SHARED USE PATH FEASIBILITY STUDY

GOLFVIEW BOULEVARD

(FROM BEVILLE ROAD TO BIG TREE ROAD)

CITY OF SOUTH DAYTONA

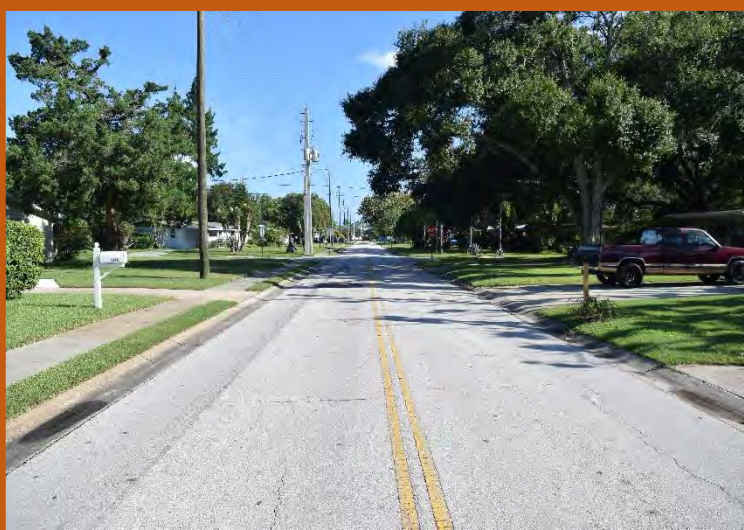
FINAL REPORT – DECEMBER 14, 2018

PREPARED FOR:
RIVER TO SEA TPO

PREPARED BY:
RS&H, INC.

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

RS&H



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EXECUTIVE SUMMARY

The City of South Daytona submitted an Application for Project Prioritization to the River to Sea Transportation Planning Organization for a new 12-foot wide shared use path along Golfview Boulevard between Beville Road and Big Tree Road, a distance of approximately 0.73 miles. Due to the corridor's apparent limited right of way width (50 feet) and the presence of numerous utilities including electrical transmission poles and fire hydrants, and based on current design guidelines and criteria for shared use paths it was determined that a 10-foot wide path would be more appropriate and financially feasible for the corridor. Upon evaluation of the corridor's unique features, conceptual plans for a new 10-foot wide shared use path (with the exception of a 275 foot long constrained segment, which can only accommodate an 8-foot wide path) located along the east side of Golfview Boulevard were developed. This concept, presented in Appendix A, can be implemented within the apparent existing right of way. It will not impact any designated wetlands or listed species habitat therefore it will be exempt from environmental permitting. It will require only minor modifications to the existing drainage system, therefore will not require an environmental resource permit. The preliminary probable cost estimate for this concept is $482,705 in 2018 dollars.

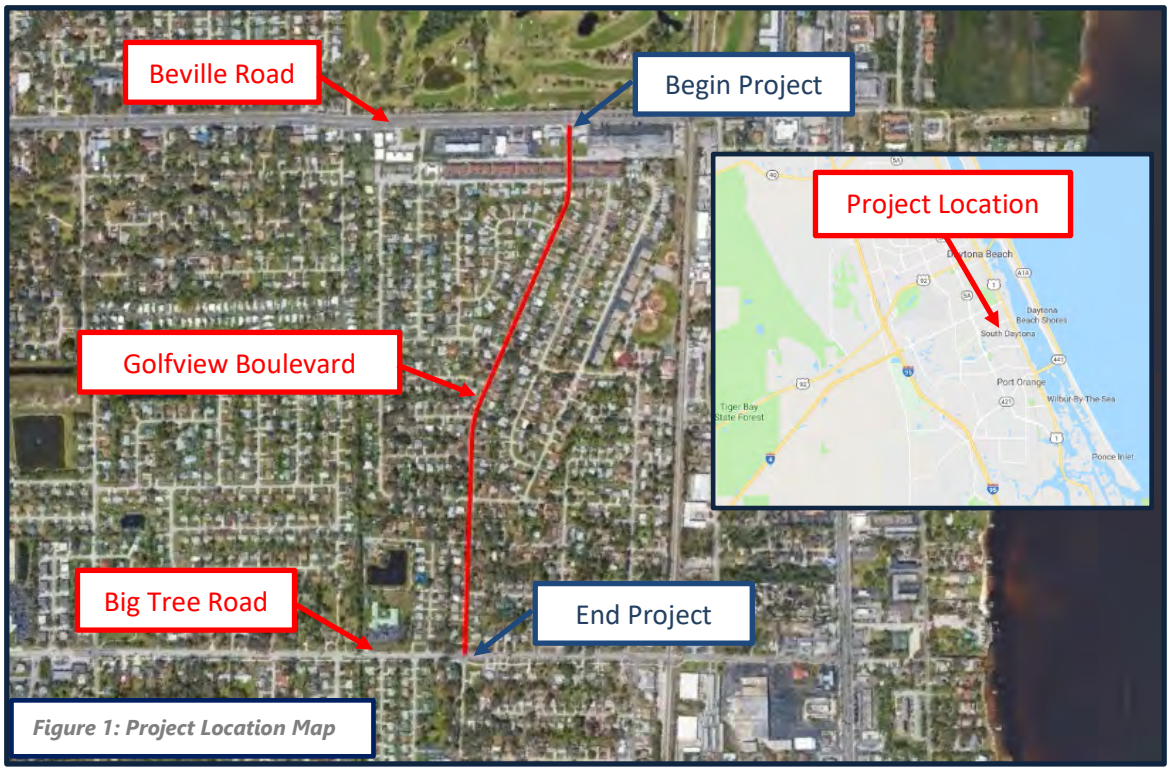
1.0 INTRODUCTION

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 South Daytona (City). The City is in the process of implementing their adopted shared use path network and this proposed project is an integral part of that network. It would provide a critical connection between the existing bicycle and pedestrian facilities on Beville Road (SR 400) with the recently completed 10-foot wide shared use path on Big Tree Road. This 0.73 mile connection would greatly enhance the safety characteristics of the corridor for all travel modes, advance the City's adopted network plan and provide an upgraded pedestrian option for students walking or riding their bicycles to the South Daytona Elementary School located just south of Big Tree Road.

2.0 PROJECT PURPOSE AND SCOPE

The purpose of this study is to determine the feasibility of providing a 12-foot wide shared use path along Golfview Boulevard between Beville Road and Big Tree Road. The path will fill a critical gap in the City's Shared Use Path Network, improve the overall safety characteristics of the corridor and provide an enhanced pedestrian facility for students walking and biking to South Daytona Elementary School. The path will extend from a connection with the recently completed shared use path on Big Tree Road to the pedestrian and bicycle facilities provided along Beville Road, a distance of approximately 0.73 miles. A project location map, with limits is provided in ***Figure 1***.

Field reviews were conducted during the study 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.



Source: Google Maps

While the City requested the analysis of a 12-foot wide shared use path, it was quickly determined that provision of a 12-foot wide path would require additional right of way. Therefore, due to right of way constraints, engineering design standards and criteria and the corridor's unique characteristics a 10-foot wide path with a short segment (approximately 275 feet) narrowed to eight-feet is proposed and reflected on the Concept Plans presented in **Appendix A**. The preliminary cost estimate for this concept is $482,705 in 2018 dollars.

The graphics within this report include notes, diagrams and callouts identifying the apparent right of way, existing utilities, location of proposed shared use path, 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 Devises (MUTCD).

3.0 EXISTING CONDITIONS

GENERAL DESCRIPTION

As stated previously, the project corridor is located within the City of South Daytona extending from Beville Road to Big Tree Road, a distance of approximately 3,850 linear feet (0.73 miles). Golfview Boulevard is a two-lane residential street with 10-foot wide travel lanes and a 25 mph posted speed limit, ***Figure 2***. There are numerous driveway connections on both sides of the roadway and many residents regularly park one or more vehicles in their driveways as shown on ***Figure 3***. A four-foot wide sidewalk is located along the west side of the roadway but no sidewalk is provided on the east side. Roadside drop curbs (provided along the majority of the corridor) and shallow swales channel stormwater runoff into inlets. The apparent right of way width varies with 50 feet being typical. The Golfview Boulevard existing typical sections are provided in **Appendix B**.

Figure 2: Golfview Boulevard looking north

Figure 3: Corridor Parking

TRAFFIC CONTROLS

Traffic signals control the intersections at each end of the study segment (Beville Road and Big Tree Road) and high visibility pedestrian crossings are provided at these intersections as well. The recently completed Big Tree Road pedestrian crossing is shown in ***Figure 4***.

Figure 4: Big Tree Road Pedestrian Crossing

While traffic signals are provided at both ends of the project, the study segment's other nine local intersections are stop-sign controlled as indicated in ***Table 1.***

Table 1

Golfview Boulevard Intersection Controls

Intersecting Roadway	Intersection Control	Note
Beville Road	Traffic Signal	"T" intersection; (with designated pedestrian crossing)
Northern Road	Stop Sign	"+" intersection
Louisiana Road	Stop Sign	"T" intersection (West)
Violet Street	Four-Way Stop	"+" intersection
Marathon Way	Stop Sign	"T" intersection (West)
Largo Way	Stop Sign	"T" intersection (West)
Steele Avenue	Stop Sign	"T" intersection (West)
Katherine Street	Stop Sign	"+" intersection
Olive Street	Stop Sign	"+" intersection
Aurora Street	Stop Sign	"T" intersection (East)
Big Tree Road	Traffic Signal	"+" intersection; (with designated pedestrian crossing)

Apparent RIGHT OF WAY

Based on right of way and parcel boundary information provided by the City, the apparent Golfview Boulevard right of way is generally 50 feet wide throughout the corridor. However, parcel boundary set-backs, which appear to range between 5' and 10' from the right of way line seem to provide additional separation from the roadway edge.

DRAINAGE

Drop curb is provided along both sides of Golfview Boulevard for the majority of the corridor from Beville Road to approximately 100 feet south of Katherine Street as shown on ***Figure 5***. There is no curb present south of Katherine Street to Big Tree Road as shown on ***Figure 6***.

Figure 5: Golfview Blvd. Section with Curb

Figure 6: Golfview Blvd. Section without Curb

Overall the project area is very flat, which allows stormwater to percolate into the ground, or sheet flow to existing drop curb inlets. Storm drain pipes connect the drop curb inlets, which are located intermittently along Golfview Boulevard as shown on ***Figure 7***. Storm drain pipes connect the drop curb inlets located along the east side of Golfview Boulevard to inlets along the west side of the roadway and continue west to off-site facilities. The existing swale located at the intersection of Golfview Boulevard and Big Tree Road shown in ***Figure 8*** collects runoff from both roadways and conveys it to the west along Big Tree Road.

Figure 7: Golfview Blvd. Drainage Inlet

Figure 8: Existing U-Type Endwalls and Straight Endwalls along Big Tree Road

UTILITIES

A utilities assessment was made during field reviews and supplemented information provided by the City. Numerous above and below ground utilities are located along Golfview Boulevard. Overhead transmission and distribution power lines are located along the entire length of the corridor on the west side of Golfview Boulevard. The poles are placed approximately two to three feet off the back of the existing sidewalk. Street lights are installed on several, but not all of the electrical poles.

The City provides potable water and sanitary sewer along the entire corridor. Fire hydrants are located throughout the corridor on the west side of the roadway behind the existing sidewalk. A typical arrangement of the electric poles and fire hydrants is shown in ***Figure 9***.

Figure 9: Typical Electric Pole and Fire Hydrant

SOILS and CONTAMINATION

Moderately well drained soils (Daytona Urban Land Complex, 0 to 5% slope) exist throughout the study corridor as depicted on the soils survey map prepared from Volusia County GIS information and provided in **Appendix C**.

The Florida Department of Environmental Protection (FDEP) contamination locator map and OCULUS database identified one active cleanup site, Lee's Market (Facility ID: 8517532) located in the southeast quadrant of the Beville Road and Golfview Boulevard intersection. The October 5, 2018 soil and groundwater sampling assessment report identified no off-site petroleum migration nor did it identify any target constituent above their respective Soil Cleanup Target Levels (SCTLs). Since adequate investigation of the site has been completed, the risk level is low and it should not affect the construction of the proposed shared use path. The assessment report is provided in **Appendix D** for reference.

ENVIRONMENTAL

The project corridor is densely developed with well-established single-family residential uses. As expected, there are no designated wetlands within the project limits. Furthermore, no evidence of gopher tortoises, their burrows or any other listed species were observed within the project limits during field reviews.

4.0 SHARED USE PATH CONCEPT PLAN

The City application requested evaluation of a 12-foot wide shared use path on Golfview Boulevard from Beville Road to Big Tree Road. Development of the concept plan began with an evaluation of the east and west sides of Golfview Boulevard to determine the most appropriate location for the path. As mentioned in the existing conditions section, there is currently a four-foot wide sidewalk located on the west side of the roadway and no pedestrian facilities on the east side. Additionally, numerous electrical transmission and distribution poles and fire hydrants are positioned along the west side of the street. Potential impacts to the major corridor features were estimated for each side of the roadway and documented below in **Table 2**.

TABLE 2

Golfview Boulevard Shared Use Path Location Evaluation Matrix

Corridor Feature	West Side	East Side
Existing Sidewalk	Yes	No
Electric Poles	17 (Trans. & Dist.)	2 (Dist.)
# of Driveways	30	34
# Fire Hydrants	7	0
# Drainage Inlets	7	7

Constructing the shared use path on the west side of Golfview Boulevard would require relocating multiple electric poles and fire hydrants to meet minimum ADA clearance requirements. The costs associated with these relocations would render the project impractical. Therefore, it is recommended the shared use path be placed on the east side of Golfview Boulevard.

The FDOT Design Manual, January 1, 2018 (FDM) provides various guidelines and criteria for shared use paths and sidewalks. Chapter 224 of the FDM provides the following description:

> *"Shared use paths are paved facilities physically separated from motorized vehicular traffic by an open space or barrier and are either within the highway right of way or an independent right of way. Shared use paths are used by bicyclists, pedestrians, skaters, runners and others."*

Key features of the FDM Shared Use Paths sections relevant to this project are provided below:

224.4 Widths - The appropriate paved width for a two-directional shared use path is dependent upon context, volume and mix of users. Widths range from a minimum 10 feet to 14 feet, with a standard width of 12-feet. For shared use paths not in the SUN Trail network:

- 10-feet wide may be used where there is limited right of way.
- Short 8-feet wide sections may be used in constrained conditions.

224.12 Separation from Roadway - Provide a separation between a shared use path and the roadway when they are located adjacent to each other. This demonstrates to both path users and motorists that the shared use path is a separate facility. Minimum separation is as follows:

- On curbed roadways with design speed 45 mph or less, the edge of the path is to be at least 4 feet from the back of curb, with consideration of other roadside obstructions (e.g. signs and light poles).

Using these criteria as guides, a conceptual shared use path 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**).

SHARED USE PATH PLAN

The shared use path is located on the east side of Golfview Boulevard. Due to right of way constraints and the meandering nature of the roadway center-line within the right of way, a four-foot separation between the roadway edge and the inside edge of the path cannot be maintained along the entire corridor. Therefore, for this concept the outside path edge is placed adjacent to the right of way line to maximize the separation between the roadway and inside path edge. The

exact location of the path may be adjusted during final design once a detailed current survey is prepared.

Similarly, due to right of way constraints and the meandering nature of the roadway center-line within the right of way, a consistent 12-foot wide path cannot be provided long the entire length of the corridor within the existing right of way. Therefore the path is proposed to be 10-feet wide with the exception of a short segment between Katherine Street and Olive Street where the centerline of Golfview Boulevard meanders to the east "shrinking" the distance to the right of way line. An eight-foot wide path is proposed for this short (approximately 275 feet) constrained section to avoid right of way acquisition. The proposed 10-foot width is consistent with the path recently constructed along Big Tree Road at the southern end of this project. The pavement crosswalk striping and the pedestrian signals at the Big Tree Road intersection will be upgraded as appropriate to help ensure safe pedestrian crossings.

The proposed path will potentially impact three existing drainage inlets, including the one located at the intersection of Golfview Boulevard and Aurora Street shown in ***Figure 10***. These inlets can be relocated and connected to the existing underground drainage system. Minor modifications to the ditch at the intersection of Golfview Boulevard and Big Tree Road will also be required. The swale located 80 feet north of Big Tree Road will be filled. The swale is approximately 90 feet long and the existing storm pipe will be replaced with back of sidewalk inlets and will be connected to a proposed manhole. The proposed manhole will connect to an existing 15" pipe that discharges to the swale at the corner of Golfview Boulevard and Big Tree Road. An environmental resource permit will not be required for the minor drainage system modifications. As this project does not affect wetlands or other surface waters, the project will also be exempt from environmental permitting requirements as outlined by Florida Administrative code 62.330.051.

Figure 10: Drainage Inlet at Aurora Street to be relocated

5.0 FINANCIAL FEASIBILITY

A preliminary cost estimate for the design and construction of the proposed shared use path is presented in **Appendix E**. 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. The cost estimate does not include tree removal or permitting fees that may be associated with the final design phase. Based on the field review, no additional right of way will need to be purchased to accommodate the proposed conceptual design.

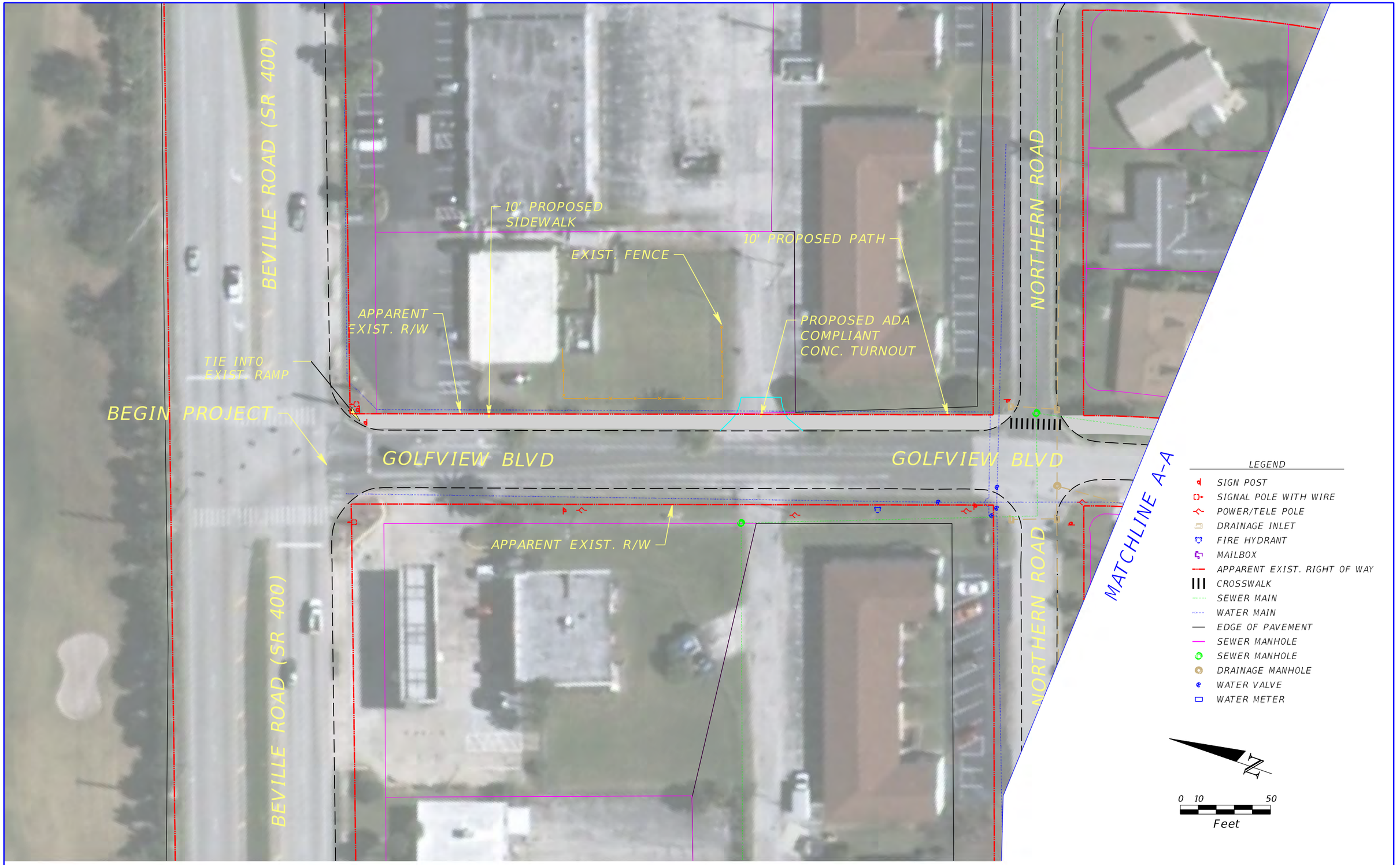
To adjust for potential future increases in the project's cost estimate, an annual inflationary factor may be applied. The FDOT provides annual inflation factors for roadway construction costs which may be used as a guideline for this shared use path project. The cost estimate provided herein has been adjusted by the FDOT inflationary factors noted in **Appendix F** to determine inflation-adjusted cost estimates for the proposed shared use path concept. The total cost estimate in 2018 dollars for the shared use path concept presented in **Appendix A** is $482,705. The inflation-adjusted cost estimates for 2019, 2020, and 2021 are $496,220, $509,122 and $521,850 respectively.

6.0 CONCLUSION

The purpose of this study was to evaluate the feasibility of constructing a 12-foot wide shared use path along Golfview Boulevard from Beville Road to Big Tree Road. Due to right of way constraints and the unique character of the adjacent properties, it was determined a 10-foot wide path (with a short 8-foot wide segment) would be more appropriate and cost effective for the corridor. No right of way will need to be purchased to accommodate the path. Minimal 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 shared use path is feasible.

APPENDIX A

Concept Plan



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GOLFVIEW BLVD SHARED USE PATH CONCEPT PLAN

SHEET NO.
A-1

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GOLFVIEW BLVD SHARED USE PATH CONCEPT PLAN

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GOLFVIEW BLVD SHARED USE PATH CONCEPT PLAN

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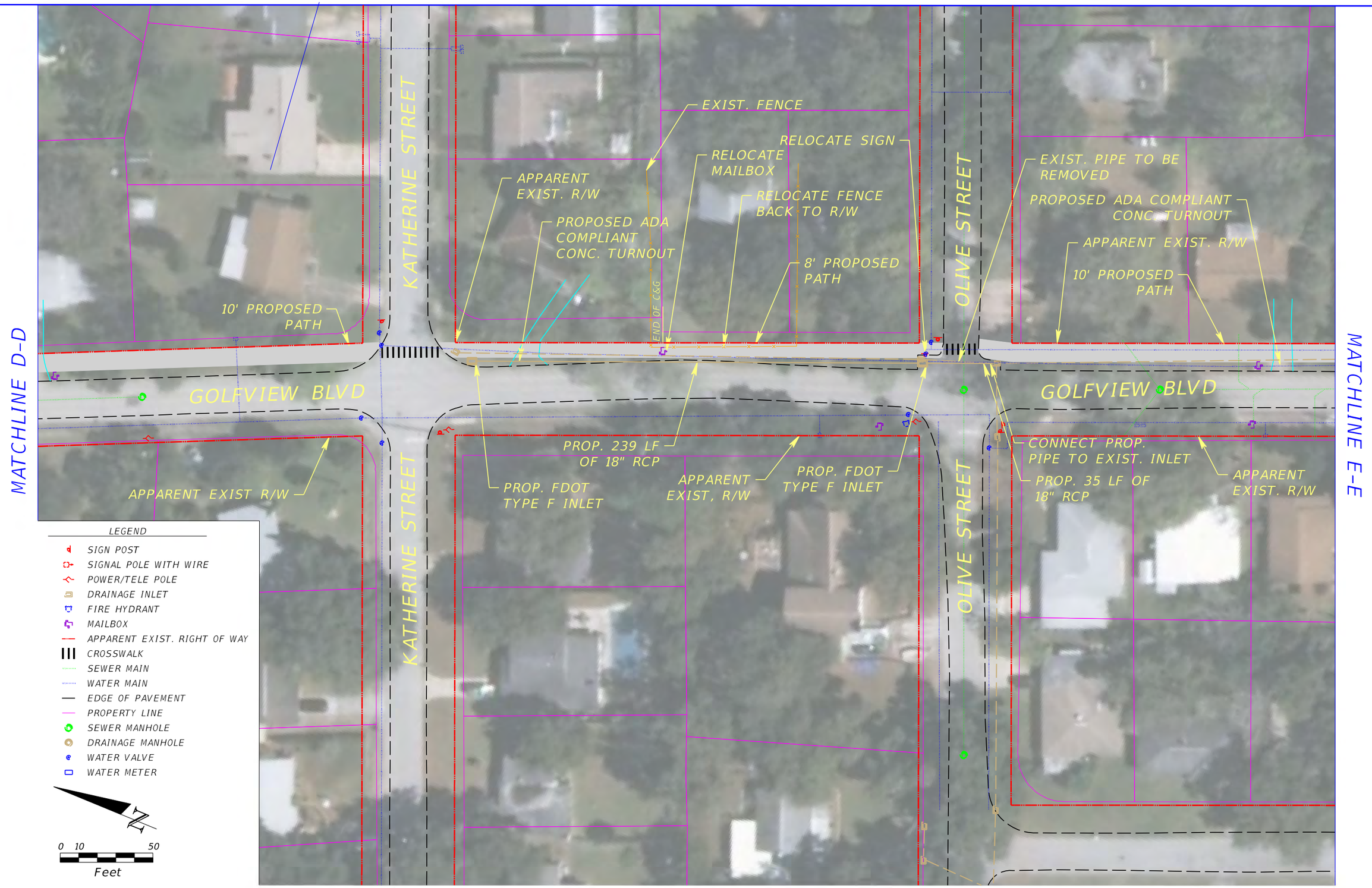

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GOLFVIEW BLVD SHARED USE PATH CONCEPT PLAN

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MATCHLINE E-E

EXIST. FENCE

RELOCATE FENCE BACK TO R/W

PROP. FDOT TYPE C INLET

PROP. 7 LF OF 18" RCP

AURORA STREET

EXIST. FENCE

PROP. 131 LF OF 18" RCP

RECONST. FULL DEPTH ROADWAY

PROPOSED ADA COMPLIANT CONC. TURNOUT

INSTALL NEW PED SIGNAL

EXIST. ENDWALL & PIPE TO BE PLACED OUT OF SERVICE

APPARENT EXIST. R/W

PROP. TYPE 7 MANHOLE CONNECT TO EXIST 15" PIPE

PROP. 41 LF OF 18" RCP

PROPOSED ADA COMPLIANT CONC. TURNOUT

BIG TREE ROAD

PROP. FDOT TYPE C INLET

10' PROPOSED PATH

END PROJECT

GOLFVIEW BLVD

MODIFY EXIST PED SIGNAL

EXIST. INLET TO BE REMOVED

RELOCATE POLE

PROP. FDOT TYPE C INLET

APPARENT EXISTING R/W

RELOCATE POLE

PROP. 109 LF OF 18" RCP

PROPOSED MANHOLE

RELOCATE SIGN

PROP. FDOT BACK OF SIDEWALK INLET

EXIST. SWALE TO BE FILLED

PROP. 42 LF OF 18" RCP

PROP. 11 LF OF 18" RCP

APPARENT EXIST. R/W

PROP. FDOT TYPE C INLET

PROP. 29 LF OF 18" RCP

PROP. FDOT BACK OF SIDEWALK INLET

BIG TREE ROAD

LEGEND

- SIGN POST
- SIGNAL POLE WITH WIRE
- POWER/TELE POLE
- DRAINAGE INLET
- FIRE HYDRANT
- MAILBOX
- APPARENT EXIST. RIGHT OF WAY
- CROSSWALK
- SEWER MAIN
- WATER MAIN
- EDGE OF PAVEMENT
- PROPERTY LINE
- SEWER MANHOLE
- DRAINAGE MANHOLE
- WATER VALVE
- WATER METER
- PAVEMENT RECONSTRUCTION

N

0 10 50

Feet

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GOLFVIEW BLVD SHARED USE PATH CONCEPT PLAN

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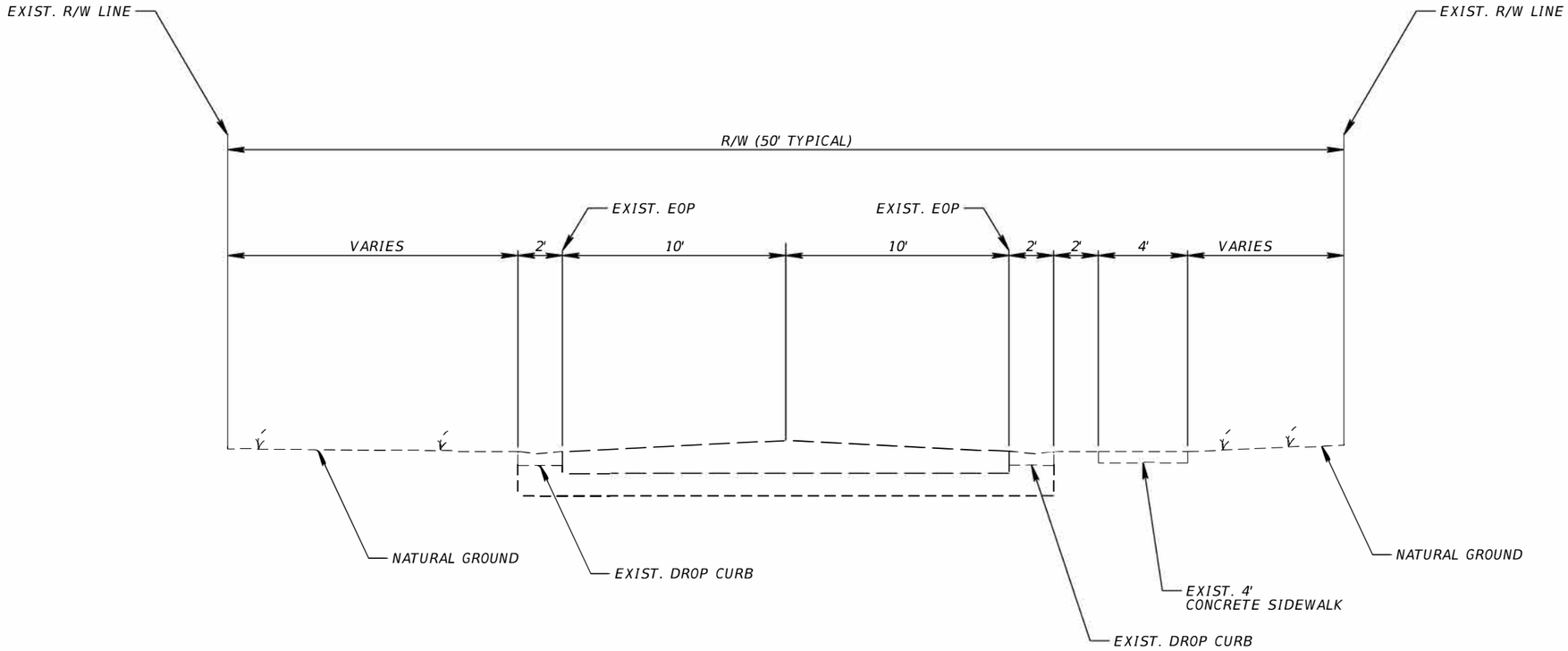
APPENDIX B

Typical Sections



EXISTING TYPICAL SECTION WITH CURB

BEVILLE ROAD (SR 400)
TO
SOUTH OF KATHERINE STREET

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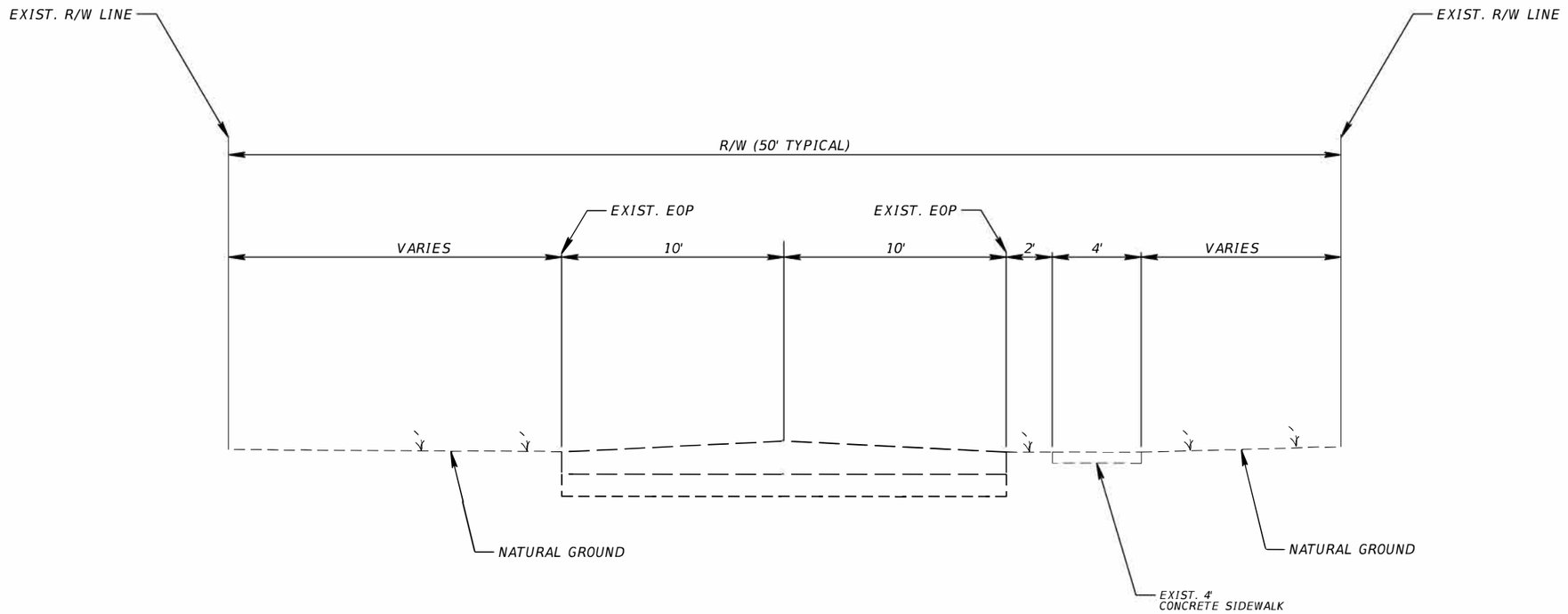

EXISTING TYPICAL SECTION WITHOUT CURB

SOUTH OF KATHERINE STREET

TO

BIG TREE ROAD

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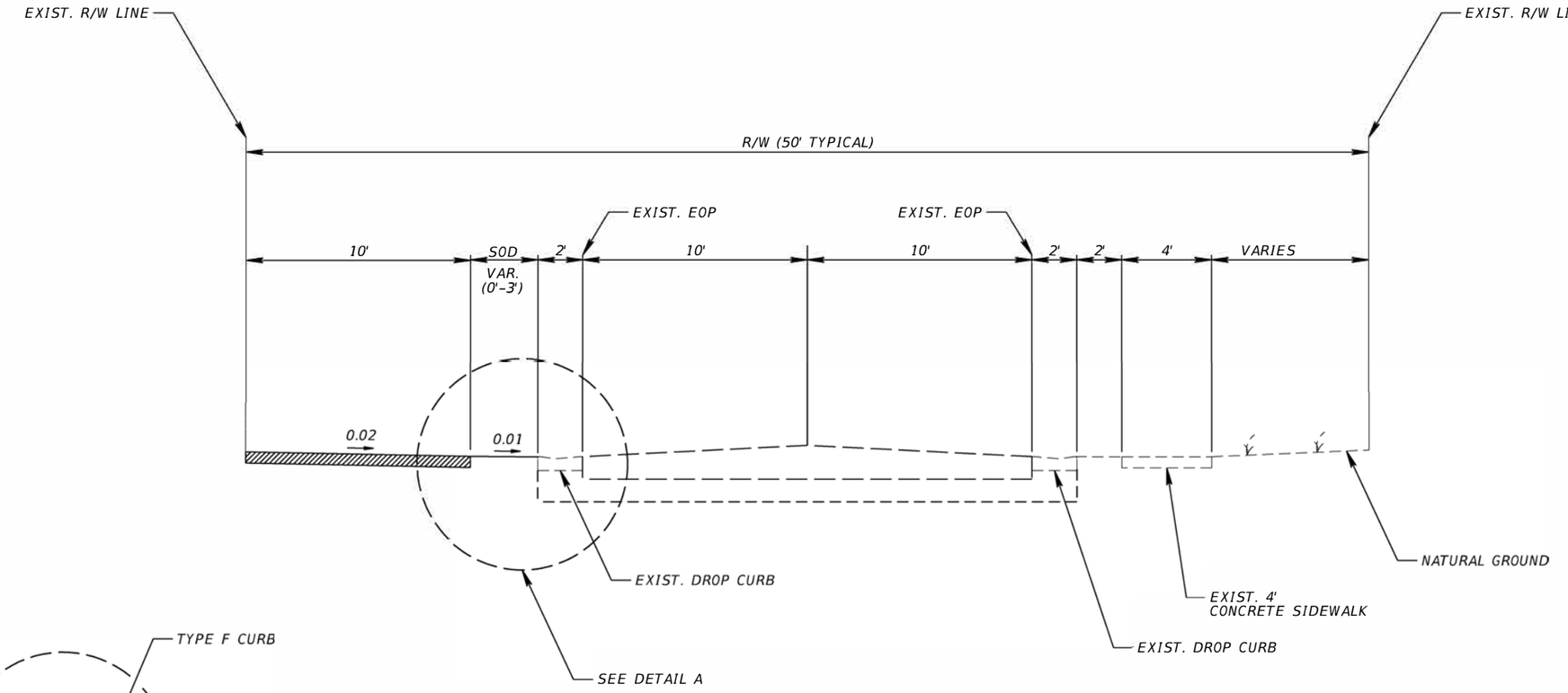
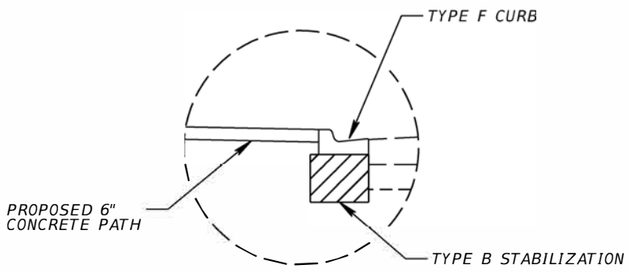


PROPOSED TYPICAL SECTION WITH CURB

BEVILLE ROAD (SR 400)

TO

SOUTH OF KATHERINE STREET



DETAIL A

OPTION TO BE EVALUTATED IN FINAL DESIGN

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GOLFVIEW BLVD SHARED USE PATH CONCEPT PLAN

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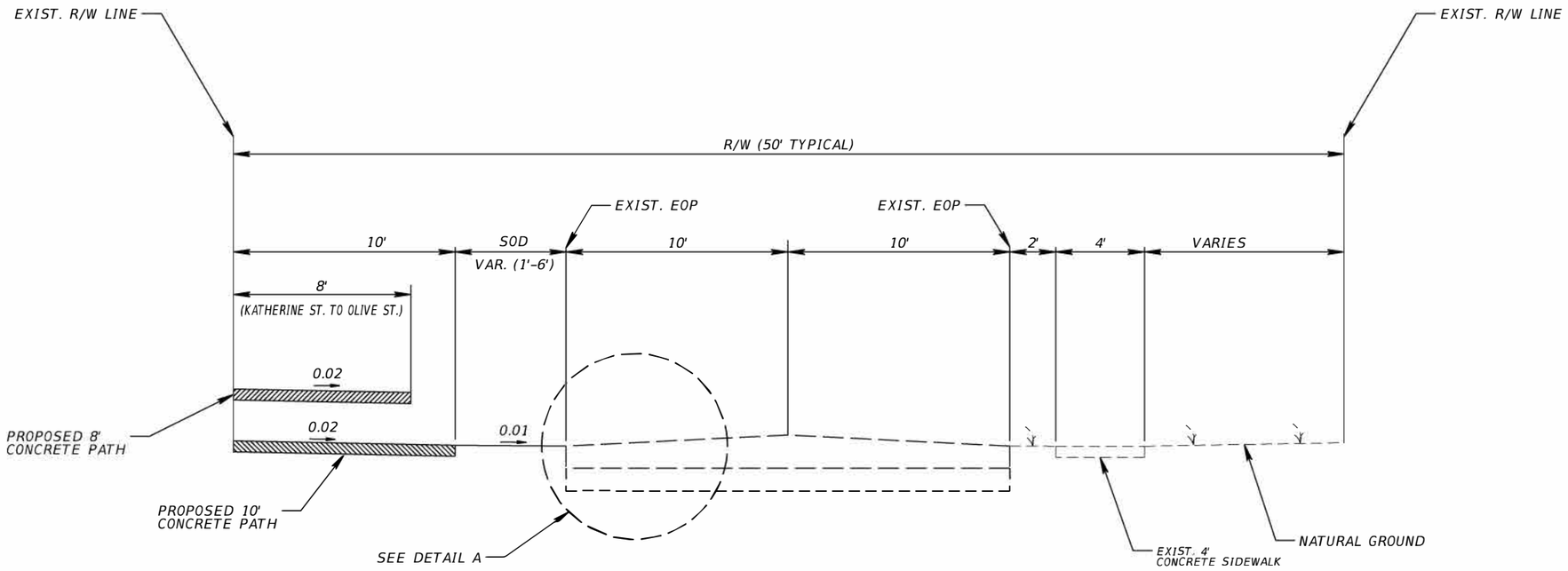
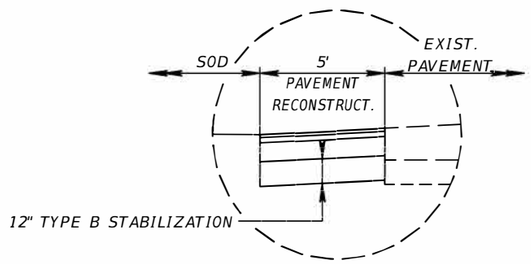


PROPOSED TYPICAL SECTION WITHOUT CURB

SOUTH OF KATHERINE STREET
TO
BIG TREE ROAD



DETAIL A

AURORA ST. TO BIG TREE RD.
OPTIONAL BASE GROUP 9 (6") WITH
TYPE SP STRUCTURAL COURSE (TRAFFIC B) (2.5")
FRICTION COURSE FC-12.5 (1.5") (PG 76-22)

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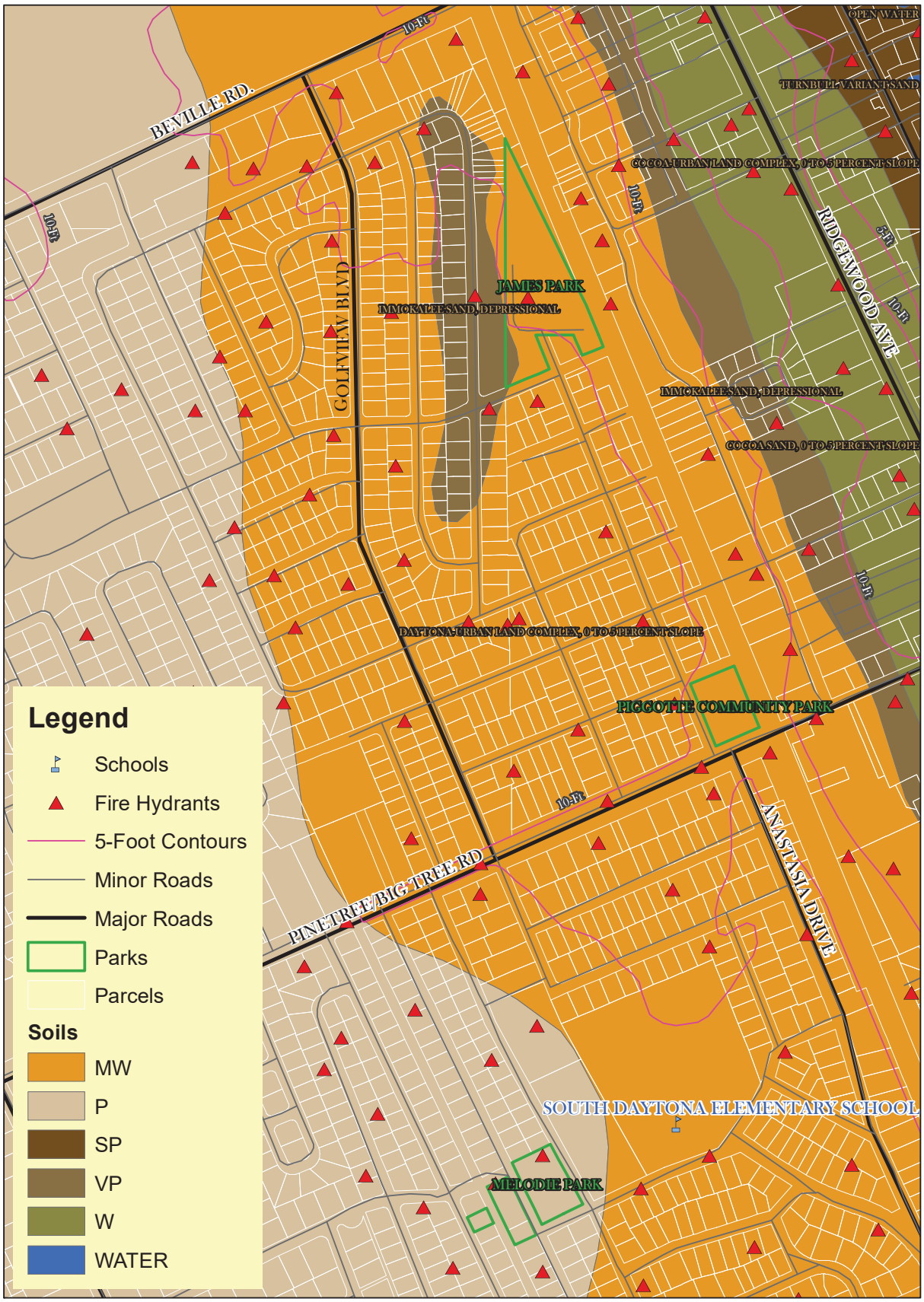
APPENDIX C

Soil Survey Map


BEVILLE RD.
GOLFVIEW BLVD
RIDGEWOOD AVE
ANASTASIA DRIVE
PINETREE/BIG TREE RD
JAMES PARK
PIGGOTTE COMMUNITY PARK
MELODIE PARK
SOUTH DAYTONA ELEMENTARY SCHOOL
IMMOKALEE SAND, DEPRESSIONAL
COCOA-URBAN LAND COMPLEX, 0 TO 5 PERCENT SLOPE
DAYTONA-URBAN LAND COMPLEX, 0 TO 5 PERCENT SLOPE
COCOA SAND, 0 TO 5 PERCENT SLOPE
TURNBULL-VARIANT SAND
OPEN WATER
10-Ft
5-Ft
Legend
Schools
Fire Hydrants
5-Foot Contours
Minor Roads
Major Roads
Parks
Parcels
Soils
MW
P
SP
VP
W
WATER
N
0
265
530
1,060
1,590
2,120
Feet

APPENDIX D

Lee's Market Contamination Report

MAS ENVIRONMENTAL, LLC

1704 W Grace Street | Tampa, FL 33607 | Phone 813.658.8823 | Fax 888.694.2822

October 5, 2018

Mr. David Dunaway
Via e-mail at DDunaway@northstar.com

Re: Event #3 Letter Report
Lees Market (Former Majik Market #42005)
599 Beville Rd
South Daytona, FL 32019
Discharges: 02/06/1987 (EDI)
Facility ID#: 64/8517532
Work Order # 2018-95-W0992B
MAS Project #L00108

Dear Mr. Dunaway:

MAS Environmental LLC (MAS) is pleased to provide you with the following Event Three Letter Report for your review. The following items are included in this submittal:

Figure 1	**Site Map**
Figure 2A	**Soil OVA Summary Map – 6/08/18 & 9/7/18**
Figure 2B	**Soil Analytical Summary Map – 6/08/18 & 9/7/18**
Figure 3	**Groundwater Elevation Contour Map – 9/12/18**
Figure 4	**Groundwater Analytical Summary Map – 2/22/18, 6/15/18, & 9/12/18**
Table 1	**Soil Screening Summary**
Table 2A	**Soil Analytical Summary – VOAs, TRPH, Metals**
Table 2B	**Soil Analytical Summary – Non-Carcinogenic PAHs**
Table 2C	**Soil Analytical Summary – Carcinogenic PAHs**
Table 3	**Groundwater Elevation Table**
Table 4A	**Groundwater Analytical Summary - VOAs, TRPH, Metals**
Table 4B	**Groundwater Analytical Summary - Non-Carcinogenic PAHs**
Table 4C	**Groundwater Analytical Summary - Carcinogenic PAHs**
Appendix A	**Soil Boring and Well Completion Logs**
Appendix B	**Groundwater Sampling logs**
Appendix C	**Laboratory Analytical Reports**

SUMMARY OF RESULTS

The results of soil sampling did not identify any target constituent above their respective SCTLs in the soil samples collected from SB-22 and SB-24.

The results of the groundwater sampling identified several petroleum constituents above both GCTLs in the groundwater sample collected from MW-3 and MW-9. The benzene concentration at MW-3 also exceeding the NADCs. No petroleum constituents were identified above the GCTLs in the sample from the deep well, DW-1.

CONCLUSION AND RECOMMENDATIONS

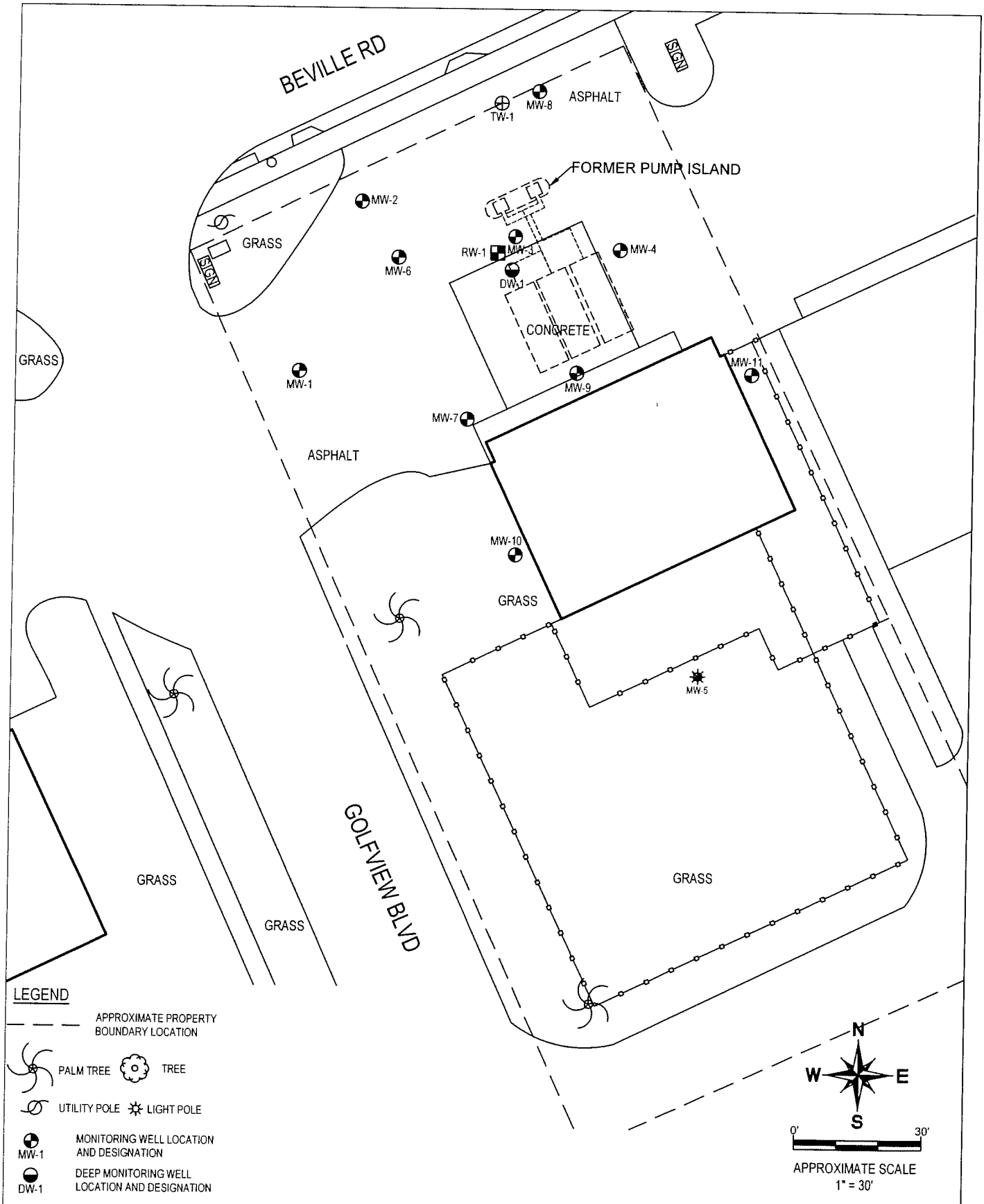
Based on the analytical results both soil and groundwater impacts were identified and have been adequately delineated horizontally and vertically. Therefore, MAS recommends submitting the final LSSI Report which will include a plan to conduct a small scale excavation to address the soil and groundwater impacts and qualify the site for a LSSI NFA designation.

Should you have any questions regarding the information contained in this letter report, please contact the undersigned at (813) 658-8823 Ext 110 or via e-mail at mminard@mas-env.com.

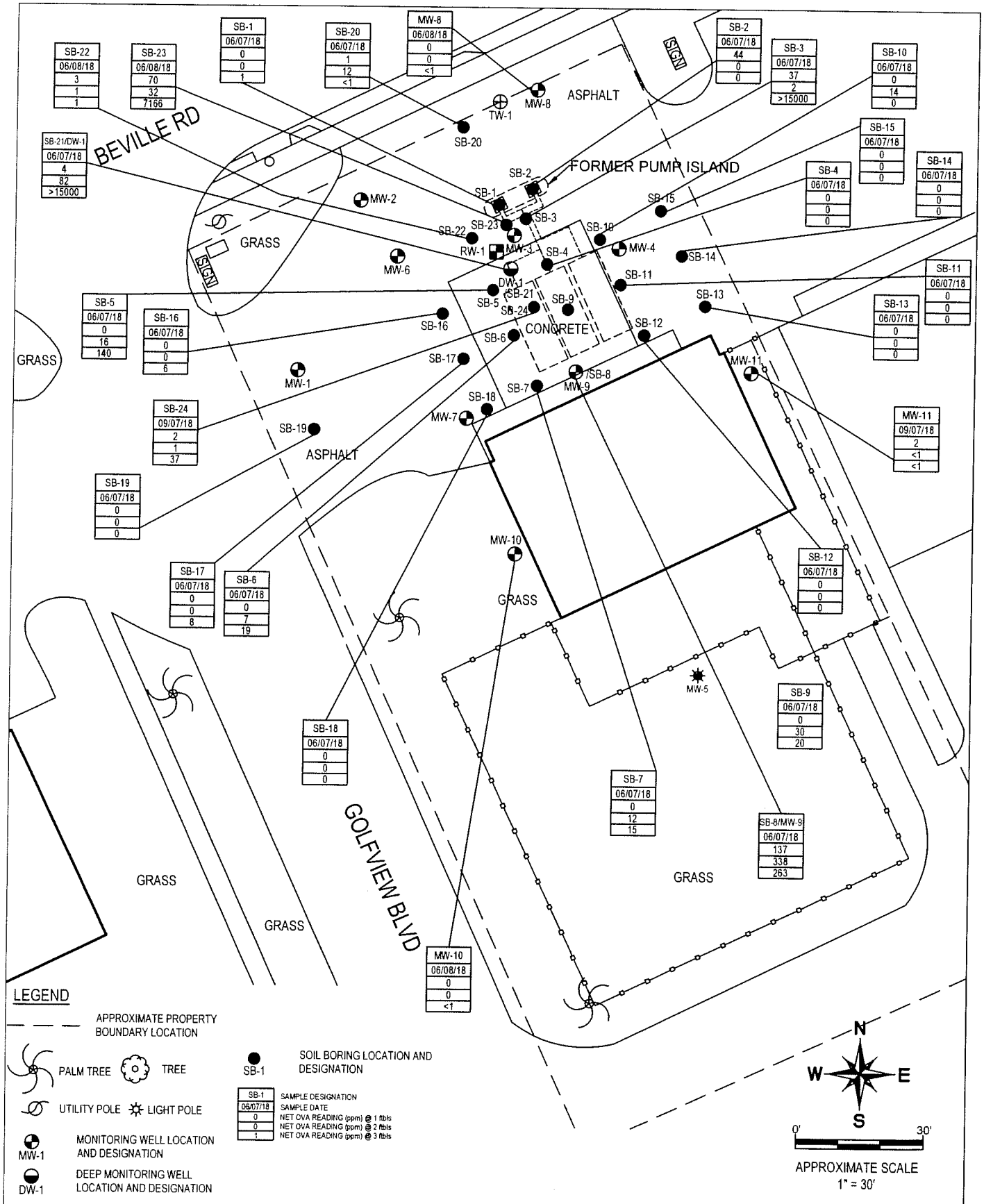
Sincerely,
MAS Environmental LLC.

Michael S. Minard, P.G.
Senior Geologist

FIGURES AND TABLES



MAS ENVIRONMENTAL, LLC	MAJIK MARKET #42005 599 BEVILLE ROAD SOUTH DAYTONA, VOLUSIA COUNTY, FLORIDA FDEP FAC. ID. NO.: 64/8517532	SITE MAP	FIGURE 1 PROJECT No. **L00108**

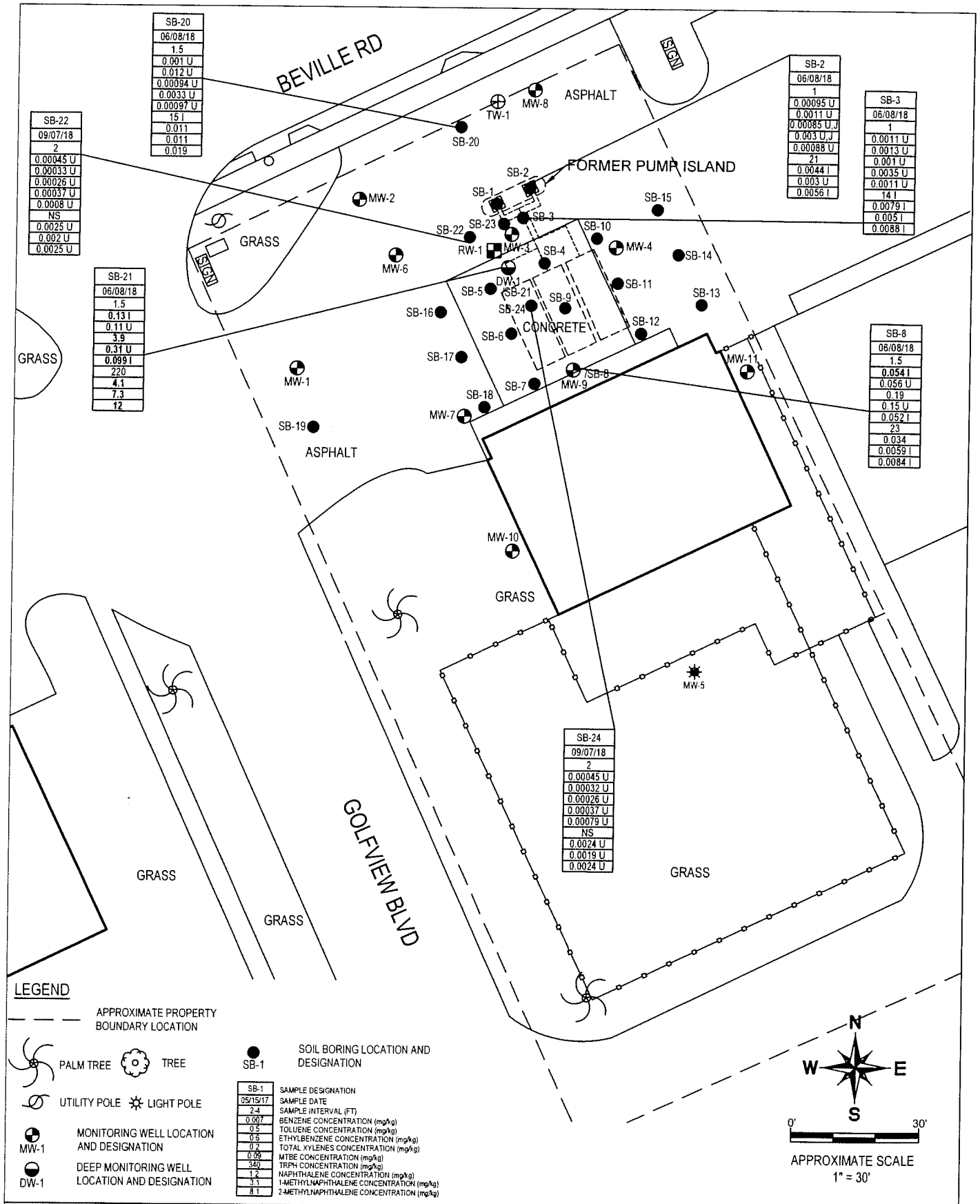


MAS ENVIRONMENTAL, LLC

MAJIK MARKET #42005
599 BEVILLE ROAD
SOUTH DAYTONA, VOLUSIA COUNTY, FLORIDA
FDEP FAC. ID. NO.: 64/8517532

SOIL OVA MAP (06/07/18 & 09/07/18)

FIGURE
2A
PROJECT No.
L00108

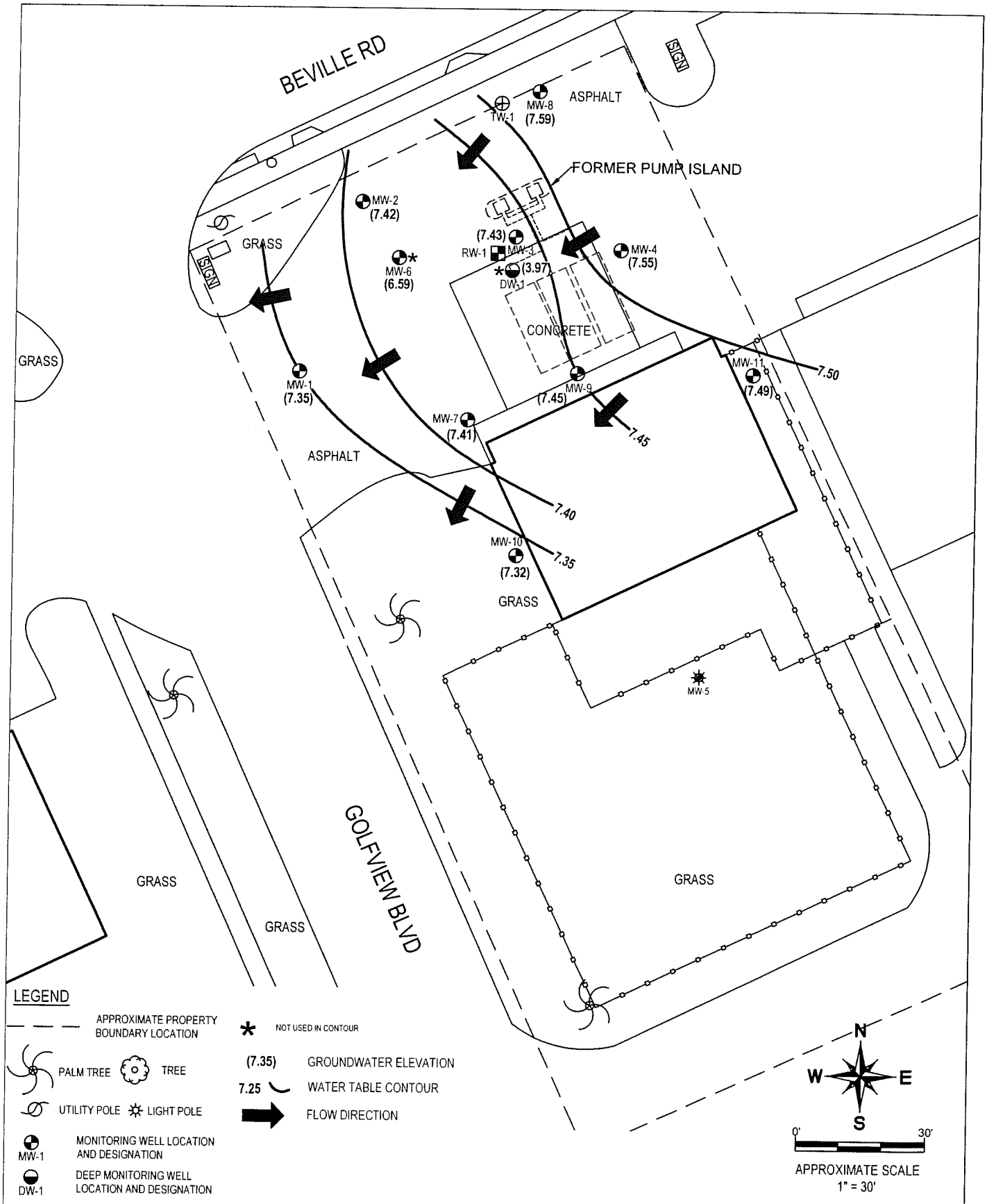


MAS ENVIRONMENTAL, LLC

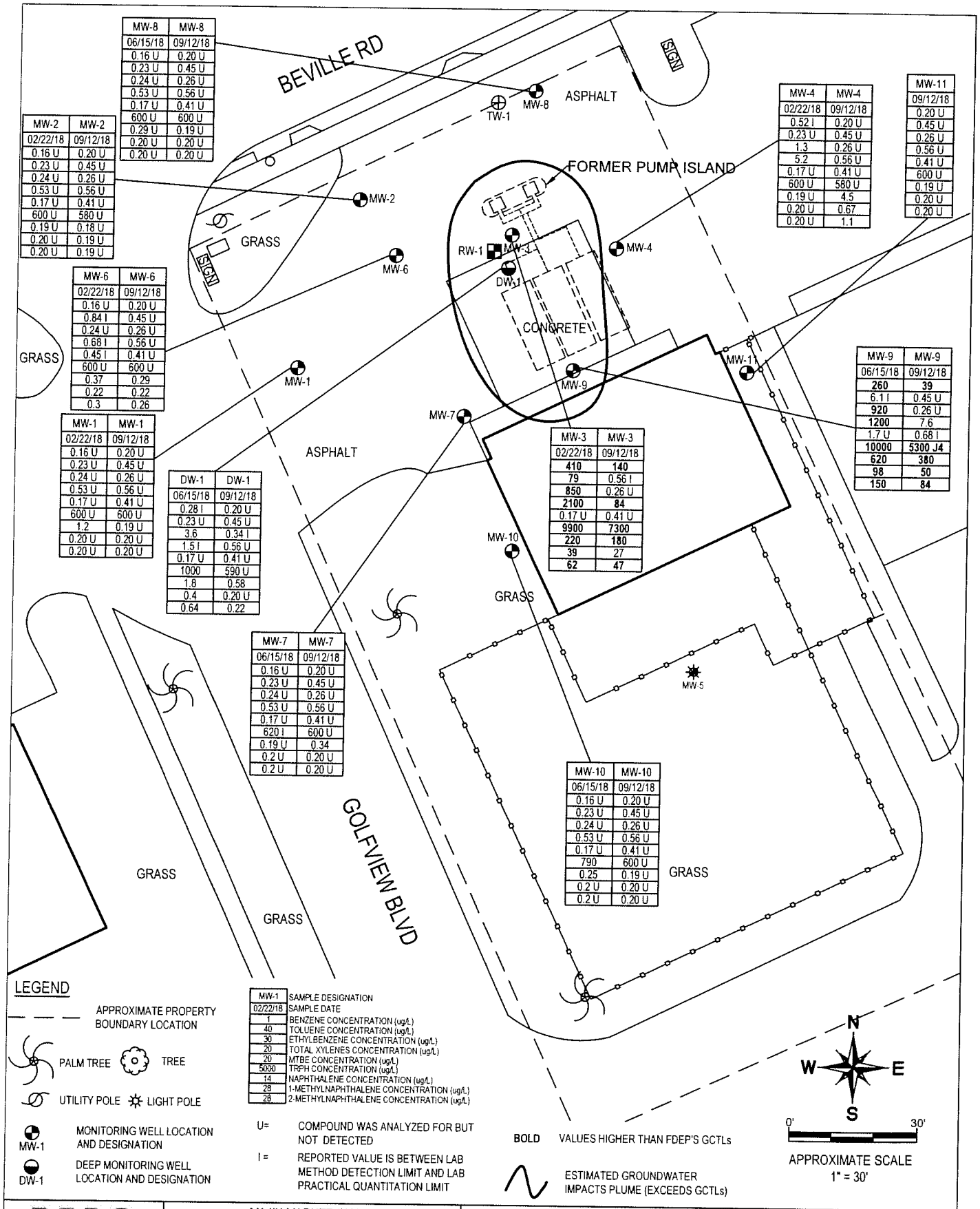
MAJIK MARKET #42005
599 BEVILLE ROAD
SOUTH DAYTONA, VOLUSIA COUNTY, FLORIDA
FDEP FAC. ID. NO.: 64/8517532

SOIL ANALYTICAL SUMMARY MAP (06/08/18 & 09/07/18)

FIGURE
2B
PROJECT No.
L00108



MAS ENVIRONMENTAL, LLC	MAJIK MARKET #42005 599 BEVILLE ROAD SOUTH DAYTONA, VOLUSIA COUNTY, FLORIDA FDEP FAC. ID. NO.: 64/8517532	GROUNDWATER ELEVATION CONTOUR MAP (09/12/18)	FIGURE 3 PROJECT No. L00108



MAS ENVIRONMENTAL, LLC	MAJIK MARKET #42005 599 BEVILLE ROAD SOUTH DAYTONA, VOLUSIA COUNTY, FLORIDA FDEP FAC. ID. NO.: 64/8517532	GROUNDWATER ANALYTICAL SUMMARY MAP (02/22/18, 06/15/18 & 09/12/18)	FIGURE 4 PROJECT No. L00108

APPENDIX E

Cost Estimate

Golfview Boulevard Shared Use Path Concept
Beville Road to Big Tree Road
Feasibility Study
Cost Estimate

PAY ITEM NO.	ITEM DESCRIPTION	UNIT	BASE QTY	BASE UNIT COST	TOTAL COST
01047	TEMPORARY SLOPE DRAIN/RUNOFF CONTROL STRUCTURE	EA	1.00	$ 3,579.17	$ 3,579.17
0104103	STAKED SILT FENCE, TYPE III	LF	3,700.00	$ 1.06	$ 3,922.00
011011	CLEARING AND GRUBBING	AC	1.00	$ 11,618.93	$ 11,618.93
0110410	CLEARING AND GRUBBING	SY	387.20	$ 15.06	$ 5,831.23
01201	REGULAR EXCAVATION	CY	200.00	$ 4.59	$ 918.00
0285709	OPTIONAL BASE, BASE GROUP 09	SY	146.12	$ 14.81	$ 2,164.04
0334112	SUPERPAVE ASPHALTIC CONC, TRAFFIC B	TN	50.23	$ 96.32	$ 4,838.15
0337781	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC B, FC-12.5, PG 76-22	TN	18.08	$ 103.11	$ 1,864.23
0425241	MANHOLE, P-7, <10'	EA	2.00	$ 4,567.88	$ 9,135.76
04251521	INLETS, DT BOT, TYPE C, <10'	EA	4.00	$ 3,292.11	$ 13,168.44
04251531	INLETS, DITCH BOTTOM, TYPE C MODIFIED- BACK OF SIDEWALK, <10'	EA	3.00	$ 3,365.05	$ 10,095.15
04251561	INLETS, DT BOT, TYPE F, <10'	EA	4.00	$ 3,929.78	$ 15,719.12
0430174118	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18" SD	LF	644.00	$ 61.98	$ 39,915.12
05222	CONCRETE SIDEWALK, 6" THICK	SY	3,865.94	$ 56.44	$ 218,193.43
05272	DETECTABLE WARNING SURFACE	EA	12.00	$ 27.06	$ 324.72
055010118	RELOCATE FENCE	LF	200.00	$ 9.36	$ 1,872.00
057012	PERFORMANCE TURF, SOD	SY	1,274.10	$ 2.54	$ 3,236.22
0653111	PEDESTRIAN SIGNAL, F&I, LED COUNTDOWN, 1 WAY	AS	2.00	$ 676.54	$ 1,353.08
0653112	PEDESTRIAN SIGNAL, F&I, LED COUNTDOWN, 2 WAYS	AS	1.00	$ 1,185.36	$ 1,185.36
06391410	RELOCATE TELE POLE	EA	2.00	$ 1,244.60	$ 2,489.20
0700150	SIGN, SINGLE POST (LESS THAN 12 SF)	AS	6.00	$ 247.70	$ 1,486.20
071111123	12" WHITE SOLID STRIPE (THERMOPLASTIC)	LF	426.00	$ 2.22	$ 945.72
				SUBTOTAL	**$ 353,855.27**
101-1	MOBILIZATION	LS	1	10.00%	$ 35,385.53
102-1	MAINTENANCE OF TRAFFIC	LS	1	10.00%	$ 35,385.53
N/A	ENGINEERING AND DESIGN	LS	1	15.00%	$ 53,078.29
N/A	SURVEY	LS	1	$ 5,000.00	$ 5,000.00
				TOTAL	**$ 482,704.62**

	FDOT Inflation-Adjusted Estimate		*Inflation Factor*	*PDC Multiplier*	***Adjusted Cost Estimate***
	Year 1 Inflation-adjusted Estimate (2019)		2.8%	1.028	**$ 496,220.35**
	Year 2 Inflation-adjusted Estimate (2020)		2.6%	1.055	**$ 509,122.07**
	Year 3 Inflation-adjusted Estimate (2021)		2.5%	1.081	**$ 521,850.13**

APPENDIX F

FDOT Inflation Factor

Inflation Factors

This *"Transportation Costs"* report is one of a series of reports issued by the Office of Policy Planning. It provides information on inflation factors and other indices that may be used to convert Present Day Costs (PDC) to Year Of Expenditure costs (YOE) or vice versa. This report is updated annually when the factors are posted within the FDOT Work Program Instructions.

Please note that the methodology for Inflationary adjustments relating to specific transportation projects should be addressed with the district office where the project will be located. For general use or non-specific areas, the guidelines provided herein may be used for inflationary adjustments.

Construction Cost Inflation Factors

The table on the next page includes the inflation factors and present day cost (PDC) multipliers that are applied to the Department's Work Program for highway construction costs expressed in Fiscal Year 2017 dollars.

Other Transportation Cost Inflation Factors

Other indices may be used to adjust project costs for other transportation modes or non-construction components of costs. Examples are as follows:

The Consumer Price Index (CPI, also retail price index) is a weighted average of prices of a specified set of products and services purchased by wage earners in urban areas. As such, it provides one measure of inflation. The CPI is a fixed quantity price index and a reasonable cost-of-living index.

The Employment Cost Index (ECI) is based on the National Compensation Survey. It measures quarterly changes in compensation costs, which include wages, salaries, and other employer costs for civilian workers (nonfarm private industry and state and local government).

The monthly series, Producer Price Index for Other Non-residential Construction, is available from the Bureau of Labor Statistics (BLS). It is not exclusively a highway construction index, but it is the best available national estimate of changes in highway costs from month to month.

Work Program
Highway Construction Cost Inflation Factors

Fiscal Year	Inflation Factor	PDC Multiplier
2017	Base	1.000
2018	2.7%	1.027
2019	2.8%	1.056
2020	2.6%	1.083
2021	2.5%	1.110
2022	2.7%	1.140
2023	2.8%	1.172
2024	2.9%	1.206
2025	3.0%	1.242
2026	3.1%	1.281
2027	3.2%	1.322
2028	3.3%	1.365
2029	3.3%	1.410
2030	3.3%	1.457
2031	3.3%	1.505
2032	3.3%	1.555
2033	3.3%	1.606
2034	3.3%	1.659
2035	3.3%	1714
2036	3.3%	1.770
2037	3.3%	1.829
Source: Office of Work Program and Budget, (Fiscal Year 2017 is July 1, 2016 to June 30, 2017)		

Advisory Inflation Factors For Previous Years

Another *"Transportation Costs"* report covers highway construction cost inflation for previous years. "*Advisory Inflation Factors For Previous Years (1987-2015)* provides Present Day Cost (PDC) multipliers that enable project cost estimates from previous years to be updated to FY 2015. This report is updated about once a year. For the table and text providing this information, please go to http://www.dot.state.fl.us/planning/policy/costs/RetroCostInflation.pdf.