



Hillsborough TPO
Transportation
Planning Organization



Hillsborough
County Florida

APPENDIX E – SHELL POINT ROAD CORRIDOR DESIGN CONCEPTS



BICYCLE NETWORK PLAN: CORRIDOR DESIGN CONCEPTS

Hillsborough County

Shell Point Rd. – US Highway 41 to 24th St. NE

January 2023

PREPARED BY:



PATEL, GREENE AND ASSOCIATES
12570 Telecom Drive
Temple Terrace, FL 33637

Table of Contents

- 1. **INTRODUCTION**..... 3
- 2. **RECOMMENDATIONS** 3
 - Table 1: Tier 1 Recommendations3
 - Table 2: Tier 2 Recommendations4
 - Table 3: Tier 3 Recommendations5
- 3. **COST ESTIMATES SUMMARY** 7
 - Table 4: Cost Estimates Assumptions7
 - Table 5: Cost Estimates by Tier7
- 4. **IMPLEMENTATION GUIDANCE** 8
 - RIGHT-OF-WAY, DRAINAGE, AND UTILITIES.....8
 - ADDITIONAL CONSIDERATIONS.....8

List of Appendices

- A. CONCEPTUAL DESIGN PLANS
- B. COST ESTIMATES DETAILS

INTRODUCTION

Committed to improving the mobility and safety of all residents, Hillsborough County, and the Transportation Planning Organization (TPO) have identified, evaluated, and prioritized bicycle facility needs along the County’s roadway transportation network. The data-driven methodology addresses the mobility and safety needs of people on bicycles. The resulting plan will assist Hillsborough County in realizing the commitment and desire to provide a safe, connected, and inviting network of bicycle facilities.

The planning process identified four high priority corridors that are geographically dispersed across the county for further evaluation. Review and analysis of each corridor yielded a range of potential project opportunities to add or improve bicycle facilities. The recommended improvements have been grouped into tiers based on priority and screened for feasibility. This design report introduces conceptual design plans, cost estimates, and implementation considerations to construct the recommendations for Shell Point Rd. between US Highway 41 and 24th St. NE.

Shell Point Rd. in the project corridor is a two-lane roadway in the community of Ruskin. The corridor is primarily residential with commercial clusters at each end. The posted speed limit is 40 mph with open drainage and intermittent sidewalks. There is a cluster of school campuses at the eastern end of the corridor where there is curb and gutter and a concrete pathway along the north side. The 2.0 miles long segment is intermittently widened to add turn lanes at intersections and destinations, and there is a railroad crossing near the middle of the corridor.

There are no dedicated bicycle facilities and no fixed route transit service along the corridor. In addition to serving local bicyclists, the corridor connects several major attractors for bicyclists. To the west is the Gulf of Mexico, the mouth of the Little Manatee River, and Bahia Beach Nature Preserve. To the east is the South Coast Greenway Trail, a segment of the Southwest Coastal Regional Trail that connects Tampa Bay to Naples and is a link of the statewide SUN Trail network.

RECOMMENDATIONS

The primary recommendation to improve conditions for bicyclists is to build a continuous concrete shared use path along the north side of the roadway. Most of the recommendations are supportive of the new pathway and safety for all roadway users through a reduction of traffic speeds. The recommendations improve access to the new pathway with the addition of enhanced crossings and selected segments of sidewalks. Additional recommendations add elements to improve the overall safety and comfort of roadway users including updated pavement markings, signage, landscaping, and lighting.

The recommendations have been split into three tiers and are summarized in the tables below. Conceptual design plans showing the recommendations are included in Appendix A.

Table 1: Tier 1 Recommendations

	Recommendation	Implementation Notes	Cost Estimate
A	Install edge stripe to narrow the travel lanes to 10 ft and encourage slower speeds.	Water-blast existing edge stripe. Add new edge stripe to establish consistent 10 ft travel lanes as measured from the centerline. Not shown on design plans.	\$53,100

B	Install school zone beacons, markings, and signage to include Thompson Elementary School at 200 ft from school grounds per the applicable County and MUTCD standards.	Sign assembly content and placement to be determined during final design. Planning-level cost estimate included.	\$81,100
C	Install high visibility pedestrian crossing markings at all intersections, midblock crossings, and major driveways.	Locations shown on design plans.	\$19,300
D	Install bike lane markings through intersection at US 41, including green through conflict areas and in bike boxes.	Need concurrence and coordination with FDOT. Typical configuration is to continue the bike lane width with 2 ft-4 ft skip through conflict areas, adding green within those skips and 40 ft solid green before and after conflict areas. These modifications should be done at the time of resurfacing, though not included in cost estimate.	\$68,900
E	Install wayfinding signage at US 41, Interchange St, and 24th St NE to the following destinations: South Coast Trail, schools, and Firehouse Cultural Center.	Sign assembly content and placement to be determined during final design. Planning-level cost estimate included.	\$98,500

Table 2: Tier 2 Recommendations

	Recommendation	Implementation Notes	Cost Estimate
A	Install concrete shared use path along the north side of the corridor.	Estimate includes new 12 ft wide concrete pathway, concrete driveway aprons, utility relocations, curb and gutter, grading, drainage, sod, and removal of existing sidewalk. Narrow right-of-way and open drainage will require property owner coordination.	\$8,637,600
B	Install enhanced crosswalk with RRFB at 2nd St, to include missing segment of sidewalk on south side of the block.	Posted speed limit to be reduced to 35 mph prior to RRFB installation. Elements include RRFB equipment, concrete sidewalk, curb and gutter, sod, crosswalk ramps, and markings.	\$191,700
C	Install enhanced crosswalk with RRFB at 6th St.	Posted speed limit to be reduced to 35 mph prior to RRFB installation. Elements include RRFB equipment, concrete sidewalk, curb and gutter, sod, crosswalk ramps, and markings.	\$50,200

D	Install enhanced crosswalk with RRFB and median refuge at 15th St.	Posted speed limit to be reduced to 35 mph prior to RRFB installation. Elements include median refuge, RRFB equipment, concrete sidewalk, curb and gutter, sod, crosswalk ramps, and markings.	\$100,500
E	Install enhanced crosswalk with RRFB at 21st St.	Posted speed limit to be reduced to 35 mph prior to RRFB installation. Elements include RRFB equipment, concrete sidewalk, curb and gutter, sod, crosswalk ramps, and markings.	\$50,200
F	Install landscaping with trees where possible.	Feasible areas shown on plans. Tree placement to be determined during final design.	\$170,500
G	Conduct speed study to reduce posted speed limit.	Planning-level cost estimate for required speed study and replacement signage. Not shown on design plans.	\$76,000
H	Install bicycle detection at signal-controlled intersection with US 41.	Need concurrence and coordination with FDOT. Planning-level cost estimate for new microwave detection equipment.	\$41,600
I	Install barriers, signage, and markings at the railroad crossing following the current design standards.	Need concurrence and coordination with the railroad owner. Elements include barrier arms, signage, and markings.	\$131,367

Table 3: Tier 3 Recommendations

	Recommendation	Implementation Notes	Cost Estimate
A	Install sidewalk on south side of E Shell Point Rd. between 6th St and Interchange St.	Elements include 6' wide concrete sidewalk, concrete driveway aprons, curb and gutter, sod, crosswalk ramps, and markings.	\$692,300

B	Install enhanced crosswalk with RRFB at Interchange St.	Posted speed limit to be reduced to 35 mph prior to RRFB installation. Elements include RRFB equipment, concrete sidewalk, curb and gutter, sod, crosswalk ramps, and markings.	\$50,200
C	Install lighting at crossings.	Planning-level cost estimate for lighting at all intersections and crossings added in Tier 2. Not shown on design plans.	\$1,230,700
D	Install pedestrian-scale lighting throughout the corridor.	Planning-level cost estimate for pedestrian-scale lighting along pathway added in Tier 2 to be spaced at 50' on center. Additional right-of-way or easements to be acquired prior to final design. Not shown on design plans.	\$2,938,600

COST ESTIMATES SUMMARY

Cost estimates for each recommendation are included above in Tables 1-3. The estimates have been developed using pay items and expected unit costs sourced from District 7 of the Florida Department of Transportation, the Department’s Long Range Estimating (LRE) system, and engineering judgement. The planning-level estimates include percentage-based multipliers applied to the construction costs as shown in Table 4. Any needed right-of-way acquisition is not included in the estimates. An overview of the cost estimates aggregated by tier are shown in Table 5. Cost estimate details for each recommendation are provided in Appendix B.

Table 4: Cost Estimates Assumptions

Cost Element	Multiplier
Maintenance of Traffic (MOT)	20%
Mobilization (MOB)	15%
Contingency	30%
Design	25%
CEI	15%

Table 5: Cost Estimates by Tier

Implementation Tier	Cost Estimates
Tier 1	\$320,900
Tier 2	\$9,449,667
Tier 3	\$4,911,800
Total	\$14,682,367

IMPLEMENTATION GUIDANCE

The recommendations for bicycle facilities on the corridor were developed in collaboration with Hillsborough County staff and subsequently screened for feasibility. The screening for feasibility and development of design plans included conformance with the applicable local, state, and federal design standards and guidance. The designs applied engineering judgement and contemporary best practices for the safety of all users within the right-of-way. Implementation notes are included for each recommendation in the tables above. The following content identifies general issues and considerations to be addressed along the entire corridor as the recommendations are advanced through the forthcoming stages of design and implementation.

RIGHT-OF-WAY, DRAINAGE, AND UTILITIES

The right-of-way information used to develop the design concept is based on Hillsborough County's GIS data and field investigation. The next stage of project development will require survey to verify property lines, topography, and utilities.

The unconstrained minimum width for a shared use path parallel to a roadway is 19 ft including the following elements: 5 ft sod or landscaped buffer from the roadway edge, 12 ft pathway, and 2 ft clear zone to the outside. That width is not available for most of the corridor, so while the pathway alignment shown minimizes the encroachment outside the public right-of-way, additional right-of-way acquisition or easements will be required. The width of right-of-way needed will be greater than shown where required for the relocation of impacted utilities or to tie the outside pathway shoulder to the existing grade; otherwise, additional grading and railings will be required.

The following elements are included in the conceptual design to minimize the footprint of the pathway: a decreased buffer width, curb and gutter, and replacement of open drainage ditches with enclosed pipes and inlets. Decreasing the buffer width to less than 5 ft requires the installation of curb and gutter and technically classifies that segment of the pathway as a wide sidewalk, though that is preferable to no facility. Where 5 ft buffer width can be provided, the design still includes curb and gutter to deter encroachment by vehicles for the improved safety and comfort of path users.

Utility relocations, adjustment, or additions may be required to install the recommended RRFBs and lighting.

ADDITIONAL CONSIDERATIONS

ADA-compliant curb ramps are to be included at all crosswalks. They are not specifically shown on the conceptual design plans, though they are included in the cost estimate for the corresponding recommendation. The width of each curb ramp and detectable warning pads are to match the corresponding path or sidewalk width.

A speed study will be required prior to advancing the recommendation to lower the posted speed limit. Relatedly, the posted speed limit must be reduced to 35 mph or lower prior to installation of RRFBs as a part of the recommended crossings.

Field assessment of ADA compliance is required to identify any needed associated modifications.

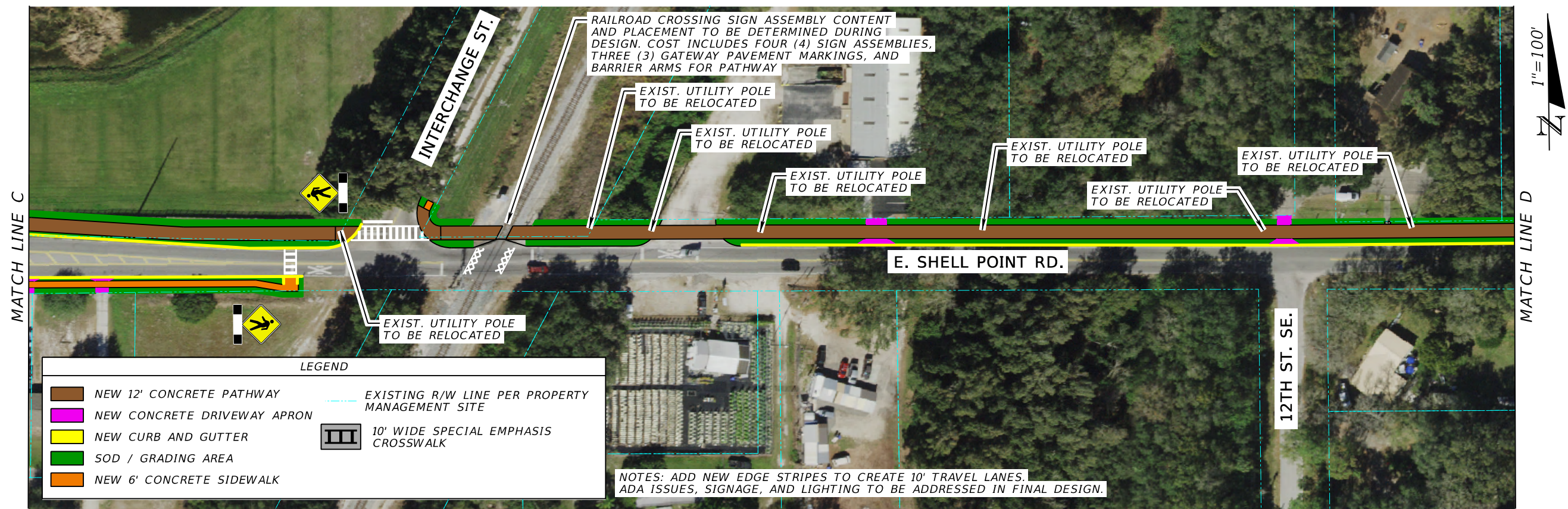
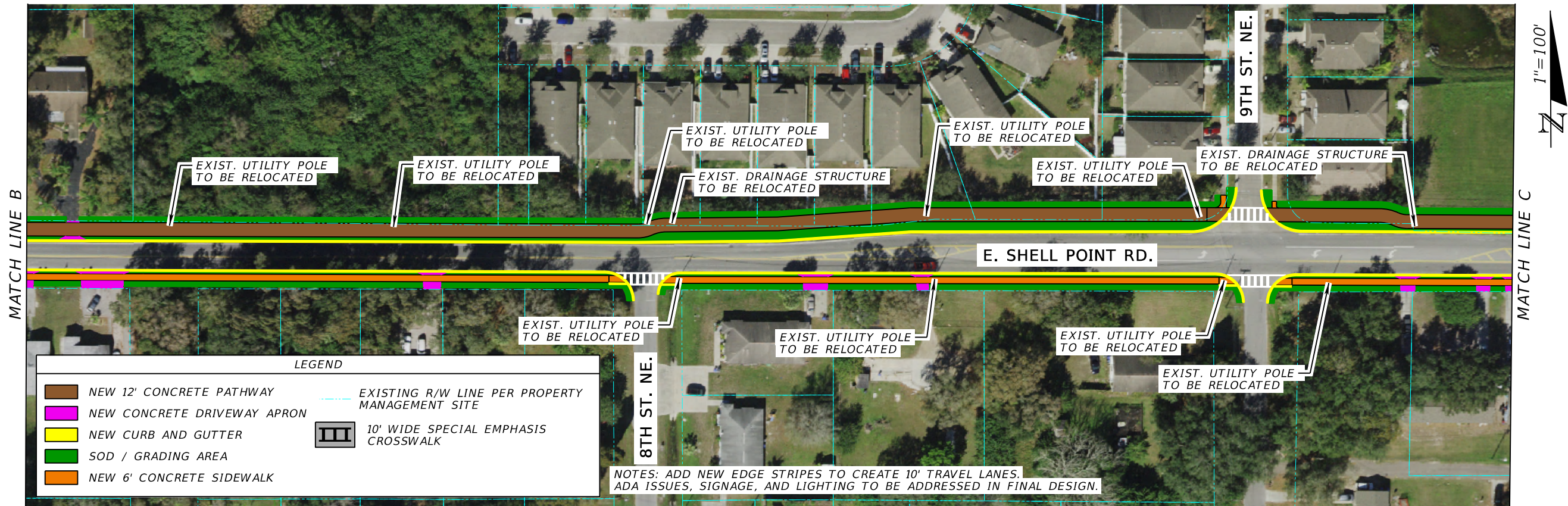
The addition of Leading Pedestrian Intervals (LPI) and bicycle detection equipment to intersections with existing traffic signals may require replacement of the traffic controller cabinet if required to enable that capability.

The recommended lighting will require assessment of existing lighting conditions and impacts to trees.

All pavement markings should be thermoplastic.



Appendix A
Design Concept Plans



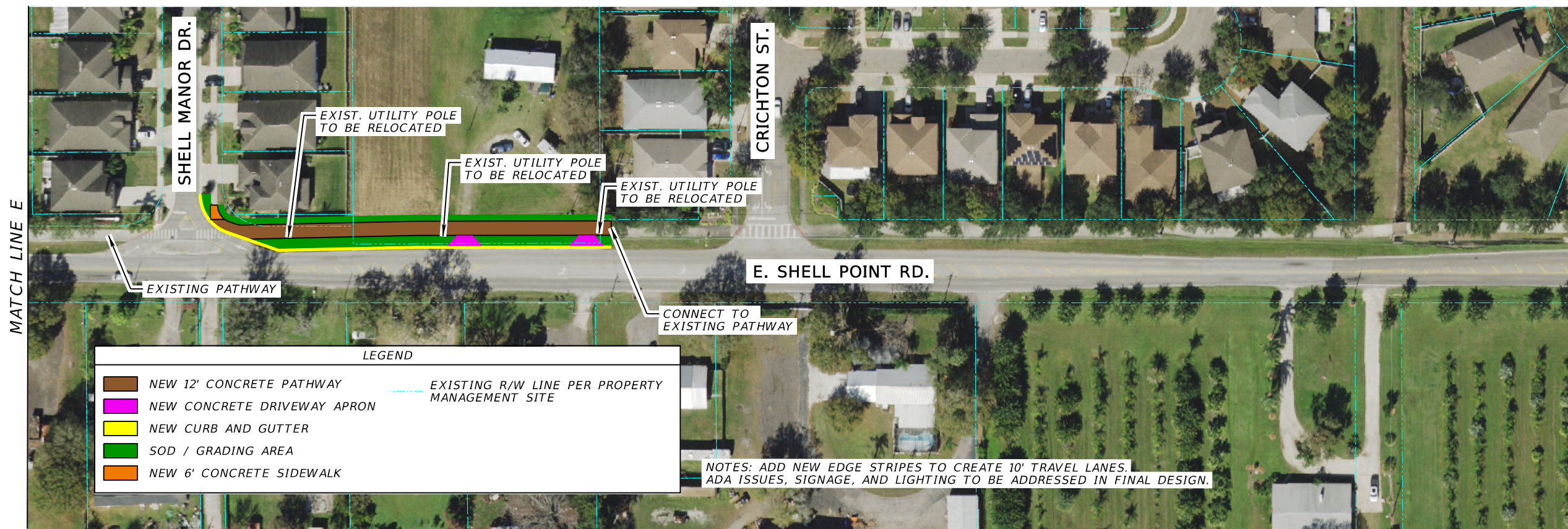
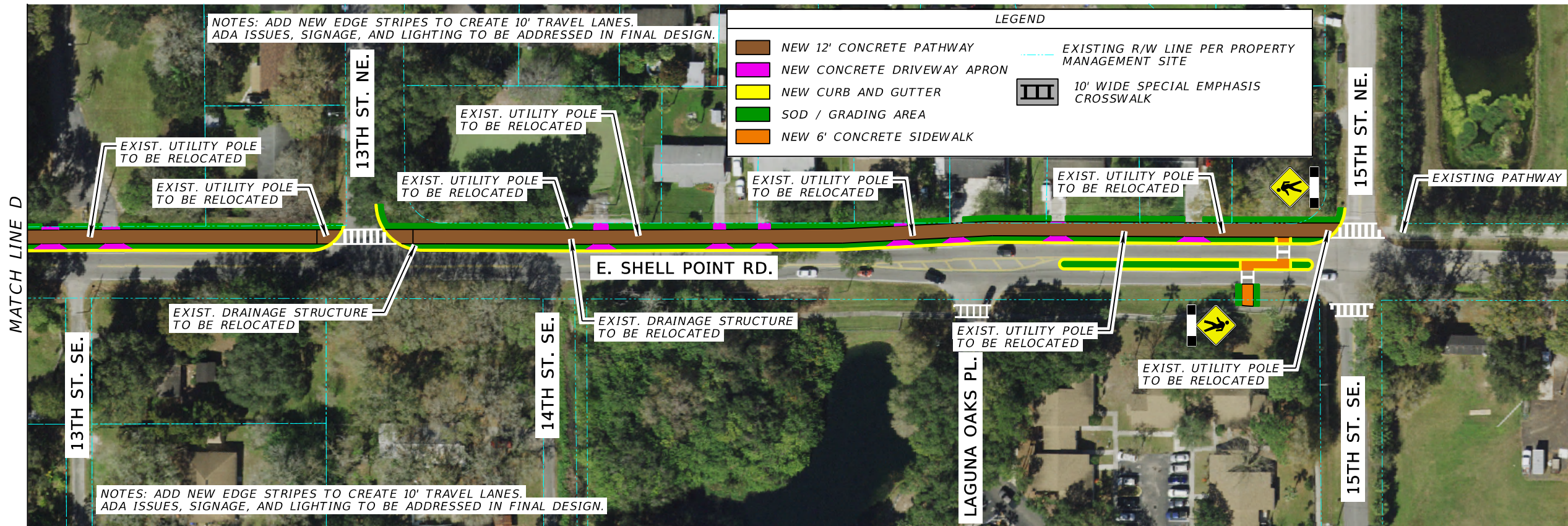
1/11/2023 4:41:13 PM USER: ryan.rockford c:\pw\workdir\patel@greene-pw-01\pw_user\dms15612\PLAN\RD100_ShellPoint.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

PATEL, GREENE & ASSOCIATES, LLC
 12570 TELECOM DRIVE
 TEMPLE TERRACE, FL 33637
 PHONE: 813-978-3100
 LUCAS CRUSE

HILLSBOROUGH COUNTY
 601 E. KENNEDY BLVD. TAMPA, FLORIDA 35602

BICYCLE NETWORK PLAN
 E. SHELL POINT PLANS
 SHEET NO. 2



NOTES: ADD NEW EDGE STRIPES TO CREATE 10' TRAVEL LANES. ADA ISSUES, SIGNAGE, AND LIGHTING TO BE ADDRESSED IN FINAL DESIGN.

EXIST. UTILITY POLE TO BE RELOCATED

EXIST. UTILITY POLE TO BE RELOCATED

EXIST. DRAINAGE STRUCTURE TO BE RELOCATED

EXIST. UTILITY POLE TO BE RELOCATED

EXIST. UTILITY POLE TO BE RELOCATED

EXIST. UTILITY POLE TO BE RELOCATED

NOTES: ADD NEW EDGE STRIPES TO CREATE 10' TRAVEL LANES. ADA ISSUES, SIGNAGE, AND LIGHTING TO BE ADDRESSED IN FINAL DESIGN.

NOTES: ADD NEW EDGE STRIPES TO CREATE 10' TRAVEL LANES. ADA ISSUES, SIGNAGE, AND LIGHTING TO BE ADDRESSED IN FINAL DESIGN.

LEGEND

- NEW 12' CONCRETE PATHWAY
- NEW CONCRETE DRIVEWAY APRON
- NEW CURB AND GUTTER
- SOD / GRADING AREA
- NEW 6' CONCRETE SIDEWALK
- EXISTING R/W LINE PER PROPERTY MANAGEMENT SITE
- 10' WIDE SPECIAL EMPHASIS CROSSWALK

LEGEND

- NEW 12' CONCRETE PATHWAY
- NEW CONCRETE DRIVEWAY APRON
- NEW CURB AND GUTTER
- SOD / GRADING AREA
- NEW 6' CONCRETE SIDEWALK
- EXISTING R/W LINE PER PROPERTY MANAGEMENT SITE



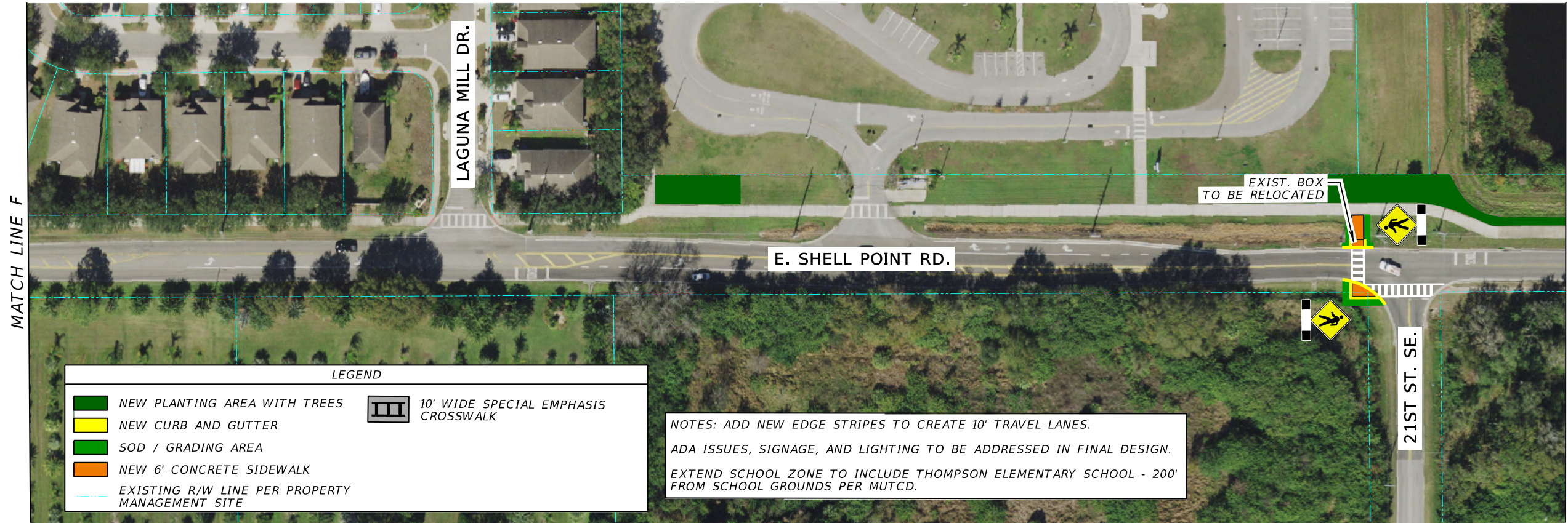
1/11/2023 4:41:25 PM USER: ryan.rockford c:\pw\workdir\patel@greene-pw-01\pw_user\dms15812\PLANRD100_ShellPoint.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

PATEL, GREENE & ASSOCIATES, LLC
 12570 TELECOM DRIVE
 TEMPLE TERRACE, FL 33637
 PHONE: 813-978-3100
 LUCAS CRUSE

HILLSBOROUGH COUNTY
 601 E. KENNEDY BLVD. TAMPA, FLORIDA 35602

BICYCLE NETWORK PLAN
 E. SHELL POINT PLANS
 SHEET NO. 3



LEGEND

	NEW PLANTING AREA WITH TREES		10' WIDE SPECIAL EMPHASIS CROSSWALK
	NEW CURB AND GUTTER		
	SOD / GRADING AREA		
	NEW 6' CONCRETE SIDEWALK		
	EXISTING R/W LINE PER PROPERTY MANAGEMENT SITE		

NOTES: ADD NEW EDGE STRIPES TO CREATE 10' TRAVEL LANES.
 ADA ISSUES, SIGNAGE, AND LIGHTING TO BE ADDRESSED IN FINAL DESIGN.
 EXTEND SCHOOL ZONE TO INCLUDE THOMPSON ELEMENTARY SCHOOL - 200' FROM SCHOOL GROUNDS PER MUTCD.



LEGEND

	NEW PLANTING AREA WITH TREES
	SOD / GRADING AREA
	NEW 6' CONCRETE SIDEWALK
	EXISTING R/W LINE PER PROPERTY MANAGEMENT SITE

NOTES: ADD NEW EDGE STRIPES TO CREATE 10' TRAVEL LANES.
 ADA ISSUES, SIGNAGE, AND LIGHTING TO BE ADDRESSED IN FINAL DESIGN.

1/11/2023 4:41:35 PM USER: ryan.rockford c:\pw\workdir\patelgreene-pw-01\pw_user\dms15812\PLANRD100_ShellPoint.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

PATEL, GREENE & ASSOCIATES, LLC
 12570 TELECOM DRIVE
 TEMPLE TERRACE, FL 33637
 PHONE: 813-978-3100
 LUCAS CRUSE

HILLSBOROUGH COUNTY
 601 E. KENNEDY BLVD. TAMPA, FLORIDA 35602

BICYCLE NETWORK PLAN
E. SHELL POINT PLANS

SHEET NO.
4



Appendix B
Cost Estimates Details

Hillsborough County Bike Network - Conceptual Design Notes
 E. Shell Point Rd - US-41 to 24th Street NE

Tier 1		Implementation Notes	Final Cost Estimate	Construction				CONTINGENCY				Total Cost	Cost Estimate Notes	
				Cost	MOT (20%)	Sub-Total	MOB (15%)	Sub-Total	(30%)	Sub-Total	DESIGN (25%)	CEI (15%)		
A	Install edge stripe to narrow the travel lanes to 10 ft and encourage slower speeds.	Water-blast existing edge stripe. Add new edge stripe to establish consistent 10 ft travel lanes as measured from the centerline. Not shown on design plans.	\$ 53,100	\$ 21,128	\$ 4,226	\$ 25,353	\$ 3,803	\$ 29,156	\$ 8,747	\$ 37,903	\$ 9,476	\$ 5,685	\$ 53,064	The length of the project for both sides is 20,560 ft with markings costing 5,425.75 per gross mile.
B	Install school zone beacons, markings, and signage to include Thompson Elementary School at 200 ft from school grounds per the applicable County and MUTCD standards.	Sign assembly content and placement to be determined during final design. Planning-level cost estimate included.	\$ 81,100	\$ 32,304	\$ 6,461	\$ 38,765	\$ 5,815	\$ 44,580	\$ 13,374	\$ 57,953	\$ 14,488	\$ 8,693	\$ 81,135	Beacons \$20,000, six signs assemblies (700 1 12) \$1,634 ea., and \$2,500 for pavement markings.
C	Install high visibility pedestrian crossing markings at all intersections, midblock crossings, and major driveways.	Locations shown on design plans.	\$ 19,300	\$ 7,689	\$ 1,538	\$ 9,227	\$ 1,384	\$ 10,611	\$ 3,183	\$ 13,794	\$ 3,449	\$ 2,069	\$ 19,312	Obtained the construction cost from the design file.
D	Install bike lane markings through intersection at US 41, including green through conflict areas and in bike boxes.	Need concurrence and coordination with FDOT. Typical configuration is to continue the bike lane width with 2 ft-4 ft skip through conflict areas, adding green within those skips and 40 ft solid green before and after conflict areas. These modifications should be done at the time of resurfacing, though not included in cost estimate.	\$ 68,900	\$ 27,441	\$ 5,488	\$ 32,929	\$ 4,939	\$ 37,869	\$ 11,361	\$ 49,229	\$ 12,307	\$ 7,384	\$ 68,921	Obtained the construction cost from the design file.
E	Install wayfinding signage at US 41, Interchange St, and 24th St NE to the following destinations: South Coast Trail, schools, and Firehouse Cultural Center.	Sign assembly content and placement to be determined during final design. Planning-level cost estimate included.	\$ 98,500	\$ 39,216	\$ 7,843	\$ 47,059	\$ 7,059	\$ 54,118	\$ 16,235	\$ 70,354	\$ 17,588	\$ 10,553	\$ 98,495	Using 700 1 12 assembly. Original Cost of Sign = \$1,634. 24 total signs.
Total Costs for Tier 1:			\$ 320,900	\$ 127,778	\$ 25,556	\$ 153,333	\$ 23,000	\$ 176,333	\$ 52,900	\$ 229,233	\$ 57,308	\$ 34,385	\$ 320,926	

Tier 2		Implementation Notes	Final Cost Estimate	Construction				CONTINGENCY				Total Cost	Cost Estimate Notes	
				Cost	MOT (20%)	Sub-Total	MOB (15%)	Sub-Total	(30%)	Sub-Total	DESIGN (25%)	CEI (15%)		
A	Install concrete shared use path along the north side of the corridor.	Estimate includes new 12 ft wide concrete pathway, concrete driveway aprons, utility relocations, curb and gutter, grading, drainage, sod, and removal of existing sidewalk. Narrow right-of-way and open drainage will require property owner coordination.	\$ 8,637,600	\$ 3,439,094	\$ 687,819	\$ 4,126,913	\$ 619,037	\$ 4,745,950	\$ 1,423,785	\$ 6,169,735	\$ 1,542,434	\$ 925,460	\$ 8,637,628	Obtained the construction cost from the design file.
B	Install enhanced crosswalk with RRFB at 2nd St, to include missing segment of sidewalk on south side of the block.	Posted speed limit to be reduced to 35 mph prior to RRFB installation. Elements include RRFB equipment, concrete sidewalk, curb and gutter, sod, crosswalk ramps, and markings.	\$ 191,700	\$ 76,308	\$ 15,262	\$ 91,570	\$ 13,735	\$ 105,305	\$ 31,592	\$ 136,897	\$ 34,224	\$ 20,534	\$ 191,655	\$20,000 for crossing with RRFB and no median. Obtained the construction cost from the design file for the sidewalk.
C	Install enhanced crosswalk with RRFB at 6th St.	Posted speed limit to be reduced to 35 mph prior to RRFB installation. Elements include RRFB equipment, concrete sidewalk, curb and gutter, sod, crosswalk ramps, and markings.	\$ 50,200	\$ 20,000	\$ 4,000	\$ 24,000	\$ 3,600	\$ 27,600	\$ 8,280	\$ 35,880	\$ 8,970	\$ 5,382	\$ 50,232	\$20,000 for crossing with RRFB and no median.
D	Install enhanced crosswalk with RRFB and median refuge at 15th St.	Posted speed limit to be reduced to 35 mph prior to RRFB installation. Elements include median refuge, RRFB equipment, concrete sidewalk, curb and gutter, sod, crosswalk ramps, and markings.	\$ 100,500	\$ 40,000	\$ 8,000	\$ 48,000	\$ 7,200	\$ 55,200	\$ 16,560	\$ 71,760	\$ 17,940	\$ 10,764	\$ 100,464	\$40,000 for crossing with RRFB and median.
E	Install enhanced crosswalk with RRFB at 21st St.	Posted speed limit to be reduced to 35 mph prior to RRFB installation. Elements include RRFB equipment, concrete sidewalk, curb and gutter, sod, crosswalk ramps, and markings.	\$ 50,200	\$ 20,000	\$ 4,000	\$ 24,000	\$ 3,600	\$ 27,600	\$ 8,280	\$ 35,880	\$ 8,970	\$ 5,382	\$ 50,232	\$20,000 for crossing with RRFB and no median.
F	Install landscaping with trees where possible.	Feasible areas shown on plans. Tree placement to be determined during final design.	\$ 170,500	\$ 67,900	\$ 13,580	\$ 81,480	\$ 12,222	\$ 93,702	\$ 28,111	\$ 121,813	\$ 30,453	\$ 18,272	\$ 170,538	Used a lump sum pay item 580 1 2 Landscape Complete - Large Plants. This covers the entire project limits. The construction cost was determined from the FDOT Historical Averages.
G	Conduct speed study to reduce posted speed limit.	Planning-level cost estimate for required speed study and replacement signage. Not shown on design plans.	\$ 76,000	\$ 16,340	\$ 3,268	\$ 19,608	\$ 2,941	\$ 22,549	\$ 6,765	\$ 29,314	\$ 7,328	\$ 4,397	\$ 76,040	Flat rate of \$35,000 for the study. Using 700 1 12 assembly. Original Cost of Sign = \$1,634. 10 total signs.
H	Install bicycle detection at signal-controlled intersection with US 41.	Need concurrence and coordination with FDOT. Planning-level cost estimate for new microwave detection equipment.	\$ 41,600	\$ 16,583	\$ 3,317	\$ 19,900	\$ 2,985	\$ 22,885	\$ 6,865	\$ 29,750	\$ 7,437	\$ 4,462	\$ 41,650	Use 1 (660 3 11) at a cost of \$4,252 and 2 (660 3 12) at a cost of \$12,331 pay items per intersection. 1 intersection

I	Install barriers, signage, and markings at the railroad crossing following the current design standards.	Need concurrence and coordination with the railroad owner. Elements include barrier arms, signage, and markings.	\$ 131,367	\$ 52,304	\$ 10,461	\$ 62,765	\$ 9,415	\$ 72,180	\$ 21,654	\$ 93,833	\$ 23,458	\$ 14,075	\$ 131,367	Pedestrian barricade arm \$25,000, six signs assemblies (700 1 12) \$1,634 ea., \$2,500 for pavement markings, and \$15,000 for flange filler.
---	--	--	------------	-----------	-----------	-----------	----------	-----------	-----------	-----------	-----------	-----------	------------	--

Total Costs for Tier 2: \$ 9,449,667 \$ 3,748,529 \$ 749,706 \$ 4,498,235 \$ 674,735 \$ 5,172,970 \$ 1,551,891 \$ 6,724,861 \$ 1,681,215 \$ 1,008,729 \$ 9,449,805

Tier 3		Implementation Notes	Final Cost Estimate	Construction Cost	MOT (20%)	Sub-Total	MOB (15%)	Sub-Total	CONTINGENCY (30%)	Sub-Total	DESIGN (25%)	CEI (15%)	Total Cost	Cost Estimate Notes
A	Install sidewalk on south side of E Shell Point Rd. between 6th St and Interchange St.	Elements include 6' wide concrete sidewalk, concrete driveway aprons, curb and gutter, sod, crosswalk ramps, and markings.	\$ 692,300	\$ 275,660	\$ 55,132	\$ 330,792	\$ 49,619	\$ 380,411	\$ 114,123	\$ 494,534	\$ 123,634	\$ 74,180	\$ 692,348	Obtained the construction cost from the design file.
B	Install enhanced crosswalk with RRFB at Interchange St.	Posted speed limit to be reduced to 35 mph prior to RRFB installation. Elements include RRFB equipment, concrete sidewalk, curb and gutter, sod, crosswalk ramps, and markings.	\$ 50,200	\$ 20,000	\$ 4,000	\$ 24,000	\$ 3,600	\$ 27,600	\$ 8,280	\$ 35,880	\$ 8,970	\$ 5,382	\$ 50,232	\$20,000 for crossing with RRFB and no median.
C	Install lighting at crossings.	Planning-level cost estimate for lighting at all intersections and crossings added in Tier 2. Not shown on design plans.	\$ 1,230,700	\$ 490,000	\$ 98,000	\$ 588,000	\$ 88,200	\$ 676,200	\$ 202,860	\$ 879,060	\$ 219,765	\$ 131,859	\$ 1,230,684	\$70,000 for lighting at each crossing based on a previous LRE. 7 crossings.
D	Install pedestrian-scale lighting throughout the corridor.	Planning-level cost estimate for pedestrian-scale lighting along pathway added in Tier 2 to be spaced at 50' on center. Additional right-of-way or easements to be acquired prior to final design. Not shown on design plans.	\$ 2,938,600	\$ 1,170,000	\$ 234,000	\$ 1,404,000	\$ 210,600	\$ 1,614,600	\$ 484,380	\$ 2,098,980	\$ 524,745	\$ 314,847	\$ 2,938,572	\$300,000 per mile based on a previous LRE. 3.9 miles.

Total Costs for Tier 3: \$ 4,911,800 \$ 1,955,660 \$ 391,132 \$ 2,346,792 \$ 352,019 \$ 2,698,811 \$ 809,643 \$ 3,508,454 \$ 877,114 \$ 526,268 \$ 4,911,836

Total Costs for All Tiers: \$ 14,682,367 \$ 5,831,967 \$ 1,166,393 \$ 6,998,360 \$ 1,049,754 \$ 8,048,114 \$ 2,414,434 \$ 10,462,548 \$ 2,615,637 \$ 1,569,382 \$ 14,682,567

Adjacent & Supplemental Projects		Implementation Notes
A	Identify additional speed management and traffic calming treatments throughout the corridor to facilitate the desired Target Speed of 35 MPH	Recommend one permanent Speed Feedback Sign in each direction.
B	Encourage and fund installation of bicycle racks at major commercial, civic or service destinations within the corridor	N/A
C	Install trail user volume counting equipment along the South Coast Greenway Trail	Model and location to be determined in design phase. Note that additional funds will be required for ongoing operations, communications service, and maintenance.