

Dixon Road

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 1 Conceptual Improvements

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of: **B** (See rating scale guide below.)

	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0546-71-1	Raised Rumble Strip Set - Permanent (Thermo)	EA	16	\$ 19.20	\$ 307.20
SUBTOTAL ROADWAY						\$ 307
SECTION 2: STRIPING						
2	0711-11125	Thermoplastic, Standard, White, Solid, 24" For Stop Line and Crosswalk	LF	42	\$ 6.70	\$ 281.40
3	0920-714A	Green Colored Pavement Markings	SF	75	\$ 10.80	\$ 810.00
SUBTOTAL STRIPING						\$ 1,091
SECTION 3: SIGNING						
4	654-2-22	Rectangular Rapid Flashing Beacon, F&I - Solar, Complete Sign Assembly - Back to Back	AS	2	\$ 9,960.00	\$ 19,920.00
5	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	10	\$ 496.69	\$ 4,966.90
SUBTOTAL SIGNING						\$ 24,887
SECTION 4: LANDSCAPING						
6	0570-1-2	Performance Turf, SOD	SY	23	\$ 4.12	\$ 94.76
SUBTOTAL LANDSCAPING						\$ 95
SECTION 5: SIGNAL						
7	646-1-11	Aluminum Signals Pole, Pedestal	EA	2	\$ 2,149.88	\$ 4,299.76
8	646-1-12	Aluminum Signals Pole, F&I, Pedestrian Detector Post	EA	2	\$ 1,693.54	\$ 3,387.08
9	665-1-12	Pedestrian Detector, F&I, Accessible Button with Passive Thermal Sensor	AS	2	\$ 3,136.99	\$ 6,273.98
SUBTOTAL SIGNAL						\$ 13,961
SECTION 6: CLEARING & GRUBBING/EARTHWORK						
10	0110-1-1	Clearing & Grubbing	AC	0.1	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,148
SECTION 7: MISCELLANEOUS						
11	515-2-XXX	Bike Bar, Surface Mount, Starter, Powder Coated	EA	2	\$ 730.00	\$ 1,460.00
SUBTOTAL MISCELLANEOUS						\$ 1,460
SECTION 8: MAINTENANCE OF TRAFFIC						
12		Subtotal Sections 1-5, 7	LS	10%	\$ 4,180	\$4,180.09
SECTION 9: MOBILIZATION						
13		Subtotal Sections 1-5, 7	LS	10%	\$ 4,180	\$4,180.09
ESTIMATED CONSTRUCTION COSTS						\$ 52,309
30% CONTINGENCY						\$ 15,700
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 68,009
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 68,009	\$10,210.00
2		Construction Support / Construction Management	LS	5%	\$ 68,009	\$3,410.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 13,620
TOTAL PROJECT COST						\$ 81,629

Engineering Effort:

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

X

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

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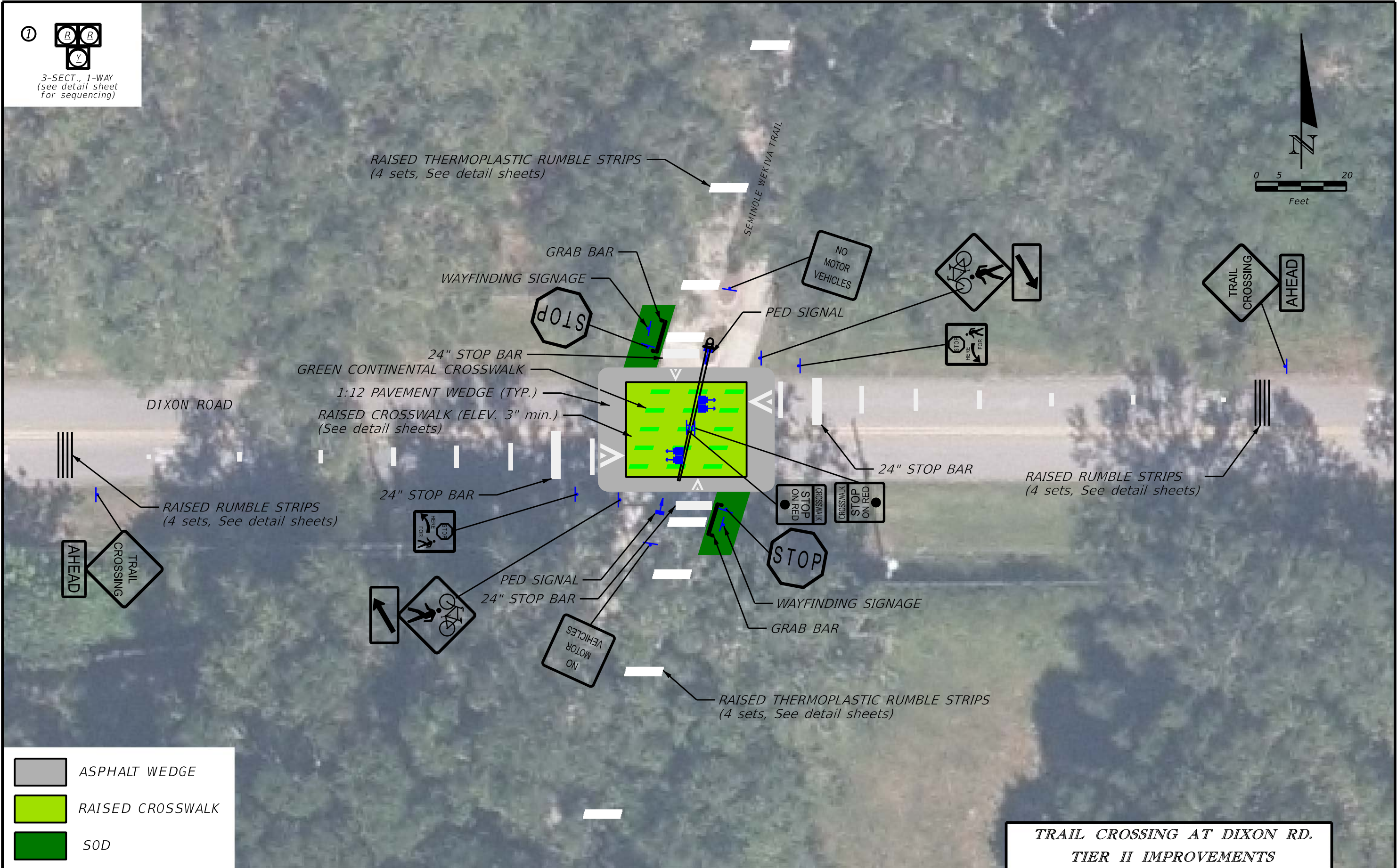
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R

R

Y

3-SECT., 1-WAY
(see detail sheet
for sequencing)



ASPHALT WEDGE

RAISED CROSSWALK

SOD

REVISIONS				SEMINOLE COUNTY, FL			FIGURE NO.
DATE	DESCRIPTION			ROAD NO.	COUNTY	JOB NO.	
					SEMINOLE	224210.007	
				TRAIL CROSSING AT DIXON RD. TIER II IMPROVEMENTS			
				TRAILS AND GREENWAYS SAFETY IMPROVEMENT PLAN			

Dixon Road

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 2 Conceptual Improvements

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of:				B (See rating scale guide below.)		
	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0334-1-52	Superpave Asphaltic Concrete, Traffic B, PG 76-22	TN	27	\$ 134.71	\$ 3,589.48
2	0327-70-6	Mill Existing Asphalt Pavement, 1 1/2" Avg. Depth	SY	116	\$ 3.01	\$ 349.16
3	0546-71-1	Raised Rumble Strip Set - Permanent	EA	16	\$ 19.20	\$ 307.20
SUBTOTAL ROADWAY						\$ 4,246
SECTION 2: STRIPING						
4	0711-11123	Thermoplastic, Standard, White, Solid, 12" For Approach to raised intersection	LF	58	\$ 3.73	\$ 216.34
5	0711-11125	Thermoplastic, Standard, White, Solid, 24" For Stop Line and Crosswalk	LF	38	\$ 6.70	\$ 254.60
6	0711-11160	Thermoplastic, Standard, White, Message or Symbol	EA	4	\$ 185.41	\$ 741.64
7	0920-714A	Green Colored Pavement Markings	SF	145	\$ 10.80	\$ 1,566.00
SUBTOTAL STRIPING						\$ 2,779
SECTION 3: SIGNING						
8	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	12	\$ 496.69	\$ 5,960.28
SUBTOTAL SIGNING						\$ 5,960
SECTION 4: LANDSCAPING						
9	0570-1-2	Performance Turf, SOD	SY	23	\$ 4.12	\$ 94.76
SUBTOTAL LANDSCAPING						\$ 95
SECTION 5: SIGNAL						
10	646-1-11	Aluminum Signals Pole, Pedestal	EA	2	\$ 2,149.88	\$ 4,299.76
11	646-1-12	Aluminum Signals Pole, F&I, Pedestian Detector Post	EA	2	\$ 1,693.54	\$ 3,387.08
12	649-21-1	Steel Mast Arm Assembly, F&I, Single Armm 30'	EA	1	\$ 52,716.41	\$ 52,716.41
13	650-1-14	Vehicular Traffic Signal, F&I, Aluminum, 3 Section, 1 Way	AS	2	\$ 1,373.58	\$ 2,747.16
14	653-1-11	Pedestrian Signal, F&I, LED Countdown, 1 Way	AS	2	\$ 937.52	\$ 1,875.04
15	665-1-14	Pedestrian Detector, F&I, Accesible Button with Passive Thermal Sensor	AS	2	\$ 3,136.99	\$ 6,273.98
SUBTOTAL SIGNAL						\$ 71,299
SECTION 6: CLEARING & GRUBBING/EARTHWORK						
16	0110-1-1	Clearing & Grubbing	AC	0.1	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,148
SECTION 7: MISCELLANEOUS						
17	515-2-XXX	Bike Bar, Surface Mount, Starter, Powder Coated	EA	2	\$ 730.00	\$ 1,460.00
SUBTOTAL MISCELLANEOUS						\$ 1,460
SECTION 8: MAINTENANCE OF TRAFFIC						
18		Subtotal Sections 1-5, 7	LS	10%	\$ 8,584	\$ 8,583.96
SECTION 9: MOBILIZATION						
19		Subtotal Sections 1-5, 7	LS	10%	\$ 8,584	\$ 8,583.96
ESTIMATED CONSTRUCTION COSTS						\$ 105,155
30% CONTINGENCY						\$ 31,550
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 136,705
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 136,705	\$ 20,510.00
2		Construction Support / Construction Management	LS	5%	\$ 136,705	\$ 6,840.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 27,350
TOTAL PROJECT COST						\$ 164,055

Engineering Effort:

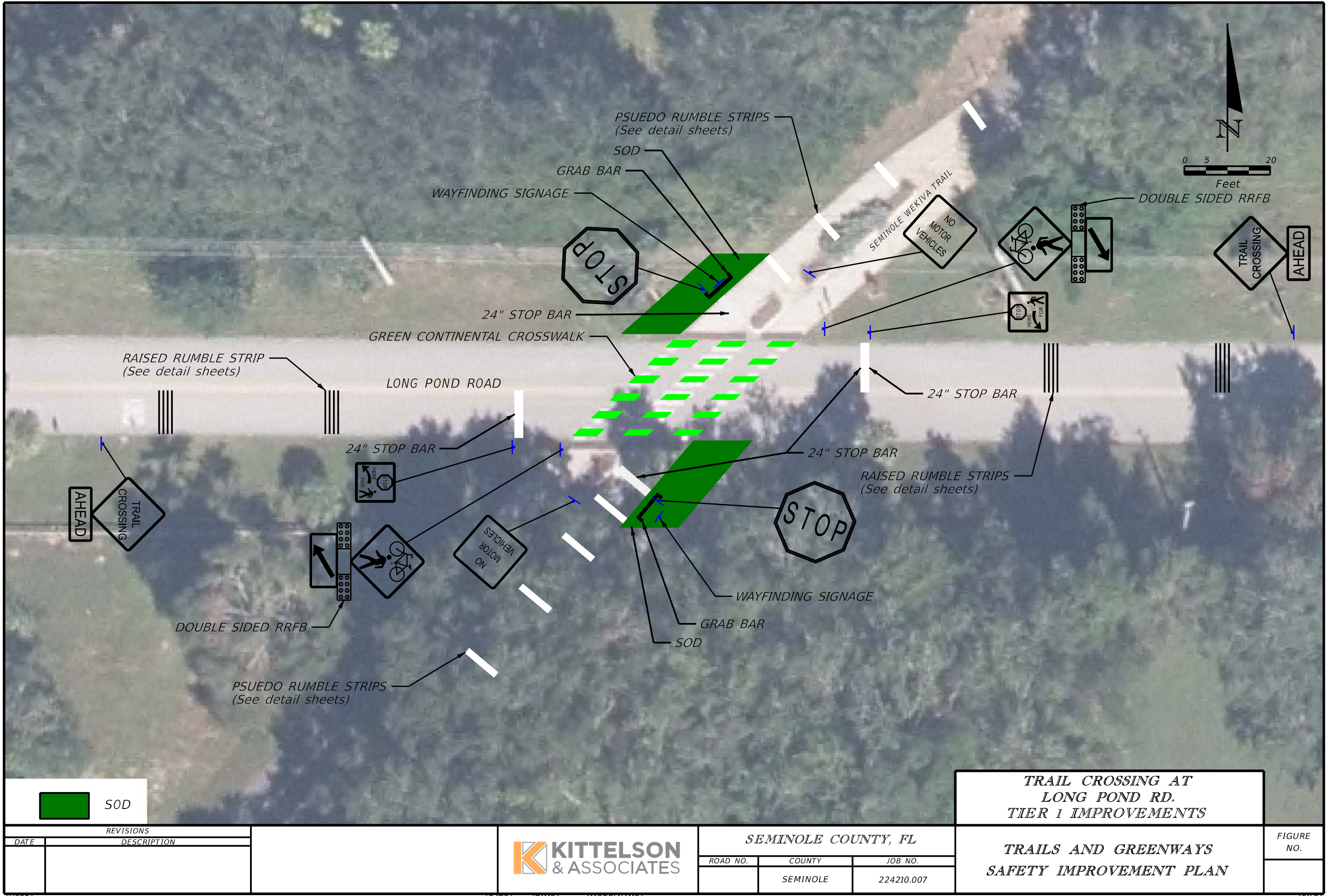
Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

X

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

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<div><div></div><div>SOD</div></div>					TRAIL CROSSING AT LONG POND RD. TIER 1 IMPROVEMENTS			
REVISIONS				SEMINOLE COUNTY, FL			TRAILS AND GREENWAYS SAFETY IMPROVEMENT PLAN	FIGURE NO.
DATE	DESCRIPTION			ROAD NO.	COUNTY	JOB NO.		
					SEMINOLE	224210.007		

Long Pond Road

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 1 Conceptual Improvements

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	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0546-71-1	Raised Rumble Strip Set - Permanent	EA	16	\$ 19.20	\$ 307.20
SUBTOTAL ROADWAY						\$ 307
SECTION 2: STRIPING						
2	0711-11125	Thermoplastic, Standard, White, Solid, 24" For Stop Line and Crosswalk	LF	40	\$ 6.70	\$ 268.00
3	0920-714A	Green Colored Pavement Markings	SF	145	\$ 10.80	\$ 1,566.00
SUBTOTAL STRIPING						\$ 1,834
SECTION 3: SIGNING						
4	654-2-22	Rectangular Rapid Flashing Beacon, F&I - Solar, Complete Sign Assembly - Back to Back	AS	2	\$ 9,960.00	\$ 19,920.00
5	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	8	\$ 496.69	\$ 3,973.52
SUBTOTAL SIGNING						\$ 23,894
SECTION 4: LANDSCAPING						
6	0570-1-2	Performance Turf, SOD	SY	62	\$ 4.12	\$ 255.44
SUBTOTAL LANDSCAPING						\$ 255
SECTION 5: SIGNAL						
7	646-1-11	Aluminum Signals Pole, Pedestal	EA	2	\$ 2,149.88	\$ 4,299.76
8	646-1-12	Aluminum Signals Pole, F&I, Pedestrian Detector Post	EA	2	\$ 1,693.54	\$ 3,387.08
9	665-1-12	Pedestrian Detector, F&I, Accessible Button with Passive Thermal Sensor	AS	2	\$ 3,136.99	\$ 6,273.98
SUBTOTAL SIGNAL						\$ 13,961
SECTION 6: CLEARING & GRUBBING/EARTHWORK						
10	0110-1-1	Clearing & Grubbing	AC	0.1	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,148
SECTION 7: MISCELLANEOUS						
11	515-2-XXX	Bike Bar, Surface Mount, Starter, Powder Coated	EA	2	\$ 730.00	\$ 1,460.00
SUBTOTAL MISCELLANEOUS						\$ 1,460
SECTION 8: MAINTENANCE OF TRAFFIC						
12		Subtotal Sections 1-5, 7	LS	10%	\$ 4,171	\$4,171.05
SECTION 9: MOBILIZATION						
13		Subtotal Sections 1-5, 7	LS	10%	\$ 4,171	\$4,171.05
ESTIMATED CONSTRUCTION COSTS						\$ 52,201
30% CONTINGENCY						\$ 15,670
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 67,871
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 67,871	\$10,190.00
2		Construction Support / Construction Management	LS	5%	\$ 67,871	\$3,400.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 13,590
TOTAL PROJECT COST						\$ 81,461

Engineering Effort:

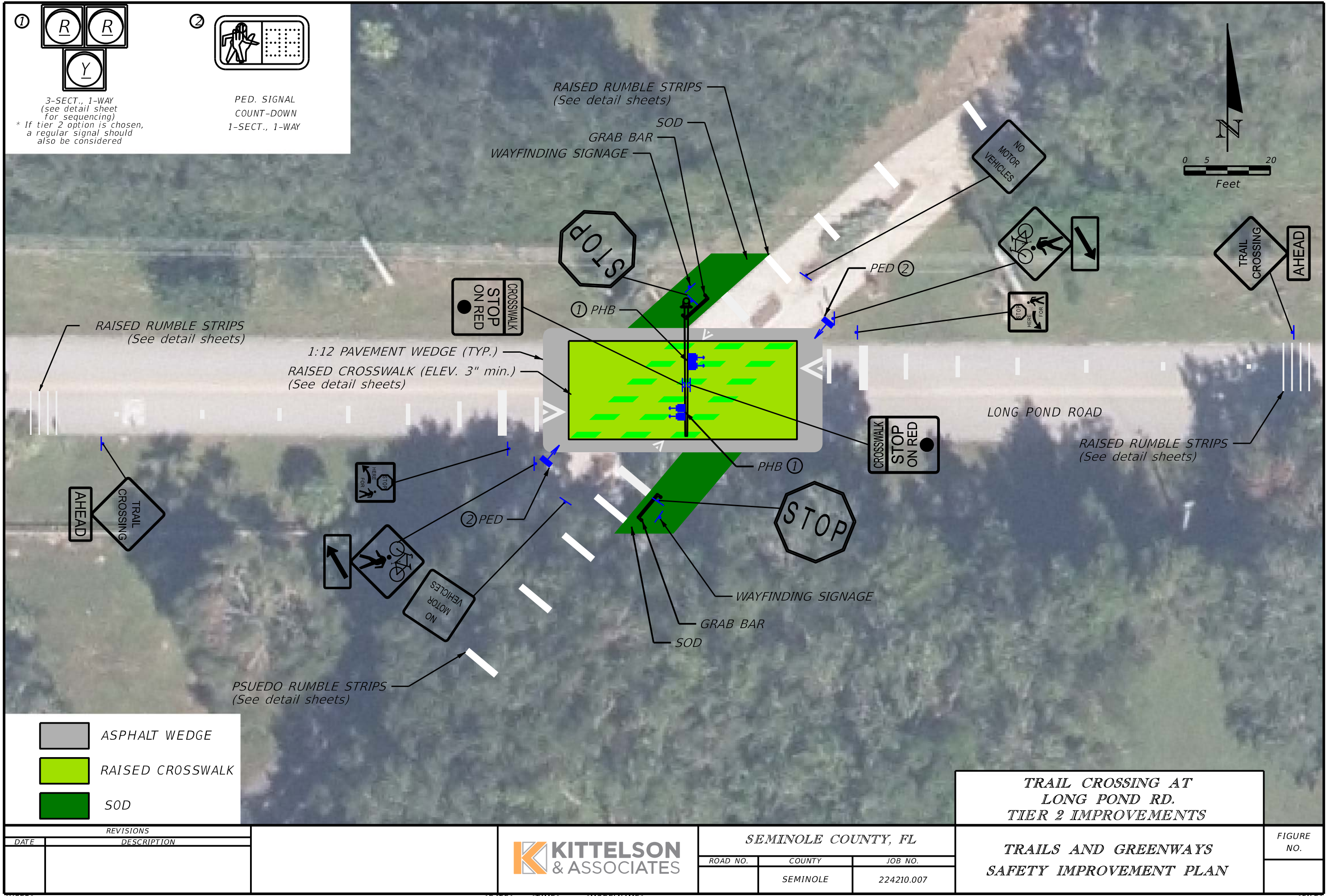
Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

X

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

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Long Pond Road

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 2 Conceptual Improvements

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of: **B** (See rating scale guide below.)

	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0334-1-52	Superpave Asphaltic Concrete, Traffic B, PG 76-22	TN	57	\$ 134.71	\$ 7,678.47
2	0327-70-6	Mill Existing Asphalt Pavement, 1 1/2" Avg. Depth	SY	210	\$ 3.01	\$ 631.50
3	0546-71-1	Raised Rumble Strip Set - Permanent	EA	16	\$ 19.20	\$ 307.20
SUBTOTAL ROADWAY						\$ 8,617
SECTION 2: STRIPING						
4	0711-11123	Thermoplastic, Standard, White, Solid, 12" For Crosswalk	LF	58	\$ 3.73	\$ 216.34
5	0711-11125	Thermoplastic, Standard, White, Solid, 24" For Stop Line and Crosswalk	LF	40	\$ 6.70	\$ 268.00
6	0711-11160	Thermoplastic, Standard, White, Message or Symbol	EA	4	\$ 185.41	\$ 741.64
7	0920-714A	Green Colored Pavement Markings	SF	145	\$ 10.80	\$ 1,566.00
SUBTOTAL STRIPING						\$ 2,792
SECTION 3: SIGNING						
8	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	12	\$ 496.69	\$ 5,960.28
SUBTOTAL SIGNING						\$ 5,960
SECTION 4: LANDSCAPING						
9	0570-1-2	Performance Turf, SOD	SY	62	\$ 4.12	\$ 255.44
SUBTOTAL LANDSCAPING						\$ 255
SECTION 5: SIGNAL						
10	646-1-11	Aluminum Signals Pole, Pedestal	EA	2	\$ 2,149.88	\$ 4,299.76
11	646-1-12	Aluminum Signals Pole, F&I, Pedestrian Detector Post	EA	2	\$ 1,693.54	\$ 3,387.08
12	649-21-1	Steel Mast Arm Assembly, F&I, Single Arm 30'	EA	1	\$ 52,716.41	\$ 52,716.41
13	650-1-14	Vehicular Traffic Signal, F&I, Aluminum, 3 Section, 1 Way	AS	2	\$ 1,373.58	\$ 2,747.16
14	653-1-11	Pedestrian Signal, F&I, LED Countdown, 1 Way	AS	2	\$ 937.52	\$ 1,875.04
15	665-1-14	Pedestrian Detector, F&I, Accessible Button with Passive Thermal Sensor	AS	2	\$ 3,136.99	\$ 6,273.98
SUBTOTAL SIGNAL						\$ 71,299
SECTION 6: CLEARING & GRUBBING/EARTHWORK						
16	0110-1-1	Clearing & Grubbing	AC	0.1	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,148
SECTION 7: MISCELLANEOUS						
17	515-2-XXX	Bike Bar, Surface Mount, Starter, Powder Coated	EA	2	\$ 730.00	\$ 1,460.00
SUBTOTAL MISCELLANEOUS						\$ 1,460
SECTION 8: MAINTENANCE OF TRAFFIC						
18		Subtotal Sections 1-5, 7	LS	10%	\$ 9,038	\$9,038.39
SECTION 9: MOBILIZATION						
19		Subtotal Sections 1-5, 7	LS	10%	\$ 9,038	\$9,038.39
ESTIMATED CONSTRUCTION COSTS						\$ 110,609
30% CONTINGENCY						\$ 33,190
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 143,799
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 143,799	\$21,570.00
2		Construction Support / Construction Management	LS	5%	\$ 143,799	\$7,190.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 28,760
TOTAL PROJECT COST						\$ 172,559

Engineering Effort:

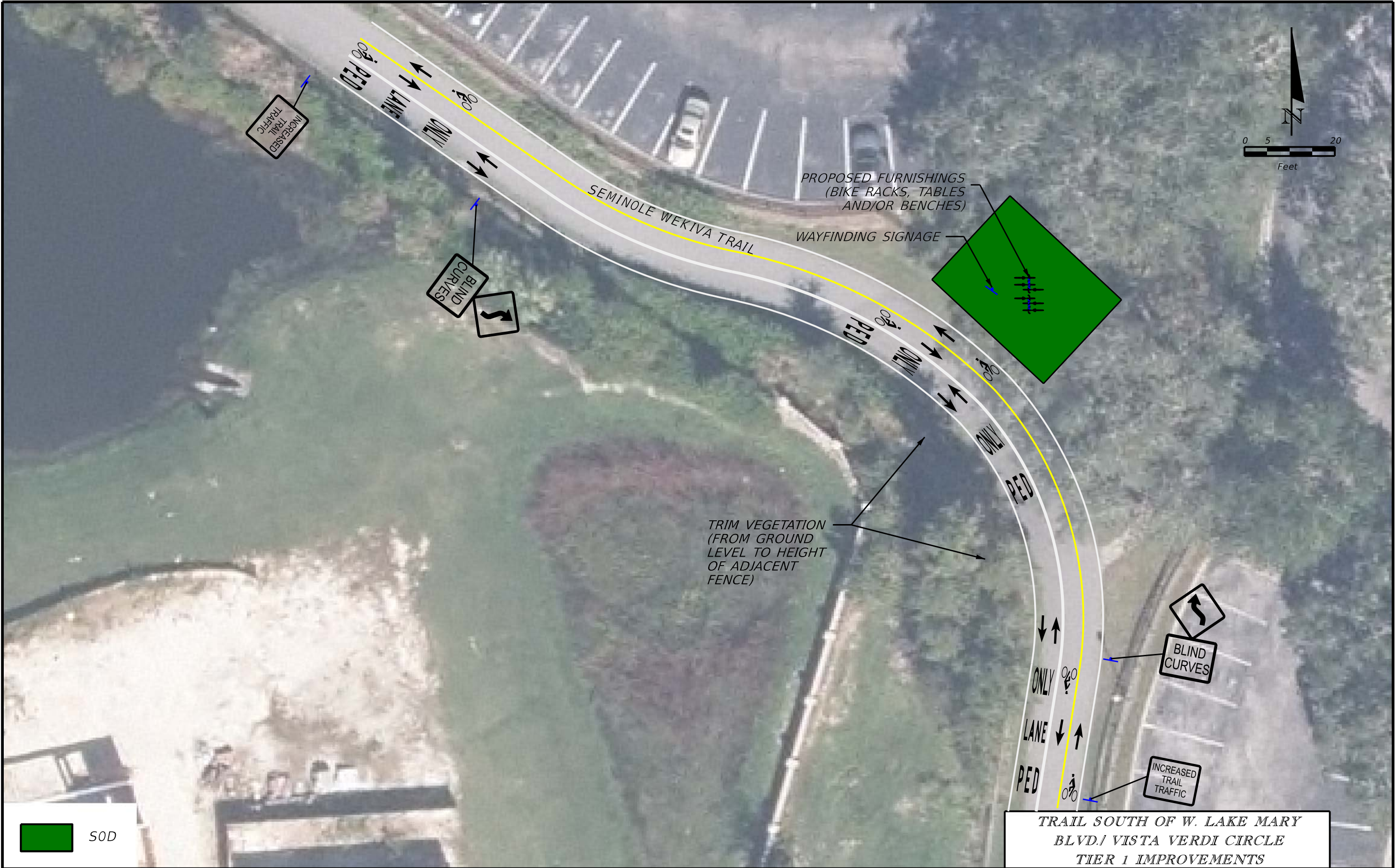
Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

X

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we make no warranty for these costs for any duration of time



REVISIONS			<div>KITTELSON & ASSOCIATES</div>	SEMINOLE COUNTY, FL			TRAILS AND GREENWAYS SAFETY IMPROVEMENT PLAN	FIGURE NO.
DATE	DESCRIPTION			ROAD NO.	COUNTY	JOB NO.		
					SEMINOLE	224210.007		

Trail South of Lake Mary Blvd./ Vista Verdi Cir.

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 1 Conceptual Improvements

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of: **B** (See rating scale guide below.)

	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: STRIPING						
1	0711-11160	Thermoplastic, Standard, White, Message, Words or Symbol	EA	28	\$ 185.41	\$ 5,191.48
2	0711-15101	Thermoplastic, Standard-Open Graded Asphalt Surfaces White, Solid, 6"	GM	0.195	\$ 6,567.06	\$ 1,280.58
3	0711-15201	Thermoplastic, Standard-Open Graded Asphalt Surfaces Yellow, Solid, 6"	GM	0.049	\$ 5,402.27	\$ 264.71
SUBTOTAL STRIPING						\$ 6,737
SECTION 2: SIGNING						
4	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	5	\$ 496.69	\$ 2,483.45
SUBTOTAL SIGNING						\$ 2,483
SECTION 3: LANDSCAPING						
5	0570-1-2	Performance Turf, SOD	SY	95	\$ 4.12	\$ 392.43
SUBTOTAL LANDSCAPING						\$ 392
SECTION 4: CLEARING & GRUBBING/EARTHWORK						
6	0110-1-1	Clearing & Grubbing	AC	0.1	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,148
SECTION 5: MISCELLANEOUS						
7	751-36-12	Bike Rack, F&I, 1-2 Bicycles	EA	2	\$ 577.24	\$ 1,154.48
SUBTOTAL MISCELLANEOUS						\$ 1,154
SECTION 6: MAINTENANCE OF TRAFFIC						
8		Subtotal Sections 1-3, 5	LS	10%	\$ 1,077	\$1,076.69
SECTION 7: MOBILIZATION						
9		Subtotal Sections 1-3, 5	LS	10%	\$ 1,077	\$1,076.69
ESTIMATED CONSTRUCTION COSTS						\$ 15,068
30% CONTINGENCY						\$ 4,530
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 19,598
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 19,598	\$2,940.00
2		Construction Support / Construction Management	LS	5%	\$ 19,598	\$980.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 3,920
TOTAL PROJECT COST						\$ 23,518

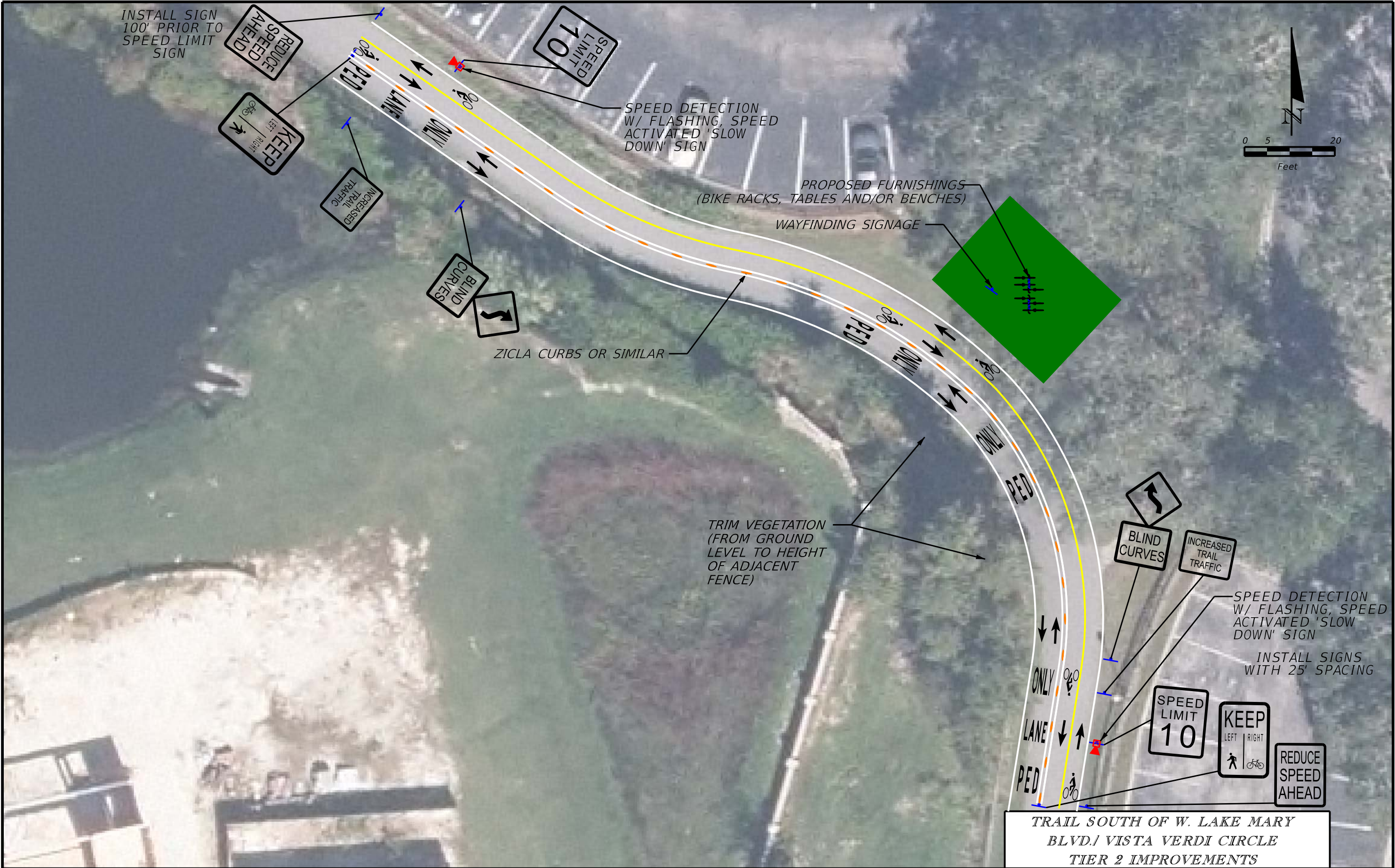
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REVISIONS	
DATE	DESCRIPTION



SEMINOLE COUNTY, FL

ROAD NO.	COUNTY	JOB NO.
	SEMINOLE	224210.007

TRAILS AND GREENWAYS
SAFETY IMPROVEMENT PLAN

FIGURE NO.

Trail South of Lake Mary Blvd./ Vista Verdi Cir.

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 2 Conceptual Improvements

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SECTION 1: STRIPING						
1	0711-11160	Thermoplastic, Standard, White, Message, Words or Symbol	EA	28	\$ 185.41	\$ 5,191.48
2	0711-15101	Thermoplastic, Standard-Open Graded Asphalt Surfaces White, Solid, 6"	GM	0.195	\$ 6,468.59	\$ 1,261.38
3	0711-15201	Thermoplastic, Standard-Open Graded Asphalt Surfaces Yellow, Solid, 6"	GM	0.049	\$ 6,574.13	\$ 322.13
SUBTOTAL STRIPING						\$ 6,775
SECTION 2: SIGNING						
4	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	11	\$ 496.69	\$ 5,463.59
SUBTOTAL SIGNING						\$ 5,464
SECTION 3: LANDSCAPING						
5	0570-1-2	Performance Turf, SOD	SY	95	\$ 4.12	\$ 391.40
SUBTOTAL LANDSCAPING						\$ 391
SECTION 4: SIGNAL						
6	700-11-231	Electric Display Sign (Speed Warning)	EA	2	\$ 12,000.00	\$ 24,000.00
SUBTOTAL SIGNAL						\$ 24,000
SECTION 5: CLEARING & GRUBBING/EARTHWORK						
7	0110-1-1	Clearing & Grubbing	AC	0.1	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,148
SECTION 6: MISCELLANEOUS						
8	751-36-12	Bike Rack, F&I, 1-2 Bicycles	EA	2	\$ 577.24	\$ 1,154.48
9	XXX-X-XXX	Zicla ('Zebra' or similar) Cycle Lane Separator System	LF	256	\$ 9.00	\$ 2,304.00
SUBTOTAL MISCELLANEOUS						\$ 3,458
SECTION 7: MAINTENANCE OF TRAFFIC						
10		Subtotal Sections 1-4, 6	LS	10%	\$ 4,009	\$4,008.81
SECTION 8: MOBILIZATION						
11		Subtotal Sections 1-4, 6	LS	10%	\$ 4,009	\$4,008.81
ESTIMATED CONSTRUCTION COSTS						\$ 50,254
30% CONTINGENCY						\$ 15,080
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 65,334
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 65,334	\$9,810.00
2		Construction Support / Construction Management	LS	5%	\$ 65,334	\$3,270.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 13,080
TOTAL PROJECT COST						\$ 78,414

Engineering Effort:

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

X

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

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The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we make no warranty for these costs for any duration of time

Longwood Lake Mary/Ronald Reagan Blvd/RR

Seminole County, Florida
Trail Crossing Review

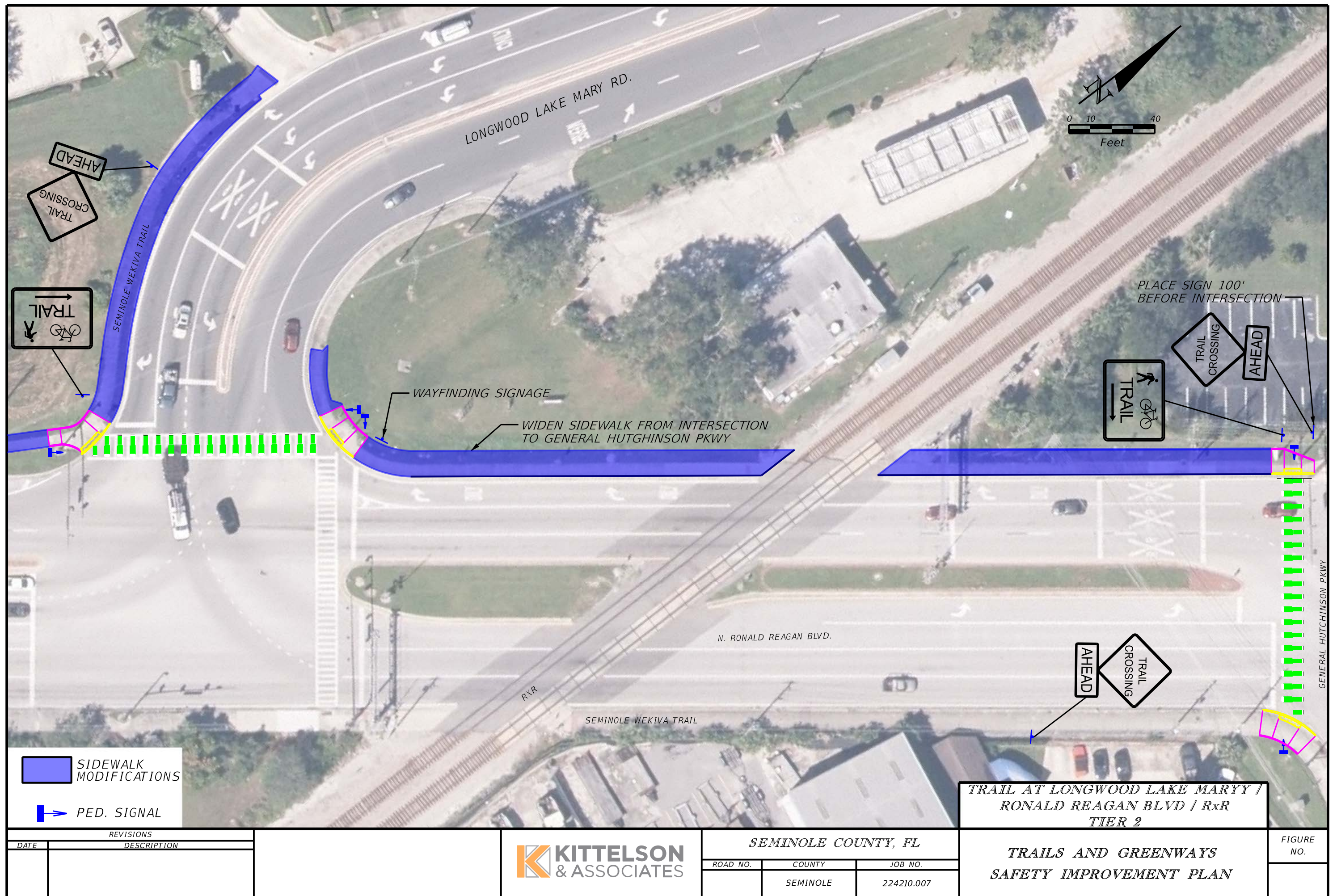


Engineer's Opinion of Probable Cost - Tier 1 Conceptual Improvements

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of:				B (See rating scale guide below.)		
	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	522-1	Concrete Sidewalk and Driveways, 4" Thick	SY	171	\$ 50.55	\$ 8,637.98
2	527-2	Detectable Warnings	SF	75	\$ 32.86	\$ 2,473.70
SUBTOTAL ROADWAY						\$ 11,112
SECTION 2: STRIPING						
3	0920-714A	Green Colored Pavement Markings (Includes 6" White End Stripes)	SF	1,035	\$ 10.80	\$ 11,178.00
SUBTOTAL STRIPING						\$ 11,178
SECTION 3: SIGNING						
4	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	4	\$ 496.69	\$ 1,986.76
SUBTOTAL SIGNING						\$ 1,987
SECTION 6: SIGNAL						
5	646-1-11	Aluminum Signals Pole, Pedestal	EA	3	\$ 2,149.88	\$ 6,449.64
6	646-1-12	Aluminum Signals Pole, F&I, Pedestian Detector Post	EA	3	\$ 1,693.54	\$ 5,080.62
7	653-1-11	Pedestrian Signal, F&I, LED Countdown, 1 Way	AS	1	\$ 781.27	\$ 781.27
8	653-1-12	Pedestrian Signal, F&I, LED Countdown, 2 Ways	AS	2	\$ 1,377.49	\$ 2,754.98
9	665-1-12	Pedestrian Detector, F&I, Accesible Button with Passive Thermal Sensor	AS	3	\$ 3,136.99	\$ 9,410.97
SUBTOTAL SIGNAL						\$ 24,477
SECTION 8: CLEARING & GRUBBING/EARTHWORK						
10	0110-1-1	Clearing & Grubbing	AC	0.100	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,148
ESTIMATED CONSTRUCTION COSTS						\$ 50,902
30% CONTINGENCY						\$ 15,280
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 66,182



Longwood Lake Mary/Ronald Reagan Blvd/RR

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 2 Conceptual Improvements

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of:				B (See rating scale guide below.)		
	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	522-1	Concrete Sidewalk and Driveways, 4" Thick	SY	785	\$ 50.55	\$ 39,694.39
2	522.2	Concrete Sidewalk and Driveways, 6" Thick	SY	120	\$ 71.78	\$ 8,642.31
3	527-2	Detectable Warnings	SF	79	\$ 32.86	\$ 2,596.93
SUBTOTAL ROADWAY						\$ 50,934
SECTION 2: STRIPING						
4	0920-714A	Green Colored Pavement Markings (Includes 6" White End Stripes)	SF	1,017	\$ 10.80	\$ 10,978.20
SUBTOTAL STRIPING						\$ 10,978
SECTION 3: SIGNING						
5	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	5	\$ 496.69	\$ 2,483.45
SUBTOTAL SIGNING						\$ 2,483
SECTION 4: SIGNAL						
6	646-1-11	Aluminum Signals Pole, Pedestal	EA	4	\$ 2,149.88	\$ 8,599.52
7	646-1-12	Aluminum Signals Pole, F&I, Pedestrian Detector Post	EA	4	\$ 1,693.54	\$ 6,774.16
8	653-1-11	Pedestrian Signal, F&I, LED Countdown, 1 Way	AS	3	\$ 781.27	\$ 2,343.81
9	653-1-12	Pedestrian Signal, F&I, LED Countdown, 2 Ways	AS	1	\$ 1,377.49	\$ 1,377.49
10	665-1-12	Pedestrian Detector, F&I, Accessible Button with Passive Thermal Sensor	AS	4	\$ 3,136.99	\$ 12,547.96
SUBTOTAL SIGNAL						\$ 31,643
SECTION 5: CLEARING & GRUBBING/EARTHWORK						
11	0110-1-1	Clearing & Grubbing	AC	0.162	\$ 21,478.54	\$ 3,479.52
12	0110-4-10	Removal of Existing Concrete Pavement/ Removal of Existing Concrete	SY	589	\$ 32.08	\$ 18,887.10
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 3,480
SECTION 6: MAINTENANCE OF TRAFFIC						
13		Subtotal Sections 1-4	LS	10%	\$ 9,604	\$9,603.80
SECTION 7: MOBILIZATION						
14		Subtotal Sections 1-4	LS	10%	\$ 9,604	\$9,603.80
ESTIMATED CONSTRUCTION COSTS					\$	118,725
30% CONTINGENCY					\$	35,620
TOTAL ESTIMATED CONSTRUCTION COSTS					\$	154,345
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 154,345	\$23,160.00
2		Construction Support / Construction Management	LS	5%	\$ 154,345	\$7,720.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS					\$	30,880
TOTAL PROJECT COST					\$	185,225

Engineering Effort:

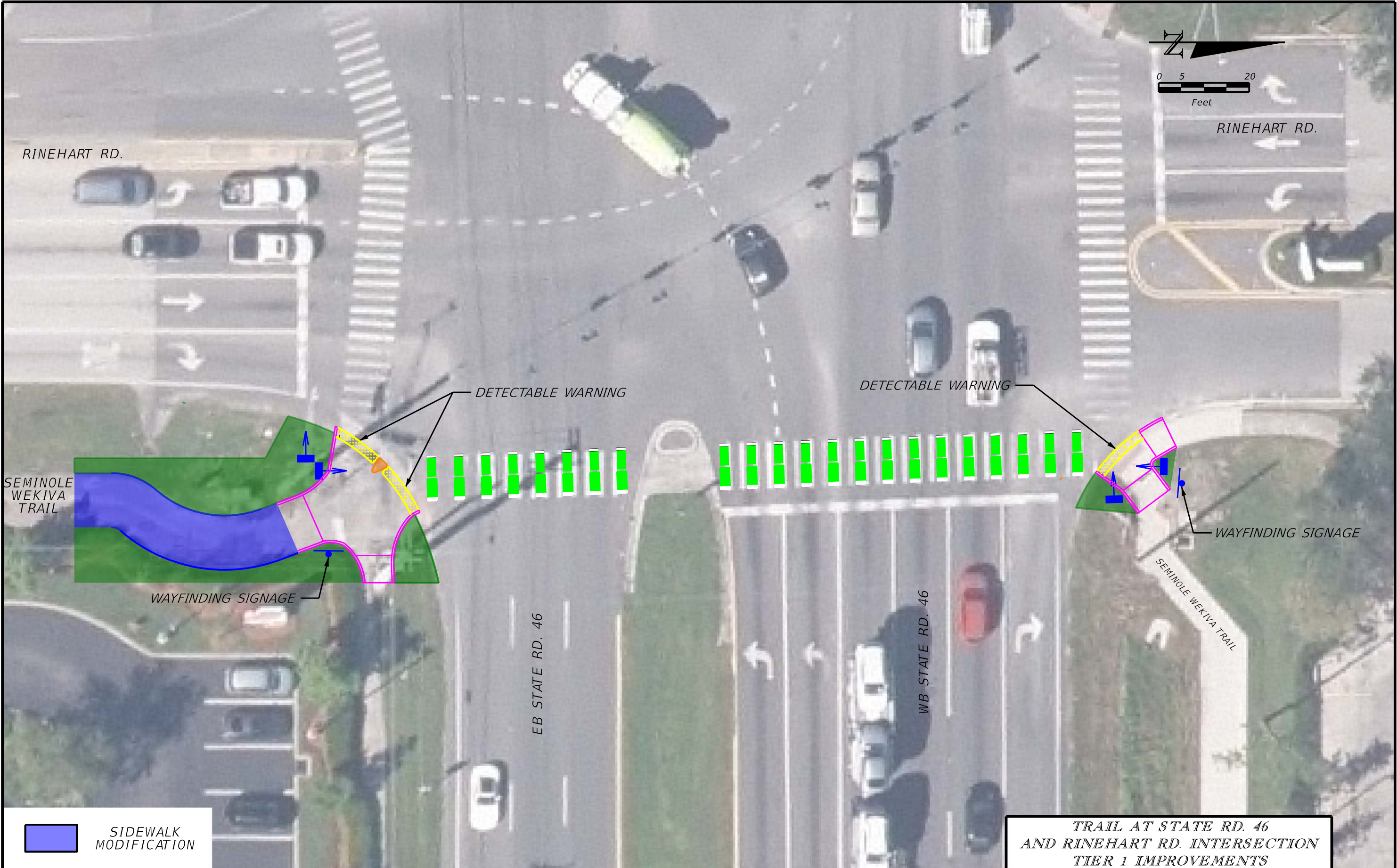
X

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we make no warranty for these costs for any duration of time



 **SIDEWALK MODIFICATION**

**TRAIL AT STATE RD. 46
AND RINEHART RD. INTERSECTION
TIER 1 IMPROVEMENTS**

REVISIONS	
DATE	DESCRIPTION

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SEMINOLE COUNTY, FL		
ROAD NO.	COUNTY	JOB NO.
	SEMINOLE	224210.007

**TRAILS AND GREENWAYS
SAFETY IMPROVEMENT PLAN**

FIGURE NO.

S.R 46 & Rinehart Rd.

Seminole County, Florida
Trail Crossing Review

**Engineer's Opinion of Probable Cost - Tier 1 Conceptual Improvements**

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of:

B

(See rating scale guide below.)

	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0520-70	Concrete Traffic Separator, Special-Variable Width	SY	6	\$ 156.32	\$ 1,006.70
2	522-1	Concrete Sidewalk and Driveways, 4" Thick	SY	67	\$ 50.55	\$ 3,365.62
3	522.2	Concrete Sidewalk and Driveways, 6" Thick	SY	82	\$ 71.78	\$ 5,915.39
4	527-2	Detectable Warnings	SF	69	\$ 32.86	\$ 2,280.81
SUBTOTAL ROADWAY						\$ 12,569
SECTION 2: STRIPING						
5	0920-714A	Green Colored Pavement Markings (Includes 6" White End Stripes)	SF	627	\$ 10.80	\$ 6,771.60
SUBTOTAL STRIPING						\$ 6,772
SECTION 3: SIGNING						
6	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	2	\$ 496.69	\$ 993.38
SUBTOTAL SIGNING						\$ 993
SECTION 4: LANDSCAPING						
7	0570-1-2	Performance Turf, SOD	SY	127	\$ 4.12	\$ 521.84
SUBTOTAL LANDSCAPING						\$ 522
SECTION 5: SIGNAL						
8	646-1-11	Aluminum Signals Pole, Pedestal	EA	3	\$ 2,149.88	\$ 6,449.64
9	646-1-12	Aluminum Signals Pole, F&I, Pedestrian Detector Post	EA	3	\$ 1,693.54	\$ 5,080.62
10	653-1-11	Pedestrian Signal, F&I, LED Countdown, 1 Way	AS	1	\$ 781.27	\$ 781.27
11	653-1-12	Pedestrian Signal, F&I, LED Countdown, 2 Ways	AS	2	\$ 1,377.49	\$ 2,754.98
12	665-1-12	Pedestrian Detector, F&I, Accessible Button with Passive Thermal Sensor	AS	3	\$ 3,136.99	\$ 9,410.97
SUBTOTAL SIGNAL						\$ 24,477
SECTION 6: CLEARING & GRUBBING/EARTHWORK						
13	0110-1-1	Clearing & Grubbing	AC	0.126	\$ 21,478.54	\$ 2,706.30
14	0110-4-10	Removal of Existing Concrete Pavement/ Removal of Existing Concrete	SY	149	\$ 32.08	\$ 4,779.92
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,706
SECTION 7: MAINTENANCE OF TRAFFIC						
15		Subtotal Sections 1-5	LS	10%	\$ 4,533	\$4,533.34
SECTION 8: MOBILIZATION						
16		Subtotal Sections 1-5	LS	10%	\$ 4,533	\$4,533.34
ESTIMATED CONSTRUCTION COSTS					\$	57,106
30% CONTINGENCY					\$	17,140
TOTAL ESTIMATED CONSTRUCTION COSTS					\$	74,246
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 74,246	\$11,140.00
2		Construction Support / Construction Management	LS	5%	\$ 74,246	\$3,720.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS					\$	14,860
TOTAL PROJECT COST					\$	89,106

Engineering Effort:

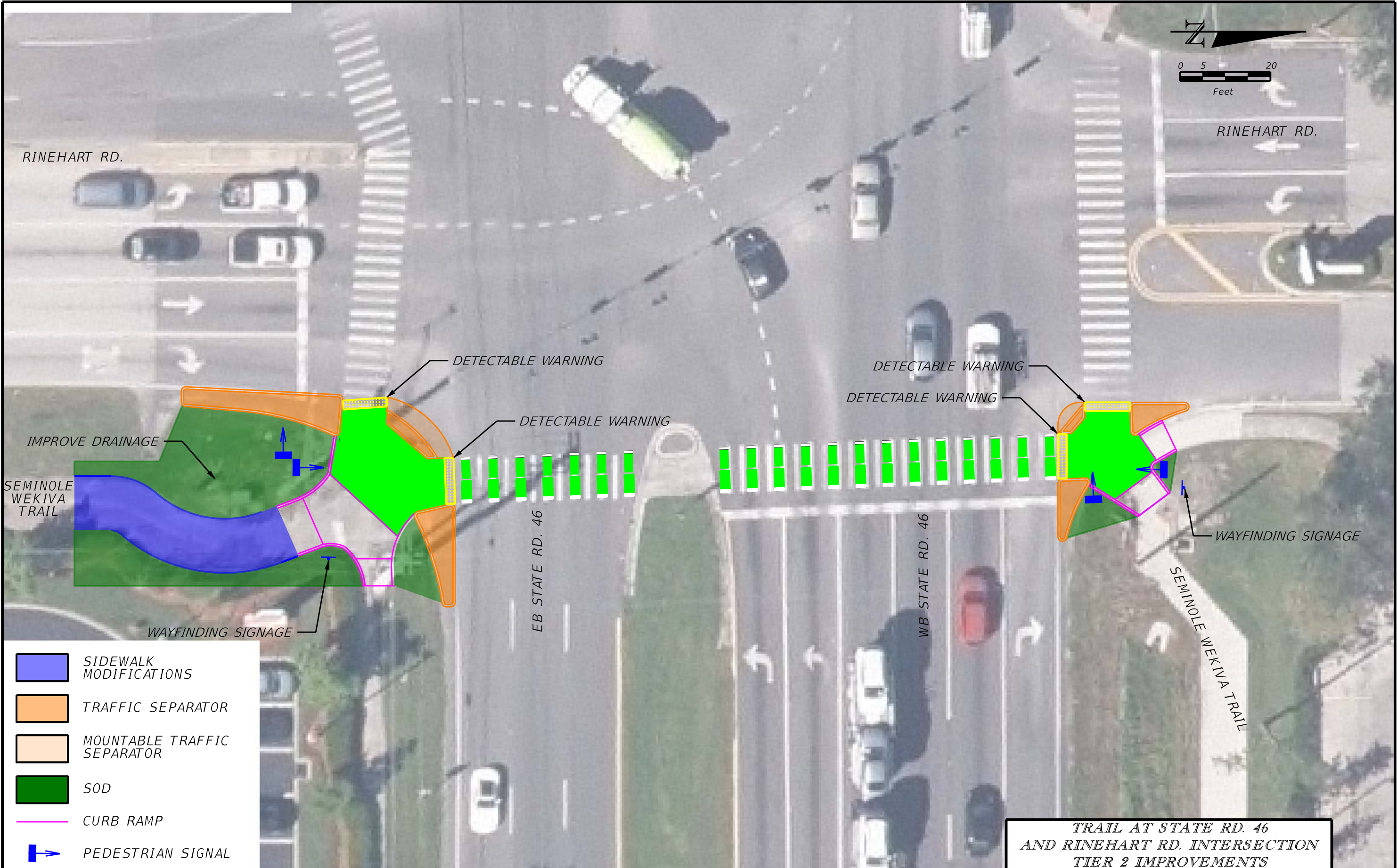
X

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we make no warranty for these costs for any duration of time



- SIDEWALK MODIFICATIONS
- TRAFFIC SEPARATOR
- MOUNTABLE TRAFFIC SEPARATOR
- SOD
- CURB RAMP
- PEDESTRIAN SIGNAL

REVISIONS	
DATE	DESCRIPTION

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KITTELSON
& ASSOCIATES

SEMINOLE COUNTY, FL		
ROAD NO.	COUNTY	JOB NO.
	SEMINOLE	224210.007

TRAIL AT STATE RD. 46
AND RINEHART RD. INTERSECTION
TIER 2 IMPROVEMENTS

TRAILS AND GREENWAYS
SAFETY IMPROVEMENT PLAN

FIGURE NO.

S.R 46 & Rinehart Rd.

Seminole County, Florida
Trail Crossing Review

**Engineer's Opinion of Probable Cost - Tier 2 Conceptual Improvements**

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of: **B** (See rating scale guide below.)

	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0520-70	Concrete Traffic Separator, Special-Variable Width	SY	64	\$ 156.32	\$ 10,031.05
2	522-1	Concrete Sidewalk and Driveways, 4" Thick	SY	67	\$ 50.55	\$ 3,386.85
3	522.2	Concrete Sidewalk and Driveways, 6" Thick	SY	128	\$ 71.78	\$ 9,187.84
4	527-2	Detectable Warnings	SF	80	\$ 32.86	\$ 2,615.00
67						\$ 25,221
SECTION 2: STRIPING						
5	0920-714A	Green Colored Pavement Markings (Includes 6" White End Stripes)	SF	1,272	\$ 10.80	\$ 13,733.28
SUBTOTAL STRIPING						\$ 13,733
SECTION 3: SIGNING						
6	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	2	\$ 496.69	\$ 993.38
SUBTOTAL SIGNING						\$ 993
SECTION 4: LANDSCAPING						
7	0570-1-2	Performance Turf, SOD	SY	163	\$ 4.12	\$ 671.56
SUBTOTAL LANDSCAPING						\$ 672
SECTION 5: SIGNAL						
8	646-1-11	Aluminum Signals Pole, Pedestal	EA	3	\$ 2,149.88	\$ 6,449.64
9	646-1-12	Aluminum Signals Pole, F&I, Pedestian Detector Post	EA	3	\$ 1,693.54	\$ 5,080.62
10	653-1-11	Pedestrian Signal, F&I, LED Countdown, 1 Way	AS	1	\$ 781.27	\$ 781.27
11	653-1-12	Pedestrian Signal, F&I, LED Countdown, 2 Ways	AS	2	\$ 1,377.49	\$ 2,754.98
12	665-1-12	Pedestrian Detector, F&I, Accesible Button with Passive Thermal Sensor	AS	3	\$ 3,136.99	\$ 9,410.97
SUBTOTAL SIGNAL						\$ 24,477
SECTION 6: CLEARING & GRUBBING/EARTHWORK						
13	0110-1-1	Clearing & Grubbing	AC	0.126	\$ 21,478.54	\$ 2,706.30
14	0110-4-10	Removal of Existing Concrete Pavement/ Removal of Existing Concrete	SY	195	\$ 32.08	\$ 6,255.60
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,706
SECTION 7: MAINTENANCE OF TRAFFIC						
15		Subtotal Sections 1-5	LS	10%	\$ 6,510	\$6,509.66
SECTION 8: MOBILIZATION						
16		Subtotal Sections 1-5	LS	10%	\$ 6,510	\$6,509.66
ESTIMATED CONSTRUCTION COSTS					\$	80,822
30% CONTINGENCY					\$	24,250
TOTAL ESTIMATED CONSTRUCTION COSTS					\$	105,072
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 105,072	\$15,770.00
2		Construction Support / Construction Management	LS	5%	\$ 105,072	\$5,260.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS					\$	21,030
TOTAL PROJECT COST					\$	126,102

Engineering Effort:

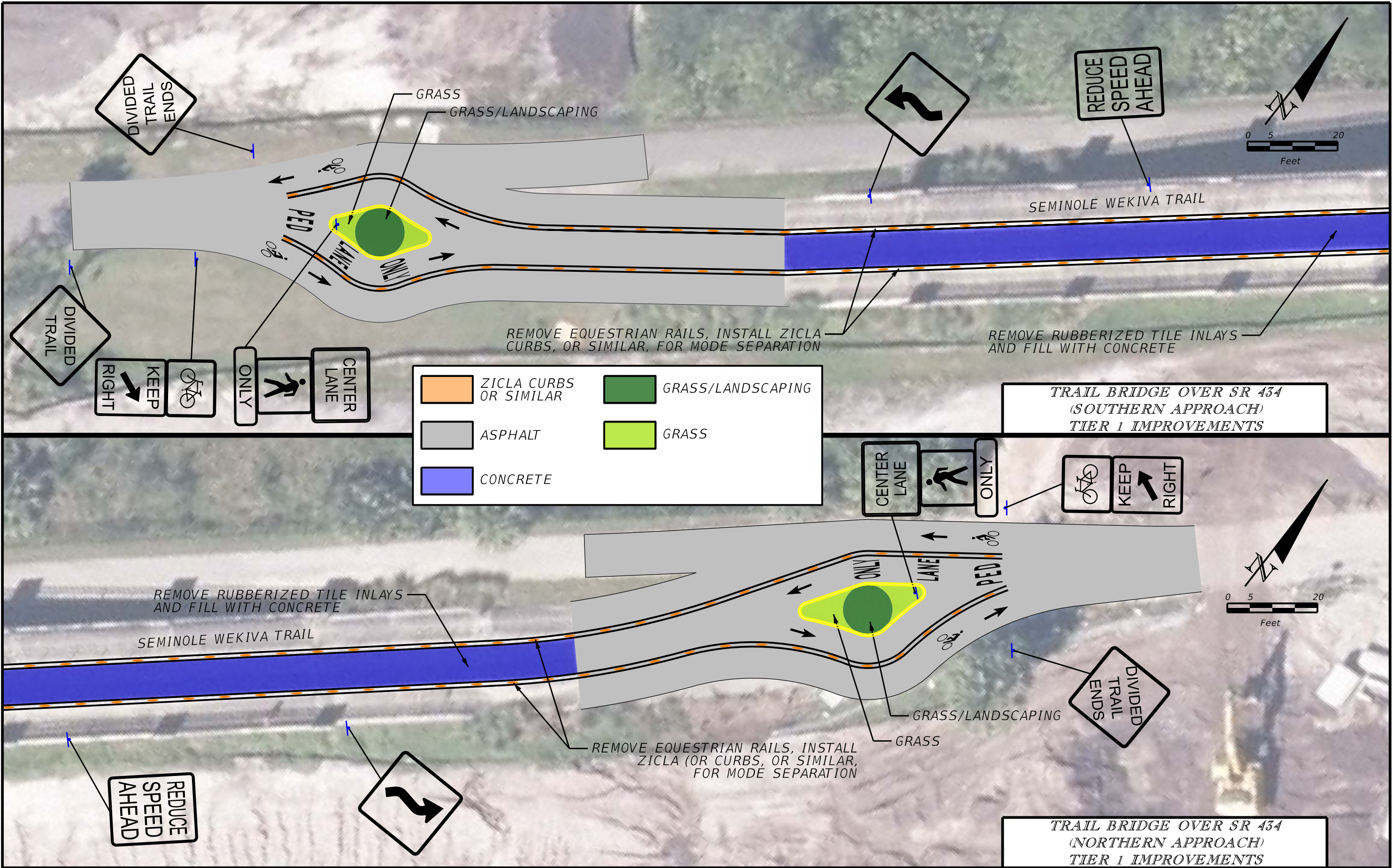
Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

X

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we make no warranty for these costs for any duration of time



REVISIONS	
DATE	DESCRIPTION



SEMINOLE COUNTY, FL		
ROAD NO.	COUNTY	JOB NO.
	SEMINOLE	224210.007

TRAILS AND GREENWAYS SAFETY IMPROVEMENT PLAN	
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FIGURE NO.

Trail Bridge Over SR 434

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 1 Conceptual Improvements

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of:				B (See rating scale guide below.)		
	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0160-4	Type B Stabilization	SY	885	\$ 6.98	\$ 6,180.02
2	0339-1	Miscellaneous Asphalt Pavement	TN	177.1	\$ 134.71	\$ 23,854.30
3	0400-2-10	Concrete Class II, (replaces rubberized tile inlay)	CY	47.6	\$ 386.46	\$ 18,395.50
4	0520-2-4	Concrete Curb, Type D	LF	119	\$ 52.64	\$ 6,247.84
SUBTOTAL ROADWAY						\$ 54,678
SECTION 2: STRIPING						
5	0711-11160	Thermoplastic, Standard, White, Message or Symbol	EA	18	\$ 185.41	\$ 3,337.38
6	0711-15101	Thermoplastic, Standard-Open Graded Asphalt Surfaces White, Solid, 6"	GM	1.055	\$ 6,468.59	\$ 6,824.36
SUBTOTAL STRIPING						\$ 10,162
SECTION 3: SIGNING						
7	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	11	\$ 496.69	\$ 5,463.59
SUBTOTAL SIGNING						\$ 5,464
SECTION 4: LANDSCAPING						
8	0570-1-2	Performance Turf, SOD	SY	35	\$ 4.12	\$ 144.20
SUBTOTAL LANDSCAPING						\$ 144
SECTION 5: CLEARING & GRUBBING/EARTHWORK						
9	0110-1-1	Clearing & Grubbing	AC	0.7	\$ 21,478.54	\$ 15,034.98
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 15,035
SECTION 6: MISCELLANEOUS						
10	XXX-X-XXX	Zicla ('Zebra' or similar) Cycle Lane Separator System	LF	2785	\$ 9.00	\$ 25,068.24
SUBTOTAL MISCELLANEOUS						\$ 25,068
SECTION 7: MAINTENANCE OF TRAFFIC						
11		Subtotal Sections 1-5	LS	10%	\$ 9,552	\$9,551.55
SECTION 8: MOBILIZATION						
12		Subtotal Sections 1-5	LS	10%	\$ 9,552	\$9,551.55
ESTIMATED CONSTRUCTION COSTS						\$ 129,654
30% CONTINGENCY						\$ 38,900
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 168,554
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 168,554	\$25,290.00
2		Construction Support / Construction Management	LS	5%	\$ 168,554	\$8,430.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 33,720
TOTAL PROJECT COST						\$ 202,274

Engineering Effort:

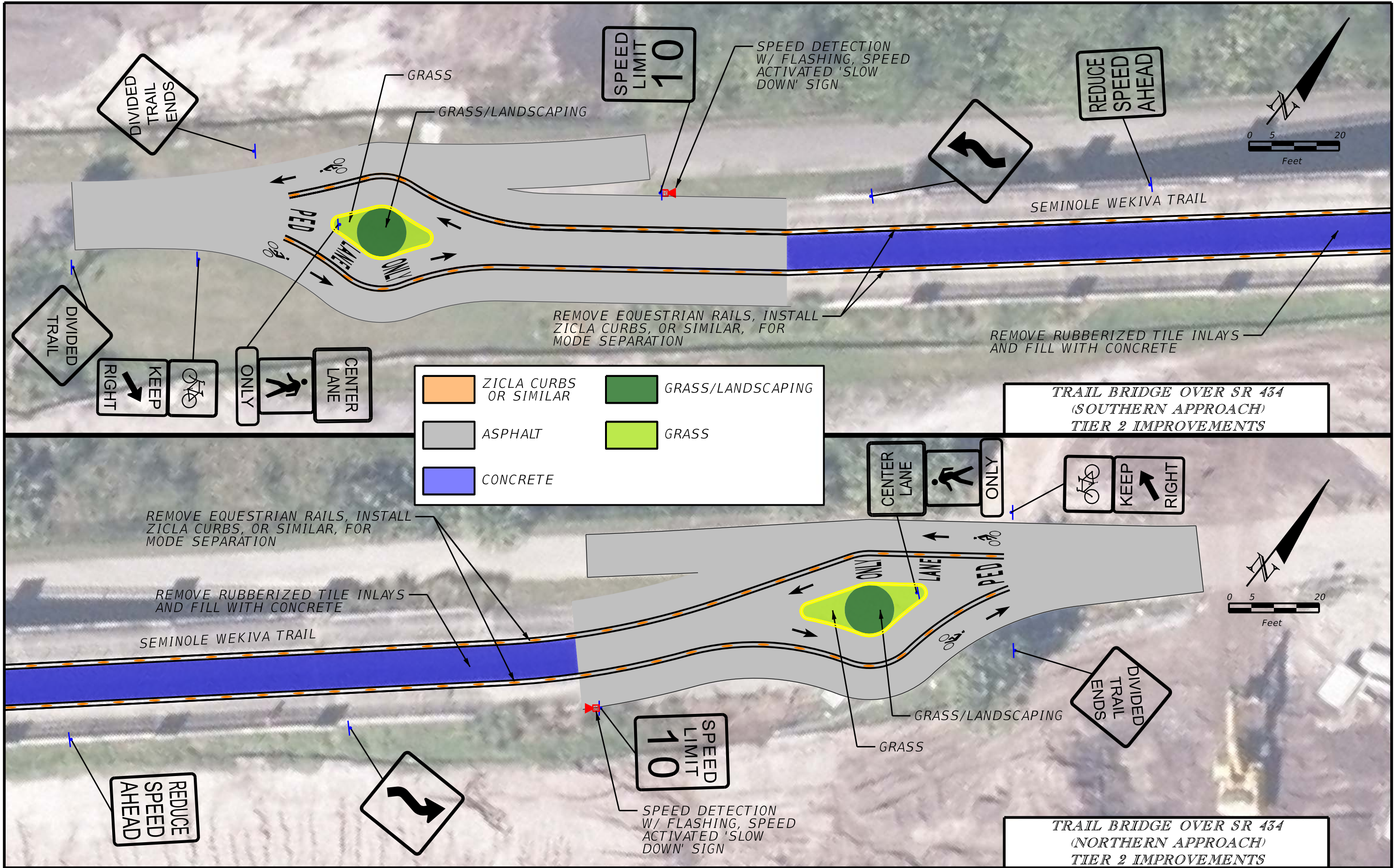
X

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

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REVISIONS	
DATE	DESCRIPTION



SEMINOLE COUNTY, FL		
ROAD NO.	COUNTY	JOB NO.
	SEMINOLE	224210.007

TRAILS AND GREENWAYS SAFETY IMPROVEMENT PLAN	
--	--

FIGURE NO.

Trail Bridge Over SR 434

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 2 Conceptual Improvements

Prepared By: Nick Friederich				Date: April 25, 2022		
This Estimate has a Rating of:				B (See rating scale guide below.)		
	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0160-4	Type B Slabilization	SY	885	\$ 6.98	\$ 6,180.02
2	0339-1	Miscellaneous Asphalt Pavement	TN	177.1	\$ 134.71	\$ 23,854.30
3	0400-2-10	Concrete Class II, (replaces rubberized tile inlay)	CY	47.6	\$ 386.46	\$ 18,395.50
4	0520-2-4	Concrete Curb, Type D	LF	119	\$ 52.64	\$ 6,247.84
SUBTOTAL ROADWAY						\$ 54,678
SECTION 2: STRIPING						
5	0711-11160	Thermoplastic, Standard,White, Message or Symbol	EA	18	\$ 185.41	\$ 3,337.38
6	0711-15101	Thermoplastic, Standard-Open Graded Asphalt Surfaces White, Solid, 6"	GM	1.055	\$ 6,468.59	\$ 6,824.36
SUBTOTAL STRIPING						\$ 10,162
SECTION 3: SIGNING						
7	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	13	\$ 496.69	\$ 6,456.97
SUBTOTAL SIGNING						\$ 6,457
SECTION 4: LANDSCAPING						
8	0570-1-2	Performance Turf, SOD	SY	35	\$ 4.12	\$ 144.20
SUBTOTAL LANDSCAPING						\$ 144
SECTION 5: SIGNAL						
9	700-11-231	Electronic Display Sign, F&I, Ground Mount-Solar Power, Feedback, Up to 12SF	EA	2	\$ 12,000.00	\$ 24,000.00
SUBTOTAL SIGNAL						\$ 24,000
SECTION 6: CLEARING & GRUBBING/EARTHWORK						
10	0110-1-1	Clearing & Grubbing	AC	0.7	\$ 21,478.54	\$ 15,034.98
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 15,035
SECTION 7: MISCELLANEOUS						
11	XXX-X-XXX	Zicla ('Zebra' or similar) Cycle Lane Separator System	LF	2785	\$ 9.00	\$ 25,068.24
SUBTOTAL MISCELLANEOUS						\$ 25,068
SECTION 8: MAINTENANCE OF TRAFFIC						
12		Subtotal Sections 1-5	LS	10%	\$ 12,051	\$12,050.89
SECTION 9: MOBILIZATION						
13		Subtotal Sections 1-5	LS	10%	\$ 12,051	\$12,050.89
ESTIMATED CONSTRUCTION COSTS						\$ 159,646
30% CONTINGENCY						\$ 47,900
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 207,546
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 207,546	\$31,140.00
2		Construction Support / Construction Management	LS	5%	\$ 207,546	\$10,380.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 41,520
TOTAL PROJECT COST						\$ 249,066

Engineering Effort:

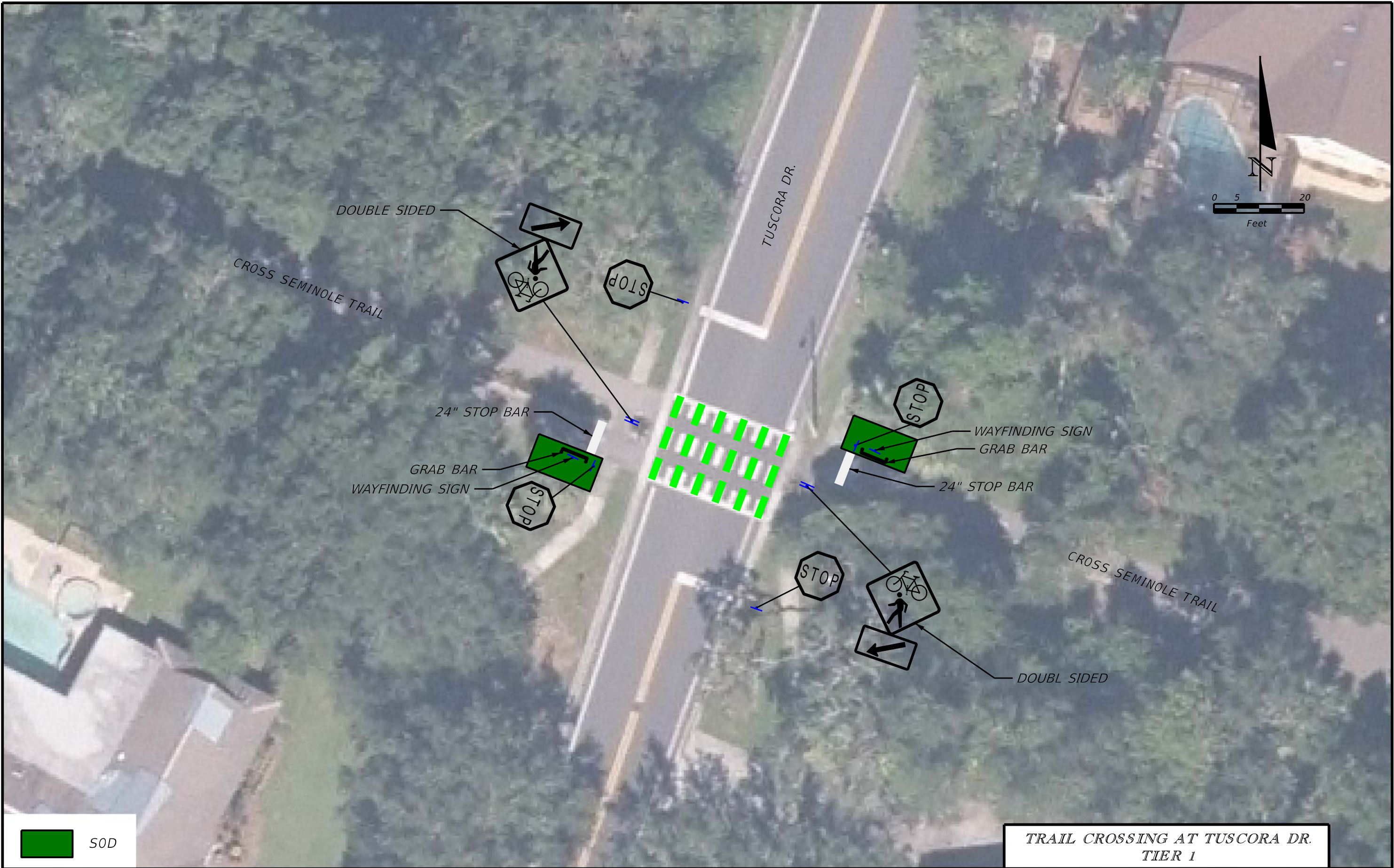
Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

X

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

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 SOD

REVISIONS	
DATE	DESCRIPTION

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SEMINOLE COUNTY, FL		
ROAD NO.	COUNTY	JOB NO.
	SEMINOLE	224210.007

TRAIL CROSSING AT TUSCORA DR. TIER 1
TRAILS AND GREENWAYS SAFETY IMPROVEMENT PLAN

FIGURE NO.

Tuscora Road

Seminole County, Florida
Trail Crossing Review

**Engineer's Opinion of Probable Cost - Tier 1 Conceptual Improvements**

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of:					B (See rating scale guide below.)	
	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: STRIPING						
1	0711-11125	Thermoplastic, Standard, White, Solid, 24" For Stop Line and Crosswalk	LF	16	\$ 6.70	\$ 107.20
2	0920-714A	Green Colored Pavement Markings	SF	151	\$ 10.80	\$ 1,630.80
SUBTOTAL STRIPING						\$ 1,738
SECTION 2: SIGNING						
3	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	10	\$ 496.69	\$ 4,966.90
SUBTOTAL SIGNING						\$ 4,967
SECTION 3: LANDSCAPING						
4	0570-1-2	Performance Turf, SOD	SY	27	\$ 4.12	\$ 111.24
SUBTOTAL LANDSCAPING						\$ 111
SECTION 4: CLEARING & GRUBBING/EARTHWORK						
5	0110-1-1	Clearing & Grubbing	AC	0.1	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,148
SECTION 5: MISCELLANEOUS						
6	515-2-XXX	Bike Bar, Surface Mount, Starter, Powder Coated	EA	2	\$ 730.00	\$ 1,460.00
SUBTOTAL MISCELLANEOUS						\$ 1,460
SECTION 6: MAINTENANCE OF TRAFFIC						
7		Subtotal Sections 1-3, 5	LS	10%	\$ 828	\$827.59
SECTION 7: MOBILIZATION						
8		Subtotal Sections 1-3, 5	LS	10%	\$ 828	\$827.59
ESTIMATED CONSTRUCTION COSTS						\$ 12,079
30% CONTINGENCY						\$ 3,630
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 15,709
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 15,709	\$2,360.00
2		Construction Support / Construction Management	LS	5%	\$ 15,709	\$790.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 3,150
TOTAL PROJECT COST						\$ 18,859

Engineering Effort:

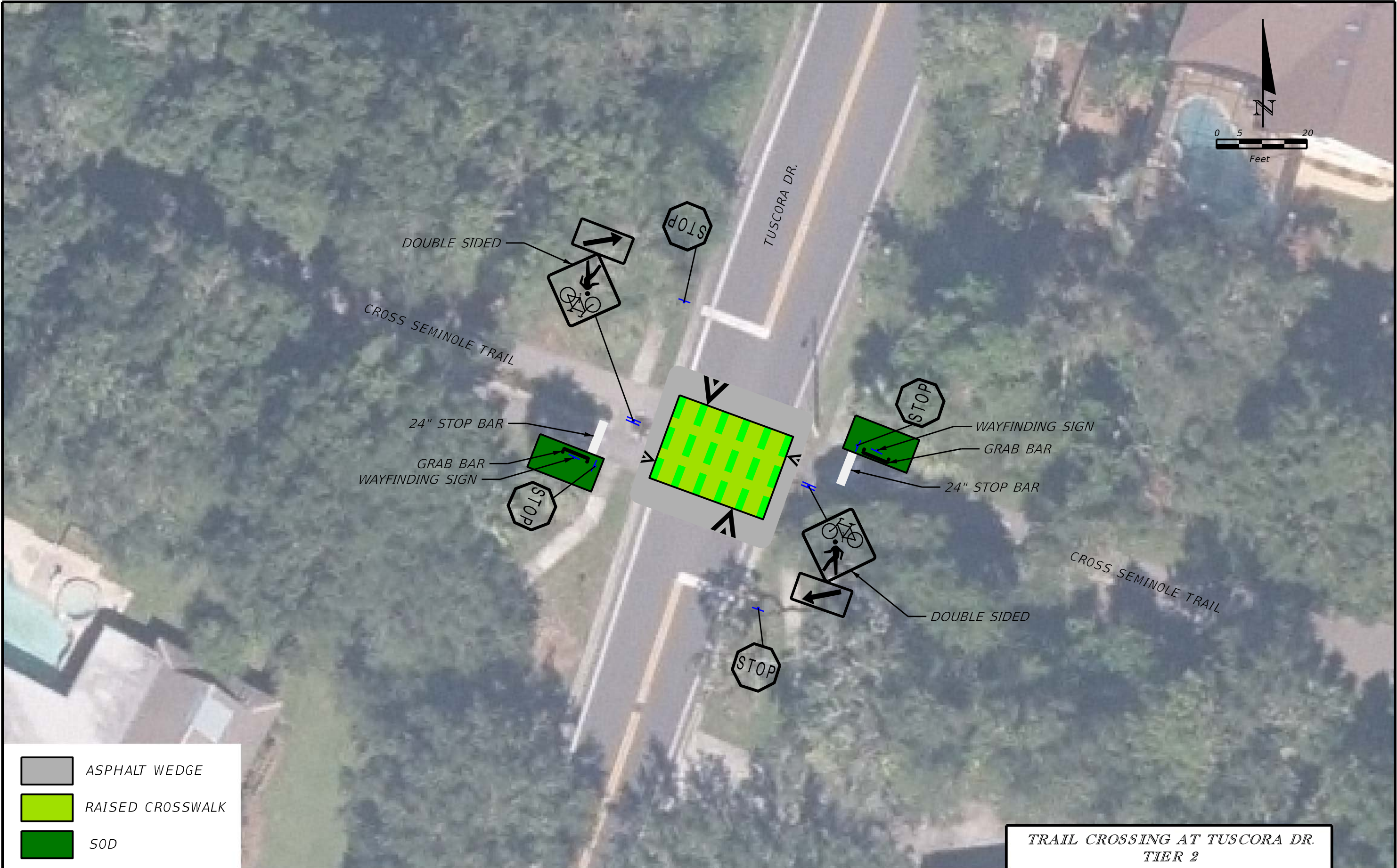
Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

X

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we make no warranty for these costs for any duration of time



ASPHALT WEDGE

RAISED CROSSWALK

SOD

REVISIONS			KITTELSON & ASSOCIATES	SEMINOLE COUNTY, FL			TRAIL CROSSING AT TUSCORA DR. TIER 2	TRAILS AND GREENWAYS SAFETY IMPROVEMENT PLAN	FIGURE NO.
DATE	DESCRIPTION			ROAD NO.	COUNTY	JOB NO.			
					SEMINOLE	224210.007			

Tuscora Road
Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 2 Conceptual Improvements

Prepared By: Nick Friederich				Date: April 25, 2022		
This Estimate has a Rating of:				B (See rating scale guide below.)		
	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0334-1-52	Superpave Asphaltic Concrete, Traffic B, PG 76-22	TN	26	\$ 134.71	\$ 3,497.97
2	0327-70-6	Mill Existing Asphalt Pavement, 1 1/2" Avg. Depth	SY	116	\$ 3.01	\$ 349.16
SUBTOTAL ROADWAY						\$ 3,847.13
SECTION 2: STRIPING						
3	0711-11123	Thermoplastic, Standard, White, Solid, 12" For Approach to raised intersection	LF	58	\$ 3.73	\$ 216.34
4	0711-11125	Thermoplastic, Standard, White, Solid, 24" For Stop Line and Crosswalk	LF	38	\$ 6.70	\$ 254.60
5	0711-11160	Thermoplastic, Standard, White, Message or Symbol	EA	4	\$ 185.41	\$ 741.64
6	0920-714A	Green Colored Pavement Markings	SF	150	\$ 10.80	\$ 1,620.00
SUBTOTAL STRIPING						\$ 2,832.58
SECTION 3: SIGNING						
7	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	10	\$ 496.69	\$ 4,966.90
SUBTOTAL SIGNING						\$ 4,966.90
SECTION 4: LANDSCAPING						
8	0570-1-2	Performance Turf, SOD	SY	27	\$ 4.12	\$ 111.24
SUBTOTAL LANDSCAPING						\$ 111.24
SECTION 5: CLEARING & GRUBBING/EARTHWORK						
9	0110-1-1	Clearing & Grubbing	AC	0.1	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,147.85
SECTION 6: MISCELLANEOUS						
10	515-2-XXX	Bike Bar, Surface Mount, Starter, Powder Coated	EA	2	\$ 730.00	\$ 1,460.00
SUBTOTAL MISCELLANEOUS						\$ 1,460.00
SECTION 7: MAINTENANCE OF TRAFFIC						
11		Subtotal Sections 1-5	LS	10%	\$ 1,322	\$ 1,321.80
SECTION 8: MOBILIZATION						
12		Subtotal Sections 1-5	LS	10%	\$ 1,322	\$ 1,321.80
ESTIMATED CONSTRUCTION COSTS					\$	18,009.73
30% CONTINGENCY					\$	5,410.92
TOTAL ESTIMATED CONSTRUCTION COSTS					\$	23,419.65
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 23,419	\$ 3,520.00
2		Construction Support / Construction Management	LS	5%	\$ 23,419	\$ 1,180.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS					\$	4,700.00
TOTAL PROJECT COST					\$	28,119.65

Engineering Effort:

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

X Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we make no warranty for these costs for any duration of time

Retail Entrance S. of Red Bug

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 1 Conceptual Improvements

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of:					B (See rating scale guide below.)	
	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0546-71-1	Raised Rumble Strip Set - Permanent	EA	12	\$ 19.20	\$ 230.40
SUBTOTAL ROADWAY						\$ 230
SECTION 2: STRIPING						
2	0711-11125	Thermoplastic, Standard, White, Solid, 24" For Stop Line and Crosswalk	LF	32	\$ 6.70	\$ 214.40
3	0920-714A	Green Colored Pavement Markings	SF	108	\$ 10.80	\$ 1,166.40
SUBTOTAL STRIPING						\$ 1,381
SECTION 3: SIGNING						
4	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	8	\$ 496.69	\$ 3,973.52
SUBTOTAL SIGNING						\$ 3,974
SECTION 4: LANDSCAPING						
5	0570-1-2	Performance Turf, SOD	SY	13	\$ 4.12	\$ 51.91
SUBTOTAL LANDSCAPING						\$ 52
SECTION 5: CLEARING & GRUBBING/EARTHWORK						
6	0110-1-1	Clearing & Grubbing	AC	0.1	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,148
SECTION 6: MISCELLANEOUS						
7	515-2-XXX	Bike Bar, Surface Mount, Starter, Powder Coated	EA	2	\$ 730.00	\$ 1,460.00
SUBTOTAL MISCELLANEOUS						\$ 1,460
SECTION 7: MAINTENANCE OF TRAFFIC						
8		Subtotal Sections 1-5	LS	10%	\$ 710	\$709.69
SECTION 8: MOBILIZATION						
9		Subtotal Sections 1-5	LS	10%	\$ 710	\$709.69
ESTIMATED CONSTRUCTION COSTS						\$ 10,664
30% CONTINGENCY						\$ 3,200
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 13,864
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 13,864	\$2,080.00
2		Construction Support / Construction Management	LS	5%	\$ 13,864	\$700.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 2,780
TOTAL PROJECT COST						\$ 16,644

Engineering Effort:

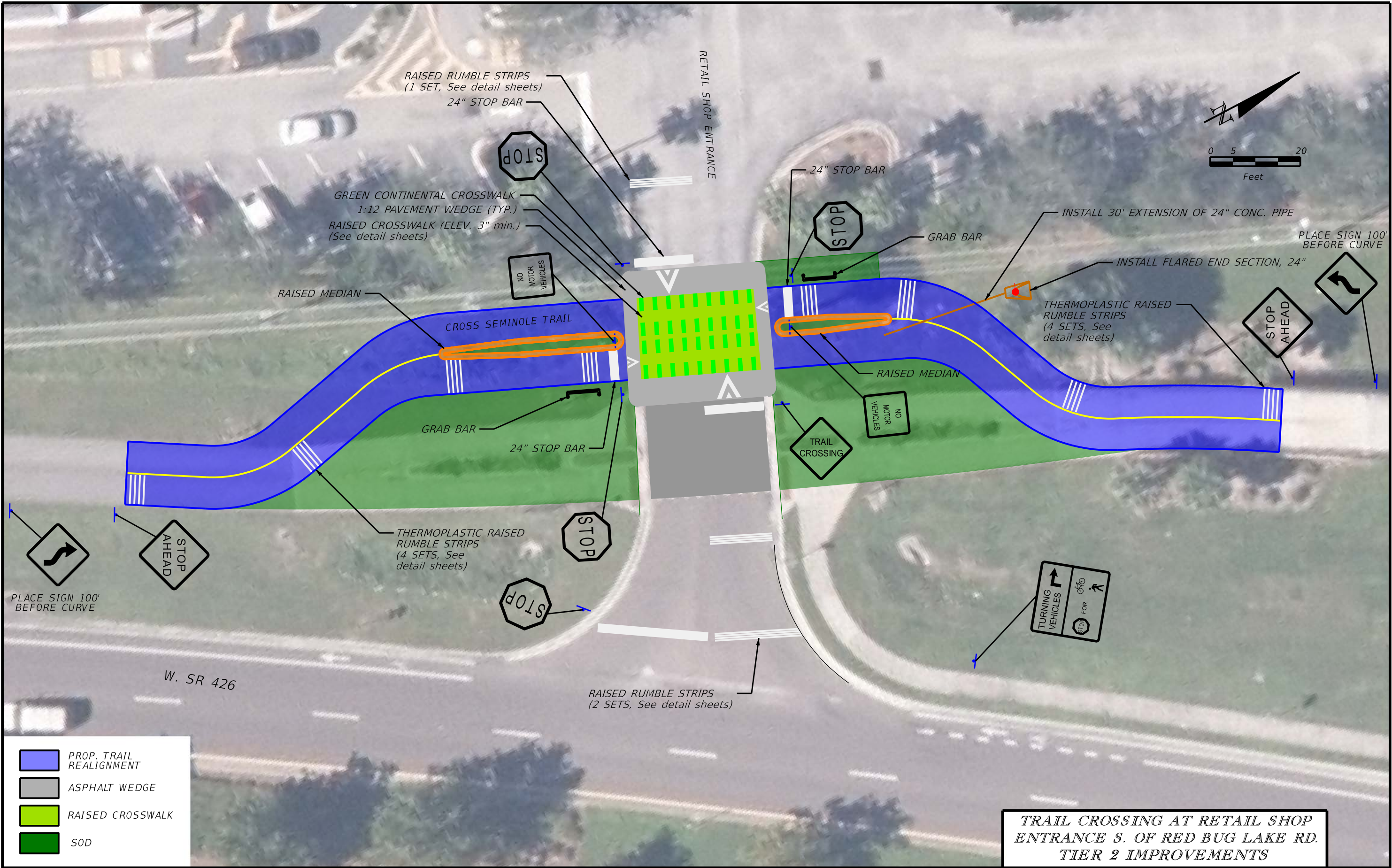
X

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

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PROP. TRAIL REALIGNMENT

ASPHALT WEDGE

RAISED CROSSWALK

SOD

REVISIONS			SEMINOLE COUNTY, FL			TRAILS AND GREENWAYS SAFETY IMPROVEMENT PLAN	FIGURE NO.
DATE	DESCRIPTION		ROAD NO.	COUNTY	JOB NO.		
				SEMINOLE	224210.007		

Retail Entrance S. of Red Bug

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 2 Conceptual Improvements

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of: **B** (See rating scale guide below.)

	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0160-4	Type B Stabilization	SY	411	\$ 6.98	\$ 2,870.53
2	0339-1	Miscellaneous Asphalt Pavement	TN	77.0	\$ 134.71	\$ 10,378.90
3	0520-70	Concrete Traffic Separator, Special-Variable Width	SY	10	\$ 156.32	\$ 1,531.94
4	0546-71-1	Raised Rumble Strip Set - Permanent	EA	11	\$ 19.20	\$ 211.20
SUBTOTAL ROADWAY						\$ 14,993
SECTION 2: STRIPING						
5	0711-11125	Thermoplastic, Standard, White, Solid, 24" For Stop Line and Crosswalk	LF	64	\$ 6.70	\$ 428.80
6	0711-11160	Thermoplastic, Standard, White, Message or Symbol	EA	4	\$ 185.41	\$ 741.64
7	0711-15201	Thermoplastic, Std.-Open Graded Asphalt Surfaces, Yellow Solid 6"	GM	0.032	\$ 5,478.44	\$ 175.31
8	0920-714A	Green Colored Pavement Markings	SF	108	\$ 10.80	\$ 1,166.40
SUBTOTAL STRIPING						\$ 2,512
SECTION 3: SIGNING						
9	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	12	\$ 496.69	\$ 5,960.28
SUBTOTAL SIGNING						\$ 5,960
SECTION 4: DRAINAGE						
10	430-174-118	Pipe Culvert<, Opt. Material, Round 24" SD	LF	30	\$ 126.12	\$ 3,783.60
11	430-984-129	Mitered End Section, Opt. Round, 24" SD	EA	1	\$ 2,180.57	\$ 2,180.57
SUBTOTAL DRAINAGE						\$ 5,964
SECTION 5: LANDSCAPING						
12	0570-1-2	Performance Turf, SOD	SY	373	\$ 4.12	\$ 1,536.76
SUBTOTAL LANDSCAPING						\$ 1,537
SECTION 6: CLEARING & GRUBBING/EARTHWORK						
13	0110-1-1	Clearing & Grubbing	AC	0.30	\$ 21,478.54	\$ 6,443.56
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 6,444
SECTION 7: MISCELLANEOUS						
14	515-2-XXX	Bike Bar, Surface Mount, Starter, Powder Coated	EA	2	\$ 730.00	\$ 1,460.00
SUBTOTAL MISCELLANEOUS						\$ 1,460
SECTION 8: MAINTENANCE OF TRAFFIC						
15		Subtotal Sections 1-5	LS	10%	\$ 3,243	\$ 3,242.60
SECTION 9: MOBILIZATION						
16		Subtotal Sections 1-5	LS	10%	\$ 3,243	\$ 3,242.60
ESTIMATED CONSTRUCTION COSTS						\$ 39,391
30% CONTINGENCY						\$ 11,820
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 51,211
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 51,211	\$ 7,690.00
2		Construction Support / Construction Management	LS	5%	\$ 51,211	\$ 2,570.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 10,260
TOTAL PROJECT COST						\$ 61,471

Engineering Effort:

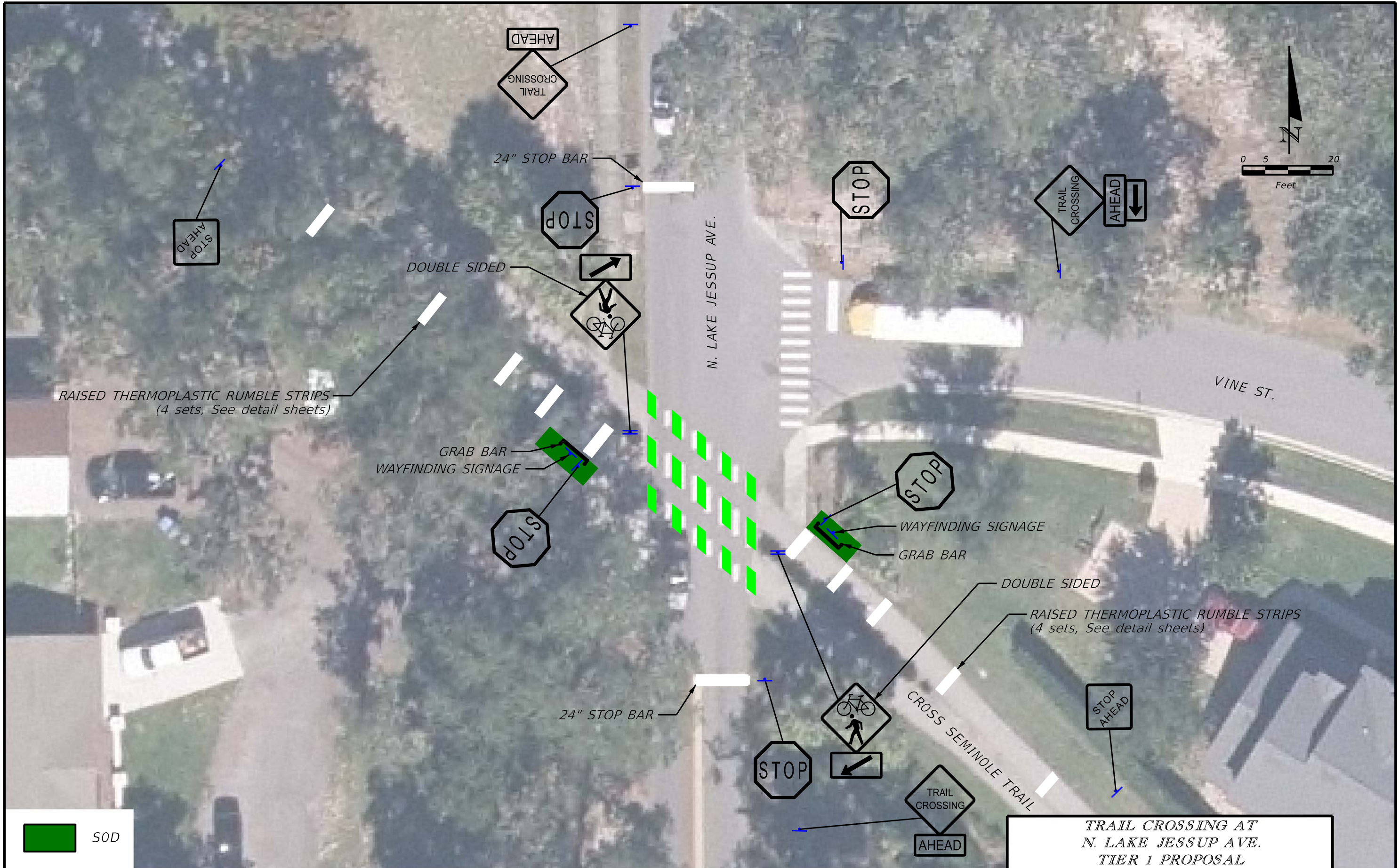
Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

X

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we make no warranty for these costs for any duration of time



 SOD

REVISIONS	
DATE	DESCRIPTION

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 **KITTELSON**
& ASSOCIATES

SEMINOLE COUNTY, FL		
ROAD NO.	COUNTY	JOB NO.
	SEMINOLE	224210.007

TRAIL CROSSING AT N. LAKE JESSUP AVE. TIER 1 PROPOSAL	TRAILS AND GREENWAYS SAFETY IMPROVEMENT PLAN
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FIGURE NO.

N. Lake Jessup Road

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 1 Conceptual Improvements

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of: **B** (See rating scale guide below.)

	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0546-71-1	Raised Rumble Strip Set - Permanent	EA	8	\$ 19.20	\$ 153.60
SUBTOTAL ROADWAY						\$ 154
SECTION 2: STRIPING						
2	0711-11125	Thermoplastic, Standard, White, Solid, 24" For Stop Line and Crosswalk	LF	38	\$ 6.70	\$ 254.60
3	0920-714A	Green Colored Pavement Markings	SF	164	\$ 10.80	\$ 1,771.20
SUBTOTAL STRIPING						\$ 2,026
SECTION 3: SIGNING						
4	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	16	\$ 496.69	\$ 7,947.04
SUBTOTAL SIGNING						\$ 7,947
SECTION 4: LANDSCAPING						
5	0570-1-2	Performance Turf, SOD	SY	13	\$ 4.12	\$ 51.91
SUBTOTAL LANDSCAPING						\$ 52
SECTION 5: CLEARING & GRUBBING/EARTHWORK						
6	0110-1-1	Clearing & Grubbing	AC	0.1	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,148
SECTION 6: MISCELLANEOUS						
7	515-2-XXX	Bike Bar, Surface Mount, Starter, Powder Coated	EA	2	\$ 730.00	\$ 1,460.00
SUBTOTAL MISCELLANEOUS						\$ 1,460
SECTION 7: MAINTENANCE OF TRAFFIC						
8		Subtotal Sections 1-4, 6	LS	10%	\$ 1,164	\$1,163.86
SECTION 8: MOBILIZATION						
9		Subtotal Sections 1-4, 6	LS	10%	\$ 1,164	\$1,163.86
ESTIMATED CONSTRUCTION COSTS						\$ 16,114
30% CONTINGENCY						\$ 4,840
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 20,954
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 20,954	\$3,150.00
2		Construction Support / Construction Management	LS	5%	\$ 20,954	\$1,050.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 4,200
TOTAL PROJECT COST						\$ 25,154

Engineering Effort:

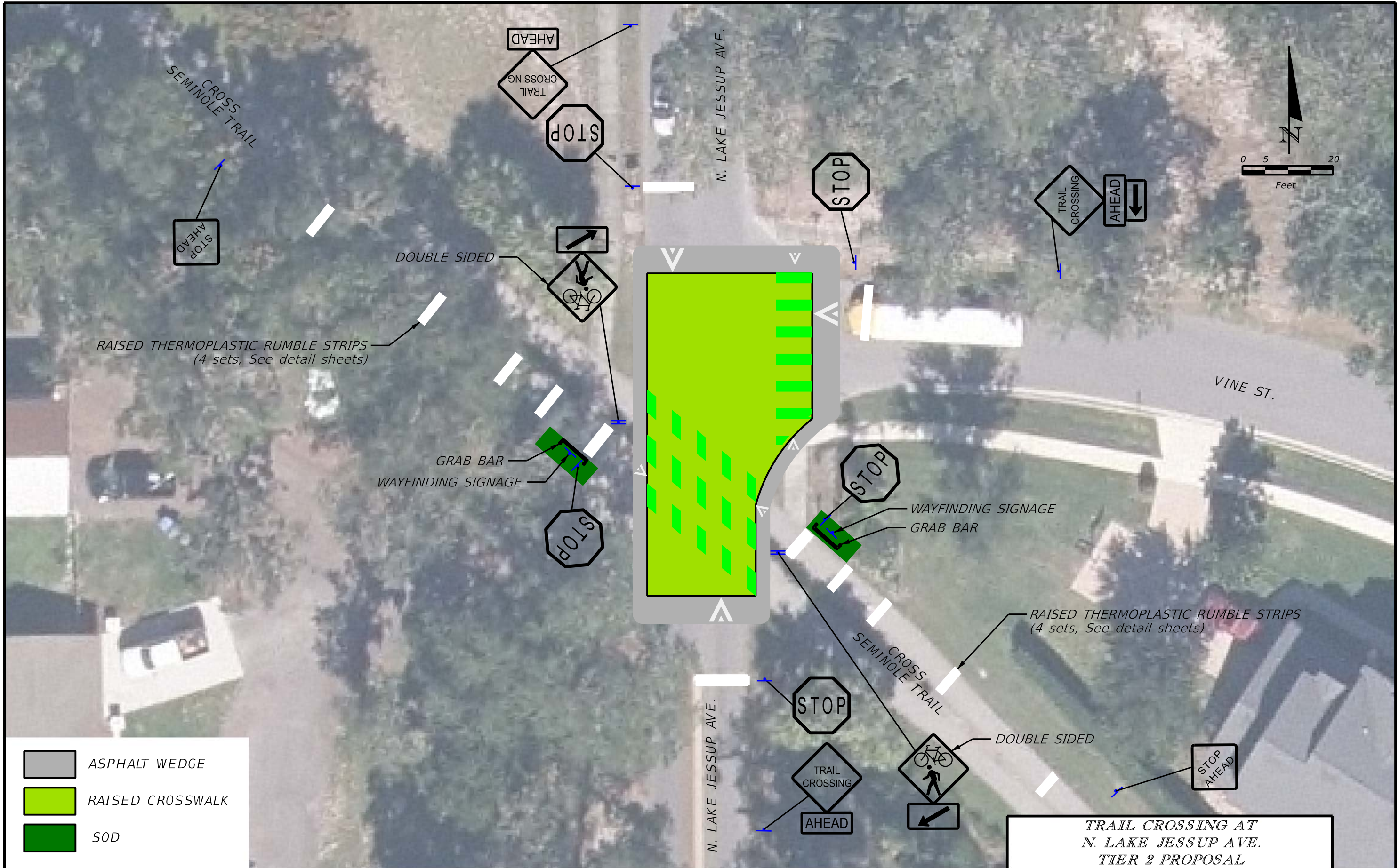
Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

X

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we make no warranty for these costs for any duration of time



REVISIONS	
DATE	DESCRIPTION

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SEMINOLE COUNTY, FL

ROAD NO.	COUNTY	JOB NO.
	SEMINOLE	224210.007

TRAIL CROSSING AT
N. LAKE JESSUP AVE.
TIER 2 PROPOSAL

TRAILS AND GREENWAYS
SAFETY IMPROVEMENT PLAN

FIGURE
NO.

N. Lake Jessup Avenue

Seminole County, Florida
Trail Crossing Review



Engineer's Opinion of Probable Cost - Tier 2 Conceptual Improvements

Prepared By: Nick Friederich

Date: April 25, 2022

This Estimate has a Rating of: **B** (See rating scale guide below.)

	PAY ITEM	DESCRIPTION	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL COST
SECTION 1: ROADWAY						
1	0334-1-52	Superpave Asphaltic Concrete, Traffic B, PG 76-22	TN	90	\$ 134.71	\$ 12,137.51
2	0327-70-6	Mill Existing Asphalt Pavement, 1 1/2" Avg. Depth	SY	355	\$ 3.01	\$ 1,069.31
3	0546-71-1	Raised Rumble Strip Set - Permanent	EA	16	\$ 19.20	\$ 307.20
SUBTOTAL ROADWAY						\$ 13,514
SECTION 2: STRIPING						
4	0711-11123	Thermoplastic, Standard, White, Solid, 12" For Approach to raised intersection	LF	51	\$ 3.73	\$ 190.23
5	0711-11125	Thermoplastic, Standard, White, Solid, 24" For Stop Line and Crosswalk	LF	51	\$ 6.70	\$ 341.70
6	0711-11160	Thermoplastic, Standard, White, Message or Symbol	EA	7	\$ 185.41	\$ 1,297.87
7	0920-714A	Green Colored Pavement Markings	SF	263	\$ 10.80	\$ 2,843.86
SUBTOTAL STRIPING						\$ 4,674
SECTION 3: SIGNING						
8	700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	16	\$ 496.69	\$ 7,947.04
SUBTOTAL SIGNING						\$ 7,947
SECTION 4: LANDSCAPING						
9	0570-1-2	Performance Turf, SOD	SY	15	\$ 4.12	\$ 61.39
SUBTOTAL LANDSCAPING						\$ 61
SECTION 5: CLEARING & GRUBBING/EARTHWORK						
10	0110-1-1	Clearing & Grubbing	AC	0.1	\$ 21,478.54	\$ 2,147.85
SUBTOTAL CLEARING & GRUBBING/EARTHWORK						\$ 2,148
SECTION 6: MISCELLANEOUS						
11	515-2-XXX	Bike Bar, Surface Mount, Starter, Powder Coated	EA	2	\$ 730.00	\$ 1,460.00
SUBTOTAL MISCELLANEOUS						\$ 1,460
SECTION 7: MAINTENANCE OF TRAFFIC						
12		Subtotal Sections 1-5	LS	10%	\$ 2,766	\$2,765.61
SECTION 8: MOBILIZATION						
13		Subtotal Sections 1-5	LS	10%	\$ 2,766	\$2,765.61
ESTIMATED CONSTRUCTION COSTS						\$ 35,335
30% CONTINGENCY						\$ 10,610
TOTAL ESTIMATED CONSTRUCTION COSTS						\$ 45,945
CAPITAL SUPPORT COSTS						
1		Project Engineering	LS	15%	\$ 45,945	\$6,900.00
2		Construction Support / Construction Management	LS	5%	\$ 45,945	\$2,300.00
TOTAL ESTIMATE CAPITAL SUPPORT COSTS						\$ 9,200
TOTAL PROJECT COST						\$ 55,145

Engineering Effort:

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining). Project Development & Construction Contingencies ranges between 10%-20%.

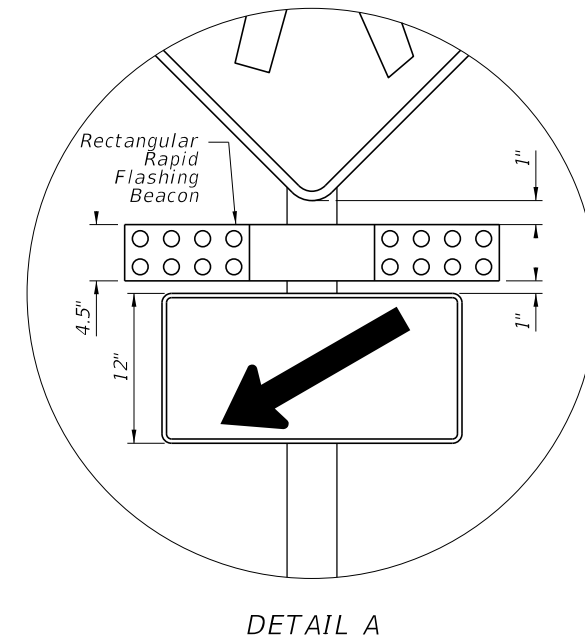
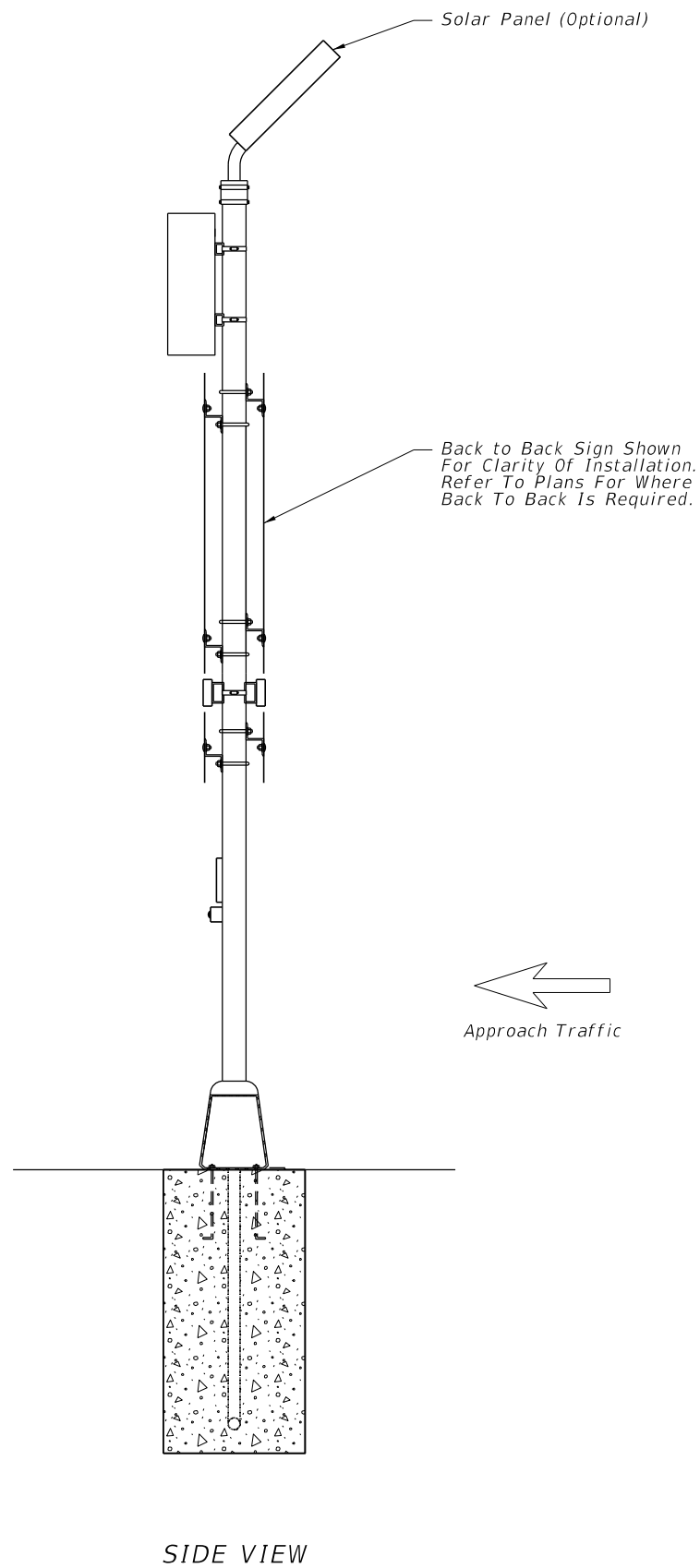
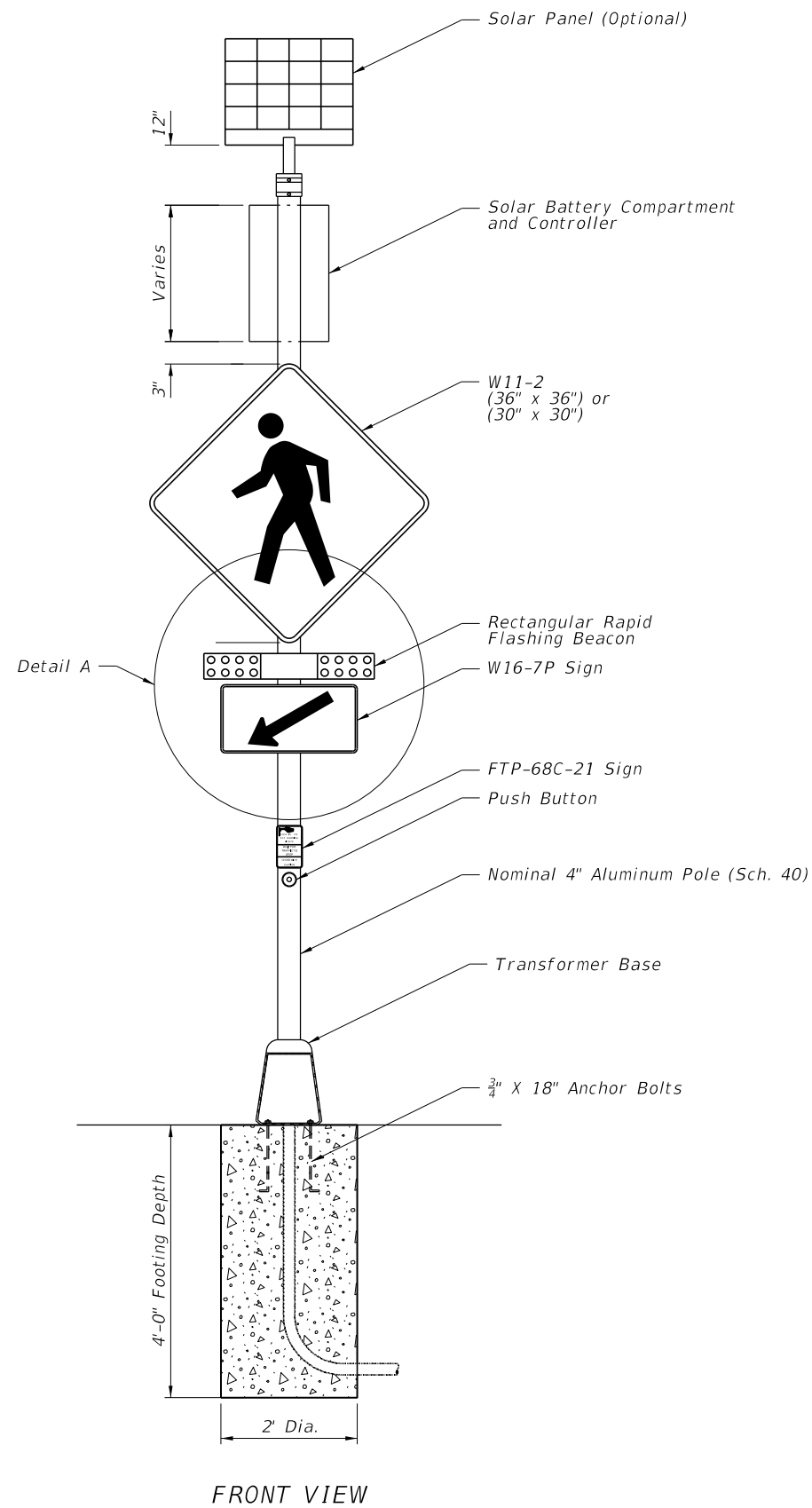
X

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used. Project Development Contingencies ranges between 15% to 25% and Construction Contingencies ranges between 20% to 30%.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed. Project Development and Construction Contingencies should be selected appropriately by Project Manager. Contingency may range up to 50%.

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we make no warranty for these costs for any duration of time

2/18/2022 8:33:58 AM nrfriederich H:\22\22421 - Seminole County Continuing Services\007 - Trails_Greenways Safety Improvement Plan\Design\SPDTRD01.dgn

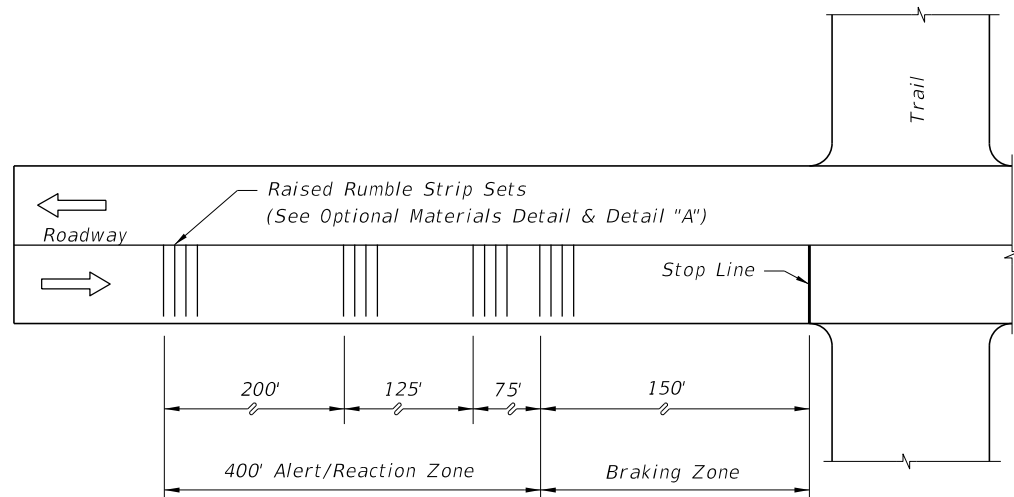


NOTES

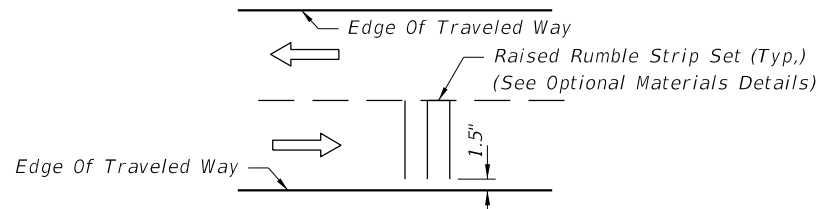
1. Install the RRFB in pairs, one on either side of approach traffic.
2. Install controller on the backside of post from approach traffic.
3. Install a 30" X 30" W11-2 sign on two-lane roadways and a 36" X 36" W11-2 sign for multi-lane roadways.
4. See Standard Plans Index 654-001 for more details.

RECTANGULAR RAPID FLASHING BEACON DETAILS

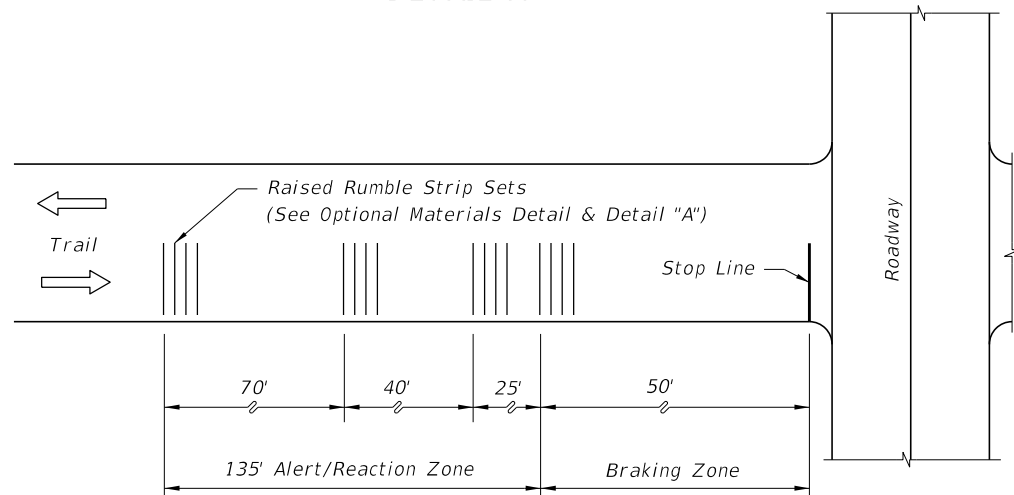
REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION				
				ROAD NO.	COUNTY	FINANCIAL PROJECT ID	000



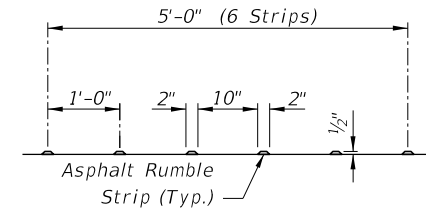
ROADWAY PLAN



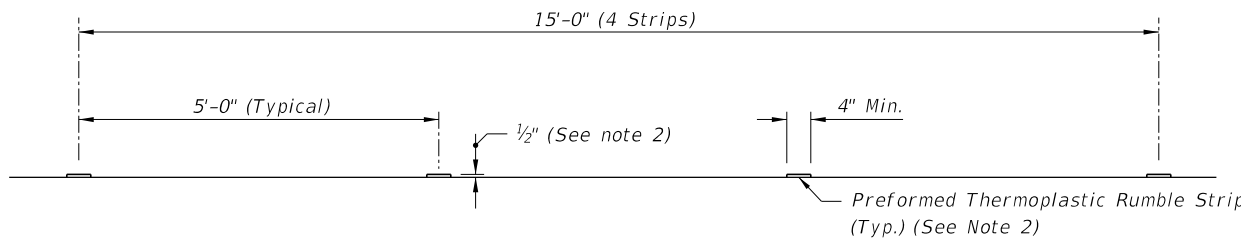
DETAIL A



TRAIL PLAN



OPTION P1 - ASPHALT SET



OPTION P2 - PREFORMED THERMOPLASTIC SET

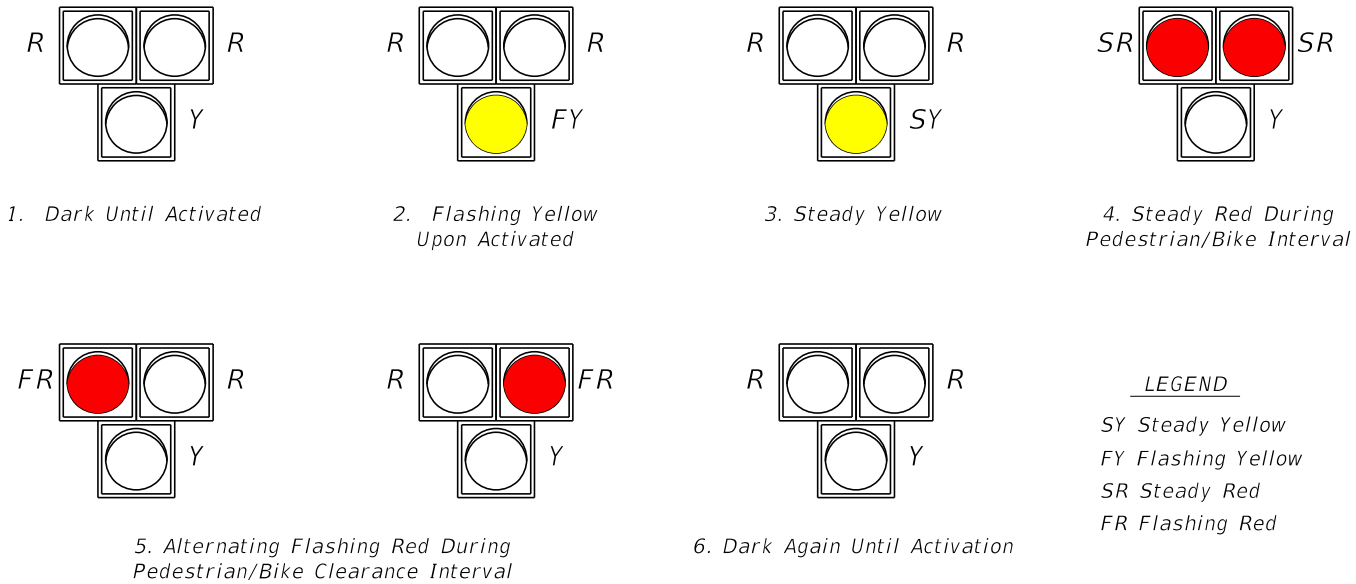
NOTES:

1. Construct permanantraised rumble strips where shown in the plans and in accordance with Specification 546.
2. Preformed Thermoplastic Set:
 - a. Use multiple applications to achieve desired 1/2" thickness.
 - b. Use color white.

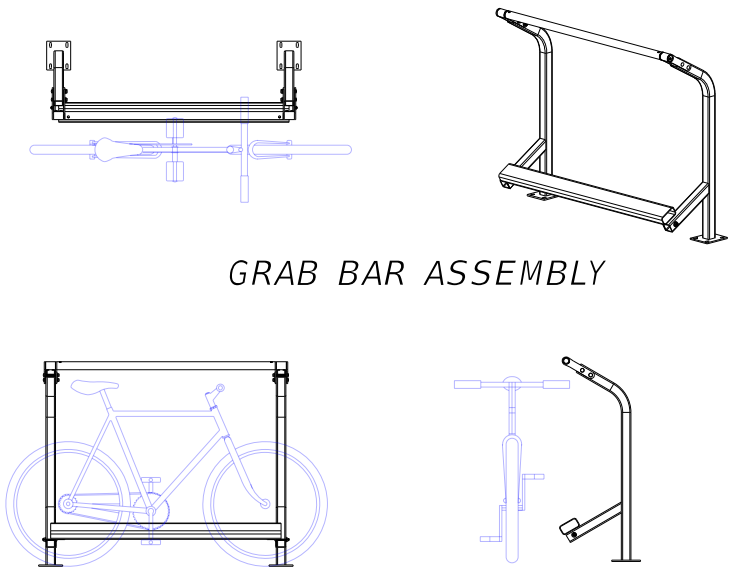
SECTION FOR THERMOPLASTIC AND ASPHALT RUMBLE STRIP SETS
OPTIONAL MATERIALS DETAIL

RAISED RUMBLE STRIPS AT INTERSECTIONS

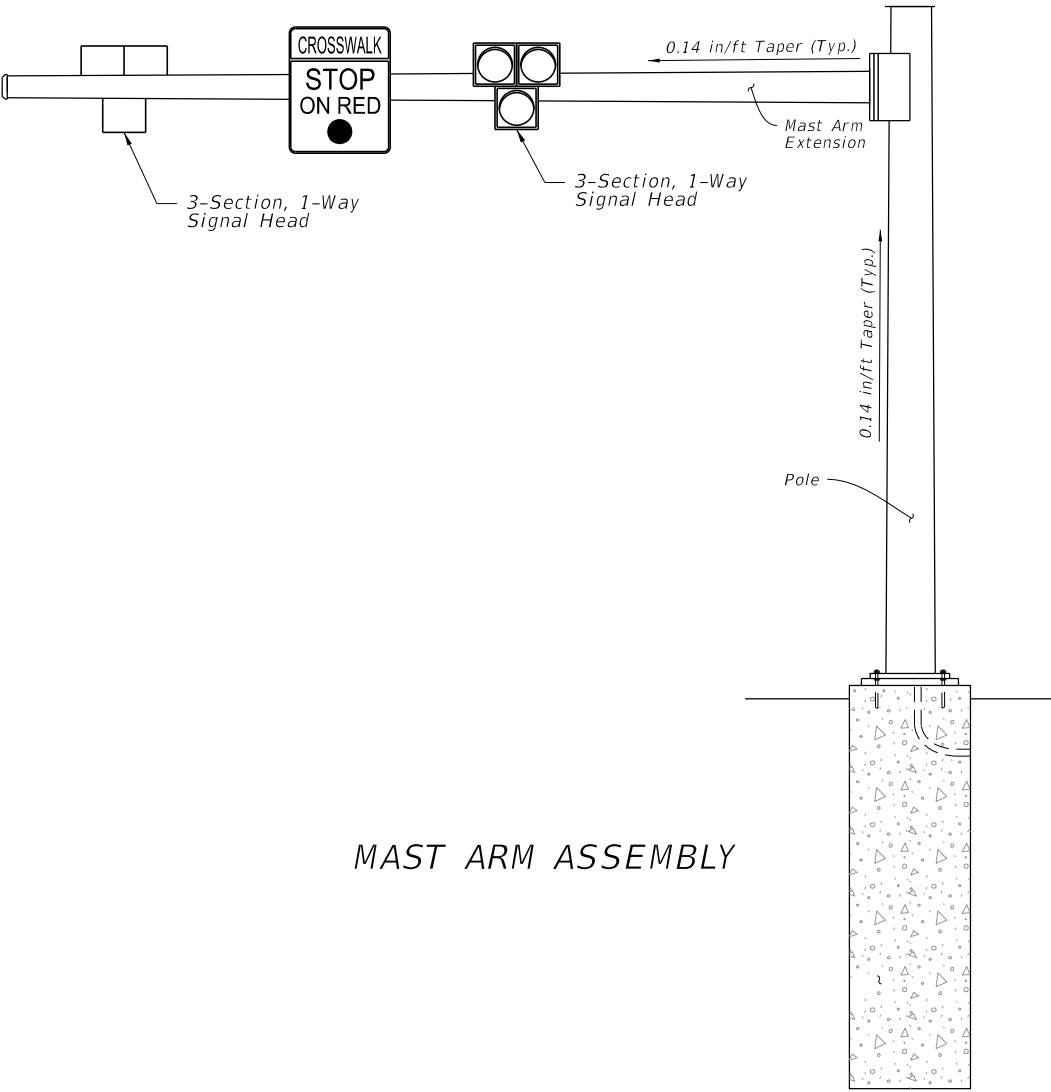
REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SPECIAL DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION					
				ROAD NO.	COUNTY	FINANCIAL PROJECT ID		000



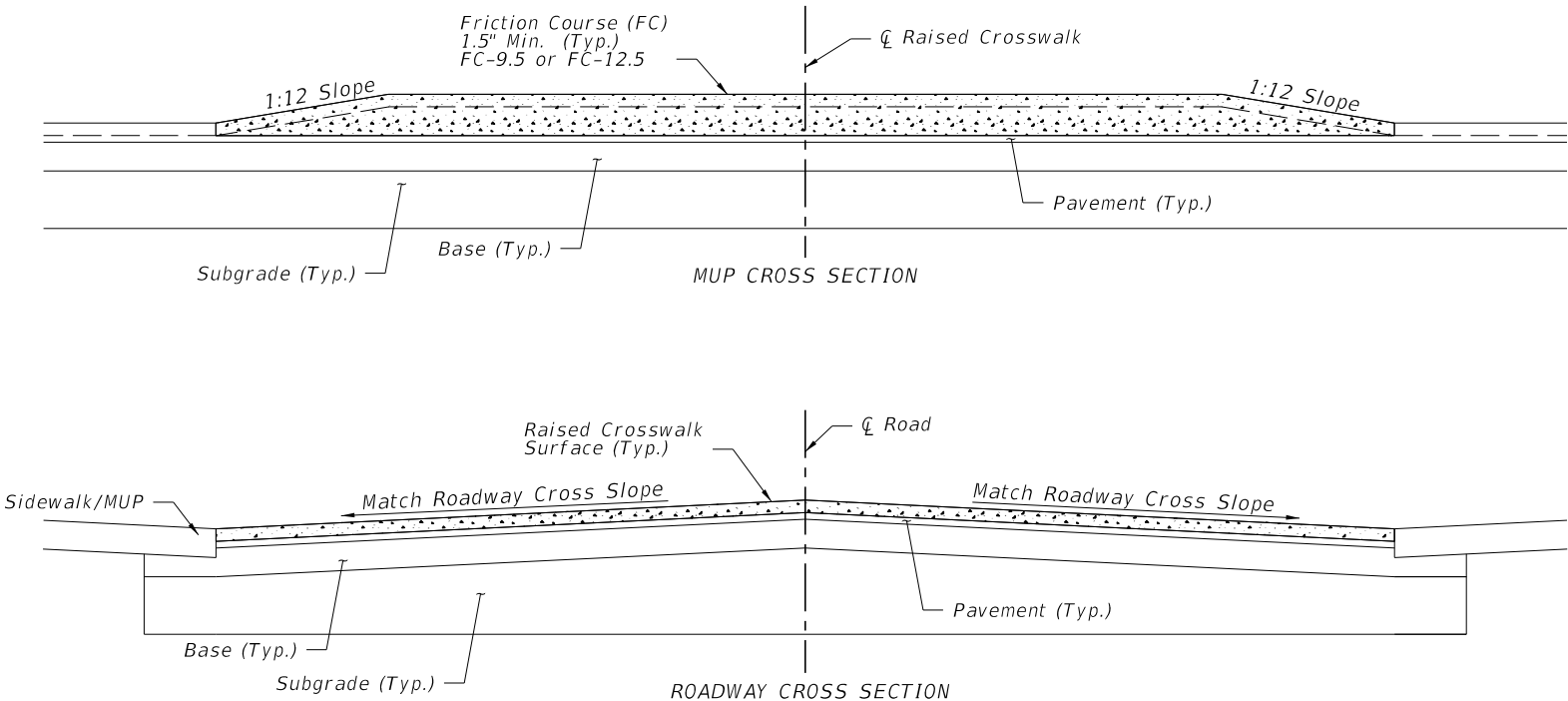
CORRESPONDING DISPLAY SEQUENCE FOR PHB



GRAB BAR ASSEMBLY



MAST ARM ASSEMBLY



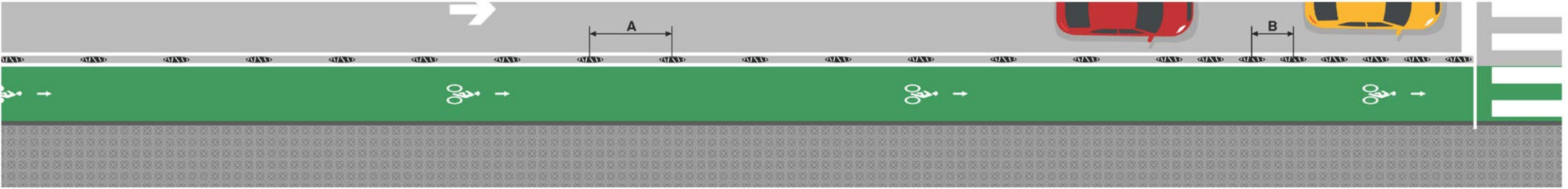
RAISED CROSSWALK DETAILS

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

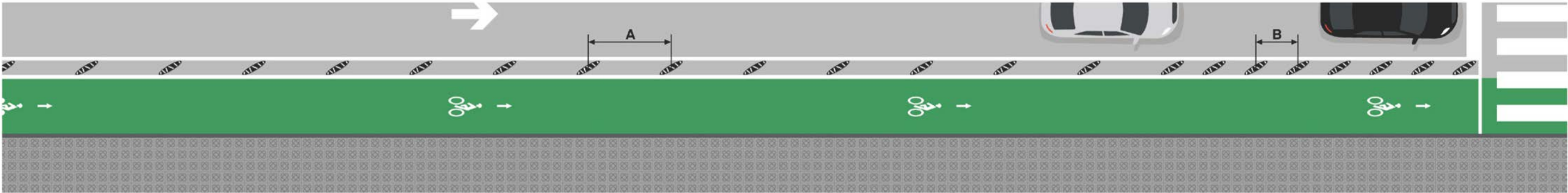
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID

SPECIAL DETAILS		SHEET NO.
		000

\$DATE\$ H:\22\22421 - Seminole County Continuing Services\007 - Trails_Greenways Safety Improvement_Plan\design\SPDTRD001.dgn \$TIME\$ \$USER\$



PARALLEL CONFIGURATION
A: 8ft 6 23/64 in (middle of the road). B: 4ft 3 3/16 in (near the intersection).



OBLIQUE CONFIGURATION
A: 8ft 6 23/64 in (middle of the road). B: 4ft 3 3/16 in (near the intersection).

Zebra 13 | Zero

w: 8 17/64 in
l: 2 ft 8 9/32 in
h: 5 1/8 in

13 lb 7 oz
11 lb 10 oz of CO₂ equiv/u



Top View



Front View

Zebra 9 | Zero

w: 6 29/64 in
l: 2 ft 6 33/64 in
h: 3 35/64 in

7 lb 8 oz
8 lb 6 oz of CO₂ equiv/u



Top View



Front View

ZICLA CYCLE LANE SEPARATOR DETAIL

Direction Sign



Juncture Sign



WAYFINDING SIGN EXAMPLE

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID

SPECIAL DETAILS	

SHEET NO.
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