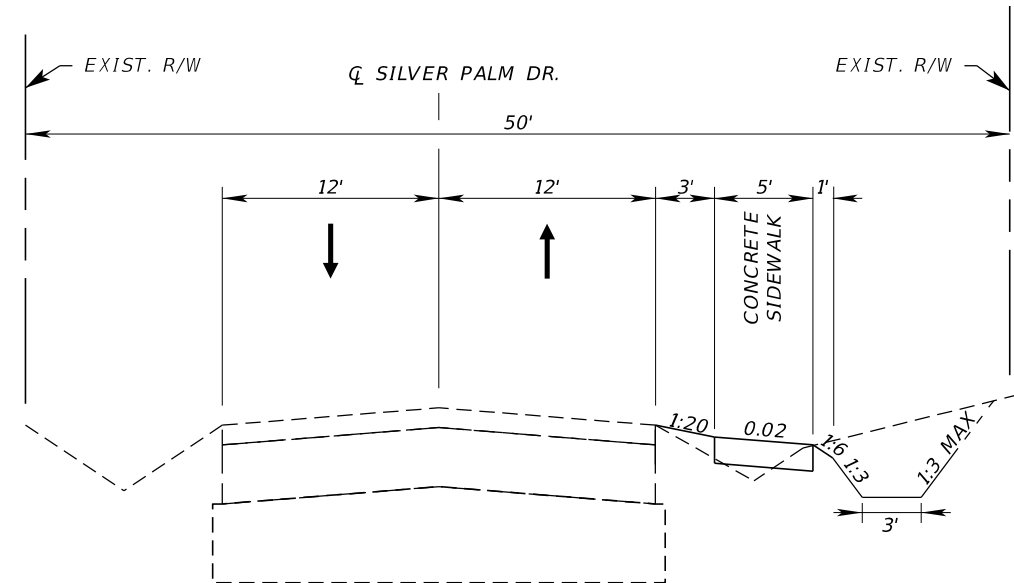
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DATE	DESCRIPTION	DATE	DESCRIPTION				A-19	



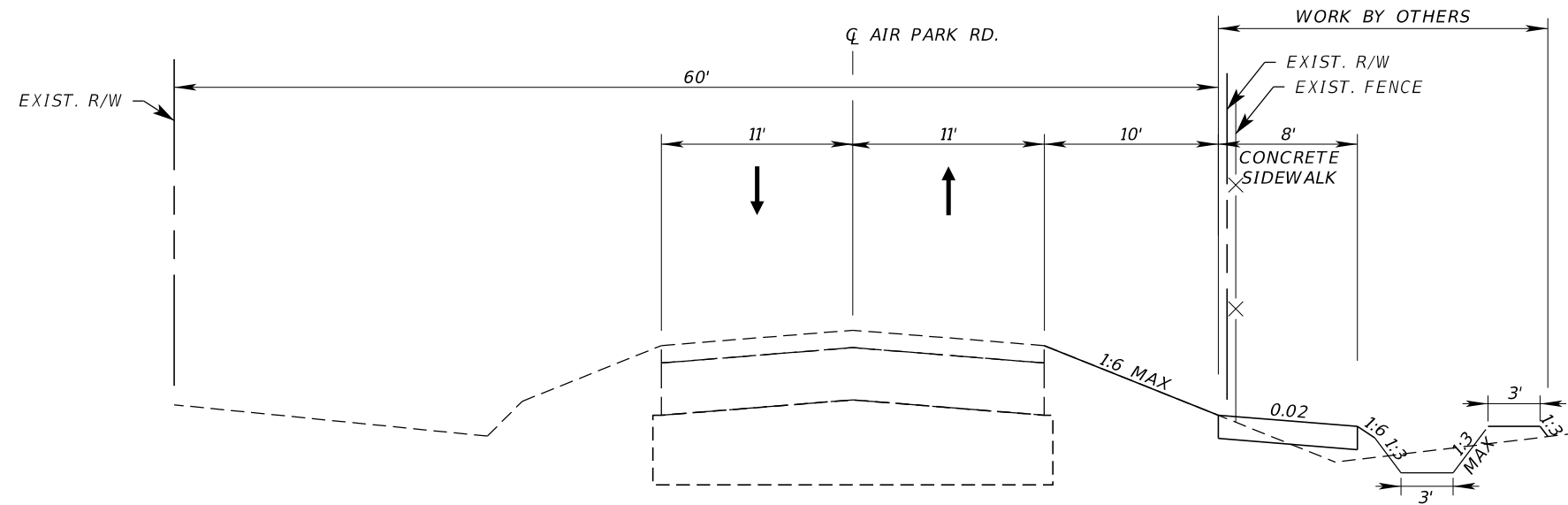
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DATE	DESCRIPTION	DATE	DESCRIPTION				A-20	

APPENDIX B

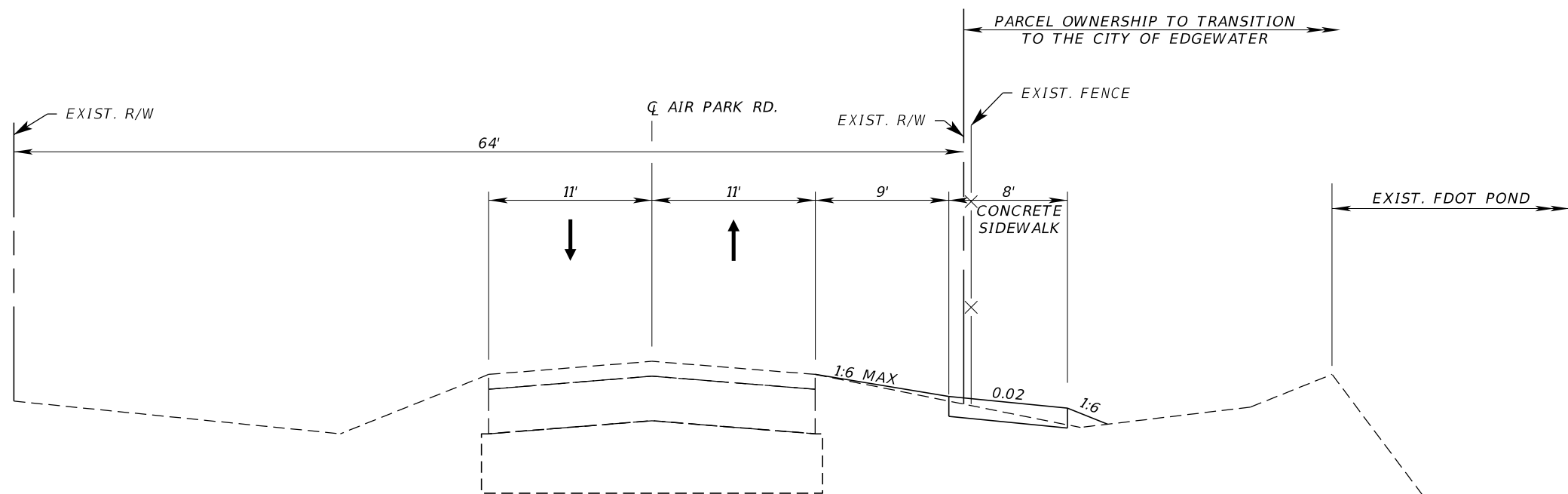
TYPICAL SECTIONS



SILVER PALM DRIVE



AIR PARK RD.
ADJACENT TO FUTURE AIR PARK VILLAGE DEVELOPMENT



**AIR PARK RD.
ADJACENT TO FDOT POND**

REVISIONS				<div> RS&H, INC. 301 E. PINE ST, SUITE 350 ORLANDO, FLORIDA 32801 </div>	<div>  RIVER TO SEA TPO Transportation Planning Organization VISION • PLAN • IMPLEMENT </div>	<div> AIR PARK ROAD TYPICAL SECTION </div>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION				B-3

APPENDIX C

FEMA MAPS

National Flood Hazard Layer FIRMette



80°55'2"W 28°56'50"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

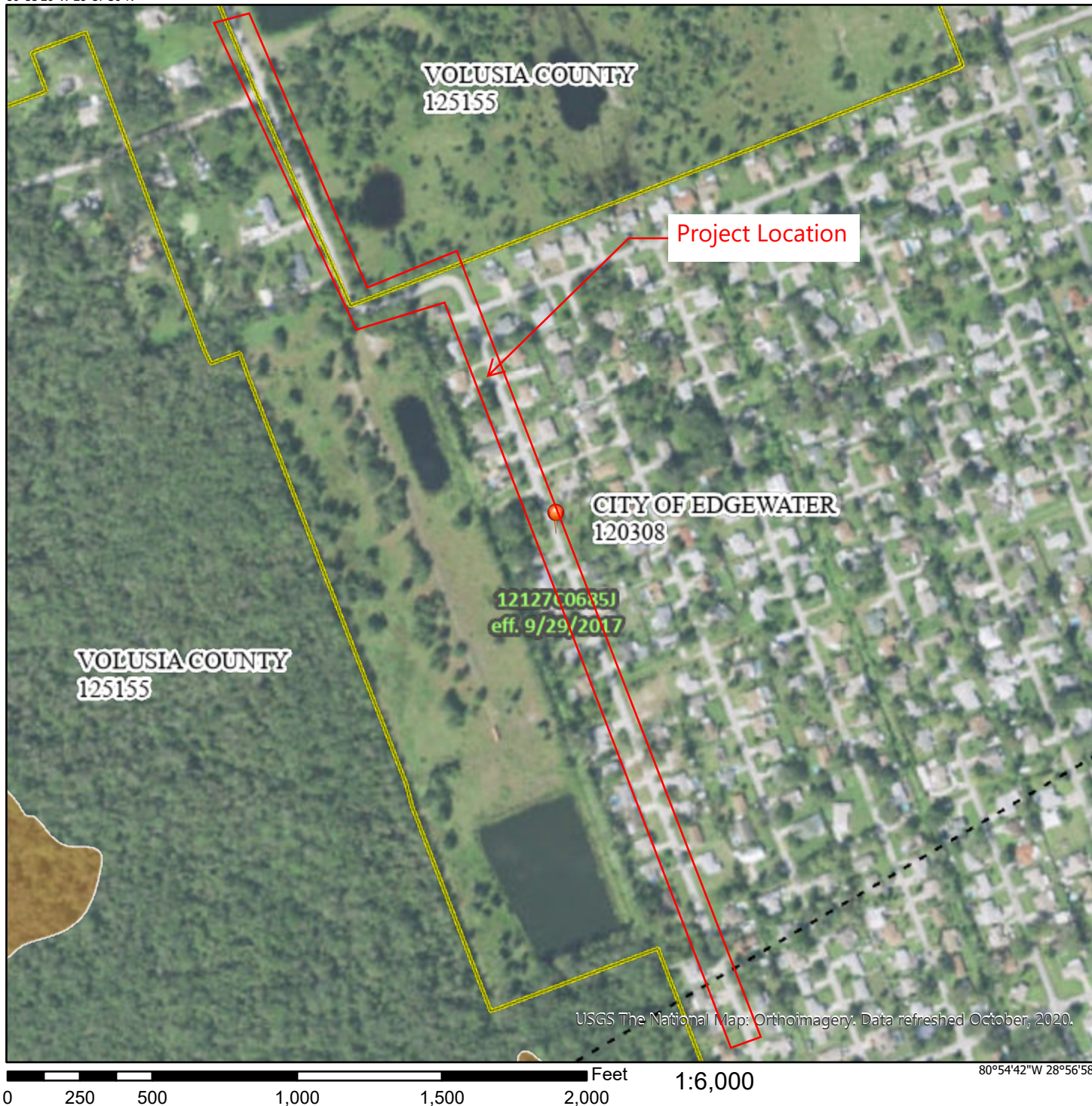
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **11/18/2020 at 9:11 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette



80°55'20"W 28°57'30"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **11/18/2020 at 9:01 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX D

SOIL SURVEY MAP

Custom Soil Resource Report
Soil Map (Air Park Road)



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Volusia County, Florida

Survey Area Data: Version 19, Jun 10, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Nov 25, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Air Park Road)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Arents	0.2	0.4%
17	Daytona sand, 0 to 5 percent slopes	16.8	46.6%
29	Immokalee sand	18.2	50.3%
32	Myakka-Myakka, wet, fine sands, 0 to 2 percent slopes	1.0	2.7%
Totals for Area of Interest		36.1	100.0%

APPENDIX E

ST. JOHNS WATER RIVER MANAGEMENT DISTRICT MEETING MINUTES

AGENDA:

Project: Air Park Road Feasibility Study

Meeting Date: November 16th, 2020 11am-12pm

Meeting Place: Microsoft Teams

Participants: Hosanna Loreaux (SJRWMD), Carmen Cadenas (SJRWMD), Jeff Glenn (RS&H), Lauren Rhodes (RS&H), and Miles Procko-Oliveri (RS&H)

Subject: Air Park Road Feasibility Pre-App Meeting

I. Opening

- Introductions

II. Project Overview

- Existing drainage conditions.
 - Along Silver Palm Drive from 30th Street to 22nd Street stormwater is captured through existing swales and conveyed through side drains and ultimately outfalls into the canal (Little Cow Creek). There are some retention areas that are connected via a cross drain and outfalls to the canal.
 - Along Air Park Road from 22nd Street to approximately 400 feet on Air Park road is an existing swale with a cross drain that flows to the existing canal.
- Design approach.
 - Criteria for the proposed design.
 - A 5-ft sidewalk is being proposed with a ditch behind the sidewalk along Silver Palm Drive from 30th Street to 22nd Street. Inlets and pipes will be proposed in the ditch and outfall to the canal.
 - Along Air Park Road from 22nd Street to the Glenbrook Subdivision an 8-ft sidewalk will be proposed or a 5-ft sidewalk and would tie into the existing sidewalk.
 - Existing side drains will be removed, and new ditches will be constructed.

III. Permitting

- Exemption under FAC 62-330.051
 - (4c) states that sidewalks having a width of six feet or less will be exempt.
 - An 8-Ft sidewalk would be exempt under (10).
 - It was agreed the project would likely qualify for a permit exemption under Chapter 62-330.051(10), FAC.
- Environmental Resource Permit.
 - Jeff asked if the project did not qualify for a permit exemption, then which permit could apply?

- o Carmen stated it would likely qualify for a general permit under Chapter 62-330.447, FAC.
- Existing Permits
 - o There appears to be no existing permits within the project corridor.
 - o Carmen suggested reviewing the following permit numbers: 22969-2, 64819-5, 64819-6, and 64218, since these permits are near the project corridor.
- Environmental Impacts
 - o Miles stated and Hosanna agreed there are no anticipated environmental impacts to wetlands or Listed Species.

IV. Open Discussion

V. Closing

- Action Items.
 - o Lauren will review the permits that Carmen suggested.

Compiled By: Lauren Rhodes, EI, (407)-893-5814, lauren.rhodes@rsandh.com
Distribution: Participants
File Location: X:\P\1070077000 R2CTPO Bike-Ped 2018\3_Air Park Rd Sidewalk\SJRWMD

APPENDIX F

COST ESTIMATE

Air Park Rd. Sidewalk Concept
30th St. to SR 442
Feasibility Study
Cost Estimate

PAY ITEM NO.	ITEM DESCRIPTION	UNIT	BASE QTY	BASE UNIT COST	TOTAL COST
104-10-3	SEDIMENT BARRIER	LF	4,720	\$ 0.82	\$ 3,870.40
104-11	FLOATING TURBIDITY	LF	62	\$ 5.19	\$ 321.78
425-2-41	MANHOLE, P-7, <10'	EA	3	\$ 5,133.43	\$ 15,400.29
425-15-21	INLETS, DT BOT, TYPE C, <10'	EA	57	\$ 4,095.71	\$ 233,455.47
430-174-115	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 15" SD	LF	4,643	\$ 110.00	\$ 510,730.00
430-174-124	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 24" SD	LF	54	\$ 149.96	\$ 8,097.84
430-984-123	MITERED END SECTION, OPTIONAL ROUND, 15" SD	EA	2	\$ 1,200.00	\$ 2,400.00
430-984-129	MITERED END SECTION, OPTIONAL ROUND, 24" SD	EA	1	\$ 1,774.50	\$ 1,774.50
515-2-311	PEDESTRIAN/ BICYCLE RAILING, ALUMINUM ONLY, 42" TYPE 1	LF	41	\$ 66.48	\$ 2,725.68
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	SY	4,063	\$ 42.17	\$ 171,327.37
522-2	CONCRETE SIDEWALK, 6" THICK	SY	1,776	\$ 56.60	\$ 100,495.56
527-2	DETECTABLE WARNING SURFACE	SF	134	\$ 32.26	\$ 4,308.78
570-1-2	PERFORMANCE TURF, SOD	SY	9,094	\$ 3.22	\$ 29,283.03
700-1-11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS	3.00	\$ 330.33	\$ 990.99
700-1-50	SINGLE POST SIGN, RELOCATE	AS	4.00	\$ 108.10	\$ 432.40
700-1-60	SINGLE POST SIGN, REMOVE	AS	3.00	\$ 31.78	\$ 95.34
711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	223	\$ 2.55	\$ 569.54
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	32	\$ 4.38	\$ 139.11
715-4-60	LIGHT POLE COMPLETE, RELOCATE	EA	1	\$ 2,613.27	\$ 2,613.27
1080 21500	UTILITY FIXTURE, VALVE/METER BOX, ADJUST	EA	42.00	\$ 441.45	\$ 18,540.90
1644-800	FIRE HYDRANT, RELOCATE	EA	3	\$ 3,075.60	\$ 9,226.80
				SUBTOTAL	\$ 1,322,739.69
101-1	MOBILIZATION	LS	1	10.00%	\$ 132,273.97
102-1	MAINTENANCE OF TRAFFIC	LS	1	10.00%	\$ 132,273.97
N/A	ENGINEERING AND DESIGN	LS	1	15.00%	\$ 198,410.95
N/A	SURVEY	LS	1	\$ 15,000.00	\$ 15,000.00
TOTAL					\$ 1,800,698.59
	FDOT Inflation-Adjusted Estimate		<i>Inflation Factor</i>	<i>PDC Multiplier</i>	<i>Adjusted Cost Estimate</i>
	Year 1 Inflation-adjusted Estimate (2022)		2.7%	1.027	\$ 1,849,317.45
	Year 2 Inflation-adjusted Estimate (2023)		2.8%	1.056	\$ 1,901,537.71
	Year 3 Inflation-adjusted Estimate (2024)		2.9%	1.086	\$ 1,955,558.66

Air Park Rd. Sidewalk Concept
30th St. to SR 442
Feasibility Study
Construction along Air Park Village Development Parcel Cost Estimate

PAY ITEM NO.	ITEM DESCRIPTION	UNIT	BASE QTY	BASE UNIT COST	TOTAL COST
110-1-1	CLEARING AND GRUBBING	AC	0.44	\$ 6,317.57	\$ 2,804.46
120-1	REGULAR EXCAVATION	CY	215.3	\$ 13.67	\$ 2,943.70
120-6	EMBANKMENT	CY	890.5	\$ 13.48	\$ 12,004.07
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	SY	1,524	\$ 42.17	\$ 64,285.40
570-12	PERFORMANCE TURF, SOD	SY	1,493	\$ 3.22	\$ 4,806.29
				SUBTOTAL	\$ 86,843.92
101-1	MOBILIZATION	LS	1	10.00%	\$ 8,684.39
102-1	MAINTENANCE OF TRAFFIC	LS	1	10.00%	\$ 8,684.39
N/A	ENGINEERING AND DESIGN	LS	1	15.00%	\$ 13,026.59
				TOTAL	\$ 117,239.30
	FDOT Inflation-Adjusted Estimate		<i>Inflation Factor</i>	<i>PDC Multiplier</i>	<i>Adjusted Cost Estimate</i>
	Year 1 Inflation-adjusted Estimate (2022)		2.7%	1.027	\$ 120,404.76
	Year 2 Inflation-adjusted Estimate (2023)		2.8%	1.056	\$ 123,804.70
	Year 3 Inflation-adjusted Estimate (2024)		2.9%	1.086	\$ 127,321.88

APPENDIX G

FDOT INFLATION FACTOR



FLORIDA DEPARTMENT OF TRANSPORTATION

TRANSPORTATION COSTS REPORTS

Work Program Highway Construction Cost Inflation Factors

Fiscal Year	Inflation Factor	PDC Multiplier
2019	Base	1.000
2020	2.6%	1.026
2021	2.6%	1.053
2022	2.7%	1.081
2023	2.8%	1.111
2024	2.9%	1.144
2025	3.0%	1.178
2026	3.1%	1.214
2027	3.2%	1.253
2028	3.3%	1.295
2029	3.3%	1.337
2030	3.3%	1.381
2031	3.3%	1.427
2032	3.3%	1.474
2033	3.3%	1.523
2034	3.3%	1.573
2035	3.3%	1.625
2036	3.3%	1.679
2037	3.3%	1.734
2038	3.3%	1.791
2039	3.3%	1.850
Source: Offices of Work Program and Budget and Policy Planning (Fiscal Year 2019 is July 1, 2018 to June 30, 2019)		

Advisory Inflation Factors For Previous Years

Another “*Transportation Costs*” report covers highway construction cost inflation for previous years. “*Advisory Inflation Factors For Previous Years (1987-2018)*” provides Present Day Cost (PDC) multipliers that enable project cost estimates from previous years to be updated to FY 2018. For the table and text providing this information, please go to

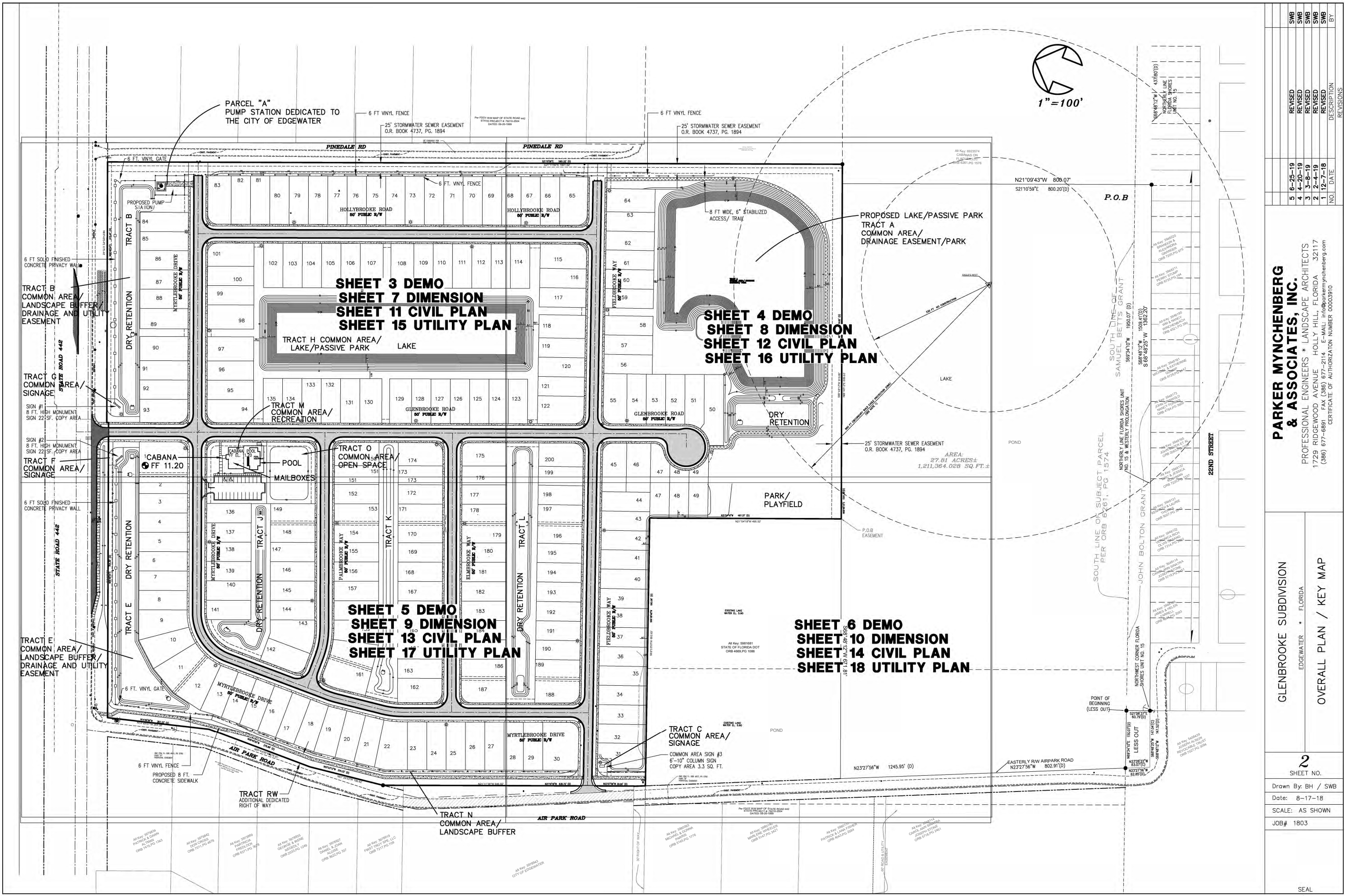
https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/planning/policy/economic/retrocostinflation220259309.pdf?sfvrsn=ce29b2b6_2

This report is one in a series on transportation costs. The latest version of this and other reports are available at <https://www.fdot.gov/planning/policy/economic>

April 24, 2019

APPENDIX H

FUTURE RESIDENTIAL DEVELOPMENT PLANS



SWB

REVISED

5

6-25-19

SWB

REVISED

4

4-20-19

SWB

REVISED

3

3-8-19

SWB

REVISED

2

2-4-19

SWB

REVISED

1

12-7-18

BY

DESCRIPTION

NO.

DATE

REVISIONS

5

6-25-19

REVISED

4

4-20-19

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REVISED

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2-4-19

REVISED

REVISED

1

12-7-18

REVISED

REVISED

NO.

DATE

DESCRIPTION

GLENBROOKE SUBDIVISION

EDGEWATER * FLORIDA

OVERALL PLAN / KEY MAP

2

SHEET NO.

Drawn By: BH / SWB

Date: 8-17-18

SCALE: AS SHOWN

JOB# 1803

SEAL

H-2

PARKER MYNCHENBERG & ASSOCIATES, INC.

PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS

1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117

(386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermyynchenberg.com

CERTIFICATE OF AUTHORIZATION NUMBER 00003910

GLENBROOKE SUBDIVISION

EDGEWATER * FLORIDA

OVERALL PLAN / KEY MAP

2

SHEET NO.

Drawn By: BH / SWB

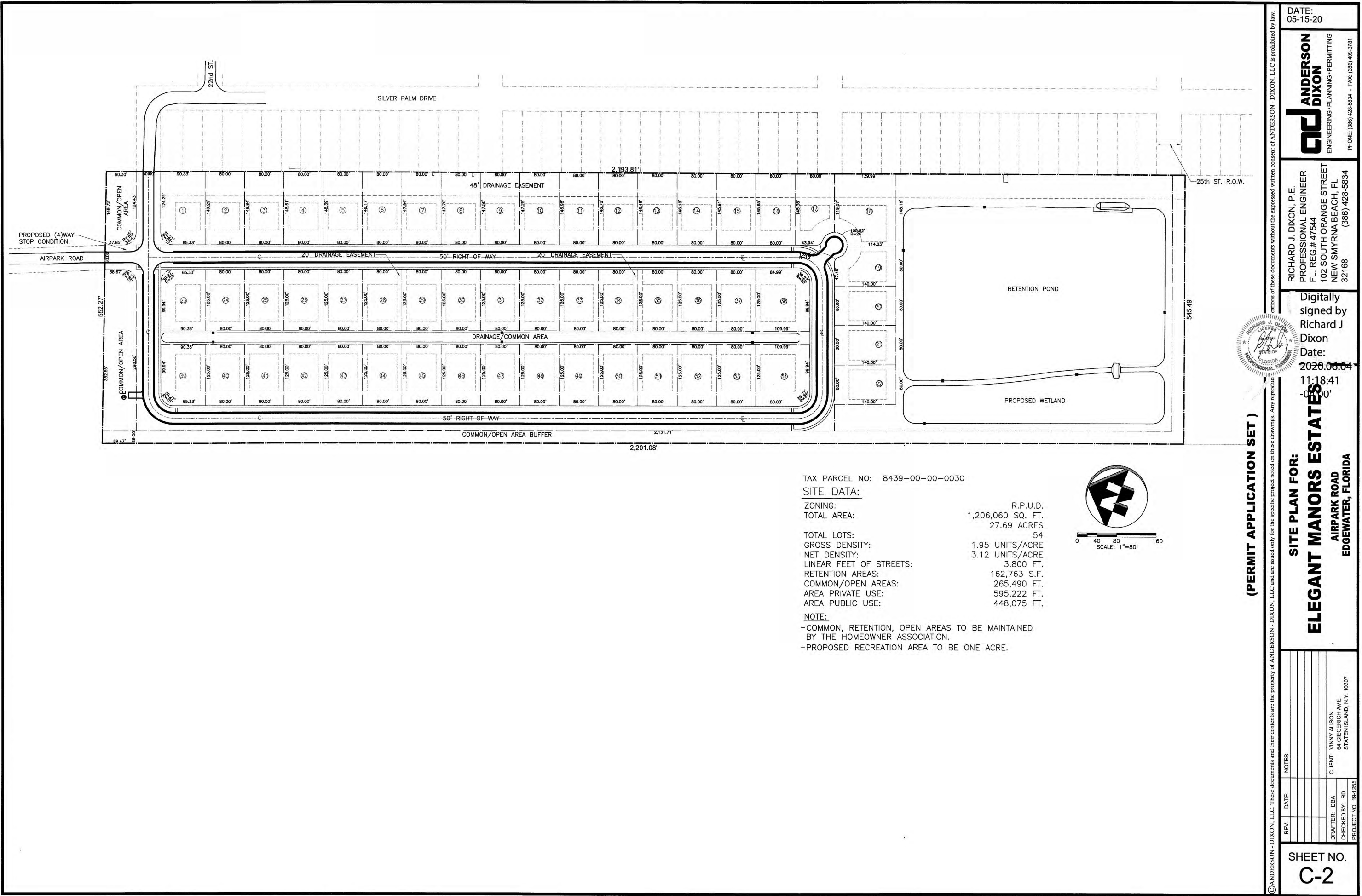
Date: 8-17-18

SCALE: AS SHOWN

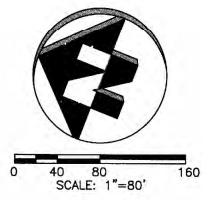
JOB# 1803

SEAL

H-2



TAX PARCEL NO: 8439-00-00-0030
SITE DATA:
ZONING: R.P.U.D.
TOTAL AREA: 1,206,060 SQ. FT.
27.69 ACRES
TOTAL LOTS: 54
GROSS DENSITY: 1.95 UNITS/ACRE
NET DENSITY: 3.12 UNITS/ACRE
LINEAR FEET OF STREETS: 3,800 FT.
RETENTION AREAS: 162,763 S.F.
COMMON/OPEN AREAS: 265,490 FT.
AREA PRIVATE USE: 595,222 FT.
AREA PUBLIC USE: 448,075 FT.



NOTE:
-COMMON, RETENTION, OPEN AREAS TO BE MAINTAINED BY THE HOMEOWNER ASSOCIATION.
-PROPOSED RECREATION AREA TO BE ONE ACRE.

(PERMIT APPLICATION SET)

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DATE: 05-15-20

ANDERSON DIXON
ENGINEERING • PLANNING • PERMITTING
PHONE: (386) 428-5834 - FAX: (386) 409-3781

RICHARD J. DIXON, P.E.
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102 SOUTH ORANGE STREET
NEW SMYRNA BEACH, FL 32168
(386) 428-5834

Digitally signed by Richard J Dixon
Date: 2020.06.04 11:18:41 -0400

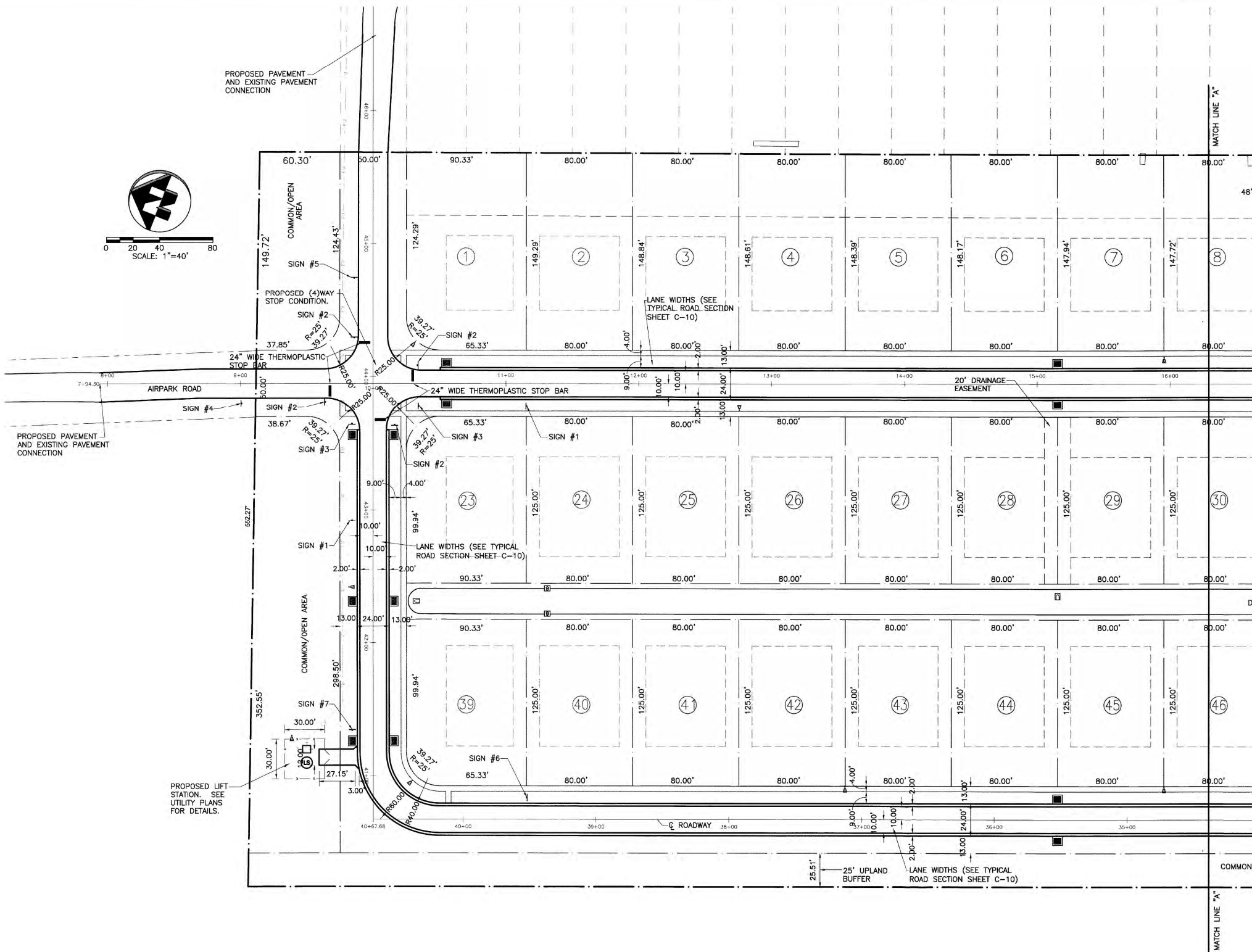
REV.	DATE	NOTES

DRAFTER: DBA	CLIENT: VINNY ALISON
CHECKED BY: RD	64 GIEGERICH AVE.
PROJECT NO. 19-1255	STATEN ISLAND, N.Y. 10307

SHEET NO. C-2

ELEGANT MANORS ESTATES
AIRPARK ROAD
EDGEWATER, FLORIDA

H-4



LEGEND

—SILI—	SILT FENCE	—S—	SEWER LINES
—W—	WATER LINES	—P—	PROPERTY LINES
—OU—	OVERHEAD ELECTRIC	—	STREET LIGHTING
		—	24" MIAMI CURB

CONSTRUCTION NOTES:

- CONTRACTOR TO LOCATE UTILITIES BEFORE COMMENCEMENT OF CONSTRUCTION AND USE EXTREME CAUTION WORKING AROUND EXISTING UTILITIES.
- CONSTRUCT 3,800 LINEAR FEET OF ROADWAY PER CITY OF EDGEWATER TYPICAL SECTION. SEE DETAIL R-1 ON SHEET C-10 FOR DETAILS.
- CONTRACTOR TO CUT PAVEMENT AT AIR PARK TO CREATE NEAT EDGE BETWEEN EXISTING AND NEW PAVEMENT SURFACES. SEE PAVEMENT BUTT JOINT DETAIL.
- SEE STORMWATER PLAN FOR INLETS, RETENTION POND, AND CROSS DRAIN DETAILS.
- SEE ROADWAY TYPICAL SECTION FOR SWALE DETAILS.
- 10' UTILITY EASEMENTS SHALL BE CLEARED AND GRADED AT A 10:1 SLOPE.
- SHOULDER SWALES SHOULD BE SODDED IMMEDIATELY AFTER GRADING TO PREVENT EROSION AND MAINTAIN SLOPES.
- SIGN INSTALLATION LOCATIONS. SEE DETAILS ON SIGN DETAIL SHEET.
 - SIGN #1 - SPEED LIMIT, 25 MPH, R2-1, 24"x30"
 - SIGN #2 - STOP SIGN WITH STOP BAR, R-1-1, 30"x30" WITH ALL WAY STOP BELOW, R1-3-P
 - SIGN #3 - NO THRU STREET
 - SIGN #4 - THRU TRAFFIC ←
 - SIGN #5 - THRU TRAFFIC →
 - SIGN #6 - RIGHT TURN ARROW, 30"x30"
 - SIGN #7 - LEFT TURN ARROW, 30"x30"
- F.P.L. TO INSTALL (14) STREET LIGHT POLES IN LOCATIONS SHOWN. LIGHTS TO BE PER CITY DETAIL M-15 OR APPROVED EQUAL.
- CONSTRUCT 4' WIDE, 6" THICK CONCRETE SIDEWALK PER CITY DETAIL M-2 ON SHEET C-26.

(PERMIT APPLICATION SET)

DATE: 05-15-20

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(386) 428-5834

Digitally signed by Richard J. Dixon
Date: 2020.06.04 11:19:05 -0400

**SITE PLAN FOR:
ELEGANT MANORS ESTATES**
AIRPARK ROAD
EDGEWATER, FLORIDA

REV.	DATE:	NOTES:

DRAFTER: DBA	CLIENT: VINNY ALISON 64 GIEGERICH AVE. STATEN ISLAND, N.Y. 10307
CHECKED BY: RD	
PROJECT NO. 19-1255	

SHEET NO.
C-3