

Town of Hillsborough, North Carolina Ridgewalk Greenway Feasibility Study

Phase II

September 2024

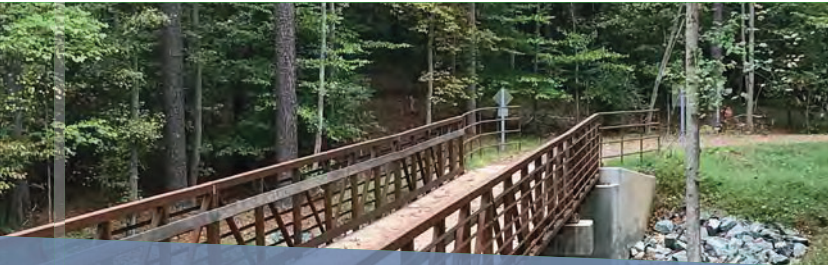




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Chapter 1: Executive Summary

Introduction

In June of 2023, the Ridgewalk Greenway Feasibility Study was developed for the Town of Hillsborough to evaluate potential alignment alternatives for a multi-use greenway. The assessment would support the Town's initiative to construct an accessible urban facility for pedestrians and bicyclists connecting downtown Hillsborough to valued locations such as the future train station site, Cates Creek Park and various developing and established neighborhoods. The alternatives developed were analyzed for accessibility and safety with the objective of maximizing community connectivity while minimizing environmental impacts. Strategies and constraints were mentioned to cross the North Carolina Railroad corridor south of downtown Hillsborough along with the Interstate 85 corridor (I-85). A study area was provided to designate the potential environmental, cultural, community, and utility resources near the proposed alignment alternatives shown in Figure 1 of the report. These resources with the existing conditions, environmental features and community plans would aid in determining the proposed design criteria and typical sections for the layout and geometry of the alternative alignments. Considerations were discussed to recommend a preferred alternative (referenced as the original alignment in this report).

The following content supplements and references the Ridgewalk Greenway Feasibility Study expanding on updated findings, considerations, and recommendations for the most viable and sustainable routes with potential to replace various segments along the original preferred alternative. Utilizing the same study area, this feasibility study refines the foundation for decision-making to ensure the Ridgewalk Greenway meets the evolving needs for the Town of Hillsborough while promoting sustainable urban development and further expansion of connectivity in the community. New goals of alternatives, connections to adjacent projects in the vicinity, and alternate alignment discussions for five various alternatives are outlined below to assist the Town in deciding the best path forward.

New Goals of Alternatives

The main goal in providing this supplemental report is to explore alternatives that meet a slightly different set of goals. While the begin and end connection points and overall destinations remain the same, other elements of the alternative designs were implemented for consideration. Networks of sidewalks were introduced differing from greenway only paths in the initial study and some road crossings were introduced. Five alternatives were developed and selected for this evaluation to the original preferred alignment. To minimize impacts, the typical section was modified for one alternative with the width of the greenway decreasing from 10 feet to 8 feet. The approach of crossing the railroad corridor varied in the alternatives from the original study. Another key focus was to eliminate the need for pedestrian bridges while minimizing boardwalk lengths and reducing construction costs. It is still unknown if the North Carolina Railroad will approve construction of structures within the railroad corridor included in the original alignment of the proposed greenway facility. Due to the uncertainty, the project study area includes alignment alternatives minimizing greenway at the railroad corridor below.

Connections to Adjacent Projects

Developments

Supplementing June 2023 Ridgewalk Greenway Feasibility Study, the Town of Hillsborough continues to receive proposals for private development. The following developments below are anticipated to be impacted by the alternatives. The developments shown in the Ridgewalk Greenway Feasibility Study that are not listed here are implied to not have any impacts from alternates that amend segments of the original design.

Collins Ridge

At the time of this report, the private housing development of Collins Ridge continues to be developed and is still currently under construction between Orange Grove Road and Interstate 85. The Town still has plans to receive the 10-foot-wide greenway once built by the developer to own and maintain. All alternatives in this study will not vary as the Ridgewalk Greenway connects at the northern tie-in of the Collins Ridge Greenway. This is consistent with the initially studied preferred alignment. However, Alternatives 4 and 5 differ from the original alignment in the initial report and will separate from the Collins Ridge Greenway sooner before crossing I-85.

Future Development Near Train Station

There are no set development plans at the time of this report. The Town of Hillsborough plans to reserve land surrounding the future passenger train station for mixed-use, transit-oriented development. The most recent train station plans include leaving more than 13 acres of the 19.6-acre parcel owned by the Town potentially available for development opportunities.

Alternative 1 would be constructed along the eastern and southern boundaries of the train station development site, and Alternative 3 would be constructed to provide access to the train station from the south. These alternatives would provide direct bicycle and pedestrian access to any future development from downtown Hillsborough, the Riverwalk, Collins Ridge, and neighborhoods along the proposed alignment.

Public Transportation Projects

P-5701 (Train Station)

The future train station site currently being designed is mentioned in the initial report. Ridgewalk is planned to be constructed through the site and adjacent to the station building. An entrance to Ridgewalk is anticipated from the parking lot of the train station site. Alternatives 1-3 currently propose the greenway located adjacent to the future facility.

I-5967 (Interstate 85 Widening)

Interstate 85 has been studied to be widened with improvements to the interchange at Churton Street. The proposed typical section includes a 6-lane section with a 27-foot paved median and 14-foot shoulders. This project is included in the current North Carolina Department of Transportation 2020-2029 State Transportation Improvement Plan. If selected, Alternatives 4 and 5 are impacted by this project and this project would require further coordination on the potential to lengthen the bridge over the railroad to adequately place the greenway under the bridge.

Chapter 2: Alternative Alignments Discussion

Design Criteria and Typical Section

Design Criteria

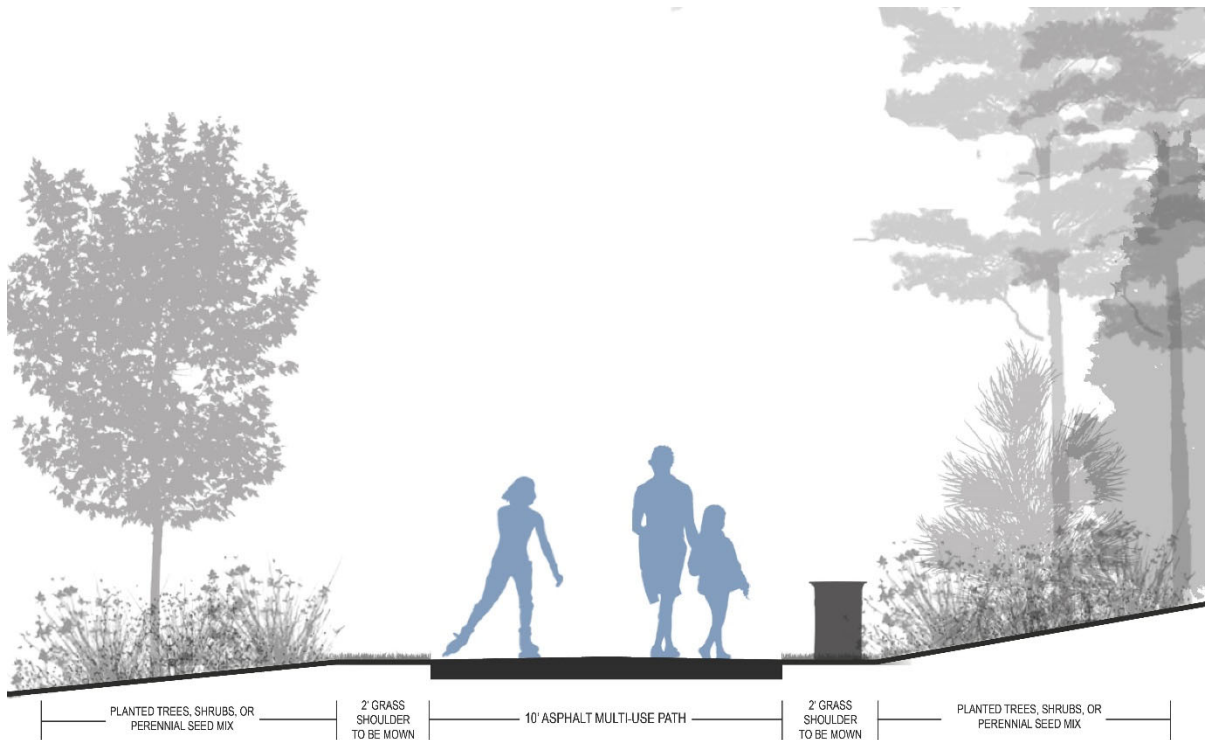
The Design Criteria used for this study remains consistent with the Ridgewalk Greenway Feasibility Study for a greenway and follows the same guidance, manuals, and Town standards and plans. In this study, a sidewalk segment is also utilized in the alternative analysis. The American Disabilities Act require the maximum running slope of a sidewalk to be no more than 5% with a maximum cross slope of 2%. At crosswalks, curb ramps are required utilizing a maximum running slope of 8.33% with level landings at the top and bottom of each ramp run. The design will abide by the U.S. Access Board Guidelines requiring the necessary review and developmental standards with Universal Design in mind creating an environment accessible, equitable, and simple to all users.

Typical Sections

Consistent with the initial Ridgewalk Greenway Feasibility Study, the typical sections for this report intend to provide a general plan for what the various parts of the proposed greenway may look like with regards to width, location, and materials. Not all minor variables are captured in the typical descriptions, but some are mentioned to reduce impacts. The recommended typical sections may need to be revised in specific sections of the greenway during final designs as further information is available. The description of typical sections below conveys changes and updates to the initial report from the proposed alternative segments considered to enhance the original alternative. The alternatives presented will not need the pedestrian bridge typical section discussed in the initial report resulting in greater costs savings when constructed at Interstate 85 or the railroad.

Greenway/Sidepath

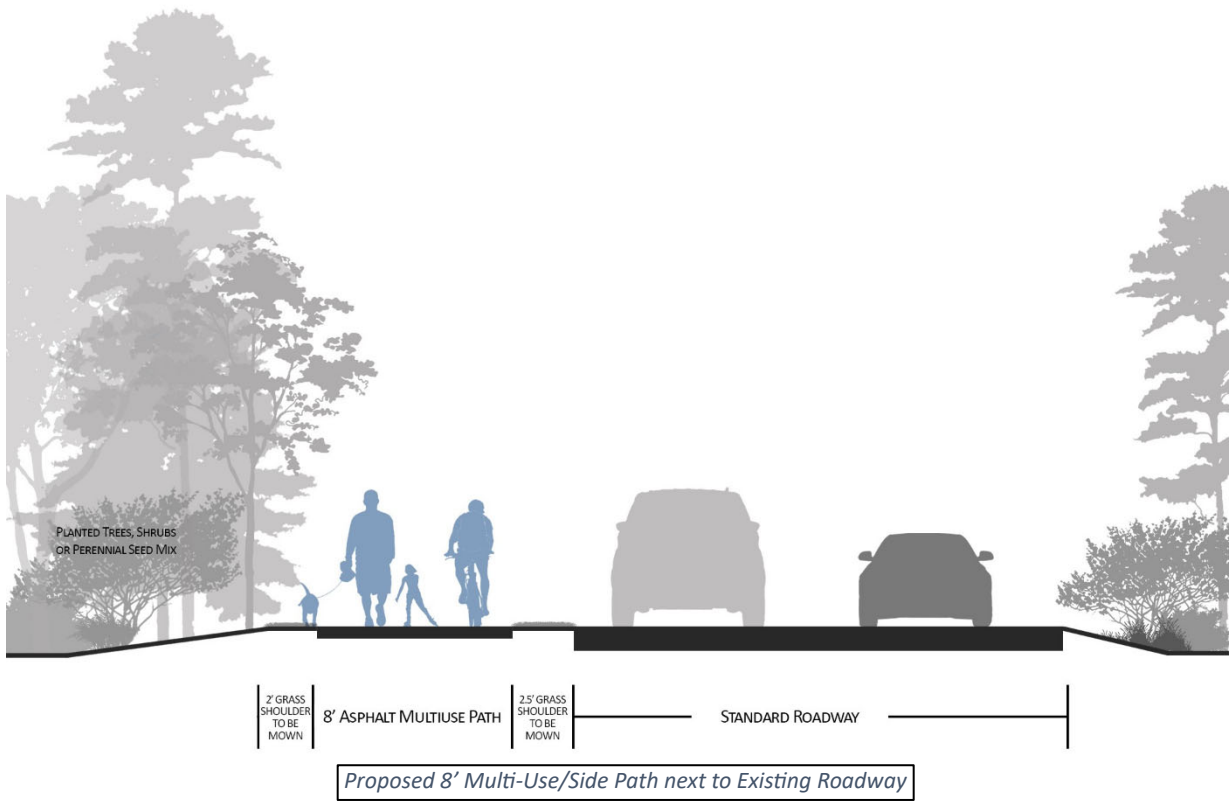
Alternatives 1 and 4 will match the typical section of the original alignment. The greenway typical section for Alternative 3 utilizes an 8-foot-wide multi-use/side path along Exchange Club Park to minimize impacts. Recommendations for maximum cut and fill slopes, and for the paving schedule are consistent with those for the original alignment from the initial study. As seen directly below are the three main greenway path typical sections used in the alternative designs of this report.



*Proposed 10' Greenway Typical Section
(Consistent with the Initial Report)*

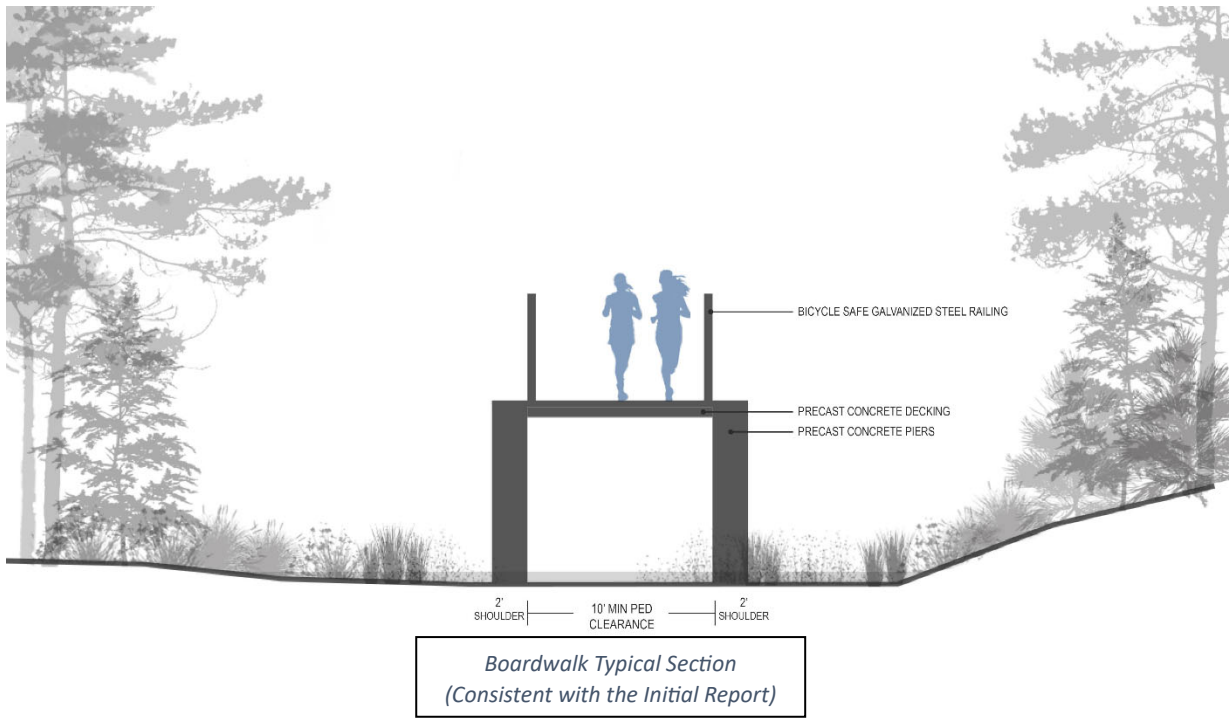


*Proposed 10' Multi-Use Path next to Existing Roadway
(Consistent with the Initial Report)*



Boardwalk

The boardwalk typical section recommendations for Alternatives 1, 3 and 4 are consistent with those made for the original alignment and design. The difference is that these alternatives greatly reduce the length of boardwalk for implementation of the greenway project, greatly reducing cost to construct.



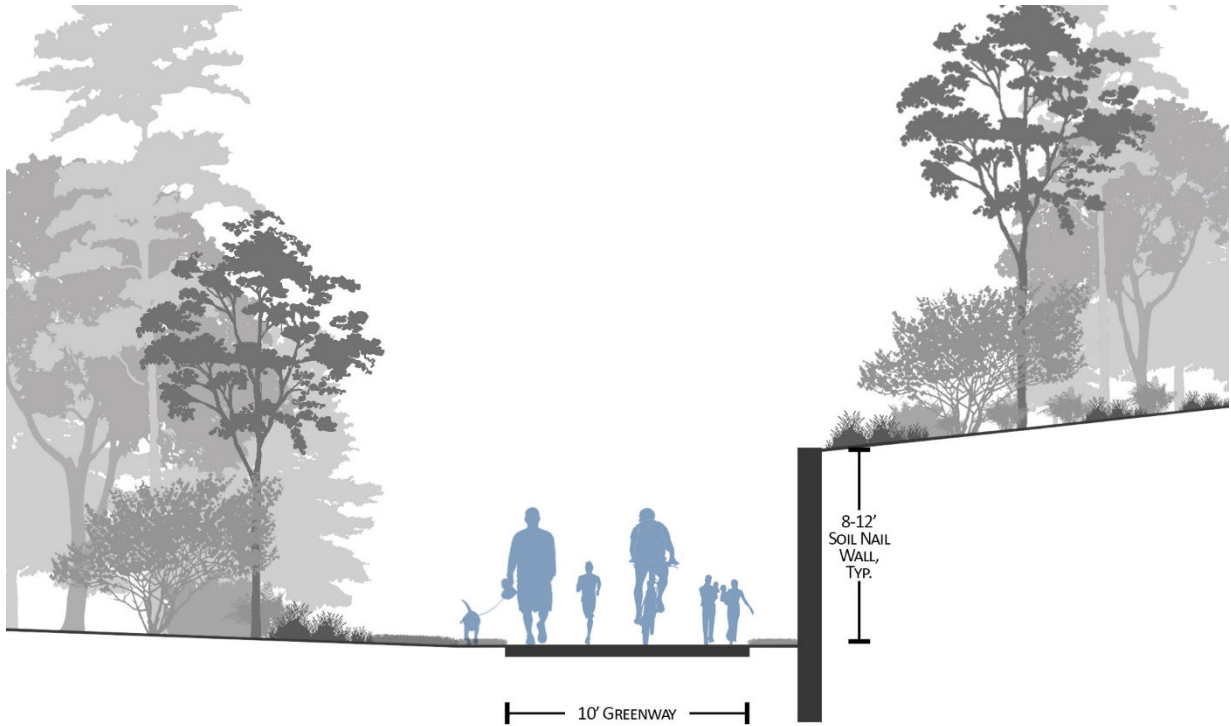
Sidewalk

Previously the existing sidewalk was used to tie-in to sidewalk network to the west side of Cates Creek Parkway with only a short section of proposed sidewalk to complete the connection for the gap at Cates Creek Parkway near the intersection of Empress Road. In addition to this area, for Alternative 3, a 5' wide, 4" thick concrete sidewalk typical section is proposed as the path crosses Churton Street from Orange Grove Road and continues along Orange Grove Street until heading north to tie back in with the original alignment's path at the future train station site.



Structures

As previously mentioned, each alternative evaluated in this study eliminates the need for pedestrian bridges in the areas where they would replace the original alignment discussed in the initial report. Another structure update to the typical section can be seen in Alternative 1. It is recommended to incorporate approximately 250' of an 8-12' soil nail wall to contain the existing South Churton Bridge slope and eliminate the need for temporary shoring under the bridge during construction.



Greenway with Proposed Soil Nail Wall Typical Section Typical Section

Figure 1

Ridgework Feasibility Phase 2 Planning

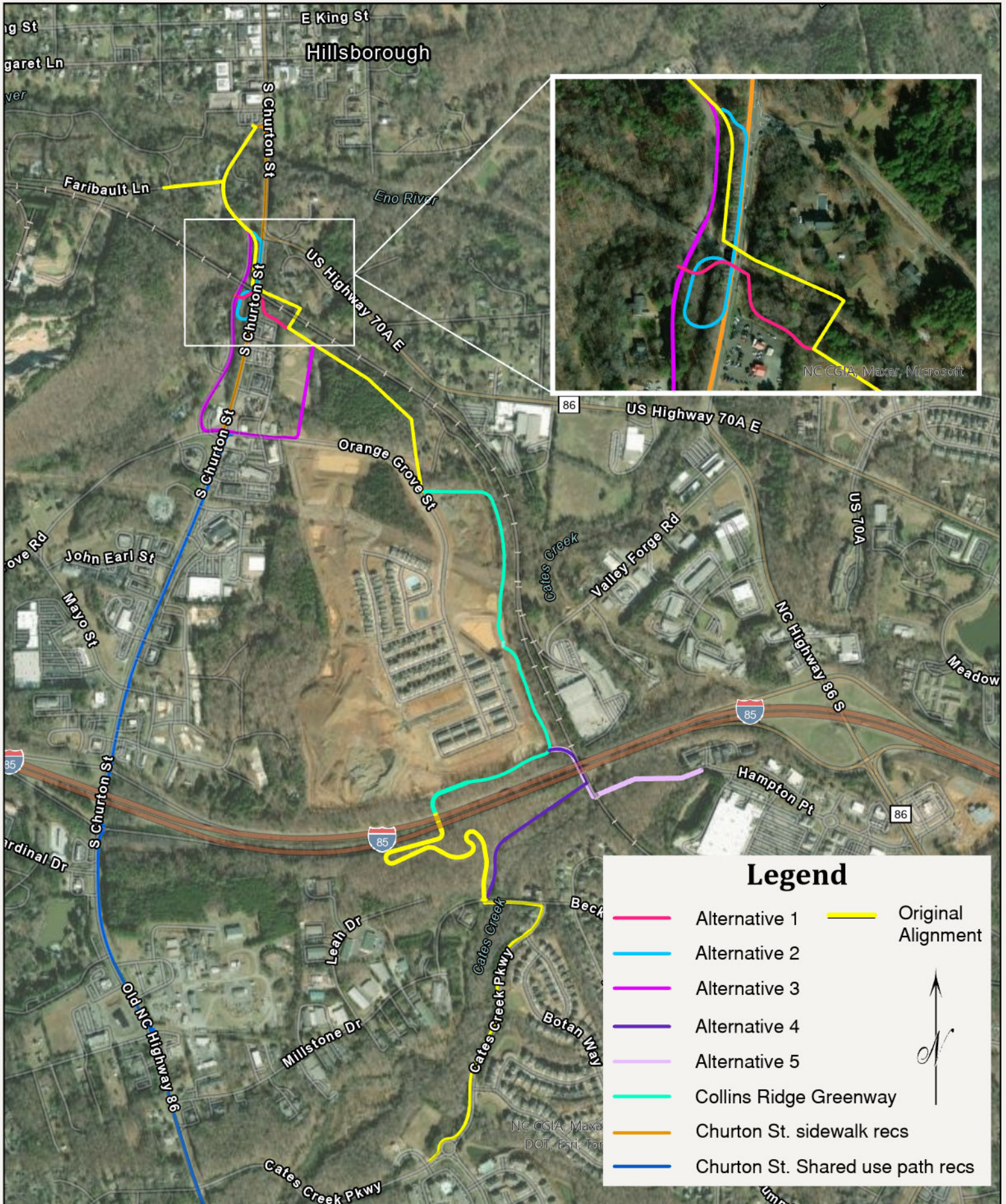
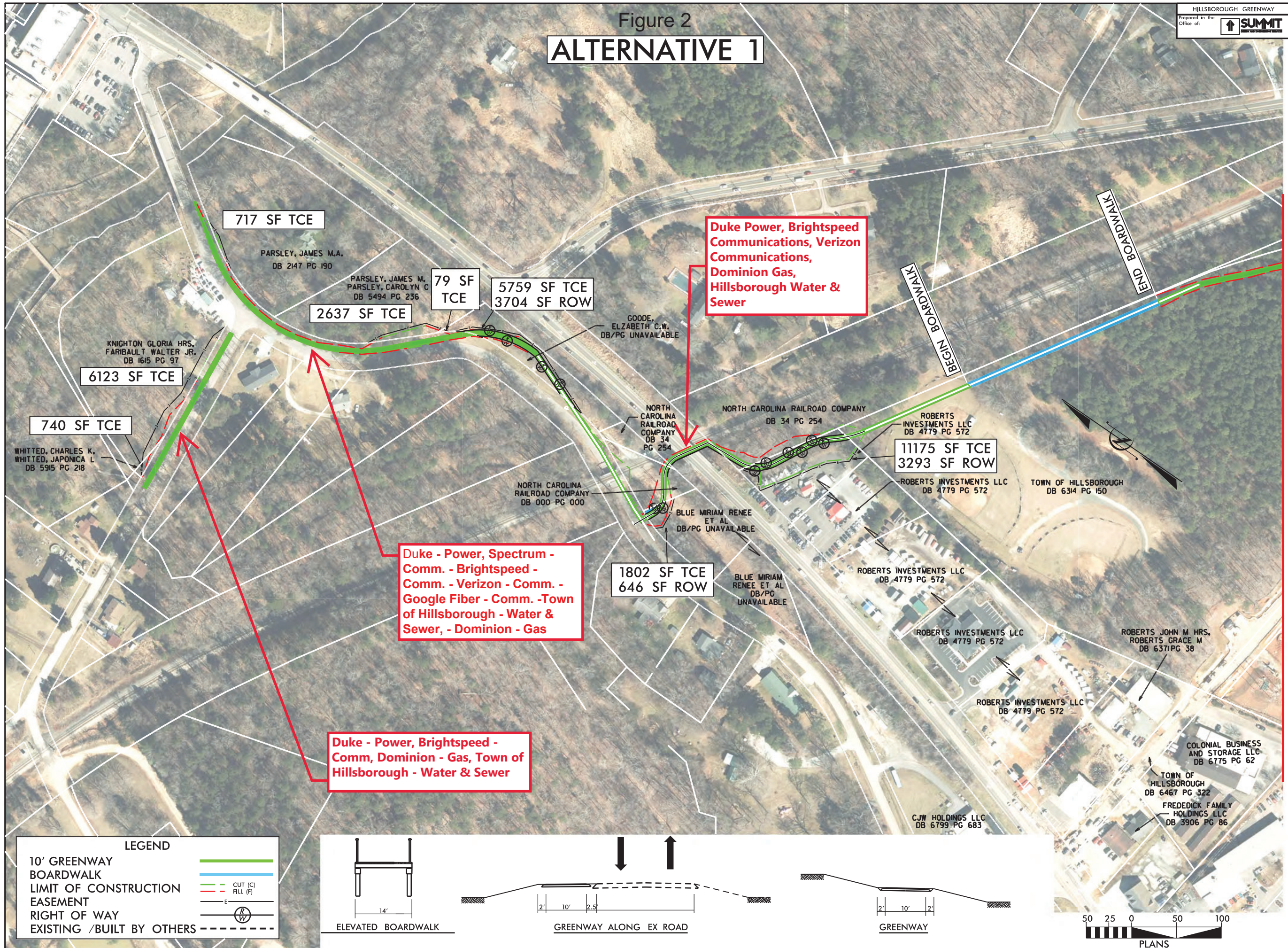


Figure 2 ALTERNATIVE 1



717 SF TCE

PARSLEY, JAMES M.A.
DB 2147 PG 190

PARSLEY, JAMES M.
PARSLEY, CAROLYN C
DB 5494 PG 236

79 SF
TCE

5759 SF TCE
3704 SF ROW

2637 SF TCE

GOODE, ELZABETH C.W.
DB/PG UNAVAILABLE

Duke Power, Brightspeed
Communications, Verizon
Communications,
Dominion Gas,
Hillsborough Water &
Sewer

KNIGHTON GLORIA HRS,
FARIBAULT WALTER JR.
DB 1615 PG 97

6123 SF TCE

740 SF TCE

WHITTED, CHARLES K.
WHITTED, JAPONICA L
DB 5915 PG 218

NORTH CAROLINA
RAILROAD COMPANY
DB 34 PG 254

NORTH CAROLINA RAILROAD COMPANY
DB 34 PG 254

BEGIN BOARDWALK

11175 SF TCE
3293 SF ROW

ROBERTS INVESTMENTS LLC
DB 4779 PG 572

TOWN OF HILLSBOROUGH
DB 6314 PG 150

Duke - Power, Spectrum -
Comm. - Brightspeed -
Comm. - Verizon - Comm. -
Google Fiber - Comm. -Town
of Hillsborough - Water &
Sewer, - Dominion - Gas

1802 SF TCE
646 SF ROW

BLUE MIRIAM RENEE
ET AL
DB/PG UNAVAILABLE

BLUE MIRIAM RENEE ET AL
DB/PG UNAVAILABLE

ROBERTS INVESTMENTS LLC
DB 4779 PG 572

ROBERTS INVESTMENTS LLC
DB 4779 PG 572

ROBERTS JOHN M HRS,
ROBERTS GRACE M
DB 6371 PG 38

Duke - Power, Brightspeed -
Comm, Dominion - Gas, Town of
Hillsborough - Water & Sewer

ROBERTS INVESTMENTS LLC
DB 4779 PG 572

COLONIAL BUSINESS
AND STORAGE LLC
DB 6775 PG 62

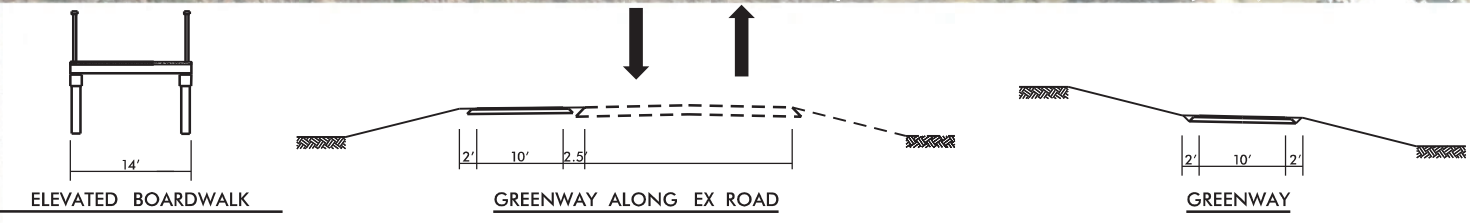
TOWN OF
HILLSBOROUGH
DB 6467 PG 322

FREDEDICK FAMILY
HOLDINGS LLC
DB 3906 PG 86

CJW HOLDINGS LLC
DB 6799 PG 683

LEGEND

- 10' GREENWAY
- BOARDWALK
- LIMIT OF CONSTRUCTION
- EASEMENT
- RIGHT OF WAY
- EXISTING /BUILT BY OTHERS



MATCHLINE 1






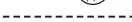
ALTERNATIVE 1 / DEVELOPER BUILT

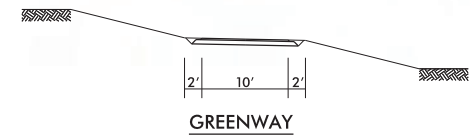
MATCHLINE 1

TOWN OF HILLSBOROUGH
DB 6314 PG 150

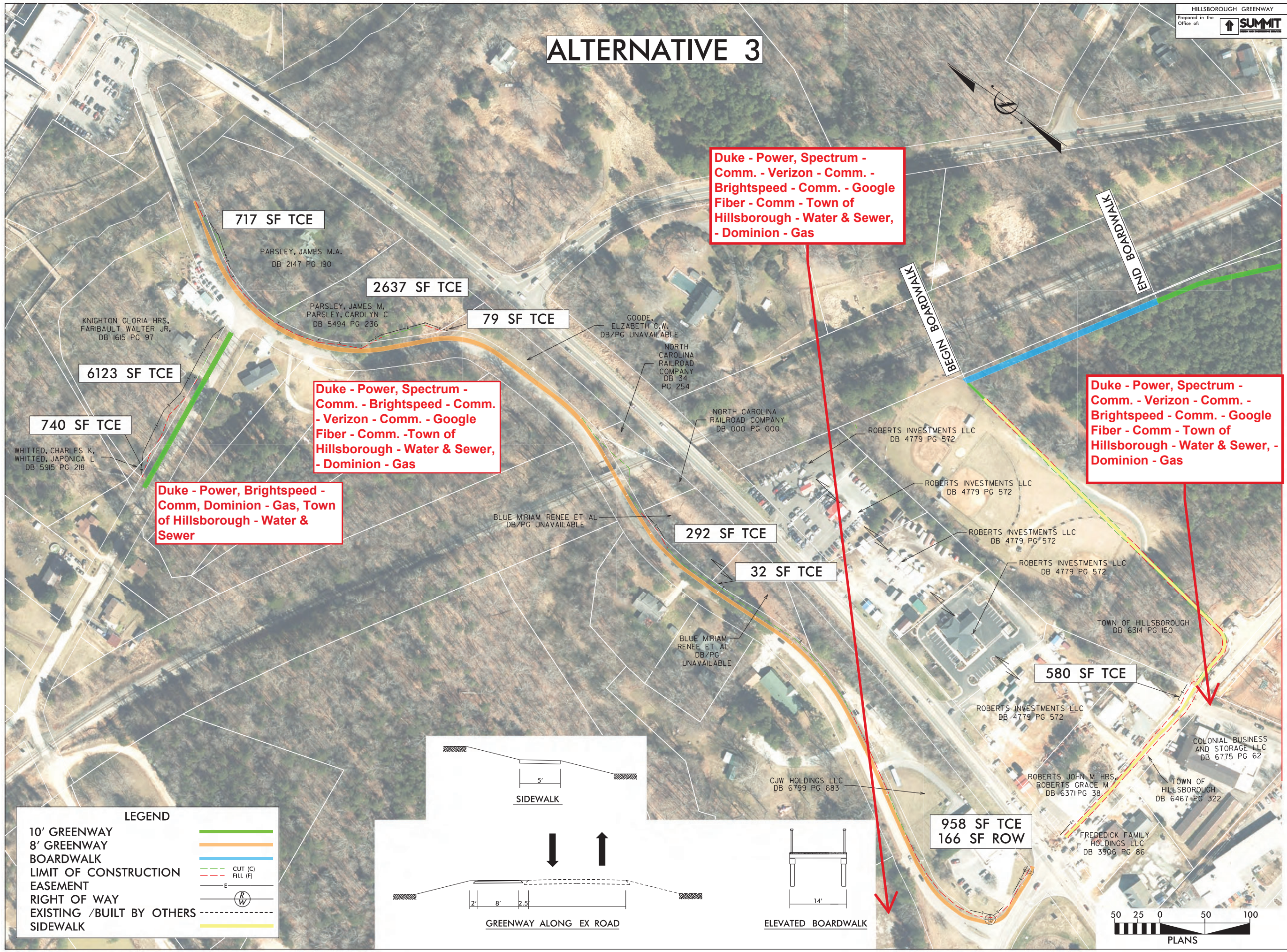
**Duke Power, Brightspeed
Communications, Spectrum
Communications**

LEGEND

10' GREENWAY	
BOARDWALK	
LIMIT OF CONSTRUCTION	
EASEMENT	
RIGHT OF WAY	
EXISTING /BUILT BY OTHERS	



ALTERNATIVE 3



Duke - Power, Spectrum - Comm. - Verizon - Comm. - Brightspeed - Comm. - Google Fiber - Comm - Town of Hillsborough - Water & Sewer, - Dominion - Gas

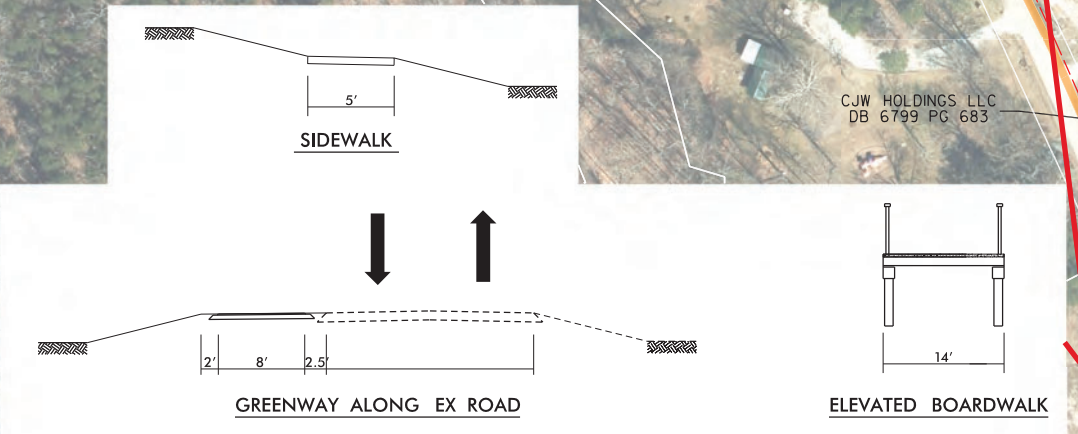
Duke - Power, Spectrum - Comm. - Brightspeed - Comm. - Verizon - Comm. - Google Fiber - Comm. -Town of Hillsborough - Water & Sewer, - Dominion - Gas

Duke - Power, Brightspeed - Comm, Dominion - Gas, Town of Hillsborough - Water & Sewer

Duke - Power, Spectrum - Comm. - Verizon - Comm. - Brightspeed - Comm. - Google Fiber - Comm - Town of Hillsborough - Water & Sewer, - Dominion - Gas

LEGEND

- 10' GREENWAY
- 8' GREENWAY
- BOARDWALK
- LIMIT OF CONSTRUCTION
- EASEMENT
- RIGHT OF WAY
- EXISTING /BUILT BY OTHERS
- SIDEWALK
- CUT (C)
- FILL (F)



MATCHLINE 1



ALTERNATIVE 3/ DEVELOPER BUILT

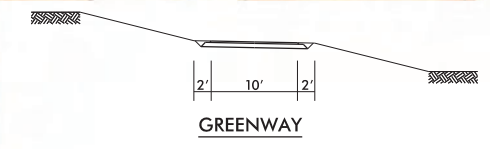
Duke - Power, - Brightspeed -
Comm. - Spectrum - Comm.

TOWN OF HILLSBOROUGH
DB 6314 PG 150



LEGEND

- 10' GREENWAY ———
- BOARDWALK ———
- LIMIT OF CONSTRUCTION - - - - -
- EASEMENT - - - - -
- RIGHT OF WAY R
- EXISTING /BUILT BY OTHERS - - - - -
- CUT (C) - - - - -
- FILL (F) - - - - -



**ALTERNATIVE 4/
 DEVELOPER BUILT**

MATCHLINE 3

MATCHLINE 2



**PEMC - Power -
 Spectrum - Comm. -
 Brightspeed - Comm. -
 Town of Hillsborough -
 Water & Sewer -
 Dominion - Gas**

**Town of Hillsborough -
 Water & Sewer**

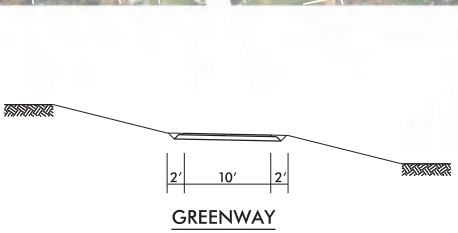
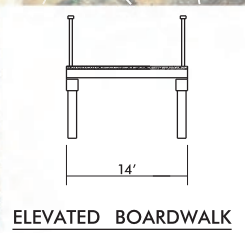
**9938 SF TCE
 2772 SF ROW**

END BOARDWALK

BEGIN BOARDWALK

LEGEND

10' GREENWAY	
BOARDWALK	
LIMIT OF CONSTRUCTION	
EASEMENT	
RIGHT OF WAY	
EXISTING /BUILT BY OTHERS	



Alternatives Considered

Original Alignment

The 2023 Ridgewalk Greenway Feasibility Study introduced the preferred north-south pedestrian connection. The recommended route starts near Weaver Street Market. A crosswalk will need to be added to help pedestrians cross to the east side of Exchange Park Lane. The greenway will extend south along Exchange Park Lane until just north of the North Carolina Railroad rail line. It then crosses under the Churton Street bridge running along the rail line. A retaining wall is proposed on the left side of the greenway, from where the route separates from the roadway to the east side of the bridge. The elevated boardwalk begins on the east side of the bridge and climbs to the height required to cross the railroad. After crossing the railroad on an elevated structure at the future train station, the grade gradually lowers as the boardwalk passes the future train station. A ramp is recommended to allow access from the parking lot of the future train station. On the east side of the train station site the boardwalk returns to asphalt greenway surface and runs parallel to the railroad before connecting into the portion of greenway being built by the Collins Ridge development completing Segment 1. With approximately 515 feet of the route proposed in the North Carolina Railroad operating corridor, indemnification fees should be anticipated with permanent installation of the corridor. These fees are not included in the cost estimate of this report but will likely be assigned per linear foot. At the south end of the greenway built by Collins Ridge, asphalt greenway continues up to a pedestrian bridge over Interstate 85. This will cross approximately ½ mile east of current Churton Street Interchange. Then a segment of boardwalk runs on the south side of the pedestrian bridge to fill height for the rest of the trail and transition back to a paved greenway section running down to Becketts Ridge, this route includes several switchbacks to avoid rapid changes in grade. The original alignment continues down to existing sidewalk to the west side of Cates Creek Park with a short section of sidewalk to fill a gap in the facility on Empress Road as the existing path transitions into greenway down to Cates Creek Park to end Segment 2.

Below are the five studied alternates that intend to replace various segments of the proposed greenway as potentially more feasible than the original alignment seen in Figure 1.

Alternative 1

This alternative explored building a 10-foot wide greenway, following an alignment starting near Weaver Street Market and continuing south along Exchange Park Lane. The greenway would then cross underneath the South Churton Street bridge parallel to the railroad south of the single-lane trestle. At the undergrade railroad bridge on Exchange Park Lane, a proposed signal system for pedestrian access under the railroad trestle will be needed due to the minimal horizontal clearance under the bridge. The horizontal clearance can only accommodate one vehicle with shoulders and is marked as a single lane passage. No sidewalks or pedestrian walkways can be accommodated. The High-Intensity Activated Crosswalk (HAWK) Pedestrian Crossing Beacon (explained further in the safety concerns) would allow for pedestrian access for a time limit that vehicular access is prohibited with the use of a signal arm and light system on each side of the bridge. The greenway would continue along the south side of the railroad for approximately 100 feet and turn east to cross under the South Churton Street bridge parallel to the railroad. Approximately 250 feet of retaining wall with an average height between 8 to 12 feet will be built within the crossing area under South Churton Street Bridge. The retaining wall will begin approximately 50 feet to the west of South Churton Street bridge and curve to the right to continue parallel

underneath the bridge. The pathway under the bridge will be located behind the existing pier and continue parallel to the railroad for approximately 25 feet to the east of the bridge where it will turn south for approximately 130 feet to its termination. North Carolina Railroad typically will not allow for a mechanically stabilized earth wall. For the section of retaining wall under the bridge the existing slope will need to be cut down to grade. To contain the existing bridge slope, a special retaining wall such as a soil nail wall will be needed to hold back the cut section as it is cut down to grade. Material such as shotcrete or cast-in-place concrete will then be applied to the front face of the soil nail wall for further slope containment. This type of retaining wall will eliminate the need for temporary shoring under the bridge.

At the termination of the retaining wall on the southeast side of the bridge, the greenway would then continue to the proposed Hillsborough Train Station site. From there the greenway would run along the same route as the boardwalk section on the primary greenway design. The alternate alignment would tie into the primary proposed greenway alignment where it transitions back to greenway from boardwalk. A benefit of this alternate is that it would greatly simplify construction since it uses asphalt greenway throughout the path and eliminates the need to build the bridge over the railroad and long section of boardwalk between Exchange Park Lane and the Hillsborough Train Station. It also strengthens the feasibility of concurrence from the North Carolina Railroad as a structure will not need additional coordination to construct said structure will be avoided at the railroad crossing. Approximately 175 feet of the route would be constructed in the North Carolina Railroad operating corridor, and indemnification fees may be required for this alternative. Right of way and temporary construction easement will likely be required for this alternative. This is explained further in the Right of Way Acquisition section and estimated costs are shown further below in the Appendix section. See below for Alternative 1 design and where it deviates from the original design at Segment 1.



Alternative 1 Design Deviation from Original Segment 1 Alignment

Safety Concerns

This alternative alignment passes under the railroad through an existing one-lane railroad trestle on Exchange Park Lane which causes safety concerns for pedestrians using the greenway. Due to the configuration of the existing structure and the adverse impacts improvements to the structure would have to rail traffic, it is not feasible to improve the clear roadway width on Exchange Park Lane under this trestle to accommodate both pedestrian and vehicular traffic on separated facilities. To ensure pedestrian safety, a proposed installation of a pedestrian activated signal system is recommended. This would use a signal arm and light system to prevent vehicles from entering under the trestle while pedestrians are present. The HAWK Pedestrian Crossing Beacon or Pedestrian Hybrid Beacon would pose as a safer and less impactful alternative as drivers are provided with cues to bring awareness to the presence of a pedestrian. The HAWK beacon is illuminated when a pedestrian activates the system triggering a flashing warning yellow lens on the street. After a set amount of time, the indications turn to a solid yellow informing drivers to prepare to stop. The beacon then transitions to a dual solid red lens on the street and alternating flashing red light as pedestrians are then shown an upraised hand symbol with a countdown display to cross the section of roadway back to the designated path as a countdown is shown with the remaining time to make the passing. During the alternating flashing red lights, drivers can proceed after coming to a full stop and checking that pedestrians have already crossed their lane of travel. Each successive driver is legally required to come to a full stop before proceeding during the alternating flashing red phase. Thermoplastic stop bars should also be added about 50 feet from each side of the crossing at the trestle where it is clearly visible for approaching drivers giving them ample warning to stop when the beacon is activated. The thermoplastic stop bar allows better visibility and is effective over time.

The current speed limit at Exchange Park Lane is 20 miles per hour. In addition to a signal system, it would be recommended to consider installing a series of speed tables on each side of the trestle to encourage drivers to slow down and look for pedestrians.



HAWK System under the North Carolina Railroad at Exchange Park Lane

Evaluation of Drainage

At the beginning of the greenway on Exchange Park Lane, a base ditch will be required to tie into the existing base ditch adjacent to the hill. The ditch will outlet into the Eno River near the existing Exchange Park Lane bridge. Bank stabilization will be needed at the ditch outlet. Five potential cross pipe locations have been identified. Two of these may have an existing cross pipe, this will have to be verified by survey. Four of these locations are along the greenway on Exchange Park Lane at existing low points, or low points that will result from construction of the greenway. The last cross pipe will be required to carry water along the railroad. The existing ditch on the south side of the railroad will be filled because of the greenway construction. Due to future required maintenance, it is not recommended to have the cross pipe underneath the proposed greenway. The proposed cross pipe will have to cross underneath South Churton Street.

Utilities

Utility impacts do not significantly differ from those of Segment 1 of the original alignment as the same utility owners are present in the facility through the alternative alignment of this segment.

Right-of-way Acquisition

Construction will require the acquisition of over 5,700 square feet of temporary construction easement and approximately 3700 square feet of Right-of-Way from the parcel containing 203 and 205 US 70A (no deed book information available, owned by Goode, Elizabeth C W, PIN# 9874048143), around 1,800 square feet of temporary construction easement and just over 640 of Right-of-Way from the parcel located at 236 South Churton Street (no deed book information available, owned by Blue, Miriam Renee et al, PIN# 9874033799), around 11,175 square feet of temporary construction easement and approximately 3,290 square feet of Right-of-Way from the parcel located at 231 South Churton Street (DB 4779 PG 572, owned by Roberts Investments LLC).

For Alternate 1 estimate approximate costs, see Table 2 in cost estimate section and construction, right-of-way acquisition, and utility cost estimates in the appendix.

Alternative 2

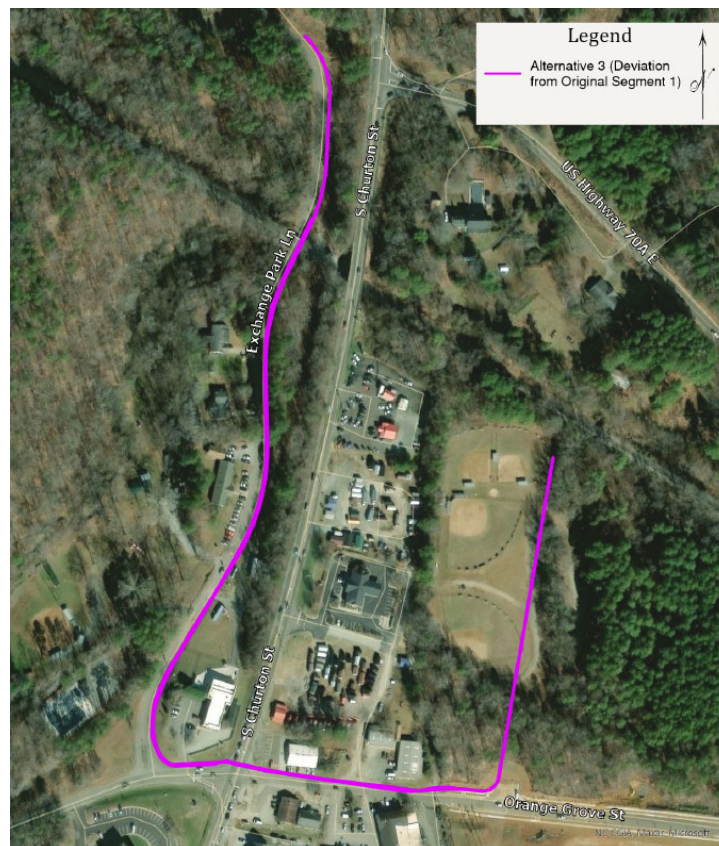
This alternative would start around 223 Exchange Park Lane and turn east until coming to the west side of South Churton Street. The route would then run southward along the roadway crossing the railroad and continuing before turning west and forming a loop. After this loop the greenway would cross under the South Churton Street bridge running parallel with the railway until reaching the rail station.

It was determined that this alternative alignment was infeasible due to several factors. The grade between Exchange Park Lane and South Churton Street was too steep for the beginning of the alternative alignment. The loop included in the design was feasible with the grade, but the boardwalk would need to be 25-feet high for most of the loop. Also, the current sidewalk width on Churton Bridge is only 3.5 feet wide which is not compliant with the American Disabilities Act.

Alternative 3

This alternative utilized an 8-foot-wide greenway beginning at the tie in location with the original greenway alignment, and then continued south along Exchange Park Lane down to Orange Grove Road where it would turn east to run along the roadway until it connected with existing sidewalk on the east side of Churton Street. The proposed 5-foot wide sidewalk would turn north to Hillsborough Train Station. At the station, the alternate ties into the original proposed greenway path, continuing until it connects with the portion of greenway to be built by the Collins Ridge development. This alignment avoids passing under the Churton Street bridge in the rail corridor and constructing an elevated walkway over the North Carolina Railroad tracks. However, this alternate

passes under the railroad through an existing one-lane trestle which causes safety concerns for pedestrians using the greenway. Similar to Alternative 1 and the configuration of the existing structure and the adverse impacts improvements would have to rail traffic, it is not feasible to improve the clear roadway width on Exchange Park Lane under this trestle to accommodate both pedestrian and vehicular traffic on separated facilities and the HAWK Pedestrian System would be recommended for installation. There is also no direct connection to the future train station, even though the sidewalk would connect to the site. Though some discussion with North Carolina Railroad has already occurred, there is no guarantee that the railroad will agree to allow a greenway to run in the rail corridor. Temporary construction easement will likely be required for this alternative at multiple properties and right of way needed for one property. This explained further in the Right of Way Acquisition section with estimated costs are shown in the Appendix section. See below for alternative 3 design and where it deviates from the first segment of the original alignment.



Alternative 3 Design Alternative 1 Design Deviation from Original Segment 1 Alignment

Safety Concerns

This alternate passes under the railroad through an existing one-lane trestle which causes safety concerns for pedestrians using the greenway. For further discussion see the Safety Concerns section for alternative 1.

Evaluation of Drainage

The drainage recommendations for the beginning of the alignment are consistent with those made for Alternative 1. Two additional potential cross pipe locations were identified further along Exchange Park Lane. A ditch may be used to prevent erosion to the fill slope. For areas with minimal flow, toe protection may be used

instead. A ditch may be needed along the left side of the greenway near the intersection with South Churton Street. This would be connected to the proposed ditch on the other side of the road by a cross pipe under the street. In the sidewalk section of the alternative, it is recommended to allow water to sheet across the sidewalk where possible. It is highly recommended to construct the greenway to allow water to sheet across the greenway to avoid ditching and creating concentrated flow at the outlet.

Utilities

Impacts to existing utilities do not differ significantly from those of the original alignment and can be seen in Figure 2 of the Existing Utilities Maps for Alternative 3.

Right-of-way Acquisition

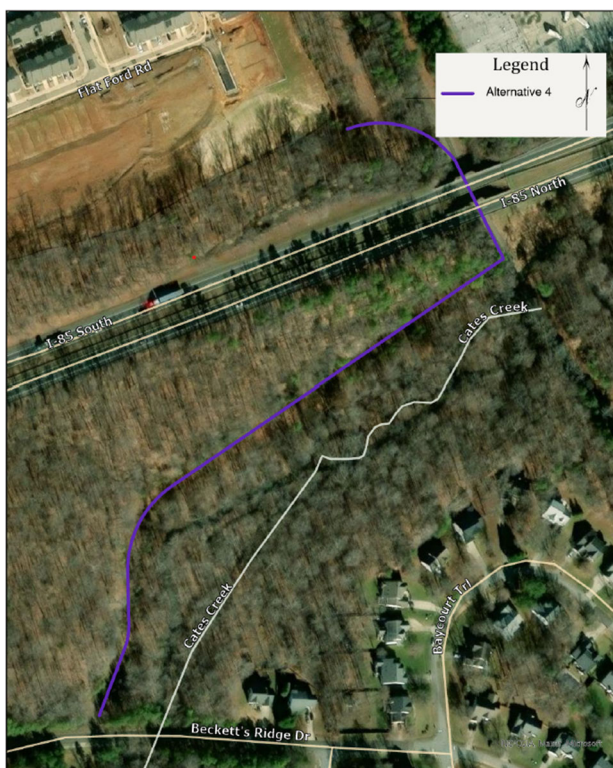
Construction will require the acquisition of over 700 square feet of temporary construction easement on the parcel located at 240 South Churton Street (DB 2147 PG 190, owned by Parsley, James M A), just over 2600 square feet of temporary construction easement on the additional parcel located at 240 South Churton Street (DB 5494 PG 236, Parsley, James M A), and approximately 80 square feet of temporary construction easement on the parcel located at 203/205 US 70A (no deed book information available, owned by Goode, Elizabeth C W, PIN# 9874048143), just over 290 square feet of temporary construction easement on the parcel located at 236 South Churton Street (no deed book information available, owned by Blue, Miriam Renee et al, PIN# 9874033799), approximately 30 square feet of temporary construction easement on the parcel located at 238 South Churton Street (no deed book information available, owned by Blue, Miriam Renee et al, PIN# 9874033671), about 960 square feet of temporary construction easement and 165 square feet of Right-of-Way on the parcel located at 250 South Churton Street (DB 6799 PG 683, owned by CJW Holdings LLC), approximately 580 square feet of temporary construction easement on the parcel located at 243 South Churton Street (DB 6371 PG 38, owned by Roberts, John M Heirs). This alternative requires over 11000 square feet less right-of-way in the area when compared to the originally proposed path.

For Alternate 3 estimate approximate costs, see Table 3 in cost estimate section and construction, right-of-way acquisition, and utility cost estimates in the appendix.

Alternative 4

This alternative path begins at the corner of Flat Ford Road and Brightleaf Road in the Collins Ridge development and runs south under the bridge on Interstate 85 that spans the railroad. In the section under the bridge, the greenway runs parallel to the railroad. Though some discussion with North Carolina Railroad has occurred, there is no guarantee that the railroad will allow a greenway to be constructed in the railroad right-of-way. Around 340 feet of the route would be constructed in the North Carolina Railroad operating corridor, and indemnification fees may be required. In addition, there is currently not enough room for the greenway under the Interstate 85 bridge to be accommodated in between the railroad, bridge pier and spill through slope. Lengthening the bridge by approximately 50 feet would allow adequate clearance to construct the greenway between the bottom of the spill through slope and outside of the bridge pier while also providing more clearance further away from the railroad corridor. After passing under the bridge, the path turns west and transitions from greenway to boardwalk for a span of around 70 feet with a maximum height of 16'. As mentioned in the original feasibility study, the boardwalk system, walking surface, and substructure will be constructed of precast concrete with driven piles, where possible. An example of a precast concrete boardwalk supplier would be PermaTrak North America, as their specifications will accommodate the minimum design standards listed in the Evaluation of Structures section of the original feasibility study. At the termination of the boardwalk the greenway continues southwest for around 750 feet before turning south and tying into the original proposed greenway path where it

intersects with Beckett's Ridge Drive. This alternative greatly reduces the length of the greenway, and the amount of material needed since it presents a much more direct path than the original plan's proposed path. It also eliminates the need to construct a pedestrian bridge over Interstate 85 and reduces the length of elevated boardwalk needed. With the potential need to lengthen of the bridge, if carried forward, both the North Carolina Department of Transportation (NCDOT) and Federal Highway Administration (FHWA) would likely be involved in the cost-sharing and splitting funds to lengthen the bridge since the project would be a locally adopted plan that provides transportation benefits. The town will have a better idea of the cost when designs of the Interstate 85 widening project progress. Lastly, it can serve as a wildlife corridor and a passage for wildlife crossing under the bridge if the existing bridge can be lengthened. Right-of-way and temporary construction easement acquisition will likely be needed along one parcel for this alternative and the costs can be seen in the appendix. See below for alternative 4 design and where it deviates from Segment 2 of the original design.



Alternative 4 Design Alternative 1 Design Deviation from Original Segment 2 Alignment

Safety Concerns

There are no unique safety hazards present along this alternate, and exposure to vehicle traffic is minimal. Pavement markings and signage will be needed at the crossing of Beckett's Ridge Drive.

Evaluation of Drainage

Drainage recommendations for Alternative 4 will be consistent with that of the original alternative. A potential cross pipe location was identified just before the crossing at Interstate 85. The drainage area for the pipe is uncertain due to the construction of the Collins Ridge subdivision. It is recommended that a ditch be constructed to carry flow to the cross pipe. Immediately after the crossing, a junction box will be required to tie the existing pipe to the outlet to avoid conflicts with the greenway. A ditch will be required on the section of greenway

between the end of the boardwalk and the intersection with Beckett's Ridge Road. Four additional cross pipe locations along the ditch were identified.

Utilities

In evaluating the existing utilities for this alternative segment, there is presence of Town of Hillsborough-owned water and sewer following the crossing of I-85 along with power and communications lines approaching Beckett's Ridge Drive as shown in Figure 2.

Right-of-way Acquisition

The right-of-way impacts will require approximately 10,000 square feet of temporary construction easement and 2,800 square feet of Right-of-Way on the parcel owned by Old Milling Properties LLC (DB 2075 PG 536).

For Alternate 4 estimate approximate costs, see Table 4 in cost estimate section and construction, right-of-way acquisition, and utility cost estimates in the appendix.

Alternative 5

This alternative alignment would begin southeast of the corner of Flat Ford Road and Brightleaf Road. This option was explored to determine the feasibility of connecting to the Hampton Pointe Apartments and shopping center. It runs south under the bridge carrying I-85 over the railroad. Currently there is not enough room for the greenway to fit under the I-85 bridge, to accommodate the greenway the bridge would have to be extended by 50'. The greenway would continue south running parallel to the railroad before turning east and crossing under the railroad trestle. The route would then continue eastward before tying into the sidewalk on Hampton Pointe. This alternative alignment was found to be infeasible. There is not enough room for the greenway under the railway trestle. There are also severe grading issues. The greenway would need to run along the railroad, cross under the trestle with enough clearance and then get high enough to stay out of Cates Creek. These competing elevations would make construction of the greenway infeasible. This alternative was analyzed to explore the feasibility of making a connection to Hampton Pointe Apartments and the shopping center.

Cost Estimates

Below are in Table 1 are the cost estimate summaries. These have been updated from 2023 for the original alignment. It should be noted that estimates have been calculated at current costs and costs will rise over time at an unknown rate. Material and labor costs have been volatile over the past several years and it is unknown how costs may change in the years ahead. An escalation of 6% was added to the cost estimates to account for inflation up to an estimated bid date in the second quarter of 2024. A further increase in cost should be anticipated for any later bid date.

Life-cycle costs will also be associated with maintenance of the greenway as well such as waste and recycling removal, repaving the greenway surface, mowing, and maintaining crosswalks to name a few. Ongoing Indemnification costs associated with permanent installation of the greenway in the North Carolina Railroad Operating Corridor may also be incurred and were not captured in the cost estimate. These life-cycle costs have not been estimated as part of this study, but they will be required throughout the life of the greenway.

In summary, Alternatives 1 & 3 provide options on the north segment (Segment 1) of the proposed greenway and Alternative 4 provides another option on the south segment (Segment 2). Alternatives 1 and 3 both significantly lower construction costs compared to the original Segment 1 design. This is largely because they eliminate the need for the construction of a pedestrian bridge and instead utilize less expensive greenway and

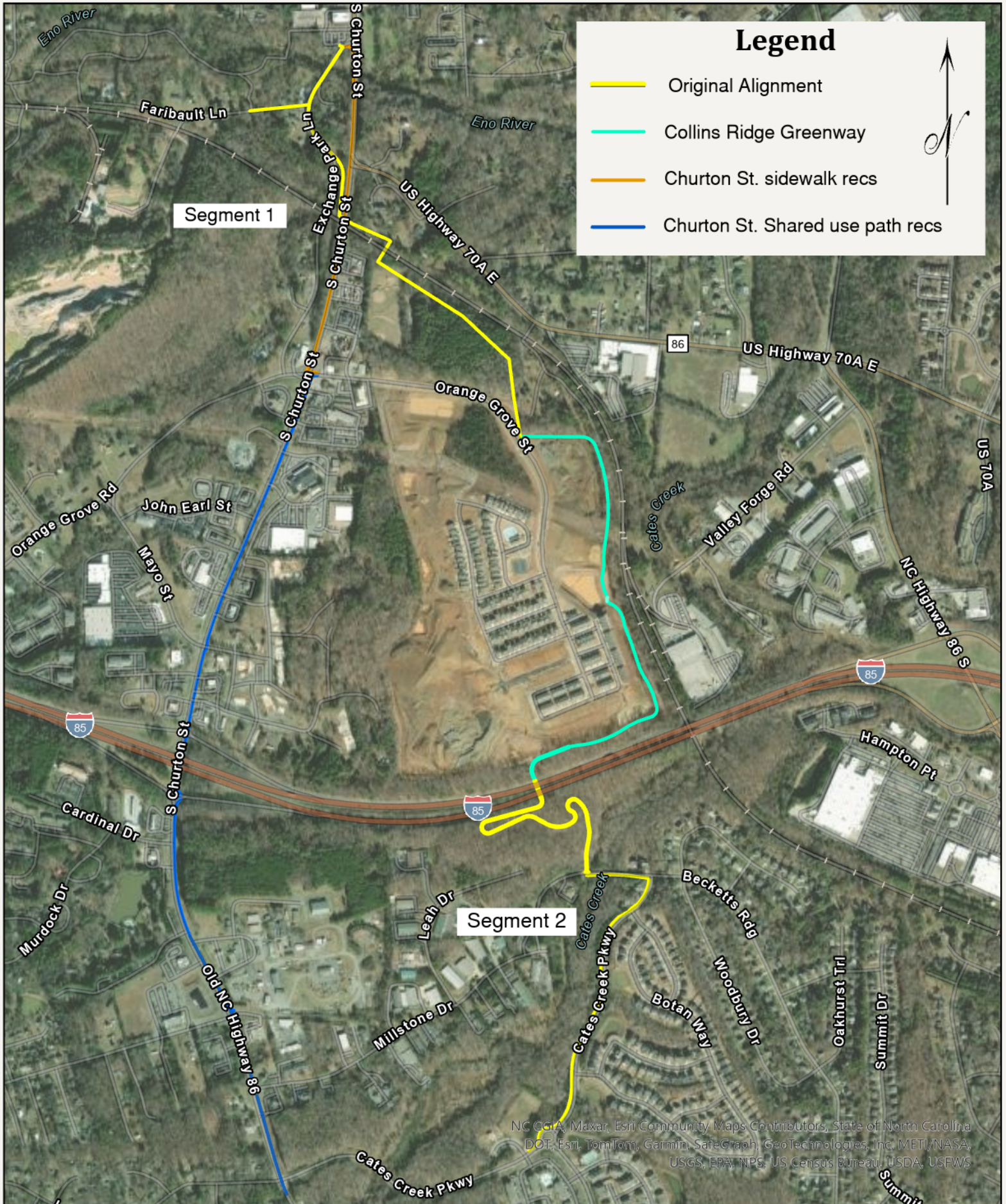
sidewalks options to cross Churton Street. Alternative 3 is the least expensive option for Segment 1 with sidewalk sections and less utility relocation anticipated. It eliminates the need for a pedestrian bridge, requires less earthwork, boardwalk and retaining wall structure length. Construction costs for Alternate 1 is driven up by the need for more pavement for the greenway in lieu of sidewalk section and a wider path at 10' when paved instead of 8' wide segment, especially at Exchange Park Lane. Both alternatives still utilize boardwalks in the area of the proposed train station.

Alternative 4 significantly reduces construction costs when compared to the original Segment 2 plan. The alternative eliminates the need to construct a pedestrian bridge over I-85, greatly reduces the required length of boardwalk needed, and takes a much more direct route between the Collins Ridge development and Beckett's Ridge Drive. These changes significantly decrease the construction costs for phase 2 of greenway construction. See appendix for cost estimate breakdowns for construction costs, utility and right-of-way costs for the updated construction costs for the original alignment and Alternatives 1,3 and 4 and the utility relocation and right-of-way costs for Alternatives 1, 3 and 4.

Below are the maps of the original alignment and alternatives followed by the cost estimate summaries of each. The cost estimate is reflective of the limits shown on each map.

Figure 1

Original Alignment (Segment 1 & 2)



NC CGIA, Maxar, Esri Community Maps Contributors, State of North Carolina DOT, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Table 1. Original Alignment Cost Estimate Summaries

Segment 1 (Original Alignment)	COST ESTIMATE (2024)
Construction	\$6,641,265
Utilities	\$319,680
Right-of-Way	\$88,300
Design and Engineering Fees (10%)	\$704,925
Construction Administration (10%)	\$704,925
Contingency (20%)	\$1,409,849
Miscellaneous	\$387,917
Segment 1 Total	\$10,256,860

Segment 2 (Original Alignment)	COST ESTIMATE (2024)
Construction	\$5,319,637
Utilities	\$79,920
Right-of-Way	\$4,700
Design and Engineering Fees (10%)	\$540,426
Construction Administration (10%)	\$540,426
Contingency (20%)	\$1,080,851
Miscellaneous	\$387,917
Segment 2 Total	\$7,953,877

Alternative 1

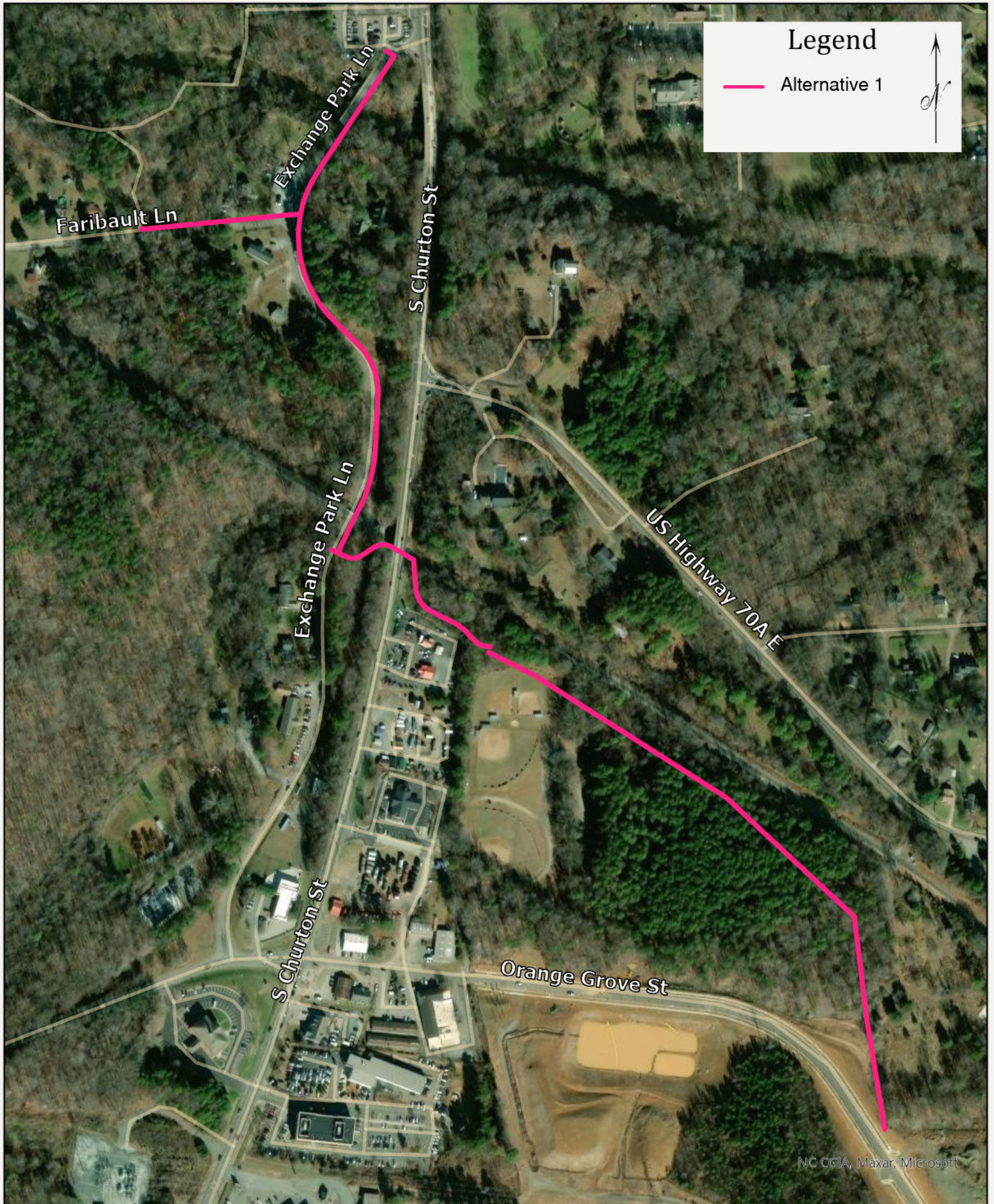


Table 2. Alternative 1 (Segment 1) Cost Estimate Summary

Alternative 1 (Segment 1)	COST ESTIMATE (2024)
Construction	\$3,136,298
Utilities	\$243,985
Right-of-Way	\$394,000
Design and Engineering Fees (10%)	\$377,428
Construction Administration (10%)	\$377,428
Contingency (20%)	\$754,857
Miscellaneous	\$387,917
Alternative 1 (Segment 1) Total	\$5,671,913

Alternative 3

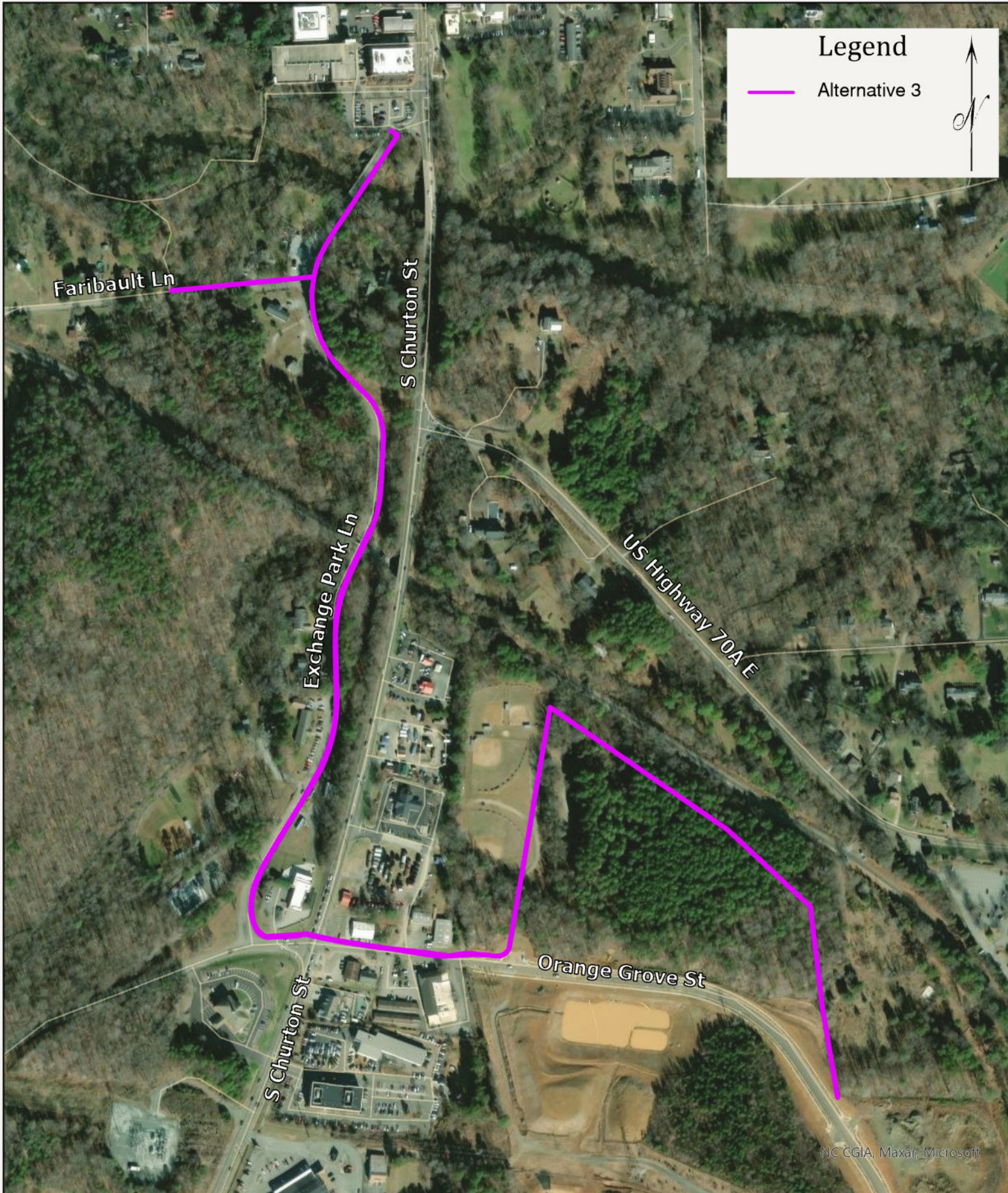


Table 3. Alternative 3 (Segment 1) Cost Estimate Summary

Alternative 3 (Segment 1)	COST ESTIMATE (2024)
Construction	\$2,971,740
Utilities	\$176,706
Right-of-Way	\$85,000
Design and Engineering Fees (10%)	\$323,345
Construction Administration (10%)	\$323,345
Contingency (20%)	\$646,689
Miscellaneous	\$387,917
Alternative 3 (Segment 1) Total	\$4,914,741

Alternative 4



Table 4. Alternative 4 (Segment 2) Cost Estimate Summary

Alternative 4 (Segment 2)	COST ESTIMATE (2024)
Construction	\$1,750,720
Utilities	\$9,732
Right-of-Way	\$9,400
Design and Engineering Fees (10%)	\$176,985
Construction Administration (10%)	\$176,985
Contingency (20%)	\$353,970
Miscellaneous	\$387,917
Alternative 4 (Segment 2) Total	\$2,865,710

*This estimate does not include the potential cost-sharing with the North Carolina Department of Transportation and Federal Highway Association for lengthening the Interstate 85 bridge.

Continuing the Path Forward

This feasibility study has provided further recommendations and information and alternatives for the Ridgewalk greenway location, structures, utilities, right-of-way, segmentation, construction related costs, and desirable amenities. The Town of Hillsborough will need to review the supplemental information in addition to the initial report and determine if they would like to proceed with identifying and pursuing potential funding sources. Once funding has been allocated, a design team can be contracted to assist the Town with the final design implementation for the project, including right-of-way acquisition and utility coordination and relocations. Then construction on the Ridgewalk Greenway can commence.

References

Google Earth Aerial Imagery

<https://earth.google.com>

Natural Resources Conservation Service – Web Soil Survey Mapping Tool

<https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

Natural Resources Conservation Service Published Soil Survey / US Geological Survey (USGS) Topographic GIS Data

<https://experience.arcgis.com/experience/a16078049de54d42a2bc384b9ceda91f>

NC Historic Preservation Office – HPOWEB 2.0 -

<https://nc.maps.arcgis.com/apps/webappviewer/index.html?id=d2d04d8d7e03403f889419526e682529>

NC Department of Environmental Quality GIS Data

<https://data-ncdenr.opendata.arcgis.com/datasets/ncdenr::ust-active-facilities/about>

Orange County GIS Data

<https://www.orangecountync.gov/2057/Download-GIS-Data>

Town of Hillsborough Community Connectivity Plan

<https://assets.hillsboroughnc.gov/media/documents/public/community-connectivity-plan.pdf>

Town of Hillsborough Draft Comprehensive Sustainability Plan

<https://assets.hillsboroughnc.gov/media/documents/public/draft-comprehensive-sustainability-plan-full-plan.pdf>

Town of Hillsborough Development Projects

<https://www.hillsboroughnc.gov/development-projects/>

Town of Hillsborough GIS Data

<https://hillsboroughnc.maps.arcgis.com/>

USDA Accessibility Guidebook for Outdoor Recreation and Trails

<https://www.fs.usda.gov/sites/default/files/Accessibility-Guide-Book.pdf>

US Environmental Protection Agency (EPA) Envirofacts/Enviromapper

<https://enviro.epa.gov/enviro/em4ef.home>

US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC)

<https://ipac.ecosphere.fws.gov/>

USFWS National Wetlands Inventory

<https://www.fws.gov/program/national-wetlands-inventory/wetlands-data>

USGS National Hydrography Dataset

<https://www.usgs.gov/national-hydrography/national-hydrography-dataset>

Safety Effectiveness of the HAWK Pedestrian Crossing Treatment
<https://www.fhwa.dot.gov/publications/research/safety/10045/>

Appendix



EXECUTIVE SUMMARY

Prepared For: Summit Design and Engineering Services

Project Name: Town of Hillsborough Greenway Trail

Location: Hillsborough, NC

Estimate Date: 8/27/2024

Project Area (SF): 8.8 ACRE

Revised Date: _____

Project #: 23188

Palacio Lead Contact: Kaye Smith

Project Phase: Feasibility Study

Project
Description: Greenway Trail

CONSTRUCTION COST SNAPSHOT				
PROJECT TYPE				TOTAL
Greenway Trail, Segment 1 (Original Alignment)				\$6,641,265
Greenway Trail, Segment 1 - Alternate 1				\$3,136,298
Greenway Trail, Segment 1 - Alternate 3				\$2,971,740
Greenway Trail, Segment 2 (Original Alignment)				\$5,319,637
Greenway Trail, Segment 2 - Alternate 4				\$1,750,720
Miscellaneous				\$775,834

ALTERNATES (INCLUDES COST OF WORK AND MARKUPS)		
1		
2		
3		
4		

ESTIMATE ASSUMPTIONS
Anticipated Bid Date: 2nd Quarter 2025 (Add 1.5% per quarter for market escalation beyond this point)
Design-Bid-Build delivery method
Receiving bids from at least four (4) qualified general contractors
General contractors to receive bids from at least four (4) qualified subcontractors per trade
Most of the bidders will be from the local market (within 1 hour driving distance)
Assumes normal working hours





Name: **Town of Hillsborough Greenway Trail**

Location: Town of Hillsborough

Date: 8/20/2024

Area (SF): _____

Rev. Date: _____

Segment 1 (Original Alignment)

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	Site Metrics				
	- length of trail segment	8,228	LF		
	- area of paving	24,975	SF		
	- limits of construction area	74,052	SF		
	- limits of construction area - acreage	1.7	AC		
	General Requirements				
	- mobilization	74	MSF	400.00	29,600
	- asbuilt drawings	1	LS	5,000.00	5,000
	- secured laydown area - 90' sq				
	grading	600	CY	8.00	4,800
	gravel paving	900	SY	30.00	27,000
	security fence w/ double gate	360	LF	60.00	21,600
	- tire wash	1	LS	4,000.00	4,000
	- clean roads	6	MO	500.00	3,000
	Site Prep				
	- survey / layout	74	MSF	200.00	14,800
	- site demo, allowance	1	LS	25,000.00	25,000
	- clearing and grubbing				
	trees, undergrowth, overgrowth	1.7	ACRE	10,000.00	17,000
	- grading				
	topsoil				
	remove / stockpile	0	CY	4.00	0
	replace or dispose	0	CY	7.00	0
	rough grading	74	MSF	200.00	14,800
	unclassified excavation, cut and waste	1,210	CY	20.00	24,200
	offsite borrow, compaction	730	CY	40.00	29,200
	unsuitable soil replacement, allowance	1	LS	5,000.00	5,000
	- finegrading				
	paving	24,975	SF	0.50	12,488
	grassing	49,077	SF	0.15	7,362
	- erosion control				
	silt fence	0	LF	7.00	3
	check dams	0	EA	500.00	0
	silt fence outlets	0	EA	800.00	0
	erosion control, allowance	1	LS	50,000.00	50,000
	- storm drain				
	culvert extension	0	EACH	10,000.00	0
	piping	0	LF	150.00	0
	bioretention pond	0	EACH	100,000.00	0
	Site Paving				
	- asphalt paving				
	parking, 6" / 2"	0	SY	45.00	0
	greenway, 6" / 2"	2,775	SY	50.00	138,750
	- gravel paving				
	greenway, 3"	0	SY	25.00	0
	- concrete paving				
	walks	0	SF	7.00	0
	bench pad, 20 sq ft / each	4	EACH	400.00	1,600



PALACIO

Name: Town of Hillsborough Greenway Trail

Location: Town of Hillsborough

Date: 8/20/2024

Area (SF): _____

Rev. Date: _____

Segment 1 (Original Alignment)

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	curb ramps	4	EACH	750.00	3,000
	crosswalk	85	LF	64.00	5,440
	Site Improvements				
	- bridge				
	prefab bridge including railings	160	LF	6,965.06	1,114,410
	bridge piers	2	EA	50,000.00	100,000
	bridge embankments	0	EA	20,000.00	0
	- boardwalk				
	concrete boardwalk w/ spread footings & pilings	17,850	SF	120.00	2,142,000
	metal railings at both sides of boardwalk	1,642	LF	175.00	287,350
	- retaining wall				
	concrete w/ footing (4.7' avg height)	450	LF	350.00	157,500
	- site furnishings / metals				
	benches	4	EACH	1,500.00	6,000
	picnic tables	2	EACH	2,000.00	4,000
	waste receptacle / recycle receptacle	4	EACH	950.00	3,800
	dog waste receptacle	4	EACH	951.00	3,804
	bike racks	2	EACH	1,200.00	2,400
	steel bollards	1	EACH	1,000.00	1,000
	- signage				
	trailhead signs	2	EACH	5,000.00	10,000
	destination signs	6	EACH	5,000.00	30,000
	route makers	8	EACH	1,000.00	8,000
	wayfinding signs	3	EACH	3,600.00	10,800
	interpretive signs	2	EACH	2,000.00	4,000
	Landscaping				
	pedestrian lighting, pole every 100 ft.	0	EA	9,000.00	0
	landscaping lighting, pedestrian	3,900	LF	75.00	292,500
	grassing	0	SF	0.25	0
SUBTOTAL					\$4,621,206
	General Condition as %	7%			\$323,484
	Bonds as %	1%			\$49,447
	Insurance as %	1.50%			\$74,912
	Contractor Fee as %	3%			\$152,071
	Design/Market Conditions Contingency as %	20%			\$1,044,224
	Escalation as %	6%			\$375,921
TOTAL PROBABLE CONSTRUCTION COST					\$6,641,265



PALACIO

Name: Town of Hillsborough Greenway Trail

Location: Hillsborough, NC

Date: 8/27/2024

Area (SF): _____

Rev. Date: _____

Segment 1 -Alternate 1

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	Site Metrics				
	- length of trail segment	4,030	LF		
	- area of paving	34,443	SF		
	- limits of construction area	100,188	SF		
	- limits of construction area - acreage	2.3	AC		
	- mobilization	100	MSF	400.00	40,000
	- asbuilt drawings	1	LS	5,000.00	5,000
	- secured laydown area - 90' sq				
	grading	600	CY	8.00	4,800
	gravel paving	900	SY	30.00	27,000
	security fence w/ double gate	360	LF	60.00	21,600
	- tire wash	1	LS	4,000.00	4,000
	- clean roads	6	MO	500.00	3,000
	Site Prep				
	- survey / layout	100	MSF	200.00	20,000
	- site demo, allowance	1	LS	25,000.00	25,000
	- clearing and grubbing				
	trees, undergrowth, overgrowth	2.3	ACRE	10,000.00	23,000
	- grading				
	topsoil				
	remove / stockpile	0	CY	4.00	0
	replace or dispose	0	CY	7.00	0
	rough grading	100	MSF	200.00	20,000
	unclassified excavation, cut and waste	4,580	CY	20.00	91,600
	offsite borrow, compaction	423	CY	40.00	16,920
	unsuitable soil replacement, allowance	1	LS	9,000.00	9,000
	- finegrading				
	paving	34,443	SF	0.50	17,222
	grassing	65,745	SF	0.15	9,862
	- erosion control				
	silt fence	0	LF	7.00	3
	check dams	0	EA	500.00	0
	silt fence outlets	0	EA	800.00	0
	erosion control, allowance	1	LS	50,000.00	50,000
	- storm drain				
	culvert extension	0	EACH	10,000.00	0
	pipng	340	LF	150.00	51,000
	bioretention pond	1	50000	100,000.00	100,000
	Site Paving				
	- asphalt paving				
	parking, 6" / 2"	0	SY	45.00	0
	greenway, 6" / 2"	3,827	SY	50.00	191,350
	- gravel paving				
	greenway, 3"	0	SY	25.00	0
	- concrete paving				
	walks	0	SF	7.00	0
	bench pad, 20 sq ft / each	4	EACH	400.00	1,600



PALACIO

Name: Town of Hillsborough Greenway Trail

Location: Hillsborough, NC

Date: 8/27/2024

Area (SF): _____

Rev. Date: _____

Segment 1 -Alternate 1

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	curb ramps	4	EACH	750.00	3,000
	crosswalk	0	LF	64.00	0
	Site Improvements				
	- bridge				
	prefab bridge including railings	0	LF	6,965.06	0
	bridge embankments	0	EA	20,000.00	0
	- boardwalk				
	concrete boardwalk w/ spread footings & pilings	6,806	SF	120.00	816,720
	metal railings at both sides of boardwalk	919	LF	175.00	160,825
	- retaining wall				
	concrete w/ footing (4.7' avg height)	250	LF	350.00	87,500
	- site furnishings / metals				
	benches	4	EACH	2,000.00	8,000
	picnic tables	4	EACH	2,000.00	8,000
	waste receptacle / recycle receptacle	4	EACH	1,800.00	7,200
	dog waste receptacle	4	EACH	950.00	3,800
	bike racks	2	EACH	1,200.00	2,400
	steel bollards	1	EACH	1,000.00	1,000
	- signage				
	trailhead signs	2	EACH	5,000.00	10,000
	destination signs	6	EACH	5,000.00	30,000
	route makers	8	EACH	1,000.00	8,000
	wayfinding signs	3	EACH	3,600.00	10,800
	interpretive signs	2	EACH	2,000.00	4,000
	Landscaping				
	pedestrian lighting, pole every 100 ft.	0	EA	9,000.00	0
	landscaping lighting, pedestrian	3,636	LF	75.00	272,700
	grassing	65,745	SF	0.25	16,436
SUBTOTAL					\$2,182,337
	General Condition as %	7%			\$152,764
	Bonds as %	1%			\$23,351
	Insurance as %	1.50%			\$35,377
	Contractor Fee as %	3%			\$71,815
	Design/Market Conditions Contingency as %	20%			\$493,129
	Escalation as %	6%			\$177,526
TOTAL PROBABLE CONSTRUCTION COST					\$3,136,298



PALACIO

Name: Town of Hillsborough Greenway Trail

Location: Hillsborough, NC

Date: 8/27/2024

Area (SF): _____

Rev. Date: _____

Segment 1 - Alternate 3

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	Site Metrics				
	- length of trail segment	4,560	LF		
	- area of paving	33,093	SF		
	- limits of construction area	65,340	SF		
	- limits of construction area - acreage	1.5	AC		
	General Requirements				
	- mobilization	65	MSF	400.00	26,000
	- asbuilt drawings	1	LS	5,000.00	5,000
	- secured laydown area - 90' sq				
	grading	600	CY	8.00	4,800
	gravel paving	900	SY	30.00	27,000
	security fence w/ double gate	360	LF	60.00	21,600
	- tire wash	1	LS	4,000.00	4,000
	- clean roads	6	MO	500.00	3,000
	Site Prep				
	- survey / layout	65	MSF	200.00	13,000
	- site demo, allowance	1	LS	15,000.00	15,000
	- clearing and grubbing				
	trees, undergrowth, overgrowth	1.5	ACRE	10,000.00	15,000
	- grading				
	topsoil				
	remove / stockpile	0	CY	4.00	0
	replace or dispose	0	CY	7.00	0
	rough grading	65	MSF	200.00	13,000
	unclassified excavation, cut and waste	1,860	CY	20.00	37,200
	offsite borrow, compaction	423	CY	40.00	16,920
	unsuitable soil replacement, allowance	1	LS	7,000.00	7,000
	- finegrading				
	paving	33,093	SF	0.50	16,547
	grassing	32,247	SF	0.15	4,837
	- erosion control				
	silt fence	0	LF	7.00	3
	check dams	0	EA	500.00	0
	silt fence outlets	0	EA	800.00	0
	erosion control, allowance	1	LS	50,000.00	50,000
	- storm drain				
	culvert extension	0	EACH	10,000.00	0
	pipng	280	LF	150.00	42,000
	bioretention pond	1	EACH	50,000.00	50,000
	Site Paving				
	- asphalt paving				
	parking, 6" / 2"	0	SY	45.00	0
	greenway, 6" / 2"	3,677	SY	50.00	183,850
	- gravel paving				
	greenway, 3"	0	SY	25.00	0
	- concrete paving				
	walks	737	SF	7.00	5,159
	bench pad, 20 sq ft / each	6	EACH	400.00	2,400



PALACIO

Name: Town of Hillsborough Greenway Trail

Location: Hillsborough, NC

Date: 8/27/2024

Area (SF): _____

Rev. Date: _____

Segment 1 - Alternate 3

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	curb ramps	4	EACH	7,500.00	30,000
	crosswalk	70	LF	64.00	4,480
	Site Improvements				
	- bridge				
	prefab bridge including railings	0	LF	6,965.06	0
	bridge embankments	0	EA	50,000.00	0
	- boardwalk				
	concrete boardwalk w/ spread footings & pilings	6,495	SF	120.00	779,400
	metal railings at both sides of boardwalk	935	LF	175.00	163,625
	- retaining wall				
	concrete w/ footing (4.7' avg height)	0	LF	350.00	0
	- site furnishings / metals				
	benches	6	EACH	2,000.00	12,000
	picnic tables	0	EACH	2,000.00	0
	waste receptacle / recycle receptacle	6	EACH	1,800.00	10,800
	dog waste receptacle	6	EACH	950.00	5,700
	bike racks	2	EACH	1,200.00	2,400
	steel bollards	2	EACH	1,000.00	2,000
	- signage				
	trailhead signs	2	EACH	5,000.00	10,000
	destination signs	6	EACH	5,000.00	30,000
	route makers	12	EACH	1,000.00	12,000
	wayfinding signs	3	EACH	3,600.00	10,800
	interpretive signs	2	EACH	2,000.00	4,000
	Landscaping				
	pedestrian lighting, pole every 100 ft.	0	EA	9,000.00	0
	landscaping lighting, pedestrian	5,590	LF	75.00	419,250
	grassing	32,247	SF	0.25	8,062
SUBTOTAL					\$2,067,832
	General Condition as %	7%			\$144,748
	Bonds as %	1%			\$22,126
	Insurance as %	1.50%			\$33,521
	Contractor Fee as %	3%			\$68,047
	Design/Market Conditions Contingency as %	20%			\$467,255
	Escalation as %	6%			\$168,212
TOTAL PROBABLE CONSTRUCTION COST					\$2,971,740





Name: Town of Hillsborough Greenway Trail

Location: Hillsborough, NC

Date: 8/27/2024

Area (SF): _____

Rev. Date: _____

Segment 2 (Original Alignment) South of I-85

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	Site Metrics				
	- length of trail segment	4,574	LF		
	- area of paving	24,525	SF		
	- limits of construction area	91,476	SF		
	- limits of construction area - acreage	2.1	AC		
	General Requirements				
	- mobilization	91	MSF	400.00	36,400
	- asbuilt drawings	1	LS	5,000.00	5,000
	- secured laydown area - 90' sq				
	grading	600	CY	8.00	4,800
	gravel paving	900	SY	30.00	27,000
	security fence w/ double gate	360	LF	60.00	21,600
	- tire wash	1	LS	4,000.00	4,000
	- clean roads	6	MO	500.00	3,000
	Site Prep				
	- survey / layout	91	MSF	200.00	18,200
	- site demo, allowance	1	LS	25,000.00	25,000
	- clearing and grubbing				
	trees, undergrowth, overgrowth	2.1	ACRE	10,000.00	21,000
	- grading				
	topsoil				
	remove / stockpile	0	CY	4.00	0
	replace or dispose	0	CY	7.00	0
	rough grading	91	MSF	200.00	18,200
	unclassified excavation, cut and waste	7,730	CY	20.00	154,600
	offsite borrow, compaction	3,470	CY	40.00	138,800
	unsuitable soil replacement, allowance	1	LS	9,000.00	9,000
	- finegrading				
	paving	24,525	SF	0.50	12,263
	grassing	66,951	SF	0.15	10,043
	- erosion control				
	silt fence	0	LF	7.00	3
	check dams	0	EA	500.00	0
	silt fence outlets	0	EA	800.00	0
	erosion control, allowance	1	LS	75,000.00	75,000
	- storm drain				
	culvert extension	0	EACH	10,000.00	0
	pipng	200	LF	150.00	30,000
	bioretention pond	0	EACH	100,000.00	0
	Site Paving				
	- asphalt paving				
	parking, 6" / 2"	0	SY	45.00	0
	greenway, 6" / 2"	2,725	SY	50.00	136,250
	- gravel paving				
	greenway, 3"	0	SY	25.00	0
	- concrete paving				
	walks	684	SF	7.00	4,788
	bench pad, 20 sq ft / each	3	EACH	400.00	1,200
	curb ramps	1	EACH	750.00	750





Name: Town of Hillsborough Greenway Trail

Location: Hillsborough, NC

Date: 8/27/2024

Area (SF): _____

Rev. Date: _____

Segment 2 (Original Alignment) South of I-85

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	crosswalk	25	LF	64.00	1,600
	Site Improvements				
	- bridge				
	prefab bridge including railings	170	LF	10,447.59	1,776,091
	bridge piers	3	EA	75,000.00	225,000
	bridge embankments	0	EA	20,000.00	0
	traffic control	1	LS	100,000.00	100,000
	- boardwalk				
	concrete boardwalk w/ spread footings & pilings	3,205	SF	120.00	384,600
	metal railings at both sides of boardwalk	0	LF	175.00	0
	- retaining wall				
	concrete w/ footing (4.7' avg height)	200	LF	350.00	70,000
	- site furnishings / metals				
	benches	3	EACH	2,000.00	6,000
	picnic tables	2	EACH	2,000.00	4,000
	waste receptacle / recycle receptacle	3	EACH	1,800.00	5,400
	dog waste receptacle	3	EACH	950.00	2,850
	bike racks	2	EACH	1,200.00	2,400
	steel bollards	1	EACH	1,000.00	1,000
	- signage				
	trailhead signs	1	EACH	5,000.00	5,000
	destination signs	3	EACH	5,000.00	15,000
	route makers	6	EACH	1,000.00	6,000
	wayfinding signs	0	EACH	3,600.00	0
	interpretive signs	2	EACH	2,000.00	4,000
	Benches	0	EACH	1,500.00	0
	Picnic Tables	0	EACH	2,000.00	0
	Trash Can	0	EACH	950.00	0
	Dog Waste	0	EACH	500.00	0
	Bollards	0	EACH	850.00	0
	Bike Racks	0	EACH	2,500.00	0
	Landscaping				
	pedestrian lighting, pole every 100 ft.	0	EA	9,000.00	0
	landscaping lighting, pedestrian	2,920	LF	75.00	219,000
	grassing	66,951	SF	0.25	16,738
	plantings	1	LS	100,000.00	100,000
SUBTOTAL					\$3,701,574
	General Condition as %	7%			\$259,110
	Bonds as %	1%			\$39,607
	Insurance as %	1.50%			\$60,004
	Contractor Fee as %	3%			\$121,809
	Design/Market Conditions Contingency as %	20%			\$836,421
	Escalation as %	6%			\$301,112
TOTAL PROBABLE CONSTRUCTION COST					\$5,319,637





Name: Town of Hillsborough Greenway Trail

Location: Hillsborough, NC

Date: 8/27/2024

Area (SF): _____

Rev. Date: _____

Segment 2 - Alternate 4

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	Site Metrics				
	- length of trail segment	1,850	LF		
	- area of paving	17,757	SF		
	- limits of construction area	52,272	SF		
	- limits of construction area - acreage	1.2	AC		
	General Requirements				
	- mobilization	52	MSF	400.00	20,800
	- asbuilt drawings	1	LS	5,000.00	5,000
	- secured laydown area - 90' sq				
	grading	600	CY	8.00	4,800
	gravel paving	900	SY	30.00	27,000
	security fence w/ double gate	360	LF	60.00	21,600
	- tire wash	1	LS	4,000.00	4,000
	- clean roads	6	MO	500.00	3,000
	Site Prep				
	- survey / layout	52	MSF	200.00	10,400
	- site demo, allowance	1	LS	15,000.00	15,000
	- clearing and grubbing				
	trees, undergrowth, overgrowth	1.2	ACRE	10,000.00	12,000
	- grading				
	topsoil				
	remove / stockpile	0	CY	4.00	0
	replace or dispose	0	CY	7.00	0
	rough grading	52	MSF	200.00	10,400
	unclassified excavation, cut and waste	6,155	CY	20.00	123,100
	offsite borrow, compaction	10,485	CY	40.00	419,400
	unsuitable soil replacement, allowance	1	LS	27,000.00	27,000
	- finegrading				
	paving	17,757	SF	0.50	8,879
	grassing	34,515	SF	0.15	5,177
	- erosion control				
	silt fence	0	LF	7.00	3
	check dams	0	EA	500.00	0
	silt fence outlets	0	EA	800.00	0
	erosion control, allowance	1	LS	50,000.00	50,000
	- storm drain				
	culvert extension	0	EACH	10,000.00	0
	pipng	352	LF	150.00	52,800
	bioretention pond	0	EACH	100,000.00	0
	Site Paving				
	- asphalt paving				
	parking, 6" / 2"	0	SY	45.00	0
	greenway, 6" / 2"	1,973	SY	50.00	98,650
	- gravel paving				
	greenway, 3"	0	SY	25.00	0
	- concrete paving				
	walks	0	SF	7.00	0
	bench pad, 20 sq ft / each	2	EACH	400.00	800



PALACIO

Name: Town of Hillsborough Greenway Trail

Location: Hillsborough, NC

Date: 8/27/2024

Area (SF): _____

Rev. Date: _____

Segment 2 - Alternate 4

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	curb ramps	1	EACH	750.00	750
	crosswalk	30	LF	64.00	1,920
	Site Improvements				
	- bridge				
	prefab bridge including railings	0	LF	6,965.06	0
	bridge embankments	0	EA	50,000.00	0
	- boardwalk				
	concrete boardwalk w/ spread footings & pilings	705	SF	120.00	84,600
	metal railings at both sides of boardwalk	140	LF	175.00	24,500
	- retaining wall				
	concrete w/ footing (4.7' avg height)	0	LF	350.00	0
	- site furnishings / metals				
	benches	2	EACH	2,000.00	4,000
	picnic tables	0	EACH	2,000.00	0
	waste receptacle / recycle receptacle	2	EACH	1,800.00	3,600
	dog waste receptacle	2	EACH	950.00	1,900
	bike racks	0	EACH	1,200.00	0
	steel bollards	1	EACH	1,000.00	1,000
	- signage				
	trailhead signs	2	EACH	5,000.00	10,000
	destination signs	2	EACH	5,000.00	10,000
	route makers	4	EACH	1,000.00	4,000
	wayfinding signs	0	EACH	3,600.00	0
	interpretive signs	2	EACH	2,000.00	4,000
	Landscaping				
	pedestrian lighting, pole every 100 ft.	0	EA	9,000.00	0
	landscaping lighting, pedestrian	1,860	LF	75.00	139,500
	grassing	34,515	SF	0.25	8,629
SUBTOTAL					\$1,218,207
	General Condition as %	7%			\$85,274
	Bonds as %	1%			\$13,035
	Insurance as %	1.50%			\$19,748
	Contractor Fee as %	3%			\$40,088
	Design/Market Conditions Contingency as %	20%			\$275,270
	Escalation as %	6%			\$99,097
TOTAL PROBABLE CONSTRUCTION COST					\$1,750,720



PALACIO

Name: Town of Hillsborough Greenway Trail

Location: Hillsborough, NC

Date: 8/27/2024

Area (SF): _____

Rev. Date: _____

Miscellaneous

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	Site Metrics				
	- length of trail segment	0	LF		
	- area of paving	0	SF		
	- limits of construction area	165,528	SF		
	- limits of construction area - acreage	3.8	AC		
	- mobilization	165	MSF	400.00	66,000
	- asbuilt drawings	1	LS	5,000.00	5,000
	- secured laydown area - 90' sq				
	grading	0	CY	15.00	0
	gravel paving	0	SY	30.00	0
	security fence w/ double gate	0	LF	60.00	0
	- tire wash	0	LS	4,000.00	0
	- clean roads	0	MO	500.00	0
	Site Prep				
	- survey / layout	165	MSF	200.00	33,000
	- site demo, allowance	1	LS	15,000.00	15,000
	- clearing and grubbing				
	trees, undergrowth, overgrowth	3.8	ACRE	10,000.00	38,000
	- grading				
	topsoil				
	remove / stockpile	0	CY	4.00	0
	replace or dispose	0	CY	7.00	0
	rough grading	165	MSF	200.00	33,000
	unclassified excavation, cut and waste	0	CY	30.00	0
	offsite borrow, compaction	0	CY	60.00	0
	unsuitable soil replacement, allowance	0	LS	40,000.00	0
	- finegrading				
	paving	0	SF	0.50	0
	grassing	0	SF	0.50	0
	- erosion control				
	silt fence	0	LF	7.00	0
	check dams	0	EA	500.00	0
	silt fence outlets	0	EA	800.00	0
	erosion control, allowance	1	LS	10,000.00	10,000
	- storm drain				
	culvert extension	0	EACH	10,000.00	0
	piping	0	LF	150.00	0
	bioretention pond	0	EACH	100,000.00	0
	Site Paving				
	- asphalt paving				
	parking, 6" / 2"	0	SY	45.00	0
	greenway, 6" / 2"	0	SY	50.00	0
	- gravel paving				
	greenway, 3"	0	SY	25.00	0
	- concrete paving				
	walks	0	SF	7.00	0
	bench pad, 20 sf / each	4	EACH	400.00	1,600



PALACIO

Name: Town of Hillsborough Greenway Trail

Location: Hillsborough, NC

Date: 8/27/2024

Area (SF): _____

Rev. Date: _____

Miscellaneous

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	curb ramps	0	EACH	750.00	0
	crosswalk	0	LF	64.00	0
	Site Improvements				
	- bridge				
	prefab bridge including railings	0	LF	6,965.06	0
	bridge embankments	0	EA	50,000.00	0
	- boardwalk				
	concrete boardwalk w/ spread footings & pilings	0	SF	120.00	0
	metal railings at both sides of boardwalk	0	LF	175.00	0
	- retaining wall				
	concrete w/ footing (4.7' avg height)	0	LF	750.00	0
	- site furnishings / metals				
	benches	4	EACH	2,000.00	8,000
	picnic tables	0	EACH	2,000.00	0
	waste receptacle / recycle receptacle	2	EACH	1,800.00	3,600
	dog waste receptacle	2	EACH	950.00	1,900
	bike racks	0	EACH	1,200.00	0
	steel bollards	0	EACH	1,000.00	0
	- signage				
	trailhead signs	0	EACH	5,000.00	0
	destination signs	3	EACH	5,000.00	15,000
	route makers	6	EACH	1,000.00	6,000
	wayfinding signs	0	EACH	3,600.00	0
	interpretive signs	0	EACH	2,000.00	0
	Landscaping				
	pedestrian lighting, pole every 100 ft.	0	EA	9,000.00	0
	landscaping lighting, pedestrian	4,050	LF	75.00	303,750
	grassing	0	SF	0.25	0
SUBTOTAL					\$539,850
	General Condition as %	7%			\$37,790
	Bonds as %	1%			\$5,776
	Insurance as %	1.50%			\$8,751
	Contractor Fee as %	3%			\$17,765
	Design/Market Conditions Contingency as %	20%			\$121,986
	Escalation as %	6%			\$43,915
TOTAL PROBABLE CONSTRUCTION COST					\$775,834



UTILITY COST ESTIMATE

Project: **Hillsborough Greenway**

County: Orange

Description: Greenway Extension through the Town of Hillsborough – Alternate 1

Field Inspection: **Evidence of Utilities**

Gas: Yes Electric: Yes Telephone: Yes CATV: Yes

Water: Yes Sewer: Yes Drainage: Yes Other: Yes

Anticipated Relocation:

Gas: Yes Electric: Yes Telephone: Yes CATV: Yes

Water: No Sewer: No Drainage: Yes Other: Yes

Relocation Totals	Construction Totals	Alternate Totals
Power Poles: \$ 149,758.00	Power Poles:	Relocation Total: \$ 243,985.00
Power Items:	Power Items:	Construction Total:
Telephone Poles: \$ 20,430.00	Telephone Poles:	
Telephone Items: \$ 10,000.00	Telephone Items:	Alternate Total: \$ 243,985.00
Gas Line: \$ 15,000.00	Gas Line:	
Gas Items:	Gas Items:	
Water Line:	Water Line:	
Water Items:	Water Items:	
Sewer Line:	Sewer Line:	
Sewer Items:	Sewer Items:	
Misc. Items: \$ 48,797.00	Misc. Items:	

UTILITY COST ESTIMATE

Project: **Hillsborough Greenway**

County: Orange

Description: Greenway Extension through the Town of Hillsborough – Alternate 3

Field Inspection: **Evidence of Utilities**

Gas: Yes Electric: Yes Telephone: Yes CATV: Yes

Water: Yes Sewer: Yes Drainage: Yes Other: Yes

Anticipated Relocation:

Gas: No Electric: Yes Telephone: Yes CATV: Yes

Water: No Sewer: No Drainage: Yes Other: Yes

Relocation Totals	Construction Totals	Alternate Totals
Power Poles: \$ 114,086.00	Power Poles:	Relocation Total: \$ 172,430.00
Power Items:	Power Items:	Construction Total: \$ 4,276.00
Telephone Poles: \$ 12,258.00	Telephone Poles:	
Telephone Items: \$ 11,600.00	Telephone Items:	Alternate Total: \$ 176,706.00
Gas Line:	Gas Line:	
Gas Items:	Gas Items:	
Water Line:	Water Line:	
Water Items:	Water Items: \$ 4,276.00	
Sewer Line:	Sewer Line:	
Sewer Items:	Sewer Items:	
Misc. Items: \$ 34,486.00	Misc. Items:	

UTILITY COST ESTIMATE

Project: **Hillsborough Greenway**

County: Orange

Description: Greenway Extension through the Town of Hillsborough – Alternate 4

Field Inspection: **Evidence of Utilities**

Gas: Yes Electric: Yes Telephone: Yes CATV: Yes

Water: Yes Sewer: Yes Drainage: Yes Other: Yes

Anticipated Relocation:

Gas: No Electric: No Telephone: No CATV: No

Water: No Sewer: No Drainage: No Other: Yes

Relocation Totals	Construction Totals	Alternate Totals
Power Poles:	Power Poles:	Relocation Total:
Power Items:	Power Items:	Construction Total: \$ 9,732.00
Telephone Poles:	Telephone Poles:	
Telephone Items:	Telephone Items:	Alternate Total: \$ 9,732.00
Gas Line:	Gas Line:	
Gas Items:	Gas Items:	
Water Line:	Water Line:	
Water Items:	Water Items:	
Sewer Line:	Sewer Line:	
Sewer Items:	Sewer Items: \$ 9,732.00	
Misc. Items:	Misc. Items:	

REQUEST FOR R/W COST ESTIMATE / RELOCATION EIS

COST ESTIMATE REQUEST

RELOCATION EIS REPORT

NEW REQUEST:

UPDATE REQUEST:

REVISION REQUEST:

Update to ____ Estimate

Revision to ____ Estimate

Revision No.: ____

DATE RECEIVED: 5/21/2024

DATE ASSIGNED: 5/21/2024

of Alternates Requested: 3

DATE DUE: 6/4/2024

TIP No.:	DESCRIPTION: <u>Hillsborough Greenway (Phase II) Feasibility Study</u>
-----------------	---

WBS ELEMENT: **COUNTY:** Orange **DIV:** 7 **APPRAISAL OFFICE:** 3

REQUESTOR: Faith Jahnke, PE **DEPT:** Summit, Senior Project Manager

TYPE OF PLANS: HEARING MAPS | LOCATION MAP | AERIAL | VICINITY | PRELIMINARY | CONCEPTUAL

** Based on past project historical data, the land and damage figures have been adjusted to include condemnation and administrative increases that occur during settlement of all parcels.**

APPRAISER: TELICS **COMPLETED:** 6/4/2024 **# of Alternates Completed:** 3

TYPE OF ACCESS:	Alt. 1		Alt. 3		Alt. 4			
	NONE: <input type="checkbox"/>	LIMITED: <input type="checkbox"/>	NONE: <input type="checkbox"/>	LIMITED: <input type="checkbox"/>	NONE: <input type="checkbox"/>	LIMITED: <input type="checkbox"/>	NONE: <input type="checkbox"/>	LIMITED: <input type="checkbox"/>
	PARTIAL: <input type="checkbox"/>	FULL: <input checked="" type="checkbox"/>	PARTIAL: <input type="checkbox"/>	FULL: <input checked="" type="checkbox"/>	PARTIAL: <input type="checkbox"/>	FULL: <input checked="" type="checkbox"/>	PARTIAL: <input type="checkbox"/>	FULL: <input type="checkbox"/>
ESTIMATED NO. OF PARCELS:	8		9		1			
RESIDENTIAL RELOCATEES:	0	\$ 0		\$		\$		\$
BUSINESS RELOCATEES:	0	\$ 0		\$		\$		\$
GRAVES:	0	\$ 0		\$		\$		\$
CHURCH / NON – PROFIT:	0	\$ 0		\$		\$		\$
MISC:	0	\$ 0		\$		\$		\$
SIGNS:	0	\$ 0		\$		\$		\$
LAND, IMPROVEMENTS, & DAMAGES:	\$ 115,000		\$ 36,000		\$ 400		\$	
ACQUISITION:	\$ 279,000		\$ 49,000		\$ 9,000		\$	
TOTAL ESTIMATED R/W COST:	\$ 394,000		\$ 85,000		\$ 9,400		\$	

** The estimated number of above relocatees includes those parcels where the proposed acquisition areas involve relocation of livable or business units only. **

NOTES: Estimate assumes 50% of the parcels will require appraisals/titles/attorney closings.

Ridgewalk Phase II Detailed Right-of-Way Estimate (Alternate 1)

Number	TAX ID	Owner Name	Property Address	Classification	Improvement	value with	Value	with 50%	Value	Land Size (AC)	Value/AC	ROW (SF)	ROW (AC)	TCE (SF)	TCE (AC)	\$ ROW ACQ	Easements	Remainder	Land	Acquired	COST	Improvement	Improvement	Value	ROW Costs																			
001	9874000000	KNIGHTON GLORIA E HRSFARIBUALT WALTER 115 FARIBUALT LN162 EXC			\$380,380.00	\$570,570.00	\$1,424,519.30	\$2,136,778.95	\$2,707,348.95	3.03	\$349,464.03	0	0.000	6123	0.140564738	0	\$14,736.70	0.00%	\$2,122,042.25	\$0.00	\$0.00	0.00%	\$570,570.00	\$2,692,612.25	\$14,736.70																			
002	9874048855	PARSLEY JAMES M A	240 S CHURTON ST	Unimproved	\$349,300.00	\$523,950.00	\$97,800.00	\$146,700.00	\$670,650.00	3.01	\$48,737.54	0	0.000000000	717	0.016460955	\$0.00	\$240.67	0.00%	\$146,499.33	\$0.00	\$0.00	0.00%	\$523,950.00	\$670,409.33	\$240.67																			
003	9874047773	PARSLEY JAMES M PARSELY CAROLYN C	NO PHYSICAL ADDRESS/EXCHA	Unimproved	\$0.00	\$0.00	\$71,100.00	\$106,650.00	\$106,650.00	2.08	\$51,274.04	0	0.000000000	2637	0.060537190	\$0.00	\$931.20	0.00%	\$105,718.80	\$0.00	\$0.00	0.00%	\$0.00	\$105,718.80	\$931.20																			
004	9865000003	WHITTED CHARLES KWHITTED JAPONICA L	281 EXCHANGE PARK LN	Unimproved	\$301,574.00	\$452,361.00	\$359,761.56	\$539,642.34	\$992,003.34	1.27	\$46,001.57	0	0.000	740	0.016988062	0	\$234.44	0.00%	\$539,407.90	\$0.00	\$0.00	0.00%	\$452,361.00	\$991,768.90	\$234.44																			
005	9874048143	GOODE ELIZABETH C W	203 US 70A205 US 70A	Unimproved	\$381,400.00	\$572,100.00	\$202,000.00	\$303,000.00	\$875,100.00	6.92	\$43,786.13	0	0.000000000	79	0.001813590	\$0.00	\$23.82	0.00%	\$302,976.18	\$0.00	\$0.00	0.00%	\$572,100.00	\$875,076.18	\$23.82																			
006	9874048143	GOODE ELIZABETH C W	203 US 70A205 US 70A	Unimproved	\$381,400.00	\$572,100.00	\$202,000.00	\$303,000.00	\$875,100.00	6.92	\$43,786.13	3704	0.085032140	5759	0.132208448	\$3,723.23	\$1,736.67	0.00%	\$297,540.10	\$0.00	\$0.00	0.00%	\$572,100.00	\$869,640.10	\$5,459.90																			
007	9874033799	BLUE MIRIAM RENEE ET ALBLUE THOMPSON	236 S CHURTON ST	Unimproved	\$0.00	\$0.00	\$1,600.00	\$2,400.00	\$2,400.00	0.37	\$6,486.49	646	0.014830119	1802	0.041368228	\$96.20	\$80.50	0.00%	\$2,223.30	\$0.00	\$0.00	0.00%	\$0.00	\$2,223.30	\$176.70																			
008	9874036624	ROBERTS INVESTMENTS LLC	231 S CHURTON ST	Commercial	\$0.00	\$0.00	\$126,000.00	\$189,000.00	\$189,000.00	0.63	\$300,000.00	3293	0.073596878	11175	0.256542700	\$22,679.06	\$23,088.84	0.00%	\$143,232.09	\$0.00	\$0.00	0.00%	\$0.00	\$143,232.09	\$45,767.91																			
TOTAL RELO COST																					\$0.00																							

TOTAL RELO COST \$0.00
\$67,571.32
X 1.7
\$114,871.25

		Appraisals /
Number of App	2	\$250,013.90
		Negotiation Cost
Total Parcels	7	\$29,400.00
		Relocation
Res Relo	0	\$0.00
Com Relo	0	\$0.00
Sign Relo	0	\$0.00
BB Relo	0	\$0.00
Misc Move	0	\$0.00
		\$0.00
		Appraisals
		\$250,013.90
		Negotiations
		\$29,400.00
		Relocations
		\$0.00
		Acquisition Consultant
		\$279,413.90
		Costs Total
		\$279,000.00
		Rounded
		\$279,000.00
		RoW Acq w/ 1.7 Factor
RoW Acq Cost	\$67,571	\$114,871.25
		\$115,000.00
COM RELO	0	\$0.00
RES RELO	0	\$0.00
SIGN RELO	0	\$0.00
BB MOVE	0	\$0.00
MISC MOVE	0	\$0.00
		Land, Imp. & Damages
		\$115,000.00
		Acquisition
		\$279,000.00
		\$394,000.00

Ridgewalk Phase II Detailed Right-of-Way Estimate (Alternate 3)

Number	TAX ID	Owner Name	Property Address	Classification	Improvement	value with	Value	with 50%	Value	Land Size (AC)	Value/AC	ROW (SF)	ROW (AC)	TCE (SF)	TCE (AC)	\$ ROW ACQ	Easements	Remainder	Land	Acquired	COST	Improvement	Improvement	Value	ROW Costs
001	9874000000	KNIGHTON GLORIA E HRSFARIBUALT WALTER 115 FARIBUALT LN162 EXC			\$380,380.00	\$570,570.00	\$1,424,519.30	\$2,136,778.95	\$2,707,348.95	3.03	\$349,464.03	0	0.000	6123	0.149564738	0	\$14,736.70	0.00%	\$2,122,042.25	50.00	\$0.00	0.00%	\$570,570.00	\$2,692,612.25	\$14,736.70
002	9865000000	WHITTED CHARLES K WHITTED JAPONICA L	281 EXCHANGE PARK LN		\$901,574.00	\$452,361.00	\$539,761.56	\$539,842.34	\$992,003.34	1.27	\$46,001.57	0	0.000	740	0.01698062	0	\$234.44	0.00%	\$539,407.90	50.00	\$0.00	0.00%	\$452,361.00	\$991,768.90	\$234.44
003	987404855	PARSLEY JAMES M A	240 S CHURTON ST	ntallImproved	\$349,300.00	\$523,950.00	\$97,800.00	\$146,700.00	\$670,650.00	3.01	\$48,737.54	0	0.000000000	717	0.016460055	50.00	\$240.67	0.00%	\$146,459.33	50.00	\$0.00	0.00%	\$523,950.00	\$670,409.33	\$240.67
004	9874044773	PARSLEY JAMES M PARSELEY CAROLYN C	NO PHYSICAL ADDRESS(EXCHANGE)	Unimproved	\$0.00	\$0.00	\$71,100.00	\$106,650.00	\$106,650.00	2.08	\$51,274.04	0	0.000000000	2637	0.060537190	50.00	\$931.20	0.00%	\$105,718.80	50.00	\$0.00	0.00%	\$0.00	\$105,718.80	\$931.20
005	9874048143	GOODE ELIZABETH C W	203 US 70A205 US 70A	ntallImproved	\$381,400.00	\$572,100.00	\$202,000.00	\$303,000.00	\$875,100.00	6.92	\$43,786.13	0	0.000000000	79	0.001813590	50.00	\$23.82	0.00%	\$302,976.18	50.00	\$0.00	0.00%	\$572,100.00	\$875,076.18	\$23.82
006	9874033799	BLUE MIRIAM RENEE ET ALBLUE THOMPSON	236 S CHURTON ST	ntallImproved	\$0.00	\$0.00	\$1,600.00	\$2,400.00	\$2,400.00	0.37	\$6,486.49	0	0.000000000	292	0.006703398	50.00	\$13.04	0.00%	\$2,386.96	50.00	\$0.00	0.00%	\$0.00	\$2,386.96	\$13.04
007	9874033671	BLUE MIRIAM RENEE ET ALBLUE THOMPSON	236 S CHURTON ST	ntallImproved	\$0.00	\$0.00	\$5,000.00	\$7,500.00	\$7,500.00	0.57	\$13,157.89	0	0.000000000	32	0.000734619	50.00	\$2.90	0.00%	\$7,497.10	50.00	\$0.00	0.00%	\$0.00	\$7,497.10	\$2.90
008	9874032028	CWH HOLDINGS LLC	250 S CHURTON ST	Commercial	\$177,000.00	\$265,500.00	\$585,100.00	\$877,650.00	\$1,143,150.00	3.87	\$26,782.95	166	0.003810836	958	0.021992454	\$864.23	\$1,496.27	0.00%	\$875,389.50	50.00	\$0.00	0.00%	\$365,500.00	\$1,140,789.50	\$2,360.50
009	9874025866	ROBERTS JOHN M HRSROBERTS GRACE M	231 ORANGE GROVE ST243 S	CrrialImproved	\$188,200.00	\$282,300.00	\$567,600.00	\$851,400.00	\$1,133,700.00	1.29	\$660,000.00	0	0.000000000	580	0.011314968	50.00	\$2,636.36	0.00%	\$848,763.64	50.00	\$0.00	0.00%	\$282,300.00	\$1,131,063.64	\$2,636.36

TOTAL RELO COST **\$0.00** \$21,179.63
\$36,005.38 X 1.7 \$21,179.63
\$36,005.38

	Appraisals /
Number of App	4
	\$19,800.00
	Negotiation
	Cost
Total Parcels	7
	\$29,400.00
	Relocation
Res Relo	0
	\$0.00
Com Relo	0
	\$0.00
Sign Relo	0
	\$0.00
BB Relo	0
	\$0.00
Misc Move	0
	\$0.00
	Appraisals
	\$19,800.00
	Negotiations
	\$29,400.00
	Relocations
	\$0.00
	Acquisition
	Consultant
	Costs Total
	\$49,200.00
	Rounded
	\$49,000.00
	Row Acq w/
	1.7 factor
Row Acq Cost	\$21,180
	\$36,005.38
	\$36,000.00
COM RELO	0
	\$0.00
RES RELO	0
	\$0.00
SIGN RELO	0
	\$0.00
BB MOVE	0
	\$0.00
MISC MOVE	0
	\$0.00
	Land, Imp. & Damages
	\$36,000.00
Acquisition	\$49,000.00
	\$85,000.00

Ridgewalk Phase II Detailed Right-of-Way Estimate (Alternate 4)

Number	TAX ID	Owner Name	Property Address	Classification	Improvement	value with	Value	with 50%	Value	Land Size (AC)	Value/AC	ROW (SF)	ROW (AC)	TCE (SF)	TCE (AC)	\$ ROW ACQ	Easements	Remainder	Land	Acquired	COST	Improvement	Improvement	Value	ROW Costs
001	9873286950	OLD MILL PROPERTIES LLC	NO PHYSICAL ADDRESS(BECKE	Unimproved	\$0.00	\$0.00	\$1,900.00	\$2,850.00	\$2,850.00	1.79	\$1,592.18	2772	0.063636364	9938	0.228145087	\$101.32	\$108.97	0.00%	\$2,639.71	\$0.00	\$0.00	\$0.00	\$0.00	\$2,639.71	\$210.29
TOTAL RELO COST																						\$0.00			\$210.29
																							x 1.7		\$357.50

		Appraisals /
Number of App	1	\$4,950.00
		Negotiation
		Cost
Total Parcels	1	\$4,200.00
		Relocation
Res Relo	0	\$0.00
Com Relo	0	\$0.00
Sign Relo	0	\$0.00
BB Relo	0	\$0.00
Misc Move	0	\$0.00
		\$0.00
		\$4,250.00
		\$4,200.00
		\$0.00
		\$9,150.00
		\$9,000.00
		\$357.50
		\$400.00
COM RELO	0	\$0.00
RES RELO	0	\$0.00
SIGN RELO	0	\$0.00
BB MOVE	0	\$0.00
MISC MOVE	0	\$0.00
		\$400.00
		\$9,000.00
		\$9,400.00