



Agenda

Board of Commissioners Work Session

7:00 PM September 25, 2023

Board Meeting Room, Town Hall Annex, 105 E. Corbin St.

This meeting will be live streamed on the [Town of Hillsborough YouTube channel](#)

1. **Opening of the work session**
2. **Agenda changes and approval**
3. **Items for decision - consent agenda**
 - [A.](#) Miscellaneous budget amendments and transfers
 - [B.](#) Resolution to approve the 2023 Water Shortage Response Plan
 - [C.](#) Acceptance of Water and Sewer Utilities in Harmony at Waterstone (Parcel 17)
4. **In-depth discussion and topics**
 - [A.](#) Ridgewalk Feasibility Study: Review and Next Steps
 - [B.](#) Update presentation on ongoing development and infrastructure coordination challenges
 - [C.](#) Update presentation on Hillsborough Station Transit Oriented Development
5. **Committee updates and reports**
6. **Adjournment**

Interpreter services or special sound equipment for compliance with the Americans with Disabilities Act is available on request. If you are disabled and need assistance with reasonable accommodations, call the Town Clerk's Office at 919-296-9443 a minimum of one business day in advance of the meeting.

101 E. Orange St., PO Box 429, Hillsborough, NC 27278
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Agenda Abstract

BOARD OF COMMISSIONERS

Meeting Date: Sept. 25, 2023
Department: Administration
Agenda Section: Consent
Public hearing: No
Date of public hearing: N/A

PRESENTER/INFORMATION CONTACT

Emily Bradford, Budget Director

ITEM TO BE CONSIDERED

Subject: Miscellaneous budget amendments and transfers

Attachments:

Budget Changes Report

Summary:

To adjust budget revenues and expenditures, where needed, due to changes that have occurred since budget adoption.

Financial impacts:

As indicated by each amendment.

Staff recommendation and comments:

To approve the attached list of budget amendments and transfers.

Action requested:

Consider approving budget amendments and transfers.

FY 2023-2024

TOWN OF HILLSBOROUGH
BUDGET CHANGES REPORT

DATES: 09/25/2023 TO 09/25/2023

	<u>REFERENCE</u>	<u>CHANGE NUMBER</u>	<u>DATE</u>	<u>USER</u>	<u>ORIGINAL BUDGET</u>	<u>BUDGET CHANGE</u>	<u>AMENDED BUDGET</u>
GF	10-00-3900-3900-000 FUND BALANCE APPROPRIATION						
Fund Bal	FY22 Roll-Over POs.	41211	09/25/2023	JFernandez	1,133,221.00	890,488.73	2,023,709.73
	Correction to FY22 Roll-Over POs.	41217	09/25/2023	JFernandez	1,133,221.00	-157.12	2,023,552.61
GF	10-00-9990-5300-000 CONTINGENCY						
Contingency	To move WWTP cleaning contract to Fac	41160	09/25/2023	EBRADFORI	450,000.00	-6,900.00	251,326.00
	To cover museum HVAC replacement	41246	09/25/2023	EBRADFORI	450,000.00	-6,567.00	244,759.00
Admin. Services	10-10-4200-5300-145 MAINTENANCE - BUILDINGS						
	FY22 Roll-Over POs	41161	09/25/2023	JFernandez	0.00	4,752.00	4,752.00
Admin. Services	10-10-4200-5300-350 UNIFORMS						
	To cover apparel order in Comms Divisio	41222	09/25/2023	JFernandez	0.00	200.00	200.00
	To cover apparel order in Comms Divisio	41225	09/25/2023	JFernandez	0.00	25.00	225.00
	To cover apparel order for Comms Divisic	41228	09/25/2023	JFernandez	0.00	40.00	265.00
Admin. Services	10-10-4200-5300-570 MISCELLANEOUS						
	To cover apparel order in Comms Divisio	41221	09/25/2023	JFernandez	57,553.00	-200.00	64,020.32
	To cover apparel order in Comms Divisio	41224	09/25/2023	JFernandez	57,553.00	-25.00	63,995.32
	To cover apparel order for Comms Divisic	41227	09/25/2023	JFernandez	57,553.00	-40.00	63,955.32
Financial Services	10-10-4400-5300-338 SUPPLIES - DATA PROCESSING						
	FY22 Roll-Over POs.	41162	09/25/2023	JFernandez	1,000.00	265.00	1,265.00
Planning	10-10-4900-5300-320 SUPPLIES - OFFICE						
	To cover office furniture - Planner II	41216	09/25/2023	EBRADFORI	0.00	6,500.00	6,500.00
Planning	10-10-4900-5300-441 C.S./ENGINEERING						
	FY22 Roll-Over POs.	41163	09/25/2023	JFernandez	0.00	36,000.00	36,000.00
Planning	10-10-4900-5300-467 C.S./MINUTES PREPARER						
	To cover office furniture - Planner II	41215	09/25/2023	EBRADFORI	6,500.00	-6,500.00	0.00
Planning	10-10-4900-5300-570 MISCELLANEOUS						
	FY22 Roll-Over POs.	41164	09/25/2023	JFernandez	17,000.00	1,763.50	18,763.50
Facilities Mgmt.	10-10-5000-5300-145 MAINTENANCE - BUILDINGS						
	To move WWTP cleaning contract to Fac	41159	09/25/2023	EBRADFORI	200,896.00	6,900.00	261,409.00
	FY22 Roll-Over POs.	41165	09/25/2023	JFernandez	200,896.00	9,381.25	270,790.25
	To cover preventative maintenance invoic	41219	09/25/2023	JFernandez	200,896.00	-479.00	270,311.25
Facilities Mgmt.	10-10-5000-5300-158 MAINTENANCE - EQUIPMENT						
	FY22 Roll-Over POs.	41166	09/25/2023	JFernandez	0.00	15,342.35	16,442.35
	To cover preventative maintenance invoic	41220	09/25/2023	JFernandez	0.00	479.00	16,921.35
Public Space	10-10-6300-5300-154 MAINTENANCE - GROUNDS						
	FY22 Roll-Over POs.	41180	09/25/2023	JFernandez	251,356.00	2,950.00	254,306.00
Public Space	10-10-6300-5300-155 MAINTENANCE - PARKS						
	FY22 Roll-Over POs.	41181	09/25/2023	JFernandez	25,000.00	37,744.38	62,744.38
Public Space	10-10-6300-5300-165 MAINTENANCE - INFRASTRUCTURE						
	FY22 Roll-Over POs.	41182	09/25/2023	JFernandez	7,000.00	2,575.00	9,575.00
Public Space	10-10-6300-5300-330 SUPPLIES - DEPARTMENTAL						
	FY22 Roll-Over POs.	41183	09/25/2023	JFernandez	25,000.00	12,494.11	37,494.11
Safety & Risk	10-10-6600-5300-330 SUPPLIES - DEPARTMENTAL						
	FY22 Roll-Over POs.	41184	09/25/2023	JFernandez	6,720.00	13,001.80	19,721.80
Safety & Risk	10-10-6600-5300-332 SUPPLIES - OSHA						
	JFernandez		09/20/2023	11:49:21AM			
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FY 2023-2024

TOWN OF HILLSBOROUGH
BUDGET CHANGES REPORT

DATES: 09/25/2023 TO 09/25/2023

	<u>REFERENCE</u>	<u>CHANGE NUMBER</u>	<u>DATE</u>	<u>USER</u>	<u>ORIGINAL BUDGET</u>	<u>BUDGET CHANGE</u>	<u>AMENDED BUDGET</u>
	FY22 Roll-Over POs.	41185	09/25/2023	JFernandez	50,775.00	1,919.55	52,694.55
IT	10-10-6610-5300-338 SUPPLIES - DATA PROCESSING						
	FY22 Roll-Over POs.	41186	09/25/2023	JFernandez	190,750.00	157.12	190,907.12
	Correction to FY22 Roll-Over POs.	41218	09/25/2023	JFernandez	190,750.00	-157.12	190,750.00
IT	10-10-6610-5700-743 CAPITAL - SOFTWARE						
	Fleet software conversion	41157	09/25/2023	EBRADFORI	20,000.00	-8,400.00	11,600.00
Police	10-20-5100-5300-145 MAINTENANCE - BUILDINGS						
	FY22 Roll-Over POs.	41167	09/25/2023	JFernandez	15,000.00	3,840.00	18,720.00
Police	10-20-5100-5300-330 SUPPLIES - DEPARTMENTAL						
	FY22 Roll-Over POs.	41168	09/25/2023	JFernandez	115,325.00	6,516.86	121,841.86
Police	10-20-5100-5300-350 UNIFORMS						
	FY22 Roll-Over POs.	41170	09/25/2023	JFernandez	27,140.00	580.75	27,720.75
Police	10-20-5100-5300-458 DATA PROCESSING SERVICES						
	FY22 Roll-Over POs.	41169	09/25/2023	JFernandez	25,310.00	1,560.00	27,870.00
Police	10-20-5100-5700-735 CAPITAL - BUILDINGS & IMPROVEMENTS						
	FY22 Roll-Over POs.	41171	09/25/2023	JFernandez	0.00	45,272.50	45,272.50
Fleet Mgmt.	10-30-5550-5300-113 LICENSE FEES						
	Fleet software conversion	41158	09/25/2023	EBRADFORI	6,900.00	8,400.00	15,300.00
Fleet Mgmt.	10-30-5550-5300-158 MAINTENANCE - EQUIPMENT						
	FY22 Roll-Over POs.	41172	09/25/2023	JFernandez	6,000.00	8,000.00	14,000.00
Fleet Mgmt.	10-30-5550-5300-530 DUES & SUBSCRIPTION						
	To est Dues budget	41230	09/25/2023	EBRADFORI	0.00	180.00	180.00
Fleet Mgmt.	10-30-5550-5300-570 MISCELLANEOUS						
	To est Dues budget	41229	09/25/2023	EBRADFORI	1,000.00	-180.00	820.00
Streets	10-30-5600-5300-455 C.S./ENGINEERING						
	FY22 Roll-Over POs.	41173	09/25/2023	JFernandez	26,000.00	40,222.50	66,222.50
Streets	10-30-5600-5300-760 POWELL BILL						
	FY22 Roll-Over POs.	41174	09/25/2023	JFernandez	745,500.00	268,260.00	1,013,760.00
Streets	10-30-5600-5700-729 CAPITAL - INFRASTRUCTURE						
	FY22 Roll-Over POs.	41175	09/25/2023	JFernandez	239,000.00	46,515.00	285,515.00
Solid Waste	10-30-5800-5700-740 CAPITAL - VEHICLES						
	FY22 Roll-Over POs.	41176	09/25/2023	JFernandez	130,000.00	331,375.06	475,834.06
Special Approp.	10-60-6900-5300-167 MAINTENANCE - MUSEUM						
	To cover museum HVAC replacement	41245	09/25/2023	EBRADFORI	10,000.00	6,567.00	16,567.00
W&S Fund Bal.	30-80-3900-3900-000 FUND BALANCE APPROPRIATED						
	FY22 Roll-Over POs.	41212	09/25/2023	JFernandez	1,768,570.00	785,922.41	2,554,492.41
Admin. of Enterprise	30-80-7200-5300-041 ATTORNEY FEES						
	To cover overage	41247	09/25/2023	EBRADFORI	17,000.00	5,500.00	22,500.00
Utilities Admin.	30-80-7220-5300-455 C.S./ENGINEERING						
	FY22 Roll-Over POs.	41187	09/25/2023	JFernandez	75,000.00	80,600.87	155,600.87
Utilities Admin.	30-80-7220-5300-477 C.S./UPDATE SEWER CAP FEES						
	FY22 Roll-Over POs.	41188	09/25/2023	JFernandez	0.00	2,945.00	2,945.00
Utilities Admin.	30-80-7220-5300-479 C.S./UTILITY LOCATES						
	JFernandez		09/20/2023	11:49:21AM			
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TOWN OF HILLSBOROUGH
BUDGET CHANGES REPORT

DATES: 09/25/2023 TO 09/25/2023

	<u>REFERENCE</u>	<u>CHANGE NUMBER</u>	<u>DATE</u>	<u>USER</u>	<u>ORIGINAL BUDGET</u>	<u>BUDGET CHANGE</u>	<u>AMENDED BUDGET</u>
	FY22 Roll-Over POs.	41189	09/25/2023	JFernandez	100,000.00	100,000.00	200,000.00
Utilities Admin.	30-80-7220-5300-493 C.S./GIS FY22 Roll-Over POs.	41190	09/25/2023	JFernandez	90,000.00	15,407.50	105,407.50
Utilities Admin.	30-80-7220-5300-570 MISCELLANEOUS FY22 Roll-Over POs.	41191	09/25/2023	JFernandez	3,600.00	20,000.00	23,600.00
Billing & Collections	30-80-7240-5300-334 DEPT SUPP-METER READING FY22 Roll-Over POs.	41192	09/25/2023	JFernandez	125,000.00	8,215.59	133,215.59
WTP	30-80-8120-5300-323 SUPPLIES - CHEMICALS FY22 Roll-Over POs.	41193	09/25/2023	JFernandez	427,760.00	650.00	428,410.00
WTP	30-80-8120-5700-741 CAPITAL - EQUIPMENT FY22 Roll-Over POs.	41194	09/25/2023	JFernandez	37,000.00	52,200.00	89,200.00
WFER	30-80-8130-5300-153 DAM INSPECTION & EVALUATION FY22 Roll-Over POs.	41195	09/25/2023	JFernandez	0.00	12,000.00	12,000.00
WFER	30-80-8130-5300-154 MAINTENANCE - GROUNDS FY22 Roll-Over POs.	41196	09/25/2023	JFernandez	15,000.00	8,686.22	23,686.22
Water Dist.	30-80-8140-5300-330 SUPPLIES - DEPARTMENTAL FY22 Roll-Over POs.	41197	09/25/2023	JFernandez	131,440.00	6,509.64	136,467.64
Water Dist.	30-80-8140-5700-729 CAPITAL - INFRASTRUCTURE FY22 Roll-Over POs.	41198	09/25/2023	JFernandez	40,000.00	7,345.40	47,345.40
Water Dist.	30-80-8140-5700-741 CAPITAL - EQUIPMENT FY22 Roll-Over POs.	41199	09/25/2023	JFernandez	80,000.00	18,801.17	98,801.17
WW Collect.	30-80-8200-5300-158 MAINTENANCE - EQUIPMENT FY22 Roll-Over POs.	41200	09/25/2023	JFernandez	40,000.00	4,210.96	44,210.96
WW Collect.	30-80-8200-5300-165 MAINTENANCE - INFRASTRUCTURE FY22 Roll-Over POs.	41201	09/25/2023	JFernandez	187,500.00	84,202.00	271,702.00
WW Collect.	30-80-8200-5300-322 SUPPLIES - LIFT STATION PUMPS For capitalized costs of Churton Grove PS FY22 Roll-Over POs.	41155 41202	09/25/2023 09/25/2023	JFernandez JFernandez	193,000.00 193,000.00	-36,321.00 13,724.00	156,679.00 170,403.00
WW Collect.	30-80-8200-5300-326 SUPPLIES - PATCH FY22 Roll-Over POs.	41203	09/25/2023	JFernandez	16,000.00	1,663.95	17,663.95
WW Collect.	30-80-8200-5300-330 SUPPLIES - DEPARTMENTAL FY22 Roll-Over POs.	41204	09/25/2023	JFernandez	80,500.00	7,287.06	81,305.06
WW Collect.	30-80-8200-5300-583 MISC-TAX, TAGS, ETC. FY22 Roll-Over POs.	41205	09/25/2023	JFernandez	3,000.00	4,350.00	7,350.00
WW Collect.	30-80-8200-5700-740 CAPITAL - VEHICLES FY22 Roll-Over POs.	41206	09/25/2023	JFernandez	70,000.00	126,756.60	196,756.60
WW Collect.	30-80-8200-5700-741 CAPITAL - EQUIPMENT For capitalized costs of Churton Grove PS FY22 Roll-Over POs.	41156 41207	09/25/2023 09/25/2023	JFernandez JFernandez	20,000.00 20,000.00	36,321.00 154,020.29	57,615.00 211,635.29
WWTP	30-80-8220-5300-158 MAINTENANCE - EQUIPMENT FY22 Roll-Over POs.	41208	09/25/2023	JFernandez	84,150.00	35,346.16	119,496.16
WWTP	30-80-8220-5300-164 MAINTENANCE - INSTRUMENTATION FY22 Roll-Over POs.	41209	09/25/2023	JFernandez	19,470.00	9,560.00	29,030.00

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FY 2023-2024

TOWN OF HILLSBOROUGH
BUDGET CHANGES REPORT

DATES: 09/25/2023 TO 09/25/2023

	<u>REFERENCE</u>	<u>CHANGE NUMBER</u>	<u>DATE</u>	<u>USER</u>	<u>ORIGINAL BUDGET</u>	<u>BUDGET CHANGE</u>	<u>AMENDED BUDGET</u>
WWTP	30-80-8220-5300-165 MAINTENANCE - INFRASTRUCTURE FY22 Roll-Over POs.	41210	09/25/2023	JFernandez	9,200.00	11,440.00	20,640.00
W&S Contingency	30-80-9990-5300-000 CONTINGENCY To cover Attorney Fee overage	41248	09/25/2023	EBRADFORI	400,000.00	-5,500.00	277,924.00
SDFs	70-00-3850-3850-000 INTEREST EARNED Adj to actual	41233	09/25/2023	EBRADFORI	100,889.20	186,944.68	287,833.88
SDFs	70-71-3870-3870-000 TRANSFER FROM WATER FUND Adj to actual	41234	09/25/2023	EBRADFORI	794,415.99	-794,415.99	0.00
SDFs	70-71-3870-3870-015 TRANSFER FROM SEWER FUND Adj to actual	41232	09/25/2023	EBRADFORI	1,949,845.96	-934,694.81	1,015,151.15
SDFs	70-71-6900-5970-001 TRANSFER TO UTILITY CAP IMPROV FUND Adj to actual	41231	09/25/2023	EBRADFORI	1,830,000.00	-527,014.97	1,302,985.03
SDFs	70-80-6900-5700-731 CAPITAL IMPROV.- SEWER Adj to actual	41236	09/25/2023	EBRADFORI	191,477.29	-191,477.29	0.00
SDFs	70-80-6900-5700-733 CAPITAL IMPROV.- WATER Adj to actual	41235	09/25/2023	EBRADFORI	823,673.86	-823,673.86	0.00
TDA	73-00-3900-3900-000 FUND BALANCE APPROPRIATED FY22 Roll-Over POs.	41213	09/25/2023	JFernandez	0.00	3,500.00	3,500.00
TDA	73-51-6250-5300-120 ADVERTISING FY22 Roll-Over POs.	41177	09/25/2023	JFernandez	23,275.00	3,100.00	26,375.00
TDA	73-51-6250-5300-530 DUES & SUBSCRIPTIONS FY22 Roll-Over POs.	41178	09/25/2023	JFernandez	0.00	400.00	400.00
TB	74-00-3900-3900-000 FUND BALANCE APPROPRIATED FY22 Roll-Over POs.	41214	09/25/2023	JFernandez	85,825.00	3,315.00	89,140.00
TB	74-51-6250-5300-731 SPECIAL PROJ/PARTNERSHIPS FY22 Roll-Over POs.	41179	09/25/2023	JFernandez	15,000.00	3,315.00	18,315.00
CRFs	75-71-3870-3870-156 TRAN FR W/S US BUS 70 WTR PHASE I Adj to actual	41241	09/25/2023	EBRADFORI	282,795.50	267,736.00	550,531.50
CRFs	75-71-3870-3870-157 TRAN FR W/S - WFER PH II DEBT PYMTS Close out project	41243	09/25/2023	EBRADFORI	175,000.00	-175,000.00	0.00
CRFs	75-71-3870-3870-509 TRAN FR W/S - GOV BURKE Close out project	41239	09/25/2023	EBRADFORI	119,408.00	-119,408.00	0.00
CRFs	75-71-6900-5970-928 TRAN TO FUND 69 - US 70 PHASE I Adj to actual	41242	09/25/2023	EBRADFORI	282,795.50	267,736.00	550,531.50
CRFs	75-71-6900-5970-933 TRAN TO FUND 69 - GOV BURKE WTR Close out project	41240	09/25/2023	EBRADFORI	119,408.00	-119,408.00	0.00
CRFs	75-71-6900-5970-950 TRAN TO WSF - WFER PH II DEBT PYMTS Close out project	41244	09/25/2023	EBRADFORI	175,000.00	-175,000.00	0.00
CRFs	76-71-3870-3870-155 TRAN FR W/S - COLLECT SYS REHAB Adj to actual	41237	09/25/2023	EBRADFORI	997,808.50	75,670.00	1,073,478.50
CRFs	76-71-6900-5970-927 TRAN TO UTIL CAP IMP FD - COLL SYS Adj to actual	41238	09/25/2023	EBRADFORI	997,808.50	75,670.00	1,073,478.50

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TOWN OF HILLSBOROUGH
BUDGET CHANGES REPORT

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<u>REFERENCE</u>	<u>CHANGE NUMBER</u>	<u>DATE</u>	<u>USER</u>	<u>ORIGINAL BUDGET</u>	<u>BUDGET CHANGE</u>	<u>AMENDED BUDGET</u>
					<u>379,801.80</u>	



Agenda Abstract

BOARD OF COMMISSIONERS

Meeting Date: Sept. 25, 2023
Department: Utilities
Agenda Section: Consent
Public hearing: No
Date of public hearing: N/A

PRESENTER/INFORMATION CONTACT

Utilities Director K. Marie Strandwitz, PE

ITEM TO BE CONSIDERED

Subject: Resolution to approve the 2023 Water Shortage Response Plan

Attachments:

1. Resolution approving the 2023 Water Shortage Response Plan
2. 2023 Water Shortage Response Plan

Summary:

North Carolina General Statute 143-355 (l) requires that each system that provides public water services prepare and submit a Water Shortage Response Plan. The plan is required to be updated at least once every five years. The town's bulk of the plan is embodied in our town code, which states when the town will issue proclamations for voluntary and mandatory water restrictions and what enforcement will be taken for non-compliance. This has not changed. The plan submitted to the state copies this code and adds contact information, so it is easy to update as it just was. Now we must approve the update according to the statute.

Financial impacts:

None.

Staff recommendation and comments:

Action requested:

Approve the updated plan.



RESOLUTION

Approval of 2023 Water Shortage Response Plan

WHEREAS, North Carolina General Statute 143-355 (l) requires that each system that provides public water services or plans to provide such services shall, either individually or together with other systems, prepare and submit a Water Shortage Response Plan and to update its contents at least once every five years; and

WHEREAS, as required by the statute and in the interests of sound local planning, a Water Shortage Response Plan for Hillsborough, has been developed, approved and updated routinely for many years with its key components having been codified into town ordinance Sections 14-40.1 through 14-41.2; and

WHEREAS, the Water Shortage Response Plan which contains the above code sections and town contact information has been recently updated again and submitted to the state for input and for which the state has found the updates to be satisfactory; and

WHEREAS, the Board of Commissioners finds that the Water Shortage Response Plan is in accordance with the provisions of North Carolina General Statute 143-355 (l) and that it will provide appropriate guidance for the future management of water supplies for Hillsborough, as well as useful information to the Department of Environment and Natural Resources for the development of a state water supply plan as required by statute;

NOW, THEREFORE, be it resolved by the Hillsborough Board of Commissioners that the Water Shortage Response Plan updated August 2023, has been submitted to the Department of Environment and Natural Resources, Division of Water Resources and is hereby approved; and

BE IT FURTHER RESOLVED that the Board of Commissioners intends that this plan shall be revised to reflect changes in relevant data and projections at least once every five years or as otherwise requested by the Department of Environment and Natural Resources, in accordance with the statute and sound planning practice.

Approved this 25th day of September of the year 2023.

Jenn Weaver, Mayor
Town of Hillsborough

Attestation:

Sarah Kimrey, Town Clerk



Water Shortage Response Plan

Last revision August 2023

The town's water shortage response plan is set out in town ordinance starting with section 14-40.1.

- **Sec. 14-40.1. - Water shortage and withdrawal/conservation restrictions.**
 - a) While water is flowing over the Lake Orange and West Fork Eno Reservoir spillway and the Eno is flowing at greater than ten cfs, normal conditions will be deemed to exist with no withdrawal or conservation restrictions to be enforced. Conservation measures shall be instituted when the water supply in Lake Orange and West Fork Eno Reservoir reach volumes stated in this Code and made more restrictive through successive stages of drought in an effort to prolong the availability of water.
 - (b) In the event of a water shortage in Lake Orange and West Fork Eno Reservoir or diminished streamflows in the Eno River, the Mayor (Jennifer Weaver, jenn.weaver@hillsboroughnc.gov) is authorized, empowered, and directed to issue a public proclamation declaring to all persons the existence of such state and the severity thereof, and place in effect the restrictive provisions authorized in [section 14-40.3](#) of this article. In the Mayor's absence, the water-shortage plan can be enacted by the Town Manager (Eric Peterson, 919-296-9421, eric.peterson@hillsboroughnc.gov).
 - (c) Any car wash business (i.e., a business involved primarily in the washing of cars, trucks or other vehicles) whose operations are suspended through the operation of the mandatory water restrictions set forth in this article shall be entitled to credits on its subsequent monthly bills in accordance with the following formula: For each week which such businesses' operations are suspended, that business shall receive a 50 percent discount on a subsequent monthly water and sewer bill after the restrictions are lifted. For periods of restriction which are less than a week, the amount of the discount shall be determined by multiplying 50 percent by the number of days of such restriction and dividing the product obtained by seven.

(Prior Code, § 14-40.1; Ord. of 6-14-2004)



- **Sec. 14-40.2. - Unlawful to use water contrary to provisions of this article.**

- (a) In the event that the Mayor of Hillsborough issues any proclamation authorized by [section 14-40.1](#) of this article, then it shall be unlawful for any person to use or permit the use of water supplied through the facilities of the Town of Hillsborough, in violation of any of the mandatory restrictions contained in the proclamation until the mayor, by public proclamation, has declared a particular stage of the water shortage to be over and the restrictions applicable to it no longer are in effect.
- (b) In light of the many benefits that can be derived by conserving water, all persons, firms, or corporations served by the town's water system should follow water conservation practices regardless of the time of year or whether a water shortage exists. Water conservation should be followed during all phases of construction-related activities. Where appropriate, water needed should be obtained from supplemental sources. Nonessential construction-related activities which require water should not be undertaken during a declared water shortage.

(Prior Code, § 14-40.2)

- **Sec. 14-40.3. - Restrictive measures in effect at each stage of water shortage.**

The severity of the water shortage shall be determined the usable water capacity for the Town of Hillsborough available in the West Fork Eno Reservoir, Lake Orange, and the Eno River combined. These restrictions apply to Town of Hillsborough municipal water supply usage only.

(1) *Stage 0. No stage—Normal conditions.*

(2) *Stage 1. Voluntary restrictions.*

- a. Implementation: This stage begins when the usable water capacity remaining is less than 180 days of supply.
- b. Recommendations: The town shall:
 - (i) Provide water saving devices to the public.
 - (ii) Provide daily or weekly reservoir level and water usage statistics.
 - (iii) Recommend water usage reduction techniques through water bills, fliers, notices, town web page and media.
 - (iv) Recommend a usage reduction of ten percent for all customers.

(3) *Stage 2. Mandatory restrictions.*

- a. Implementation: This stage begins when the usable water capacity remaining is less than 135 days of supply.



- b. Requirements and recommendations:
 - (i) Water usage reduction techniques listed in stage 1 shall be required and customers shall limit outdoor water use.
 - (ii) Usage reduction of 20 percent for all customers is recommended.
 - (iii) No private car washing allowed; commercial car washing is permitted.
 - (iv) No pressure washing allowed.
 - (v) Two-days per week outdoor water use based upon street address (Saturday, Sunday, Tuesday, and Wednesday only, based on [section 14-19](#) requirements, odd or even).

(4) *Stage 3. Rationing.*

a. Implementation: This stage begins when the usable water capacity remaining is less than 90 days of supply.

- b. Requirements and recommendations:
 - (i) Usage reduction of 30 percent for both residential and business is required (allow special medical exemptions).
 - (ii) No outdoor water usage allowed, other than emergency/fire protection.
 - (iii) Customers will not be required to use less than the billing minimum.

c. Irrigation water meters will be turned-off or removed by the town.

d. The town will further curtail usage or enhance water availability with the following practices:

- (i) Water pressure in the town distribution system shall be lowered by decreasing tank holding levels, to the extent possible.
- (ii) If flushing of water lines is required for water quality concerns, the water will be captured in a tanker and transported upstream of the raw water intake for reintroduction into the river.
- (iii) Other potential water sources will be elevated and utilized, if feasible (investigate rock quarries, ponds, springs, other water utilities, etc.).
- (iv) Inform local daily newspapers of the daily water usage, reservoir level, and goal for water usage for daily publication, to enhance public awareness. This information will also be posted periodically on the town website.

(Prior Code, § 14-40.3; Ord. of 6-14-2004; Ord. No. 20090608-10.I, § 1, 6-8-2009)



- **Sec. 14-41. - Violations.**

- (a) The town shall enforce the limits established by this article by reading meters as often as the town deems necessary and, if necessary, terminating service to customers.
- (b) Use billing system stop checks to catch violators (1,000 bills per month).
- (c) Allow deferral of the first violation if achieved 50 percent of goal. Waive this fine if goal is reached in the second month.

(Prior Code, § 14-41; Ord. of 6-14-2004)

- **Sec. 14-41.1. - Penalties.**

- (a) A violation of any of the provisions of this article shall also subject the offender to a civil penalty.
- (b) The town may seek to enforce this article through any appropriate equitable action.
- (c) Each day that a violation continues after the offender has been notified of the violation shall constitute a separate offense.
- (d) With respect to customers of the town's water system that are located outside the town's corporate limits, and who are therefore not subject to the penalties set forth in subsections (a) and (f) of this section, the town may discontinue service to such customers upon a determination by the board of commissioners that any such customer has violated the provisions of this article.
- (e) The town may seek to enforce this ordinance by using any one or any combination of the foregoing remedies for violations during stage 2 or 3 (mandatory restriction stages).
- (f) Graduated fines:
 - (1) First offense = \$50.00 fine plus Y civil penalty, not to exceed \$200.00;
 - (2) Second offense = \$50.00 fine plus 2Y civil penalty, not to exceed \$400.00;
 - (3) Third offense = \$50.00 fine plus 3Y civil penalty, not to exceed \$600.00;
 - (4) Fourth offense = Discontinuation of water service until restrictions end, or until all fines are paid and assurance given that they will not violate restriction again, and subject to town board approval.

"Y" equals the violating customer's average water bill.

- (g) Out-of-town violator enforcement.
 - (1) Town of Hillsborough to notify Orange County Sheriff's Department for citations to be issued.
 - (2) Orange County Sheriff's Department issues citation only upon complaint from the Town of Hillsborough.



(3) Orange County to notify the Town of Hillsborough (732-2104) about complaints received regarding water restriction violators, applies to any department that receives complaint.

(Prior Code, § 14-41.1; Ord. of 8-27-2002; Ord. of 6-14-2004; Ord. No. 20090608-10.I, § 1, 6-8-2009)

- **Sec. 14-41.2. - Notification, public comment, variance protocols, effectiveness, and revision.**

(a) *Notification.* Water users and system employees will be notified when the plan is enacted at all stages, and will be notified of required response measures, through the following methods.

(1) Notice will be placed on water bills in the information box.

(2) Temporary signs will be placed at strategic locations in the system.

(3) E-mail notice to distribution lists maintained by town engineer and PIO (customers may be added to lists upon request)

(4) Town web page.

(5) Press release to local media through town public information officer.

(b) *Public comment.* This plan is reviewed and adopted by the town board at public town meetings. The public is notified through existing laws regarding notification of public meetings. Public comment is available to interested parties at the meeting prior to adoption of the plan or revisions.

(c) *Variance protocols.* Requests for variances shall be directed to the town engineer, and shall be issued at his/her discretion, based on need and justification. Criteria considered for approval shall be as follows:

(1) Significant financial hardship:

a. New sod installed prior to the start of mandatory restrictions.

b. Business use that is totally dependent on water use.

c. Other reasons to be determined on a case-by-case basis.

(2) Health endangerment.

(3) No other water source is available for stated use (non-potable sources exhausted or not appropriate).

(4) Non-refundable payment of variance fee of \$200.00 (stage 2) or \$500.00 (stage 3).

(5) Previously issued variance approvals shall be void when restriction stage increases or mandatory restrictions end. Reapplication is required for variance extensions.



TOWN OF HILLSBOROUGH

- (d) *Effectiveness.* The effectiveness of these restrictions shall be measured through comparison of actual water use records on a weekly basis. Water use comparisons will be published in the weekly West Fork Eno Reservoir Update.
 - (e) *Revision.* This water shortage response plan will be reviewed by the town engineer and water sewer advisory committee after implementation of any emergency restrictions, upon the operation of new facilities or water sources, and at minimum every five years.
- (Ord. No. 20090608-10.I, § 1, 6-8-2009)



Agenda Abstract

BOARD OF COMMISSIONERS

Meeting Date: Sept. 25, 2023
Department: Utilities
Agenda Section: Consent
Public hearing: No
Date of public hearing: N/A

PRESENTER/INFORMATION CONTACT

Utilities Director K. Marie Strandwitz, PE

ITEM TO BE CONSIDERED

Subject: Acceptance of Water and Sewer Utilities in Harmony at Waterstone (Parcel 17)

Attachments:

None

Summary:

Harmony at Waterstone was constructed several years ago. However, the developer certified to the state but did not request formal acceptance of the water and sewer infrastructure. Upon discovery of this oversight in 2020, the town began working with the developer on acceptance. The acceptance process revealed several sewer defects for which the town continued to work with the developer on correction. After various delays and changes in developer project managers and some resident concerns, the developer has requested dedication and met all the requirements for the town staff to recommend that the board accept the water and sewer infrastructure in Harmony at Waterstone for town ownership.

Financial impacts:

The value of the assets to become under town ownership is \$1,020,938 for water (5,931 linear feet of 6" and 8" water main, 201 services and 13 hydrants) and \$806,495 for sewer (5,190 linear feet of 8" sewer main, 201 laterals and 47 manholes) and \$92,567 of indirect costs (bond, insurance, design, and construction). The town will cover operation and maintenance in its operations budget and incorporate such in annual rate setting.

Staff recommendation and comments:

The developer has presented a one-year warranty security in the amount of 25% of the total opinion of value.

Action requested:

Accept this infrastructure into the town system for operation and maintenance.



Agenda Abstract

BOARD OF COMMISSIONERS

Meeting Date:	Sept. 25, 2023
Department:	Public Space and Sustainability
Agenda Section:	Regular
Public hearing:	No
Date of public hearing:	N/A

PRESENTER/INFORMATION CONTACT

Stephanie Trueblood, Public Space and Sustainability Manager

ITEM TO BE CONSIDERED

Subject: Ridgewalk Feasibility Study: Review and Next Steps

Attachments:

1. Presentation
2. Ridgewalk Greenway Feasibility Study

Summary:

Ridgewalk is a proposed bicycle and pedestrian greenway that connects downtown Hillsborough to Cates Creek Park in the Waterstone neighborhood. In fall 2022, the town contracted Summit Design and Engineering to develop a feasibility study to determine preferred alignments for the greenway, conduct preliminary analysis, develop concept-level designs, and present preliminary cost estimates.

The study was completed and shared with the Board of Commissioners at the June 2023 workshop. The study is presented again tonight for a more in-depth review and discussion of the findings in preparation for the next steps.

The feasibility study shows that the preliminary cost estimate for Segment 1, which connects downtown Hillsborough to the Collins Ridge greenway, is \$9,615,173, about twice as much as anticipated. This is due to the significant amount of elevated boardwalk needed to achieve an accessible grade and the longer-than-anticipated pedestrian bridge crossing the railroad corridor.

The preliminary cost estimate for Segment 2, which connects the Collins Ridge greenway to Cates Creek Park, is \$7,370,845, which is in line with early estimates but is not currently included in the Capital Improvement Plan.

In previous budget cycles, we assumed that the project would be built in two phases, so the current Capital Improvement Plan includes funding for Segment 1 but is underfunded based on the feasibility study estimates. To move forward we will need to increase the funding available for both engineering and construction. Grants are generally only available for shovel-ready projects not for engineering.

North Carolina Railroad owns and operates the railroad corridor. They will not review preliminary plans. If engineering is about 10% of construction costs the town may need to invest up to \$700,000 to develop engineered plans for North Carolina Railroad to review without any assurance that the project will be permitted by the railroad.

The town has submitted the pedestrian bridge over Interstate 85 for consideration in SPOT 7. It is uncertain if this project will compete well for funding through the State Transportation Improvement Plan. The town may have to

provide significant funding toward the engineering and construction of both phases. Grant opportunities may exist but have not been identified.

It is best to conduct engineering on a project within a short window before construction begins as permits can expire and regulations can change. Best practices dictate that engineering be complete within about 24-36 months of initiating construction, depending on estimated permitting time.

Financial impacts:

Additional budget funds will be necessary in the Capital Improvement Plan to move forward with engineering of one or both segments.

Staff recommendation and comments:

This project is consistent with the Strategic Plan: Connected Community Objective 1 and Initiative 1.3, as well as the Comprehensive Sustainability Plan: Transportation and Connectivity recommendations.

Action requested:

Review Ridgewalk Feasibility Study results and provide comments and direction to staff on next steps.

Ridgewalk Greenway Feasibility Study

Final Report Findings and Next Steps



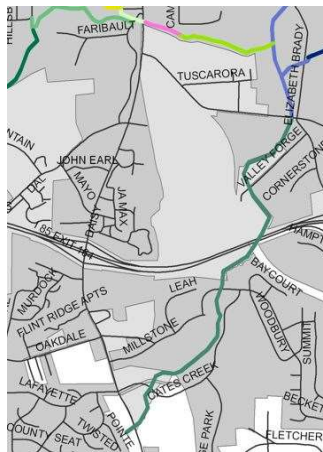
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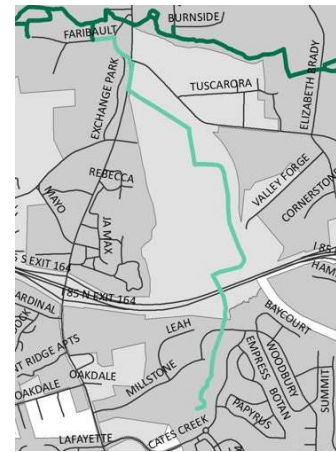
Existing Plans

Community Connectivity Plan

- 2009
- 2013 (Update)
- 2016 (Update)



2009/2013: Cates Creek Greenway



2016: North/South Greenway



2

Existing Plans

Comprehensive Sustainability Plan



HILLSBOROUGH
**COMPREHENSIVE
SUSTAINABILITY PLAN**



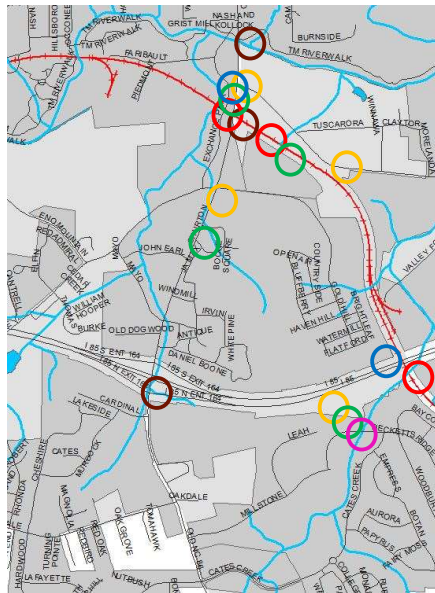
2023: Ridgewalk Greenway



3

Barriers

- Existing Bridge
- Railroad Conflict
- High Traffic Roadway
- Topography Challenge
- Utilities Challenge



4

Project Scope

- Create pedestrian/bicycle greenway between downtown and Cates Creek Park
- Connect to Riverwalk and future train station site
- Utilize approved Collins Ridge greenway alignment
- Facilitate safe, accessible, barrier-free movement
- Consider future development and neighborhood access
- Incorporate sustainability and stormwater best practices



5

Considerations

- Right-of-way constraints and private property
- NCDOT planned projects and timing
- Town plans and planned developments
- Regulatory and permitting requirements
- Jurisdictional boundaries
- Environmental impacts
- Utility conflicts and easement areas
- Budget



6

Review of Related Plans

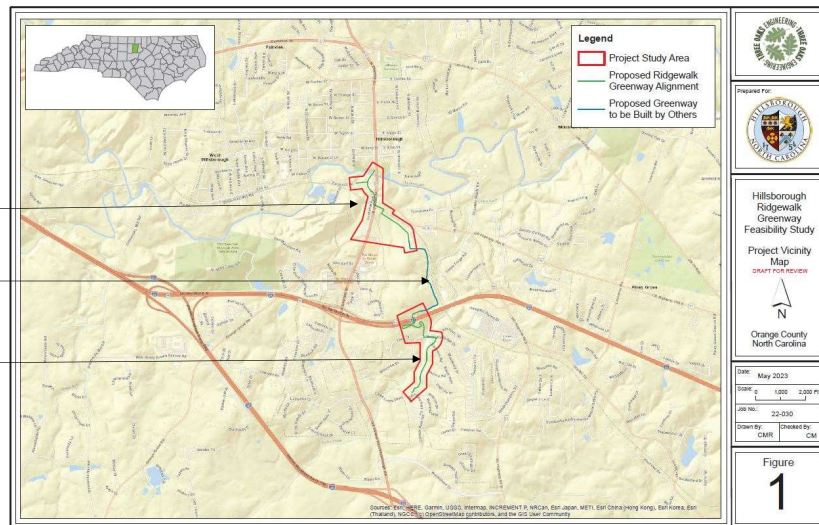
- Comprehensive Sustainability Plan (2023)
- Community Connectivity Plan (2017)
- NC86 Connector Study (2021)
- Cates Creek Park Master Plan (2022)
- I-85 Pedestrian Study (2016)
- Eno River Pedestrian Study (2016)
- U-5845 Plans and I-5984 Plans (NCDOT)
- NCR Rail Infrastructure Plans (2019)
- NCR Curve Realignment Plans (2020)
- Collins Ridge Approved Development Plans
- Amtrak Station Planning and Development Guidelines (2022)
- Other plans and studies underway



7

Study Area

- Northern Segment
- Middle Segment
- Southern Segment



8

Impacts

- Schools: No impact (No primary or secondary schools or colleges/universities in project area)
- Parks: No impact (3 parks in vicinity-Riverwalk, River Park, Exchange Club Park, Cates Creek Park)
- Places of Worship: No impact (1 place of worship in vicinity)
- Places of Interest: No impact (Downtown Hillsborough, future train station)
- Emergency Management Services: No impact. No EMS in project area. (Fire & EMS facility, Police, Sherriff and Orange Rural Fire departments are nearby)
- Medical Facilities: No impact. No medical facilities in project area. (4 urgent care and hospital facilities nearby)
- Historic Architecture: Further investigation may be required. (Hillsborough Historic District)
- Archaeology: Further investigation may be required. (Hillsborough Historic District)
- Land Use: Greenway compatible in all zoning classification for project area

Impacts: Natural Environment

- Surface waters: None present
- Wetlands: Riparian buffers rules must be observed, 1 area where mitigation may be required if potential wetland is confirmed
- 2 streams and 5 unnamed tributaries: No impacts with current design
- Floodways and floodplains present. No impacts with current design
- Protected species: Recommend further study and identification
- Aquatic species: Recommend further study and identification if streams and wetlands are impacted
- Mitigation Sites: None identified
- GeoEnvironmental Sites: No impacts with current design
- Farmland Assessment: Not required

Alternate Alignment

- If unable to locate facilities in railroad operating corridor, use Exchange Park Lane to connect via Orange Grove Road

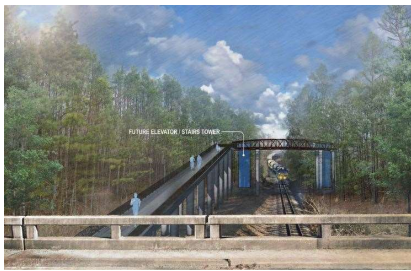


Single lane trestle on Exchange Park Lane



11

Preferred Alignment

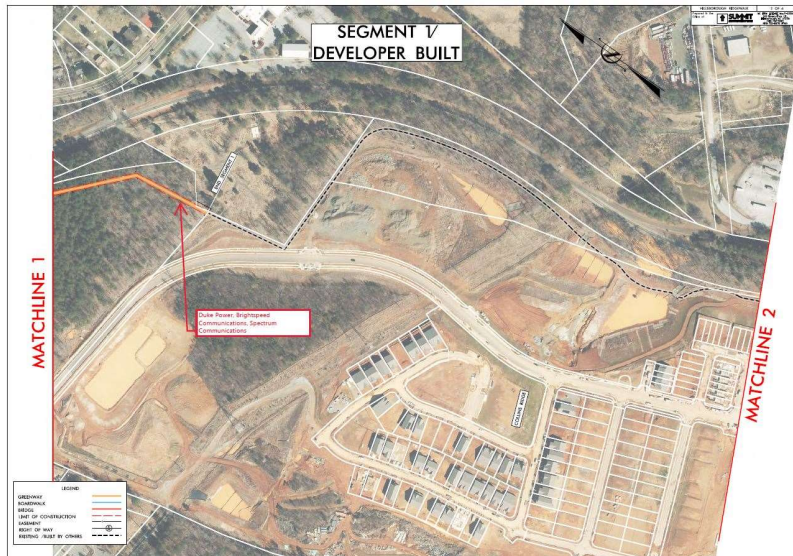


Rendering of structures in NCCR corridor



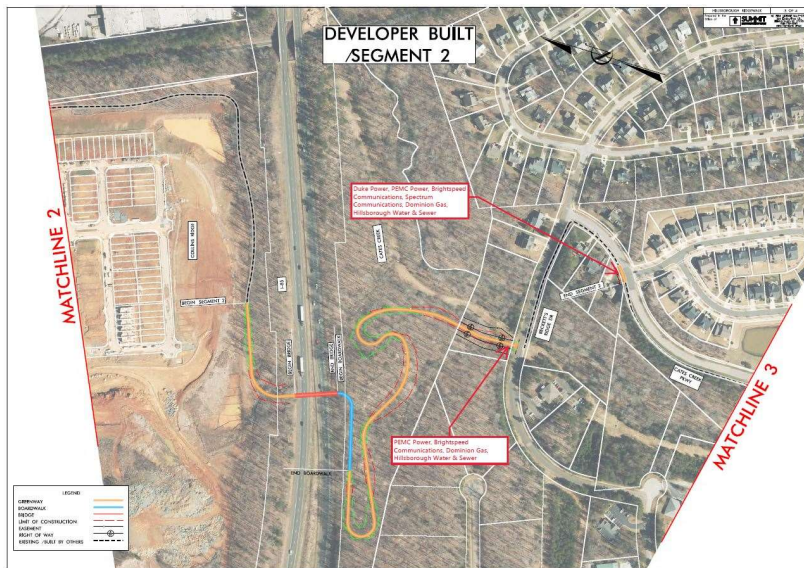
12

Preferred Alignment



13

Preferred Alignment



14

Road Crossings



Exchange Park Lane at Weaver Street Market



Becketts Ridge Drive



15

Constraints/Challenges

- Utilities
- Stormwater
- Right of way
- Topography
- Environmental
- Regulatory



16

Constraints/Challenges



Steep slope on Exchange Park Lane



Churton Street bridge over NCRR Operating Corridor



17

Constraints/Challenges



Rendering of Interstate 85 pedestrian bridge



18

Design Criteria Considerations

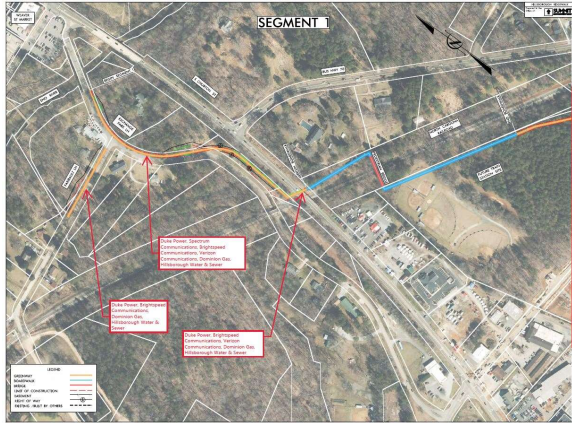
- Multimodal use
- Accessibility and Universal Design principles
- Safety
- Stormwater green infrastructure
- Regulatory requirements
- Character and aesthetics
- Lighting and Amenities
- Landscaping best practices
- Maintenance considerations

Costs

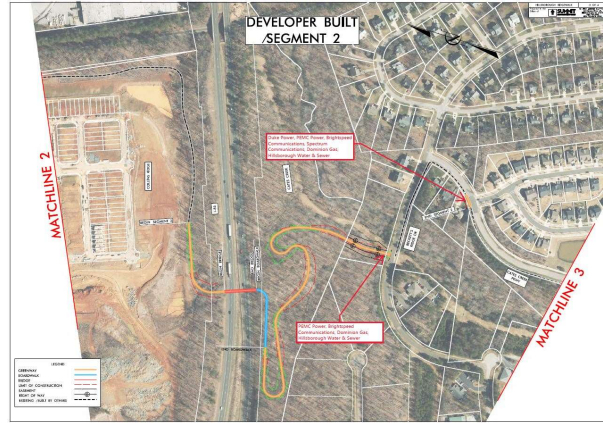
Segment 1	COST ESTIMATE (2023)	Segment 2	COST ESTIMATE (2023)
Construction	\$6,460,343	Construction	\$5,180,225
Utilities	\$319,680	Utilities	\$79,920
Right-of-Way	\$88,300	Right-of-Way	\$4,700
Design and Engineering Fees (10%)	\$686,850	Design and Engineering Fees (10%)	\$526,500
Construction Administration (10%)	\$686,850	Construction Administration (10%)	\$526,500
Contingency (20%)	\$1,373,150	Contingency (20%)	\$1,053,000
Segment 1 Total	\$9,615,173	Segment 2 Total	\$7,370,845

Total: \$16,986,018

Phasing



Segment 1: Downtown to Collins Ridge



Segment 2: Collins Ridge to Cates Creek Park

Discussion/Decision Points

- Connectivity goals (train station delivery scheduled for February 2028)
- State and Federal funding opportunities (pro/cons)
- Alternate financing options – fundraising, etc.
- Capital Improvement Plan and budget impacts
 - How quickly can we realistically proceed?
 - To phase or not to phase? Pros/cons and additional considerations

Town of Hillsborough, North Carolina Ridgewalk Greenway Feasibility Study

June 2023





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- **Figure 1** – Project Vicinity Map
- **Figure 2** – Community Features Map
- **Figure 3** – Historic Resources Map
- **Figure 4** – Land Use Map
- **Figure 5** – Zoning Map
- **Figure 6** – Environmental Features Map
- **Figure 7** – Preferred Alignment
- **Figure 8** – Existing Utilities Map

Chapter 1: Existing Conditions, Environmental Features, Community Plans

Introduction

The Town of Hillsborough has had a vision for many years to construct a multi-use greenway to provide access between downtown and neighborhoods south of Interstate 85. The greenway will aid in reducing vehicular miles travelled within the town and allow bicycle and pedestrian connectivity between area destinations for users of all ages. The greenway has been recommended in town planning documents previously under the name Cates Creek Greenway and as the North/South Greenway in the Hillsborough Community Connectivity Plan.

This feasibility study evaluates potential alignments and design elements for the project and analyzes the impacts to determine if construction is a practical option. It also serves to narrow the project scope and provide information to assist in project planning. A feasibility study does not provide final design and engineering. The recommendations provided in this report are subject to change once more information is available and as design progresses. However, this is an important planning step to identify challenges that the potential greenway routes may encounter, explore alternative options, make recommendations, and provide preliminary cost estimates.

The scope of the study is a high-level overview of the potential greenway routes. In analyzing routes, consideration is given to impacts on the environment and existing utilities. Environmental analysis reviews both the human environment and natural environment to minimize negative impacts to the surrounding area. This is a requirement of many funding sources and helps guide a project to produce the most favorable path. It is also vital to ensure that structures, such as bridges and necessary drainage, are feasible for any recommended route and that the right-of-way required is reasonable for the benefit of the project. The limit of a feasibility study is that all analysis is done based on preliminary information and more detailed information will be required as design and engineering progresses.

This study reviews the potential impacts associated with construction of the proposed Hillsborough Ridgewalk Greenway in Hillsborough, North Carolina from downtown Hillsborough to Cates Creek Park. The greenway would link to the existing Hillsborough Riverwalk greenway, which runs along the Eno River, and the future passenger train station, and utilizes the planned greenway in the Collins Ridge development. The greenway would provide connectivity to multiple neighborhoods including Collins Ridge, Beckett's Ridge, and Waterstone. The proposed greenway would cross the North Carolina Railroad corridor south of downtown Hillsborough, as well as the Interstate 85 corridor (I-85). This study is intended to assist the Town with preliminary planning for the proposed improvements.

Project Study Area

The proposed project would construct a separated pedestrian and bicycle greenway facility from downtown Hillsborough, North Carolina to Cates Creek Park to facilitate safe, barrier-free mobility for pedestrians and bicyclists between area destinations.

At the time of this report, it is not known whether the North Carolina Railroad will approve construction of the structures within the railroad corridor that are included in the preferred alignment of the proposed greenway

facility. Because of this uncertainty, the project study area includes a proposed alignment alternative in addition to the preferred alignment, described below.

The project study area is defined as an approximately 250-foot buffer around all potential proposed alignment alternatives. The project study area was used to identify potential environmental, cultural, community, and utility resources near the proposed alignment alternatives. The proposed project location and project study area are shown on the Project Vicinity Map in Figure 1.

Preferred Alignment

The current preferred alignment of the Hillsborough Ridgewalk Greenway would be approximately 2.7 miles long and proposed improvements would include three greenway segments:

- The **northern segment** would begin at Exchange Park Lane in downtown Hillsborough near the Hillsborough Riverwalk, follow Exchange Park Lane south to the North Carolina Railroad rail corridor, turn east along the corridor and under the S. Churton Street bridge, pass over the railroad tracks on an elevated structure, return to grade and continue southeast adjacent to North Carolina Railroad right-of-way before stopping at the northern boundary of the Collins Ridge development that is currently under construction. This segment also would include a trail spur south of the Eno River along Faribault Lane from Exchange Park Lane to the Hillsborough Riverwalk trailhead. The northern segment would include approximately 3,926 of newly constructed greenway facility and utilize approximately 86 feet of existing sidewalk on Exchange Park Lane.
- The **middle segment** would be located in Collins Ridge and would be constructed as part of the planned development and would include approximately 4,039 feet of new greenway facility. The Collins Ridge developer would be responsible for constructing this portion of the greenway to connect the northern and southern segments.
- The **southern segment** of the Ridgewalk Greenway improvements would continue south of Collins Ridge and pass over Interstate 85 on an elevated structure (e.g., pedestrian bridge) before returning to grade and following Beckett's Ridge Drive and Cates Creek Parkway south on existing sidewalk and side path to the entrance to Cates Creek Park. The southern segment would include approximately 2,918 feet of newly constructed greenway facility, including a 159-foot pedestrian bridge over Interstate 85, and utilize approximately 3,132 feet of existing sidewalk and asphalt path along Beckett's Ridge Drive and Cates Creek Parkway.

Potential Alignment Alternative

The potential alignment alternative would amend the northern segment of the preferred alignment described above to avoid constructing an elevated structure over North Carolina Railroad right-of-way. Instead, this alignment would continue south along Exchange Park Lane and pass under the railroad tracks using an on-street facility through an existing one-lane viaduct, then turn east along Orange Grove Road and terminate at the northern boundary of the Collins Ridge development. The Collins Ridge and southern segments of the alignment alternative would match the preferred alignment.

Human Environment

Community Facilities

A detailed community resource study was not conducted for this report. A search was performed to identify community resources located within or near the project study area. Identified resources are shown on the Community Features Map in Figure 2.

Schools

No primary or secondary schools are located within the project study area. The Center of Excellence Child Care & Academy, a preschool and daycare facility at 500 Millstone Drive, is located just outside the project study area boundary near Cates Creek Park. Other nearby schools include Pinewoods Montessori School (109 Millstone Drive), located west of the proposed southern terminus of the Ridgewalk Greenway, and River Park Elementary School (240 St Mary's Road), located northeast of the proposed northern terminus in downtown Hillsborough.

Additionally, no colleges or universities are located within the project study area. The nearest postsecondary educational institution is the Durham Technical Community College Orange County Campus, located at 525 College Park Road in Hillsborough. The Durham Tech campus is approximately 0.5 miles from the southern terminus of the proposed Ridgewalk Greenway in Cates Creek Park.

The current proposed alignment of the Ridgewalk Greenway is not anticipated to impact schools. The proposed project would improve pedestrian and bicycle access between schools and residential neighborhoods near the proposed alignment.

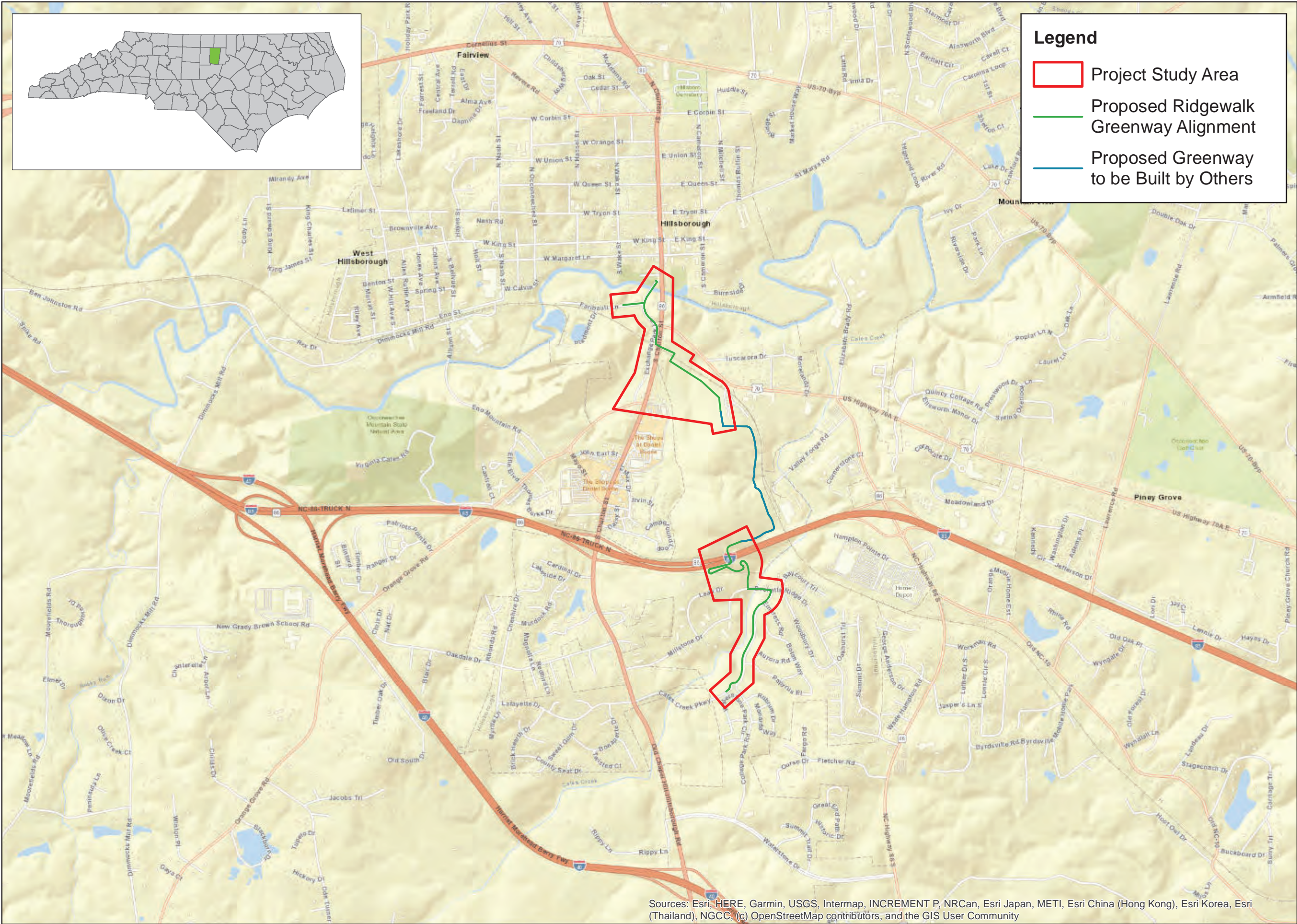
Parks

Three existing public parks, one privately-owned park that is open to the public, and one former private park are located within the proposed project study area.

Hillsborough Riverwalk is an urban greenway that stretches along the Eno River between Gold Park in western Hillsborough to Elizabeth Brady Road, where it connects to the Historic Occoneechee Speedway Trail. The Riverwalk trail is approximately 2.2 miles from end to end but includes more than 3.25 miles of overlapping and meandering paved and unpaved trails surrounded by greenway open space. The Riverwalk is also part of the Mountains-to-Sea Trail, a 1,175-mile network of trail connections stretching from the Great Smoky Mountains on the western border of North Carolina to the Outer Banks on the eastern coast. Approximately 1,000 feet of the Hillsborough Riverwalk is located within the project study area. The proposed Ridgewalk Greenway would connect with the Riverwalk at its northern terminus near downtown Hillsborough, as well as at its Faribault Lane spur.

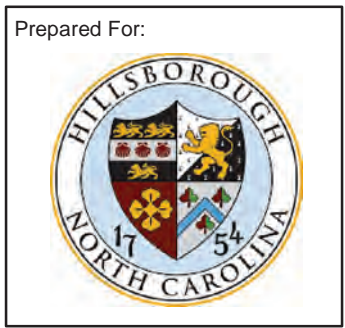
River Park is a 5.3-acre passive open space park located at 228 South Churton Street, south of downtown Hillsborough, east of Churton Street, and north of the Eno River. River Park is owned and managed by Orange County and accessible via the Hillsborough Riverwalk. The northern terminus of the proposed Ridgewalk Greenway alignment would be located approximately 200 feet from River Park.

Cates Creek Park is a 17-acre park owned and managed by the Town of Hillsborough, located at 1445 Cates Creek Parkway south of Interstate 85 that includes the southern terminus of the proposed project. Amenities include restrooms, picnic tables, trails, multi-use fields, and playgrounds. The proposed Ridgewalk Greenway alignment would primarily utilize existing sidewalk and side path on Cates Creek Parkway along the eastern border of Cates Creek Park and terminate at the primary park access point and parking lot south of College Park Road. A small-



Legend

- Project Study Area
- Proposed Ridgeway Greenway Alignment
- Proposed Greenway to be Built by Others



**Hillsborough
Ridgeway
Greenway
Feasibility Study**

**Project Vicinity
Map**
DRAFT FOR REVIEW

**Orange County
North Carolina**

Date: May 2023	
Scale: 0 1,000 2,000 Ft	
Job No.: 22-030	
Drawn By: CMR	Checked By: CM

**Figure
1**

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

scale skateboarding park, or “skate spot,” of approximately 5,000 to 6,000 square feet is planned for Cates Creek Park. The skate spot is funded and slated for construction in 2024 and will be one of the few destinations in Hillsborough designated primarily for teens. The proposed Ridgewalk Greenway will provide non-motorized access to the Cates Creek skate spot.

Exchange Club Park is a 16-acre park located at 331 Exchange Club Lane that is owned and operated by the Hillsborough Exchange Club. Though privately owned, it is open to the public and includes two playgrounds, open space areas, picnic tables and shelters, and a baseball field used by the Hillsborough Youth Athletic Association, a non-profit organization offering sports programming to children ages 4 to 15. The proposed Ridgewalk Greenway alignment would connect to Exchange Park Lane approximately 1,000 feet north of the park entrance.

Additionally, Collins Field is the former site of four baseball and softball fields formerly operated by the Hillsborough Youth Athletic Association. The property at 255 Orange Grove Street was purchased by the Town of Hillsborough from a private owner and will be the site of the future Hillsborough passenger train station. The proposed Ridgewalk Greenway alignment would connect to the proposed station at the north end of the site before crossing north over North Carolina Railroad right-of-way.

The current proposed alignment of the Ridgewalk Greenway is not anticipated to require right-of-way from or otherwise impact any existing parks. The proposed project would improve pedestrian and bicycle access to and between the existing parks within the project study area, in addition to providing a new recreational greenway in Hillsborough.

Places of Worship

One place of worship is located within the project study area:

- Iglesia Pentecostes Aposento Alto - 238 Orange Grove Street

The current proposed alignment of the Ridgewalk Greenway is not anticipated to require right-of-way from or otherwise impact any place of worship.

Places of Interest

The following places of interest are located within the project study area:

- Downtown Hillsborough – bounded approximately by the Eno River (south), Nash Street (west), Corbin Street (north), and Cameron Street / St. Mary’s Road / Lydia Lane (east)
- Gateway Center (Government Office) – 228 S. Churton Street
- Weaver Street Market – 228 S. Churton Street
- Future passenger train station – 255 Orange Grove Street

The current proposed alignment of the Ridgewalk Greenway is not anticipated to impact any identified community places of interest. The greenway would provide improved pedestrian and bicycle access to nearby community destinations.

Several government facilities including the Orange County Public Library, Orange County West Campus offices, and Orange County Courthouse are located immediately north of the project study area in downtown Hillsborough. The proposed Ridgewalk Greenway would provide improved pedestrian and bicycle access to downtown amenities from the future passenger train station and neighborhoods in southern Hillsborough.

Emergency Management Services (EMS)

No Emergency Management Service facilities were identified with the project study area. However, the following Emergency Management Service facilities are located immediately north of the project study area in downtown Hillsborough:

- Orange Rural Fire Department Station 1 – 206 South Churton Street
- Orange County Sheriff’s Office – 106 E. Margaret Lane
- Town of Hillsborough Police Station – 127 North Churton Street

Additionally, a new public safety building was constructed in 2023 in the Waterstone development at 350 College Park Road, approximately 0.4 miles south of the southern terminus of the proposed Ridgewalk Greenway alignment. The building houses the Orange Rural Fire Department as well as Orange County Emergency Services staff.

The current proposed Hillsborough Riverwalk Greenway is designed with adequate trail width and clearance for emergency service vehicles to access the trail and trail users. Unique address geolocation points would be created every 1/10 mile and shared with Emergency Management Service providers, and location signage would be installed at each point to help identify trail user location in the event of an emergency. The entire proposed alignment is within two miles of an Emergency Management Service station location.

Medical Facilities

No medical facilities are located within the project study area. The nearest medical facilities to the proposed Ridgewalk Greenway alignment are:

- University of North Carolina Hillsborough Campus – 430 Waterstone Drive
- University of North Carolina Urgent Care at Hillsborough – 2800 Old North Carolina 86
- University of North Carolina Hospitals Dermatology & Skin Cancer Center– 2201 Old North Carolina 86
- Duke Medical Plaza – 267 South Churton Street

The current proposed Hillsborough Riverwalk Greenway alignment would not impact medical facilities. The greenway would provide improved pedestrian and bicycle access to medical facilities near the alignment.



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Hillsborough Ridgeway Greenway Feasibility Study

Community Features Map

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Orange County North Carolina

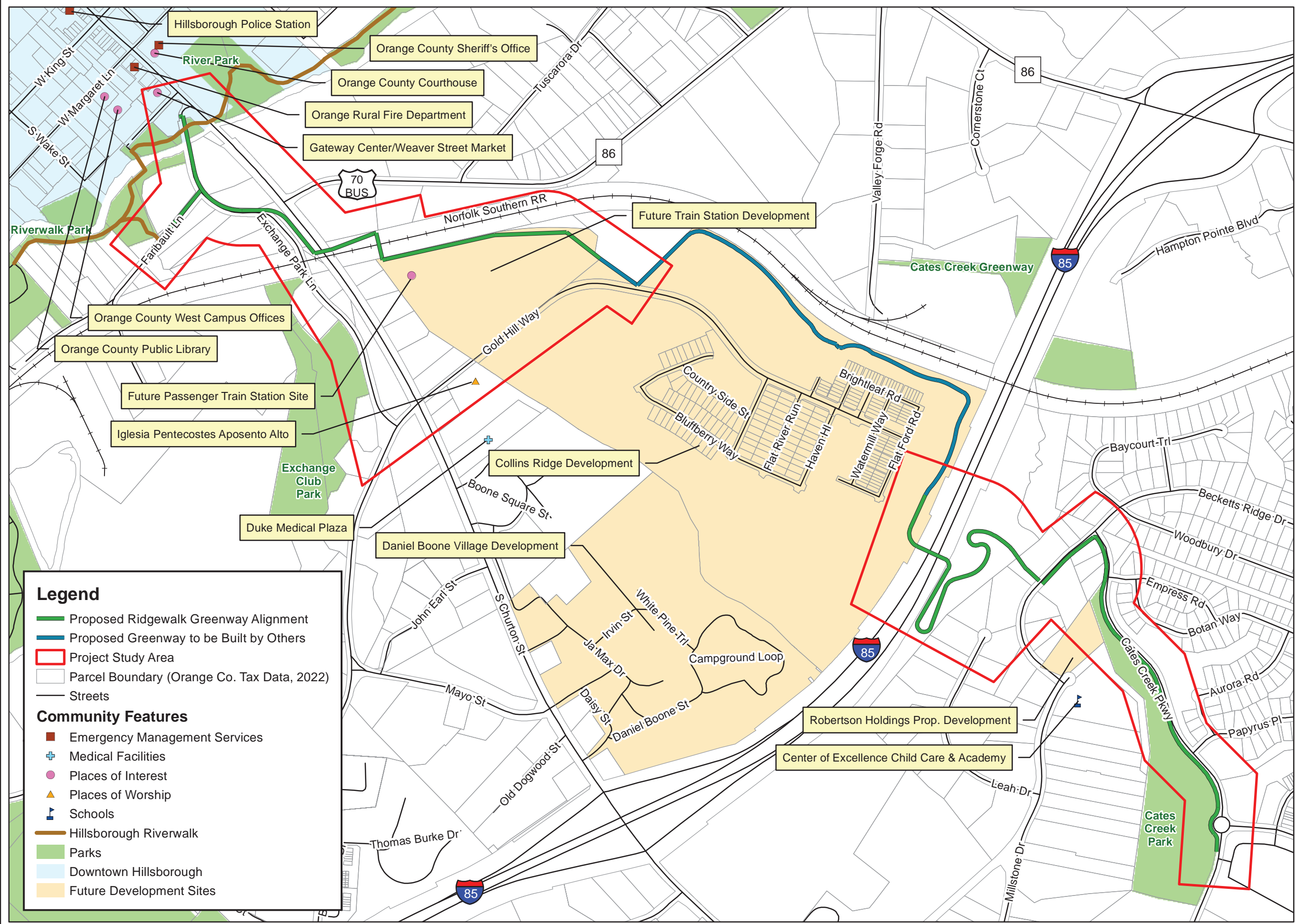
Date: May 2023

Scale: 0 250 500 Ft

Job No.: 22-030

Drawn By: CMR Checked By: CM

Figure 2



Legend

- Proposed Ridgeway Greenway Alignment
- Proposed Greenway to be Built by Others
- Project Study Area
- Parcel Boundary (Orange Co. Tax Data, 2022)
- Streets

Community Features

- Emergency Management Services
- Medical Facilities
- Places of Interest
- Places of Worship
- Schools
- Hillsborough Riverwalk
- Parks
- Downtown Hillsborough
- Future Development Sites

Cultural Resources

Historic Architecture

The project study area was screened using the North Carolina State Historic Preservation Office (NC-HPO) GIS Web Service. The following potential historic resources were identified within the project study area and may require further investigations and/or coordination with the North Carolina State Historic Preservation Office if there is a federal or state nexus associated with construction of the improvements (e.g., federal/state funding, federal/state permit). The Historic Resources Map is shown in Figure 3.

- Exchange Park Lane bridge over Eno River – Determined eligible for listing in the National Register of Historic Places (NRHP) in the North Carolina Department of Transportation (NCDOT) 2005 Historic Bridge Inventory.
- Hillsborough Historic District (Local) – Includes the Town’s historic commercial core and surrounding residential neighborhoods; established through passage of a preservation ordinance in 1973.
- Hillsborough Historic District (NRHP) – Listed in the NRHP in 1973 with a larger boundary than the local district that extends south of the Eno River within the project study area; listed under the following preservation criteria:
 - *Criterion A – African American Heritage and Education:* Property is associated with events that have made a significant contribution to the broad patterns of our history.
 - *Criterion C – Architecture:* Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack Period of Significance individual distinction.
- Contributing structures to the Hillsborough Historic District (parcel located within the project study area):
 - Map ID 1 – 205 United States Highway 70A (SE corner of Highway 70 and Churton St) – Highlands House, wellhouse, reflecting pond, garage, shed, and carport
 - Map ID 2 – 229 South Churton Street – Jonathan P. Steed House (Eno Lodge) and flowerhouse
 - Map ID 3 – 226 South Churton Street – Commercial building: Volume Records & Beer
 - Map ID 4 – 144 East Margaret Lane – Orange County District Attorney’s Office (former Sheriff’s Dept.)

Archaeology

No screening for archaeological resources was performed for the study area; however, the project study area may need to be investigated for archaeological resources if there is a federal or state nexus associated with construction of the improvements (e.g., funding, permitting).



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Hillsborough Ridgeway Greenway Feasibility Study

Historic Resources Map

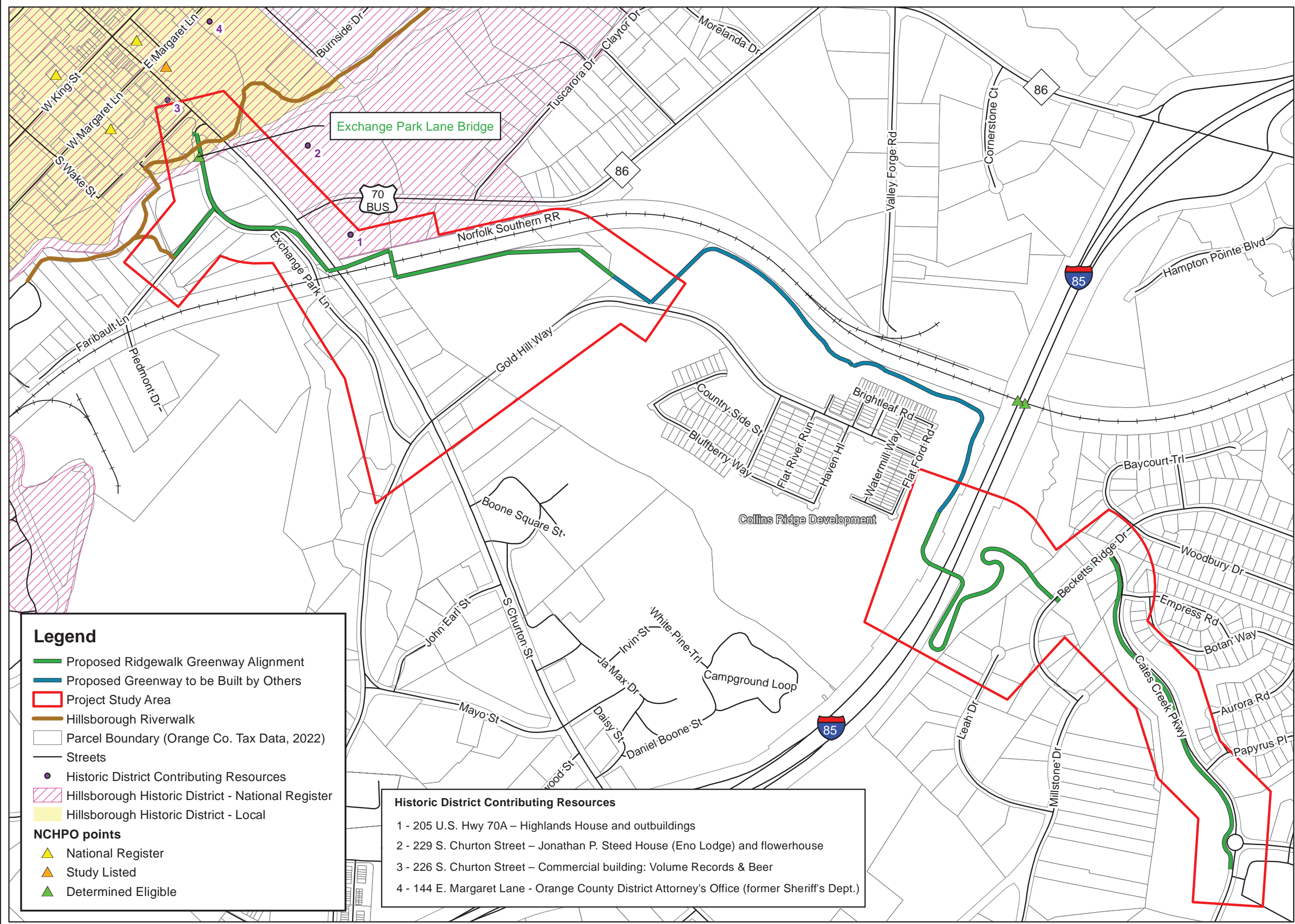
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Orange County North Carolina

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Figure 3



Legend

- Proposed Ridgeway Greenway Alignment
- Proposed Greenway to be Built by Others
- Project Study Area
- Hillsborough Riverwalk
- Parcel Boundary (Orange Co. Tax Data, 2022)
- Streets
- Historic District Contributing Resources
- Hillsborough Historic District - National Register
- Hillsborough Historic District - Local

NCHPO points

- National Register
- Study Listed
- Determined Eligible

- Historic District Contributing Resources**
- 205 U.S. Hwy 70A – Highlands House and outbuildings
 - 229 S. Churton Street – Jonathan P. Steed House (Eno Lodge) and flowerhouse
 - 226 S. Churton Street – Commercial building: Volume Records & Beer
 - 144 E. Margaret Lane - Orange County District Attorney's Office (former Sheriff's Dept.)

Land Use and Zoning

Land Use

Figure 4 shows existing land uses in and around the project study area in Hillsborough. The project study area is comprised of a mix of residential, commercial, retail, town center, open space, and mixed-use land uses. The proposed Ridgewalk Greenway would connect government, retail, and residential uses in downtown Hillsborough (identified as Town Center in the land use map) with the Hillsborough Riverwalk south of downtown, the retail mixed use corridor along S. Churton Street, the future passenger rail station (shown as Mixed-Use in Figure 4), Collins Ridge residential development, and the Employment and Small Lot Residential areas and Cates Creek Park south of Interstate 85.

The proposed greenway trail would be in character with existing land uses within the project study area. The two major land uses within the project study area that are not compatible with a pedestrian and bicycle trail – the North Carolina Railroad tracks and Interstate 85 – would be avoided by using pedestrian and bicycle bridge structures.

Zoning

Figure 5 shows the existing zoning in and around the project study area in Hillsborough. The project study area contains the following zoning classifications:

- AR – Agricultural Residential
- CC – Central Commercial
- EDD – Economic Development District
- ESU – Entranceway Special Use
- GC – General Commercial
- HIC – High Intensity Commercial
- MHP – Mobile Home Park
- NB – Neighborhood Business
- OI – Office Institutional
- R10 – Residential (10,000 sf. min.)
- R15 – Residential (15,000 sf. min.)
- R20 – Residential (20,000 sf. min.)
- RSU – Residential Special Use

The current proposed alignment of the Ridgewalk Greenway would construct a new greenway trail in areas zoned R20 Residential, Neighborhood Business, Agricultural Residential, Residential Special Use, and General Industrial. The proposed greenway trail would be compatible with all existing zoning classifications within the project study area, and no rezoning is anticipated to be required.



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Hillsborough Ridgewalk Greenway Feasibility Study

Land Use Map

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North Carolina

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Figure

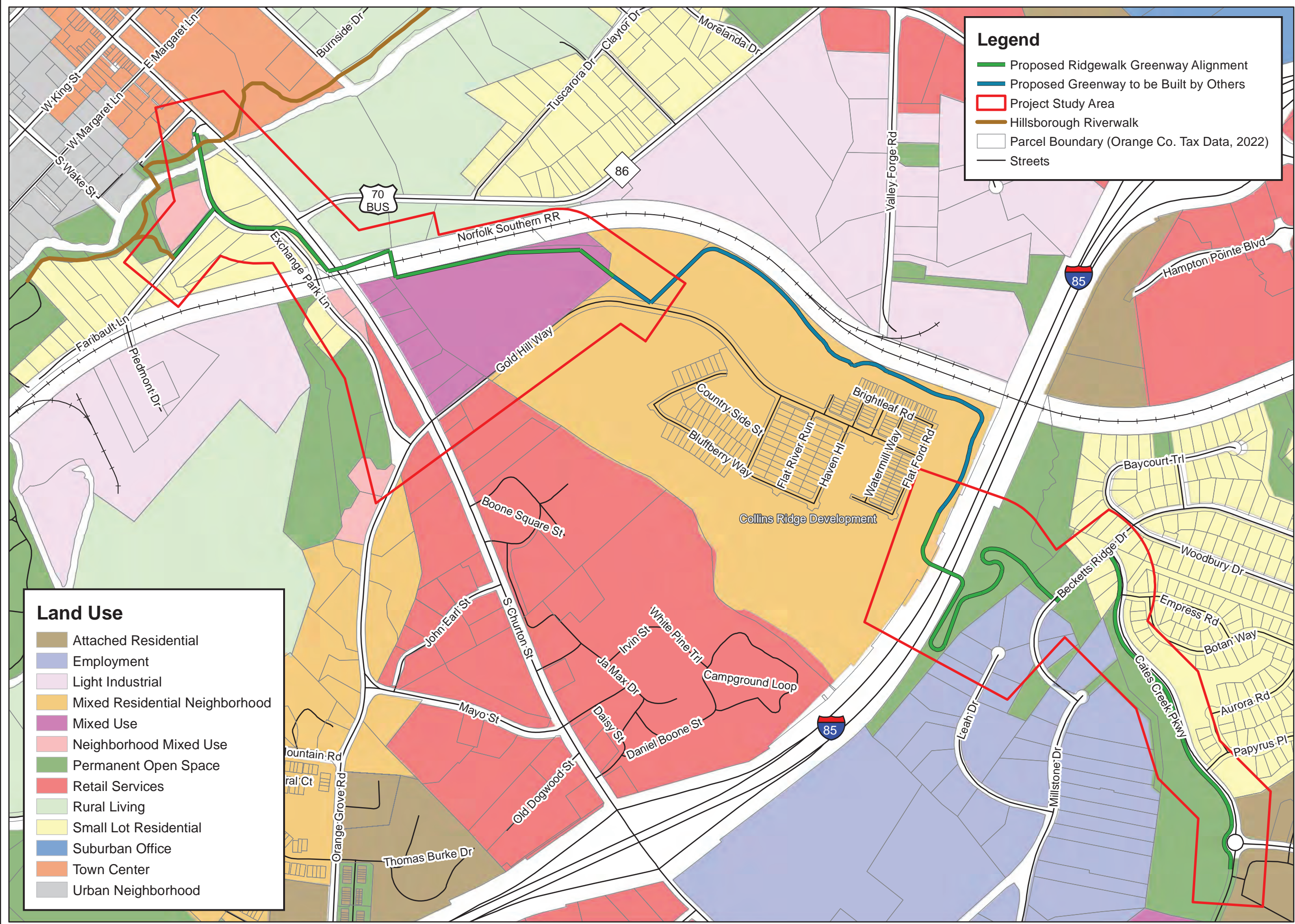
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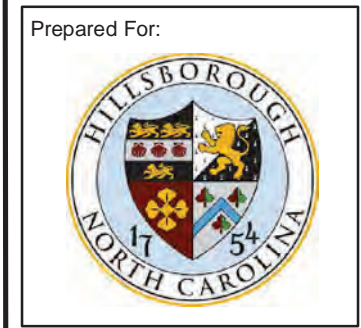
Legend

- Proposed Ridgewalk Greenway Alignment
- Proposed Greenway to be Built by Others
- Project Study Area
- Hillsborough Riverwalk
- Parcel Boundary (Orange Co. Tax Data, 2022)
- Streets

Land Use

- Attached Residential
- Employment
- Light Industrial
- Mixed Residential Neighborhood
- Mixed Use
- Neighborhood Mixed Use
- Permanent Open Space
- Retail Services
- Rural Living
- Small Lot Residential
- Suburban Office
- Town Center
- Urban Neighborhood





Hillsborough Ridgeway Greenway Feasibility Study

Zoning Map

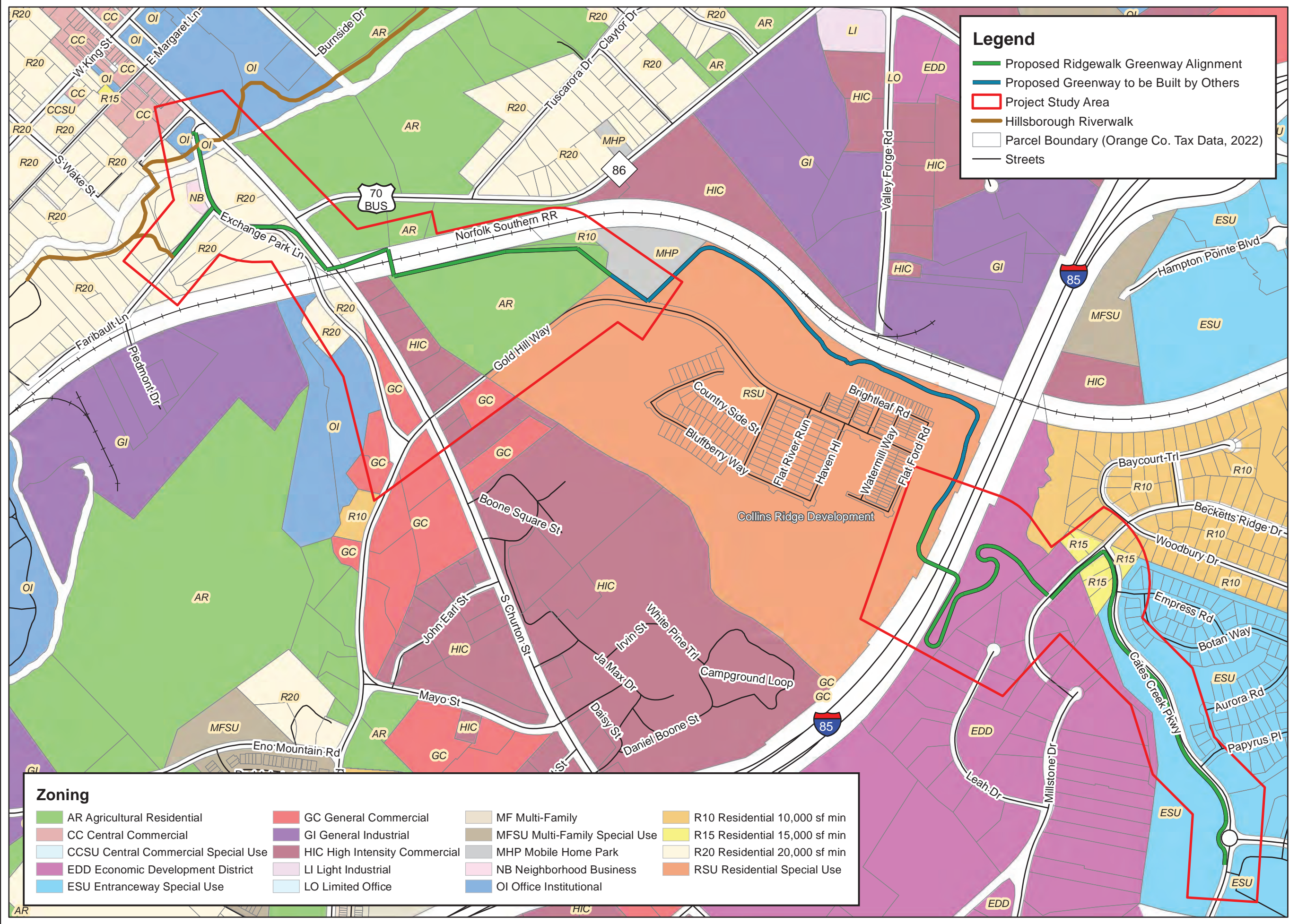
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North Carolina

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Figure 5



Legend

- Proposed Ridgeway Greenway Alignment
- Proposed Greenway to be Built by Others
- Project Study Area
- Hillsborough Riverwalk
- Parcel Boundary (Orange Co. Tax Data, 2022)
- Streets

Zoning

■ AR Agricultural Residential	■ GC General Commercial	■ MF Multi-Family	■ R10 Residential 10,000 sf min
■ CC Central Commercial	■ GI General Industrial	■ MFSU Multi-Family Special Use	■ R15 Residential 15,000 sf min
■ CCSU Central Commercial Special Use	■ HIC High Intensity Commercial	■ MHP Mobile Home Park	■ R20 Residential 20,000 sf min
■ EDD Economic Development District	■ LI Light Industrial	■ NB Neighborhood Business	■ RSU Residential Special Use
■ ESU Entranceway Special Use	■ LO Limited Office	■ OI Office Institutional	

Natural Environment

The following natural resources assessment was completed using a desktop-level exercise, as well as a cursory field review to “spot-check” the results of the desktop-level exercise. A detailed environmental study was not conducted for this report. Natural resources are shown on the Environmental Features Map in Figure 6.

Jurisdictional Features

Potential jurisdictional features were not field delineated as part of this feasibility study. Data referenced below is based off the most current remote sensing data (National Hydrography Dataset [NHD] data, United States Fish and Wildlife Service [USFWS] National Wetland Inventory [NWI] mapping, United States Geological Survey [USGS] Streamstats data, Natural Resources Conservation Service [NRCS] and North Carolina Division of Water Resources [NCDWR] data) and available orthoimagery. Water resources in the study area are part of the Eno River Subbasin of the Neuse River Basin (United States Geological Survey [USGS] Hydrologic Unit Code [HUC] 03020201).

Based on the North Carolina Division of Water Resources and United States Geological Survey mapping, two named streams, plus five potential unnamed tributaries, are located within the project study area (Table 1). The locations of the potential streams are shown on Figure 6.

Table 1. Potential streams in the study area (continued)

Stream Name	NCDWR Index Number	Subject to Neuse River Buffer Rules	Best Usage Classification	Approximate Length (feet) ¹	Present in Field
Eno River	27-2-(7)	Subject ¹	WS-V; NSW	725	Yes
Cates Creek	27-2-8	Subject ¹	WS-V; NSW	1,783	Yes
Unnamed Tributary to Eno River (Stream SA)	27-2-(7)	Subject ¹	WS-V; NSW	1,418	Yes
Unnamed Tributary to Eno River (Stream SB)	27-2-(7)	Subject ¹	WS-V; NSW	1,265	No
Unnamed Tributary to Eno River (Stream SC)	27-2-(7)	Subject ²	WS-V; NSW	534	No ³
Unnamed Tributary (Intermittent) to Cates Creek (Stream SD)	27-2-8	Subject ¹	WS-V; NSW	906	Yes
Unnamed Tributary (Intermittent) to Cates Creek (Stream SE)	27-2-8	Subject ²	WS-V; NSW	477	No

¹ On both USGS topographic and NRCS soil survey mapping.

² Only on NRCS Soil Survey mapping

³ Stream SC has been diverted to an underground channel

Field verification of potential stream features within the project study area confirmed the presence of Eno River, Cates Creek, and Streams SA and SD. Streams SB and SE are not present; Stream SC has been diverted to an underground channel.

The current proposed Ridgewalk Greenway alignment would cross the Eno River, Cates Creek, and Stream SD using existing sidewalks and sidepaths on the Exchange Park Lane bridge, Beckett’s Ridge Drive, and Cates Creek Parkway. Cates Creek and Stream SD are conveyed through existing culverts in the vicinity of the proposed alignment. No structural modifications to the bridge or culverts are anticipated.

The current proposed Ridgewalk Greenway alignment would construct a ten-foot asphalt path on the north side of Faribault Lane where it crosses Stream SA, with a 2.5-foot grass strip separating the path from the existing edge of pavement and a 2-foot grass shoulder on the north side of the path. Stream SA is conveyed through an existing culvert under Beckett’s Ridge Drive in this location. Extension of the existing culvert is anticipated to be necessary for construction of the proposed greenway.

No potential surface waters were identified in the project study area.

Wetlands

Potential wetlands were not field delineated as part of this report. Future project phases should include delineation of wetlands within the project study area to confirm impacts. Based on United States Fish and Wildlife Service National Wetland Inventory mapping, six potential jurisdictional wetlands are located within the project study area, and a seventh additional potential wetland was observed during field review (Table 2). Five of the six potential wetlands shown in the National Wetland Inventory are riverine wetlands within the existing stream channels identified in Table 1, including one within the channel of a stream (SB) that was not present during field review. Non-riverine wetlands identified in the National Wetland Inventory are shown in Figure 6.

The potential wetlands in the project study area are located within the Neuse River Basin (United States Geological Survey Hydrologic Unit Code 03020201). One additional freshwater pond (National Wetland Inventory Classification PUBHh) is located outside of the northeastern end of the project study area in River Park.

Table 2. Potential wetlands in the study area

NWI Classification	Cowardin Classification	Approximate Location	Area in Study Area (acres)
Riverine Wetland	R2UBH	Along the Eno River	1.52
Riverine Wetland	R5UBH	Along the south bank of the Eno River beneath and west of the Exchange Park Lane bridge	0.18
Riverine Wetland	R5UBH	Along the south bank of the Eno River east of Churton Street	0.002
Riverine Wetland	R4SBC	Along an intermittent stream (SA) that runs south from the Eno	0.64

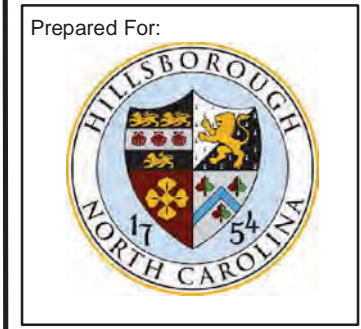
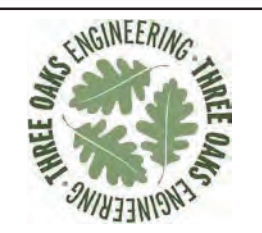
Table 2. Potential wetlands in the study area

NWI Classification	Cowardin Classification	Approximate Location	Area in Study Area (acres)
		River on the west side of Exchange Park Lane.	
Riverine Wetland	R4SBC	Along an intermittent stream (SB) that runs south from the Eno River to the Collins Ridge development	0.58
Freshwater Forested/Shrub Wetland	PFO1A	Along Cates Creek	0.79
Riverine Wetland	R4SBC	Along an intermittent stream (SD) that crosses Cates Creek Pkwy. near the southern end of the project study area	0.41
Undetermined	PFO	Observed during field review along a potential intermittent stream (SE; not present during field review) running west from Cates Creek to Leah Drive	Undetermined

The proposed Ridgewalk Greenway alignment would utilize existing sidewalks in the vicinity of the three potential riverine wetlands associated with the Eno River, the freshwater forested/shrub wetland associated with Cates Creek, and the riverine wetland that crosses Cates Creek Parkway. The proposed alignment would not impact the observed potential wetland in the vicinity of Stream SE.

The proposed project would construct a new greenway trail along Faribault Lane, including crossing of a potential riverine wetland area associated with Stream SA. The proposed typical section is a ten-foot asphalt path on the north side of Faribault Lane with a 2.5-foot grass strip separating the path from the existing edge of pavement and a 2-foot grass shoulder on the north side of the path.

The current proposed Ridgewalk Greenway alignment would cross the potential wetland associated with Stream SB (the stream was not present during field review) on a 14-foot-wide elevated boardwalk structure. Pier locations have not been established at this phase of design. If in-field delineation in future phases confirms the presence of the potential wetland, avoidance or mitigation may be required.



Hillsborough Ridgeway Greenway Feasibility Study

Environmental Features Map

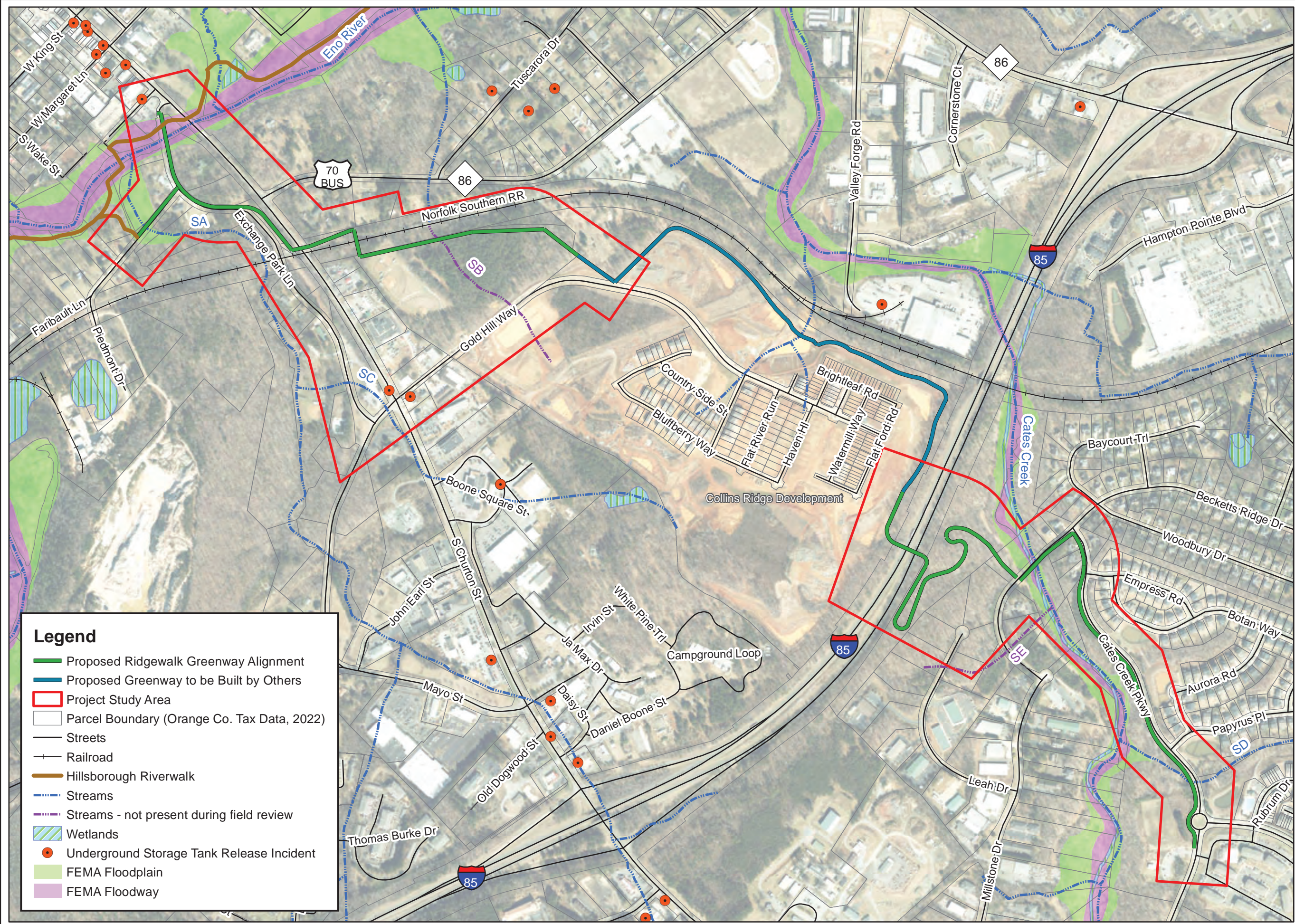
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North Carolina

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Drawn By:	CMR
Checked By:	CM

Figure 6



Legend

- Proposed Ridgeway Greenway Alignment
- Proposed Greenway to be Built by Others
- Project Study Area
- Parcel Boundary (Orange Co. Tax Data, 2022)
- Streets
- Railroad
- Hillsborough Riverwalk
- Streams
- Streams - not present during field review
- Wetlands
- Underground Storage Tank Release Incident
- FEMA Floodplain
- FEMA Floodway

Water Quality Considerations

There are no designated Outstanding Resource Waters, High Quality Waters or water supply I or II watersheds within the project study area or within 1.0 mile downstream of the project study area. The North Carolina 2022 Final 303(d) and 2020 Draft Clean Water Act Section 303(d) lists of impaired waters does not list any impaired streams within the project study area or within 1.0 mile downstream of the project study area.

No potential streams within the project study area have been designated by the United States Army Corps of Engineers as a Navigable Water under Section 10 of the Rivers and Harbors Act.

This project is within the Neuse River Basin. Therefore, streams within the project are potentially subject to the Neuse River Riparian Buffer Rules. Table 1 lists which features are potentially subject to these buffer rules based on their presence on either United States Geological Survey topographic mapping and/or Natural Resources Conservation Service soil survey mapping. Features that were either mapping type, but were confirmed to be absent in the field, would not require riparian buffers.

Riparian Floodways and Floodplains

Riparian floodplains were identified within the project study area using Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map mapping. Both the Eno River and Cates Creek are Federal Emergency Management Agency-regulated floodways and Zone AE flood zones (100-year floodplain) encroach into the project study area (Table 3).

Table 3. Characteristics of FEMA-regulated floodplains in the study area

Map ID	Floodway in Study Area (acres)	Zone AE in Study Area (acres)
Eno River	3.20	3.34
Cates Creek	2.66	3.42

The proposed Ridgewalk Greenway alignment would utilize existing sidewalks within both the Eno River and Cates Creek floodways and Zone AE floodplains. New path construction would not encroach on floodways or Zone AE floodplains, as currently designed, therefore the proposed alignment is not anticipated to impact Federal Emergency Management Agency-regulated floodplains.

Protected Species

Endangered Species Act Protected Species

As of May 11, 2023, the United States Fish and Wildlife Service Information for Planning and Consultation website lists six federally protected (or proposed for protection) species under the Endangered Species Act as having habitat ranges that potentially overlap the project study area (Table 4). A review of the Winter (January) 2023 North Carolina Natural Heritage Program dataset revealed known occurrences of Atlantic pigtoe (Element Occurrence No. 7) and Neuse River waterdog (Element Occurrence No. 690) within 1.0 mile of the project study area (both in the Eno River). For each species, habitat presence was reviewed using the most recently available orthoimagery. This assessment does not replace in-field surveys, which are required to confirm habitat presence/absence.

Table 4. ESA federally protected species listed for Orange County

Scientific Name	Common Name	Federal Status ¹	Habitat Present
<i>Perimyotis subflavus</i>	Tricolored Bat	PE	Yes
<i>Noturus furiosus</i>	Carolina madtom	E	Yes
<i>Necturus lewisi</i>	Neuse River waterdog	T	Yes
<i>Fusconaia masoni</i>	Atlantic pigtoe	T	Yes
<i>Alasmidonta heterodon</i>	Dwarf wedgemussel	E	Yes
<i>Danaus plexippus</i>	Monarch Butterfly	C	Yes

¹E – Endangered; PE – Proposed Endangered; T – Threatened; C – Candidate

Tricolored Bat

Tricolored bat was proposed for listing on September 13, 2022. Generally, species become listed roughly a year following their proposal for listing, and it is anticipated that this species will be listed statewide. Tree-clearing and percussive activities will occur as part of this project. If tree-clearing activities occur prior to the official listing of the species, then no restrictions on tree clearing will be required. After listing, the United States Fish and Wildlife Service may require conservation measures to minimize potential take of tricolored bats, such as:

- no tree clearing during the bat active season (April 1 – October 15)
- no percussive activities during the bat maternity season (May 15 - August 15)

If the project commences after the species is listed, it is recommended that the United States Fish and Wildlife Service be consulted to determine the appropriate steps for the project.

Aquatic Species

Carolina madtom, Neuse River waterdog, Atlantic pigtoe, and dwarf wedgemussel are all listed by the United States Fish and Wildlife Service Information for Planning and Consultation as potentially occurring in the project study area. The Eno River within the project study area is identified as critical habitat for the Neuse River waterdog. The proposed Ridgewalk Greenway alignment would utilize existing sidewalks to cross both the Eno River and Cates Creek, and impacts to these streams are not anticipated. If future design changes for the proposed project are anticipated to cause impacts to streams, particularly the Eno River and Cates Creek, surveys and/or coordination with the United States Fish and Wildlife Service is recommended.

Bald and Golden Eagle Protection Act

The bald eagle is not listed by the United States Fish and Wildlife Service Information for Planning and Consultation; however, it is federally protected under the Bald and Golden Eagle Protection Act, which is enforced by the United States Fish and Wildlife Service. Habitat for the bald eagle primarily consists of mature forests in proximity to large bodies of open water for foraging. Large dominant trees are utilized for nesting sites, typically within 1.0 mile of open water.

A desktop-level assessment of the project study area, as well as the area within a 1.0-mile radius of the project limits, was performed using the most currently available orthoimagery. Water bodies large enough or sufficiently

open to be considered potential feeding sources were identified. Since foraging habitat is located within the review area, a survey of the project study area and the area within 660 feet of the project limits is recommended.

Existing Mitigation Sites

There are no existing North Carolina Department of Transportation Mitigation Sites within the project study area.

GeoEnvironmental Sites

One potential hazardous waste site parcel was identified within the project study area:

- Hillsborough Chrysler Dodge Jeep Ram at 259 South Churton Street (formerly known as Don Lacefield Chevrolet/Carden's Body & Paint Service) is identified as a very small quantity hazardous waste generator in the Resource Conservation and Recovery Act (RCRA) system and is listed in the underground storage tank (UST) program. A sliver of the site parcel is located within the study area in the vicinity of the alternative alignment along Orange Grove Street.

Three underground storage tank petroleum release incidents have been recorded within the project study area:

- 228 South Churton Street – Gateway Center and Weaver Street Market: the incident occurred in June 2000, an intermediate risk level was determined and the incident was closed in 2004.
- 250 South Churton Street – Gro Smart Pet Supply: the incident occurred in October 1995, a low risk level was determined and the incident was closed in 2000.
- 255 South Churton Street – Quickie Mart: the incident occurred in May 2014, an intermediate risk level was determined; there is no record of incident closure.

Two non-underground storage tank petroleum release incidents have been recorded within the project study area:

- 250 South Churton Street – Duke Power: the incident occurred in October 1995, risk level was undetermined; there is no record of incident closure.
- Near 400 United States Highway 70A – Norfolk Southern: the incident occurred in February 2005, a low risk level was determined and the incident was closed in 2005.

The current proposed alignment of the Ridgewalk Greenway is not anticipated to impact any of the above listed properties. If future design changes for the proposed project require right-of-way acquisition of any of the above listed properties, further evaluation such as a Phase I Environmental Site Assessment is recommended to confirm desktop findings and determine if additional studies are required.

Farmlands

Because the project is located within a Census Urbanized Area, a farmland assessment is not required, in accordance with federal statutes.

Permitting and Documentation

Environmental Permitting

The environmental permits required for the project cannot be completely determined until final design (or close to final design) is completed. However, based on the type of project being considered and the location of the project, it is anticipated that the following permits and authorizations will be required.

Section 404 Permit

Section 404 of the Clean Water Act requires permitting for any project that discharge fill material into waters of the United States including streams and wetlands. The proposed project as currently designed would require a Section 404 permit from the United States Army Corps of Engineers, the federal agency responsible for issuing these permits. The current proposed alignment of the Ridgewalk Greenway is anticipated to qualify for a Nationwide Permit, which are permits issued on a nationwide basis for projects that would result in minimal adverse effects, such as Nationwide Permit 14 (linear transportation projects) or Nationwide Permit 42 (recreational facilities).

401 Water Quality Certification

Section 401 of the Clean Water Act authorizes states and tribes to grant, deny, or waive permits for activities that may result in discharge into waters of the United States. A Section 401 Water Quality Certification from the State of North Carolina is required for any project that requires a federal permit due to impacts to wetlands or waters. The proposed project would require a Section 401 Water Quality Certification(s) because it would require a Section 404 permit.

Neuse River Riparian Buffer Authorization

Additionally, due to the project's presence in the Neuse River Basin and anticipated impacts to riparian buffers around streams, a Neuse River Riparian Buffer Authorization would also be required for the proposed project. The Neuse River Basin buffer rule applies both perennial and intermittent streams such as those found in the project study area, as well as jurisdictional lakes, ponds, estuaries, and modified natural streams. The North Carolina Division of Water Resources is the state agency responsible for issuing buffer authorizations.

Anticipated Mitigation

The proposed Ridgewalk Greenway as currently designed – a ten-foot asphalt path with two-foot shoulders – would be considered an allowable use after written riparian buffer authorization from the North Carolina Division of Water Resources and thus would not require riparian buffer mitigation. Extension of the existing culvert carrying Stream SA under Faribault Lane may require mitigation as currently designed, depending on the amount of permanent stream impact resulting from the extension. The threshold for requiring stream mitigation is currently 0.03 acres of impacted streambed.

Environmental Documentation

If there is a federal nexus associated with construction of the proposed Ridgewalk Greenway (e.g., any amount of federal funding or permitting by a federal agency) the proposed project would require environmental review and the documentation of potential environmental impacts in compliance with the National Environmental Policy Act (NEPA) of 1969. Assuming that federal transportation funds are used and/or a Section 404 permit from the United States Army Corps of Engineers is required, the Ridgewalk Greenway project would require federal environmental review and documentation. As currently designed, the proposed project is anticipated to meet criteria for a Federal Highway Administration Categorical Exclusion, established in 40 CFR 1508.4 and listed in 23 U.S.C. § 771.117(c)(3): "Construction of bicycle and pedestrian lanes, paths, and facilities."

In the absence of a federal nexus (i.e., no federal funding or Section 404 permit requirement), the Ridgewalk Greenway may be subject to the North Carolina State Environmental Policy Act (SEPA). Under Session Law 2015-90, the 2015 State Environmental Policy Act Reform Act, an environmental document must be prepared for all projects that use of \$10 million or more of state funds, include an action by a state agency, and have the

potential for detrimental environmental effects. If the proposed project were funded with \$10 million or more from state agencies including the North Carolina Department of Transportation, it would be subject to the North Carolina Environmental Policy Act.

Title 19A of the North Carolina Administrative Code includes “Construction of bicycle and pedestrian lanes, paths, and facilities” in its Minimum Criteria Rules for thresholds under which environmental documentation is not required for North Carolina Department of Transportation projects. Therefore, the proposed is anticipated to meet the criteria for a Minimum Criteria Determination Checklist.

Community Plans

There have been several plans developed by the Town of Hillsborough that help identify key aspects of locations and features for greenways and public spaces.

- Comprehensive Sustainability Plan (2023)
- Cates Creek Park Master Plan (2022)
- Community Connectivity Plan (2017)

Information provided in these plans, along with guidance from regulatory documents such as the Unified Development Ordinance, were utilized to complete this study and should be incorporated during final design.

Adjacent Projects

Developments

One existing development and one proposed development are located within the project study area. Additionally, there is a potential future planned development site near the proposed pedestrian bridge over Interstate 85, and future commercial development is anticipated within the project study area near the future passenger train station. Future development sites are shown on the Community Features Map in Figure 2. The Town of Hillsborough also continues to receive development proposals. A lot of growth in Hillsborough is occurring in the area surrounding the proposed greenway location which will allow the greenway to serve even more residents in the future.

Collins Ridge

Collins Ridge is a private housing development that is currently under construction between Orange Grove Road and Interstate 85. Construction will include single family homes, townhomes, apartments, and affordable rental units. As part of the development a 10 foot wide greenway will be built within the perimeter buffer by the developer and subsequently turned over to the Town of Hillsborough for ownership and maintenance. The developer has committed to completing construction of the greenway by December 31, 2027. The greenway inside of Collins Ridge will become part of the Ridgewalk trail.

Robertson Holdings Prop.

The Robertson Holdings development is a proposed light manufacturing building at 1800 Millstone Drive, which is located immediately west of Cates Creek near the proposed Ridgewalk Greenway where it would run along Cates Creek Parkway. The proposal is currently under review by the Hillsborough Planning Department, and a site plan was submitted in December 2022.

The proposed development would be located across Cates Creek from the proposed greenway alignment and would not be impacted by the proposed project.

Daniel Boone Village

Daniel Boone Village is a potential future mixed-use development on the site of the former Shops at Daniel Boone. The 58-acre site is located in south Hillsborough north of Interstate 85, east of Churton Street/Old North Carolina 86, south of the Food Lion at 106 Rebecca Drive, and immediately west of the Collins Ridge development. The site was acquired in 2018 by Daniel Boone LandCo and later transferred to DBC54, a corporate entity formed under D.R. Horton, a construction company that also controls Collins Ridge.

Initial draft redevelopment plans in 2020 showed 16 buildings containing more than 200,000 square feet of ground-floor commercial space, structured parking, and 384 residential units. However, DBC54 has not submitted plans to the Town of Hillsborough for development review. Demolition of the remaining former Shops at Daniel Boone buildings was completed in 2022.

The current proposed Ridgewalk Greenway alignment would not provide direct access to the Daniel Boone Village site. However, an access path from the site to the Ridgewalk Greenway could be constructed as part of Daniel Boone Village and may be considered for inclusion in conditions of approval for any future development plans submitted to the Town.

Future Development Near Train Station

Although there are no existing development plans at the time of this report, the Town of Hillsborough intends to preserve land surrounding the future passenger train station for mixed-use development. The most recent train station plans include the use of approximately 6.4 acres of the 19.6-acre parcel owned by the Town, leaving more than 13 acres potentially available for private or joint development opportunities.

The current proposed Ridgewalk Greenway alignment would be constructed along the northern and eastern boundaries of the proposed train station and development site, providing 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 is currently being designed. Final designs and permits are anticipated within a few years with construction complete by February 2028. This project site will include a train station building with town offices and meeting space, parking lot, and stormwater mitigation. 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.

U-5845 (Churton Street Widening)

The proposed project to widen Churton Street is suggested to reduce congestion from Interstate 40 and Interstate 85 into and out of Hillsborough. The current typical section of 2-3 lanes would be widened to a 4-lane divided section with bike lanes and sidewalks. U-5845 is proposed to begin on the south side of the Interstate 40 interchange and end just south of the Eno River. This project is included in the current North Carolina Department of Transportation 2020-2029 State Transportation Improvement Plan.

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.

Other Transportation Projects

There are several other projects that have been identified or studied in the surrounding area that do not have a direct association with the Ridgewalk greenway.

- North Carolina 86 Connector Study (2021)
- I-5984 Plans – Interchange upgrades at Interstate 85 and North Carolina 86
- I-5958 & I-5959 – Pavement rehabilitation on Interstate 85 from west of SR 1114 (Buckhorn Road) to Durham County line
- I-3306A – Interstate 40 interchange improvements between Interstate 85 and the Durham County line
- B-6037 – Bridge 670049 replacement over North Carolina Railroad/Norfolk Southern Railroad

Chapter 2: Greenway Consideration and Preferred Alignment

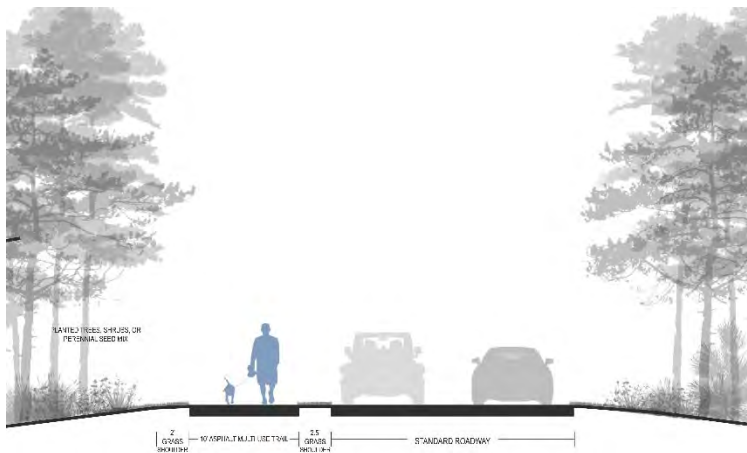
Design Criteria and Typical Section

Design Criteria

Design criteria for this project follows federal, state, and local guidance. The United States Department of Agriculture Accessibility Guidebook for Outdoor Recreation and Trails, the Manual on Uniform Traffic Control Devices (MUTCD), the American Association of State Highway Transportation Officials' (AASHTO) Guide for the Development of Bicycle Facilities (Fourth Edition), the North Carolina Bicycle Facilities Planning and Design Guidelines, and the 2010 Americans with Disabilities Act Standards for Accessible Design standards are all applicable to the greenway. The Town of Hillsborough also has greenway and public standards that they have published in their Community Connectivity Plan and Comprehensive Sustainability Plan.



Proposed Greenway Typical Section



Proposed Greenway next to Existing Roadway

Greenways typically are designed as an 8-12 foot path and to meet a 20 mile per hour design speed which requires a 100 foot minimum radius. Americans with Disabilities Act standards for grade also need to be met. They allow for up to a 5% continuous grade with a maximum grade of 12%. Grades between 5% and 12% require landings for rest at various intervals dependent on the grade.

Typical Sections

These typical sections are meant to provide a general plan for what the different parts of the proposed greenway may look like in terms of width, location, and materials. They do not show all minor variables, such as retaining walls, that may change in small sections of greenway in order 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.

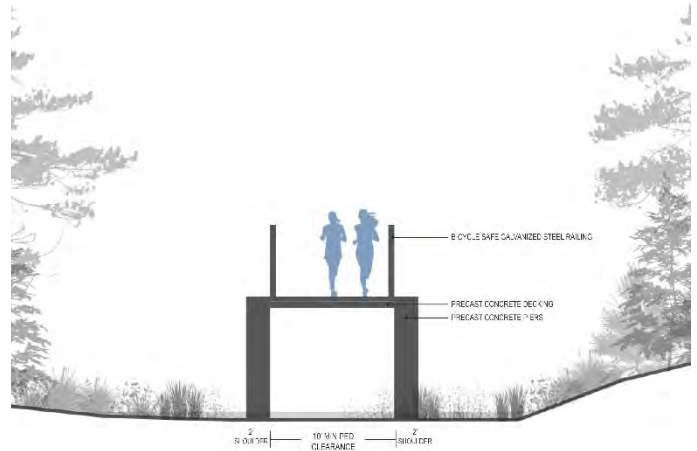
Greenway

A 10 foot greenway is recommended with 2 foot grass shoulders for areas where a standalone greenway will be built. For areas where the greenway is along a roadway a 2.5 foot grass strip is recommended between the

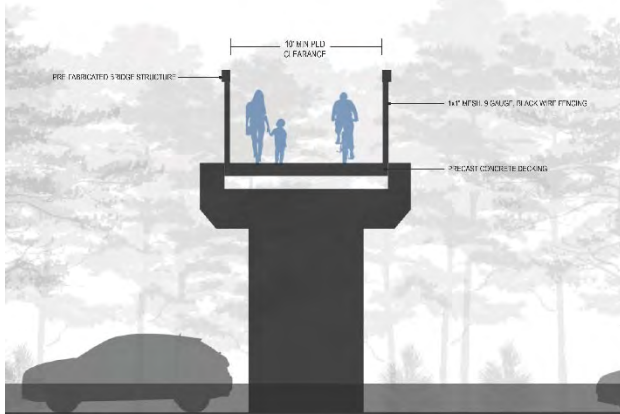
roadway and greenway with the same 10 foot wide path and 2 foot outside grass shoulder. An 8 foot wide greenway can be utilized if necessary to avoid major impacts. Maximum allowable cut and fill slopes are suggested to maintain the natural surroundings. However, ditches may be required outside of the slopes in some locations along the greenway for adequate drainage. To create an enjoyable experience for users of all types a smooth asphalt surface course layer should be used. The surface course should meet requirements similar to the North Carolina Department of Transportation specification for SF9.5A and use a subgrade of aggregate base course.

Boardwalk

Elevated boardwalk will be utilized in areas around structures where the grade required would create unreasonable fill heights or undesirable environmental impacts. The boardwalk will require a minimum of 10 foot clear width with railings due to the elevation. The railings will require guard rails at 42 inches and hand rails at 36 inches. Due to maintenance concerns, it is recommended that the boardwalk be constructed with a precast concrete deck on precast concrete beams with a bicycle safe galvanized steel railing or something similar.



Boardwalk Typical Section



Pedestrian Bridge Typical Section

Structures

Structures for the project will require a 10 foot clear width. It is anticipated that they will be prefabricated bridges for cost and construction purposes. A concrete deck is also recommended with a 1 inch x 1 inch mesh, 9 gauge, black wire fence. Bridges over other transportation facilities, such as Interstate 85 or the railroad, will require fencing to be included which will protect against objects thrown from the greenway.

Alternatives Considered

South on Churton and Crossing at United States 70 Business

This alternative explored a greenway alignment that started at Weaver Street Market and then continued south along Churton Street rather than Exchange Park Lane. The greenway would then have to cross to the east side of Churton Street at United States 70 Business and continue down to the crossing over the railroad. This alignment

was eliminated due to safety concerns caused by the amount of traffic on Churton Street and a lack of desire to have an at grade road crossing on the greenway at a busy intersection.

Tunnel Under Churton Street

The tunnel alternative began at Weaver Street Market, continued south down Exchange Park Lane and proposed a tunnel to cross under Churton Street just south of the intersection of Churton Street and United States 70 Business. The path would then continue down to the crossing over the railroad. This alternative was eliminated due to concern for the traffic control necessary to construct the tunnel and the historic property between United States 70 Business and the rail line.



View of North Side of One-Lane Trestle on Exchange Park Lane

Exchange Park Lane to Orange Grove Road

This alternative started at Weaver Street Market 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. This alignment avoids passing under the Churton Street bridge in the rail corridor and constructing 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. Due to 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. There is also no direct connection to the future train station. 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. If an agreement cannot be reached, this alignment is the next preferred alternative.

Multiple Alignments South of Interstate 85

Multiple alignments were studied between Interstate 85 and Beckett's Ridge Drive due to the large elevation change in the area. The topography necessitated a meandering alignment that strategically crossed the terrain changes. Initially a further east crossing over Interstate 85 was analyzed and found to not be feasible due to a large slope on the south side of Interstate 85. After the crossing was moved further to the west some more direct routes were studied, but did not meet Americans with Disabilities Act standards for greenway grades. Ultimately, one greenway alignment that meets a 20 miles per hour design speed was developed, but it encroached into the parcels on the cul-de-sac of Leah Drive. Due to right-of-way constraints, it is not desirable to impact these parcels, so the alternative was eliminated.

Preferred Alignment

Discussion of Alternative

Ridgewalk Greenway is proposed as a north-south pedestrian connection. Currently, Hillsborough has a network of east-west greenway paths, but none that run north-south. The recommended route starts at Weaver Street Market where a crosswalk will be needed to help pedestrians get to the east side of Exchange Park Lane. The greenway runs south along Exchange Park Lane until just north of the Norfolk Southern rail line. Once the path reaches the railroad, it crosses under the Churton Street bridge next to the rail line. A retaining wall is proposed on the left side of the greenway, starting where the path separates from the roadway and continuing down and under the bridge, in order to reduce large cut slopes, maintain natural surroundings, and accommodate the greenway under the Churton Street Bridge. The elevated boardwalk begins on the east side of the bridge where it climbs to the elevation needed to cross the railroad tracks. 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 building. A ramp is recommended to allow access to Ridgewalk from the parking lot of the future train station. On the east side of the train station site the boardwalk turns back into an asphalt greenway surface as it runs parallel with the railroad before connecting into the portion of greenway that will be built by the Collins Ridge development.



Concept of Elevated Boardwalk and Railroad Crossing View East from the Churton Street Bridge (Design Subject to Change)



Beckett's Ridge Drive at the Proposed Greenway Crossing



Intersection of Cates Creek Parkway & Empress Lane from the Southeast Corner of the Intersection

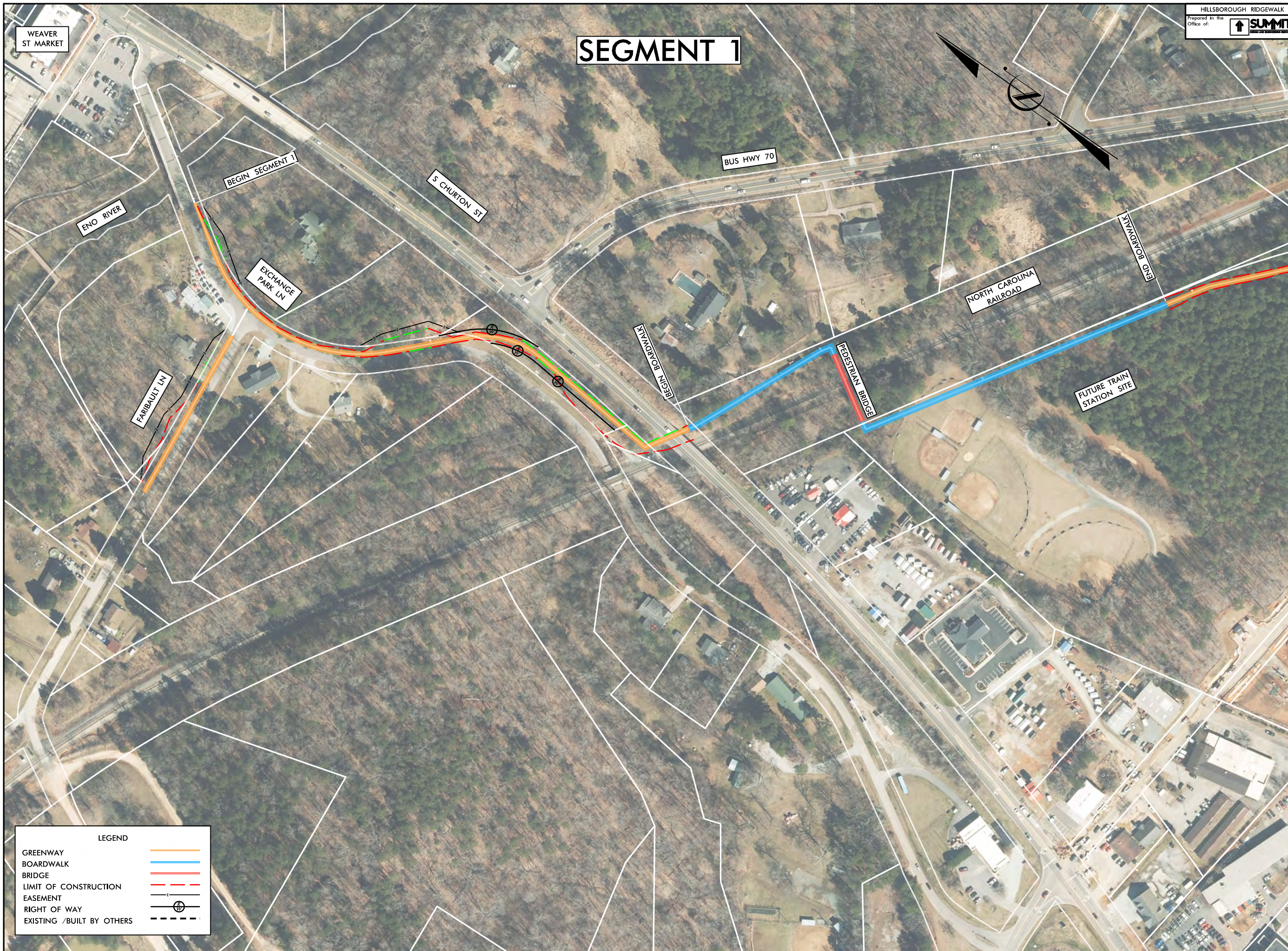
At the south end of the greenway built by Collins Ridge, the asphalt greenway would continue leading up to a pedestrian bridge over Interstate 85. The crossing is proposed approximately ½ mile east of the current Churton Street interchange. A short segment of elevated boardwalk is recommended on the south side of the pedestrian bridge due to fill height and proximity to the rest of the trail. The boardwalk will then transition back into a



Riverwalk Trailhead and Greenway Location on Faribault Lane Looking East

paved greenway surface that meanders down to Beckett's Ridge Drive due to the existing steep topography of the area. A short section of retaining wall is recommended on the right side of the greenway around the first curve south of Interstate 85 in order to reduce impacts to natural surroundings and properties. After crossing Beckett's Ridge Drive, Ridgewalk would continue down the existing sidewalk to the west side of Cates Creek Parkway. There is a short section of sidewalk that will need to be constructed on Cates Creek Parkway, near the intersection of Empress Road, in order to fill an existing gap in the facility. The existing path then transitions into greenway as it leads down to Cates Creek Park where Ridgewalk will officially end. The entire alignment can be seen in Figure 7.

SEGMENT 1



LEGEND

- GREENWAY ———
- BOARDWALK ———
- BRIDGE ———
- LIMIT OF CONSTRUCTION - - - - -
- EASEMENT ———
- RIGHT OF WAY ⊕
- EXISTING /BUILT BY OTHERS - - - - -

MATCHLINE 1

**SEGMENT 1/
 DEVELOPER BUILT**



MATCHLINE 1

MATCHLINE 2

END SEGMENT 1

COLLINS RIDGE

LEGEND	
GREENWAY	
BOARDWALK	
BRIDGE	
LIMIT OF CONSTRUCTION	
EASEMENT	
RIGHT OF WAY	
EXISTING /BUILT BY OTHERS	

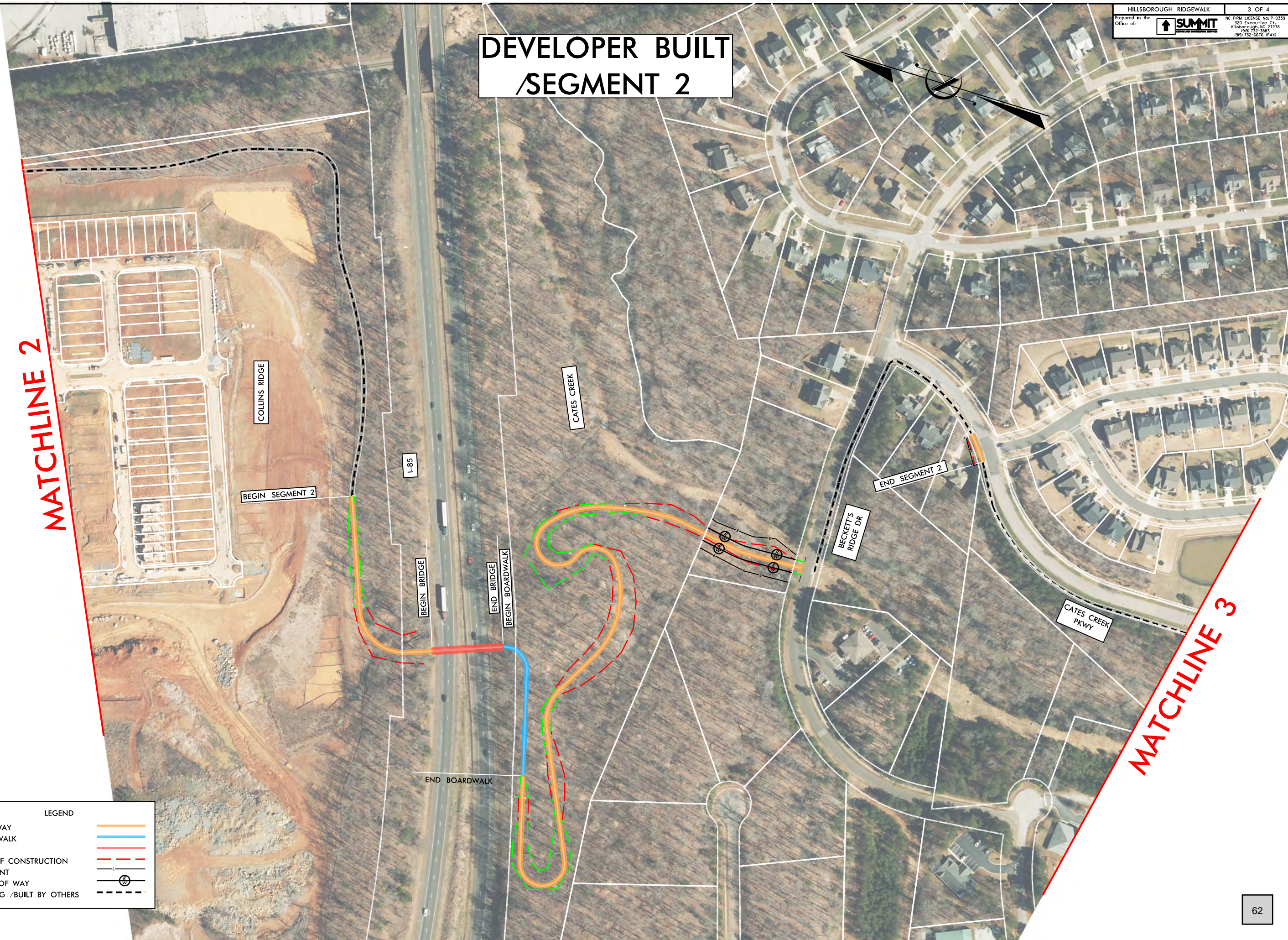
DEVELOPER BUILT /SEGMENT 2



MATCHLINE 2

MATCHLINE 3

LEGEND	
GREENWAY	
BOARDWALK	
BRIDGE	
LIMIT OF CONSTRUCTION	
EASEMENT	
RIGHT OF WAY	
EXISTING /BUILT BY OTHERS	



EXISTING FACILITIES CATES CREEK PARKWAY

MATCHLINE 3



LEGEND	
GREENWAY	
BOARDWALK	
BRIDGE	
EXISTING /BUILT BY OTHERS	

It is important to provide convenient access to Ridgewalk from surrounding areas as well as connectivity to existing pedestrian corridors. A section of greenway is proposed to run along Faribault Lane from the intersection with Exchange Park Lane to a Riverwalk trailhead for this reason. There are other neighborhood connections that would be helpful in creating access both now and in the future. One location is along Orange Grove Street/Gold Hill Way where there is existing sidewalk along most of the roadway, but there are some sections missing starting at Churton Street and continuing east about 600 feet. This connection will become even more important once Churton Street is widened and sidewalks are installed. Another area where future connections should be considered is in the area east of the future train station site. As this area continues to develop it would be beneficial to provide connection from the development directly to Ridgewalk for ease of access. Any road crossings along the greenway should include North Carolina Department of Transportation standard Americans with Disabilities Act accessible curb ramps and a crosswalk type that is appropriate for the location and meets North Carolina Department of Transportation standards.



Culvert on Faribault Lane

Evaluation of Drainage

Drainage Structures

Existing and proposed drainage patterns have been reviewed to identify potential upgrades or additions that the installation of the greenway may require. There are two existing structures that have been identified as needing upgrades; one is a pipe located on Exchange Park Lane just south of the bridge over the Eno River and the other is a culvert located on Faribault Lane near the tie to the Riverwalk trailhead that will need to be extended.

There are also 2 potential new pipes in the area where the greenway separates from Exchange Park Lane. South of Interstate 85 there are not existing pipes that would be impacted by the greenway, but 5 potential crosspipe locations have been identified.

Stormwater Treatment

The Hillsborough Ridgewalk project lies within the Falls Lake Watershed and is held to the standard of the Falls Lake Nutrient Strategy. Within this strategy, the target nitrogen export load is 2.2 pounds per acre per year, and the target phosphorous load is 0.33 pounds per acre per year. Based on the planned impervious surface and managed vegetation square footage of the project, permanent stormwater measures will be required to meet the target loads. It is recommended that the project design include bioretention cells and wet or dry vegetated pollutant removal swales to reduce the nitrogen and phosphorus export numbers to the required targeted numbers. As design progresses, locations and sizing for natural stormwater treatment options will need to be evaluated.

Evaluation of Structures

North Carolina Railroad and Interstate 85 Pedestrian Bridge Crossings

There will be two bridges required for the preferred alignment, one over the North Carolina Railroad rail line and one over Interstate 85. A preliminary review of the structure locations has been completed. They are

recommended to be prefabricated steel truss bridges with a weathering steel finish. The look of the bridge may be similar to Contech Engineered Solutions “Continental Capstone Pedestrian Bridge” model, though this will be investigated further with the Town when final designs are underway. The bridges should be designed using American Association of State Highway Transportation Officials’ (AASHTO) “LRFD Guide Specification for Design of Pedestrian Bridges” utilizing an American Association of State Highway Transportation Officials H-10 Truck loading and a pedestrian load of 90 pounds per square foot. Prefabricated bridges can accommodate up to a 180 foot span length which at this time will be sufficient for both locations. The bridge over Interstate 85 will need to be constructed to allow for future planned widening from 4 to 6 lanes at the crossing location.

The substructure for the bridges will vary. The bridge constructed over the railroad is recommended to utilize concrete hammerhead piers transitioning to the elevated platforms on each side of the North Carolina Railroad tracks. The Interstate 85 bridge can utilize a concrete abutment with a retaining wall on the north side of the bridge but will also require a hammerhead pier on the south side due to the transition to elevated boardwalk on that side of the bridge. Required clearances also will differ with a minimum of 17 feet and 23 feet for Interstate 85 and the railroad respectively. Both bridges will require coordination with North Carolina Department of Transportation and an encroachment agreement before they can be constructed.



Concept of Interstate 85 Pedestrian Bridge Looking West with Proposed Interstate 85 Widening Constructed (Design Subject to Change)

Boardwalk

Since the boardwalk is recommended to have a concrete deck with metal railings the substructure would also be concrete. It is suggested that shallow spread footings can be used where applicable and driven or augured piles be utilized where necessary. The boardwalk should be designed using American Association of State Highway Transportation Officials’ “LRFD Guide Specification for Design of Pedestrian Bridges” and American Concrete Institute 2005 – Building Code and Commentary. The recommended design load is an American Association of

State Highway Transportation Officials H-5 Truck and pedestrian load of 90 pounds per square foot. Span lengths for this type of boardwalk can range from 10 feet to 30 feet depending on the geometry of the path. The boardwalk should also be designed to accommodate turning movements for maintenance vehicles at critical locations.

Design Exception

Due to the steep topography and right-of-way constraints in the area between Interstate 85 and Beckett's Ridge Drive a horizontal design exception would be required for the preferred alignment. Rather than utilizing a 100 foot radius, the proposed alignment uses 50 foot radii which results in a 15 miles per hour design speed. The design exception allows the greenway to not impact otherwise undisturbed parcels around the cul-de-sac on Leah Drive and provides the geometry for a flatter greenway that will be more enjoyable for all types of users.



Utilities Next to Exchange Park Lane North of the One-Lane Trestle

Utilities

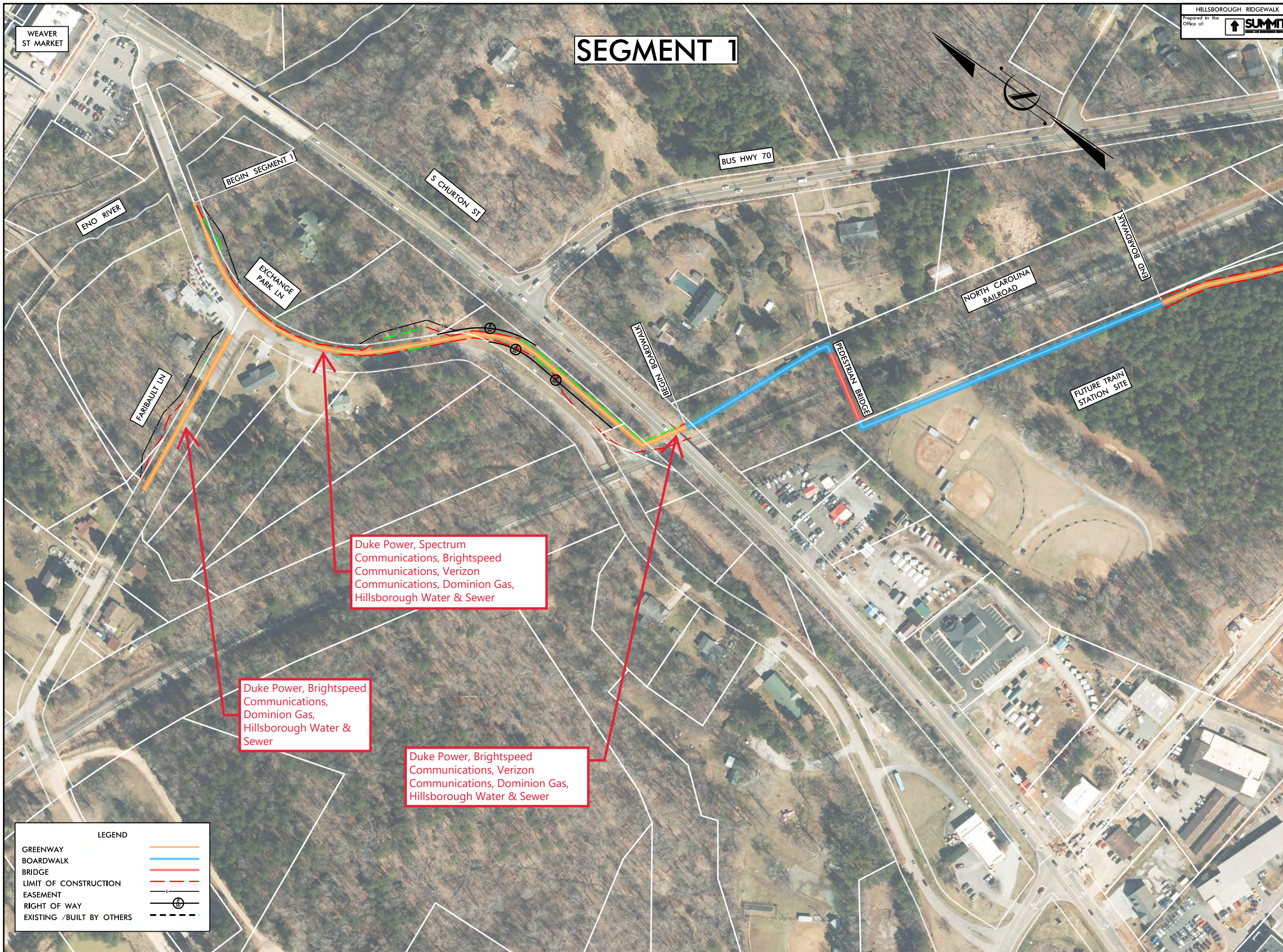
Field inspections were conducted and found evidence of numerous utilities along the proposed greenway alignment. The utilities are especially focused in the area between Exchange Park Lane and Churton Street as well as along Faribault Lane. Some relocations will be required due to greenway construction. Currently power, telephone, gas, water, and sewer would require anticipated relocation. However, existing utility locations in relation to the greenway location will need to be studied much more in depth during final design and some of the relocations may be able to be avoided. Coordination will be needed with all affected utility owners as final designs are developed. A map of the approximate known existing utility locations can be found in Figure 8.

Right-of-Way

Property Considerations

One goal for the greenway was to determine a feasible location while also ensuring that the path was not prohibitive to development on the surrounding properties. This was a consideration on the site of the future train station as well as south of Interstate 85 where the path comes close to the properties surrounding the cul-de-sac on Leah Drive. Consideration was also given to avoiding historic properties that were in the project study area.

SEGMENT 1



LEGEND

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

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

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

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

MATCHLINE 1

SEGMENT 1 DEVELOPER BUILT



MATCHLINE 1

MATCHLINE 2

END SEGMENT 1

Duke Power, Brightspeed
Communications, Spectrum
Communications

COLLINS RIDGE

LEGEND	
GREENWAY	
BOARDWALK	
BRIDGE	
LIMIT OF CONSTRUCTION	
EASEMENT	
RIGHT OF WAY	
EXISTING /BUILT BY OTHERS	

DEVELOPER BUILT SEGMENT 2



MATCHLINE 2

MATCHLINE 3

Duke Power, PEMC Power, Brightspeed Communications, Spectrum Communications, Dominion Gas, Hillsborough Water & Sewer





PEMC Power, Brightspeed Communications, Dominion Gas, Hillsborough Water & Sewer

LEGEND	
GREENWAY	
BOARDWALK	
BRIDGE	
LIMIT OF CONSTRUCTION	
EASEMENT	
RIGHT OF WAY	
EXISTING /BUILT BY OTHERS	

EXISTING FACILITIES CATES CREEK PARKWAY

MATCHLINE 3

LEGEND

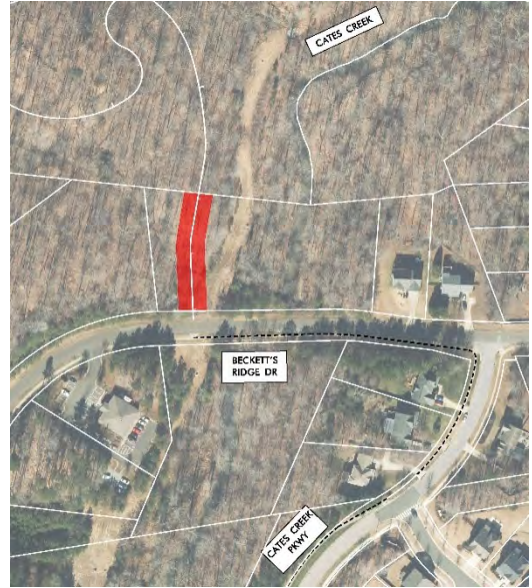
GREENWAY	
BOARDWALK	
BRIDGE	
EXISTING /BUILT BY OTHERS	

Required Right-of-Way

Easement will need to be purchased from 5 properties and right-of-way from 2 properties will be needed to construct the preferred alignment. The required right-of-way is currently 1 private property between Churton Street and Exchange Park Lane and 1 is a developer owned property along Beckett's Ridge Drive. The 2 properties requiring right-of-way also require easement and the 2 remaining properties are privately owned and located along Faribault Lane and Exchange Park Lane.



Critical Property Between Churton Street & Exchange Park Lane



Critical Property on Beckett's Ridge Drive

Critical Property

There are 4 critical properties that will allow for the greenway to be built as shown. Two of the properties are where right-of-way will need to be purchased. The other 2 properties are the railroad corridor and the parcel south of Interstate 85 that contains a large majority of the greenway trail as it continues down toward Beckett's Ridge Drive. The property just south of Interstate 85 is owned by the Collins Ridge Development which is currently building on the north side of Interstate 85. The Town has been in discussions with the developer about a fair land trade in order to acquire this property for the construction of Ridgewalk.

Railroad Considerations

As mentioned previously, there has been some discussion with North Carolina Railroad about the possibility of constructing a greenway, boardwalk, and bridge within the railroad right-of-way. They appear to be open to the concept, but there is no guarantee that North Carolina Railroad will allow the path to be constructed in the corridor. The railroad



Greenway Location Near Railroad & Churton St Bridge – on North side of Railroad Looking West

could decide to not allow the greenway inside of their right-of-way due to safety concerns and liability that can occur with a pedestrian facility next to railroad tracks. If a formal agreement cannot be reached one of the alternate alignments will need to be considered.

Also, with any permanent facilities located inside the railroad corridor the Town of Hillsborough may have to make an annual payment for indemnification to North Carolina Railroad. The annual cost is unknown would only be determined once a formal agreement is reached.

Segmentation of Preferred Alternative

This greenway may be cost prohibitive to build under one contract. Reasonably the project is recommended to be built in 2 segments. The first segment would include the greenway, boardwalk, and bridge from Weaver Street Market to the north side of the Collins Ridge development. Faribault Lane greenway would also be built with this portion. The second segment would begin at the south side of the Collins Ridge development and build out the rest of Ridgewalk down to Beckett’s Ridge Drive as well as the small section of sidewalk on Cates Creek Parkway.

Costs

The costs have been broken up into the two segments recommended for construction as well as some miscellaneous items. The miscellaneous costs include items such as signs or benches that may be added to the portion of greenway that is being built by the Collins Ridge development and have been included in the cost for the first segment.

The utility and right-of-way costs estimates have also been completed for the entire preferred alignment. Utility costs for the greenway construction are primarily due to power pole relocations. Further coordination with the power company may allow for a reduction in pole relocations. Right-of-way costs are for the purchase of the required right-of-way and easements to build the preferred alignment as well as fees associated with negotiations and acquisition. All detailed cost estimates can be found in the appendix.

There will also be costs associated with the design and construction of the project which include design and engineering fees, and construction administration fees. Design and engineering fees are inclusive of design fees for all required disciplines and permitting costs for both segments of the greenway. Construction administration will be utilized throughout the greenway construction process to ensure that things are going according to plan. It is also important to include a contingency to address unforeseen costs that occur with any project.

Table 5. Cost Estimate Summaries

Segment 1	COST ESTIMATE (2023)	Segment 2	COST ESTIMATE (2023)
Construction	\$6,460,343	Construction	\$5,180,225
Utilities	\$319,680	Utilities	\$79,920
Right-of-Way	\$88,300	Right-of-Way	\$4,700
Design and Engineering Fees (10%)	\$686,850	Design and Engineering Fees (10%)	\$526,500
Construction Administration (10%)	\$686,850	Construction Administration (10%)	\$526,500
Contingency (20%)	\$1,373,150	Contingency (20%)	\$1,053,000
Segment 1 Total	\$9,615,173	Segment 2 Total	\$7,370,845

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. These costs have not been estimated as part of this study, but they will be required throughout the life of the greenway.

Additional Amenities

Signing

The Town of Hillsborough has standards for wayfinding signs that can be utilized for all of the sign types that are recommended. Wayfinding signs are recommended in the future along adjacent roadways to direct users to Ridgewalk access points.

Signage is important along Ridgewalk to inform pedestrians of the access the greenway provides. It is recommended that 3 trailhead signs are provided along the greenway. The proposed locations for signage are on Exchange Park Lane near the Weaver Street Market parking lot, at the access point from the future train station site, and on the north side of Beckett's Ridge Drive. Additional locations for trailhead signs may be desired at other neighborhood connections such as Collins Ridge. Directional signs should also be considered throughout Ridgewalk at various locations where they can provide directions or distances to features of interest.

The Town has also implemented emergency marker signs with address points along the Riverwalk greenway. This system allows emergency services to locate more easily and quickly anyone who is in need of assistance while on the path by placing a numbered sign every 1/10th mile along the trail. The same system is proposed to be installed along Ridgewalk to aid in response time.

The town also has a very successful interpretive signage program. Interpretive signage adds interest to sites and provides educational opportunities. The town has standards for interpretive signage. Ridgewalk could provide multiple sites to expand the town's interpretive signage program. The locations and subject matter of interpretive signs will be determined at a later date.

Lighting

Due to Ridgewalk serving as a pedestrian corridor lighting should be considered along the greenway. Lighting would provide increased security and allow the greenway to be utilized for extended hours more safely. As final design of the greenway is developed power sources could be investigated. Current options that are available include solar or hard-wired services.

Benches, Waste Stations, Bicycle Racks

The Town of Hillsborough has standards for benches, waste/recycling receptacles, dog waste stations, picnic tables, and bicycle racks that should be utilized along Ridgewalk. These standards can be found in both the Town's "Community Connectivity Plan" and their "Comprehensive Sustainability Plan". Benches are recommended to be placed a minimum of every ¼ mile along the path to allow adequate areas for users to rest. Typically waste/recycling receptacles and dog waste stations are only placed near entrances to the greenway in order to allow for the Town and its partners to access and empty these containers more easily. Picnic table and bicycle rack locations will be determined as final designs are completed in order to locate them in the most beneficial spaces for the public.



Hillsborough Standard Waste/Recycling Receptacle and Bench

Bollards

Bollards are recommended at entrances to the greenway for the purpose of keeping motorized vehicles off the path. However, they will need to be able to fold down to allow the Town’s maintenance vehicles access to interior parts of the greenway.

Plantings

Plantings along the greenway are desirable to enhance the beauty of the natural surroundings. Potential trees, shrubs, and perennials that can thrive along a greenway are summarized in Table 5 below. All of these species are part of Hillsborough’s recommended plant lists in the Unified Development Ordinance. The Hillsborough Tree Board will determine the appropriate species and locations for plantings along the greenway.

Table 6. Greenway Potential Plant Species

CANOPY TREES					
BOTANICAL NAME	COMMON NAME	SUN/SHADE	HT	WIDTH	EVERGREEN
Acer rubrum	Carolina Maple	Full-Part Sun	40-70'	30-50'	
Magnolia grandiflora	Southern Magnolia	Full-Part Sun	60-80'	20-40'	X
Nyssa sylvatica	Black Tupelo	Full Sun	40-70'	20-30'	
Quercus stellata	Post Oak	Full Sun	40-50'	35-50'	
UNDERSTORY TREES					
BOTANICAL NAME	COMMON NAME	SUN/SHADE	HT	WIDTH	EVERGREEN
Amelanchier canadensis	Eastern Serviceberry	Part Shade	15-25'	15-20'	
Cercis canadensis	Eastern Redbud		20-30'	25-35'	
Cornus florida	Flowering Dogwood	Full-Part Sun	15-25'	15-30'	
Ilex vomitoria	Yaupon Holly	Full Sun-Deep Shade	10-20'	8-12'	X
Juniperis virginiana	Eastern Red Cedar	Full-Part Sun	30-40'	10-20'	X
Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	Full-Part Sun	15-20'	8-10'	X
SHRUBS					
BOTANICAL NAME	COMMON NAME	SUN/SHADE	HT	WIDTH	EVERGREEN
Baptisia australis	Blue False Indigo	Full-Part Sun	3-4'	2-4'	
Callicarpa Americana	American Beautyberry	Full-Part Sun	3-8'	3-6'	

<i>Calycanthus floridus</i>	Carolina Allspice	Full Sun-Deep Shade	4-10'	4-10'	
<i>Cephalanthus occidentalis</i>	Buttonbush	Full-Part Sun	5-8'	3-6'	
<i>Ilex verticillata</i>	Winterberry				
<i>Rhododendron minus</i>	Dwarf Rhododendron	Part-Deep Shade	3-6'	3-6'	X
<i>Viburnum opulus</i> var. <i>americanum</i>	American Cranberry Viburnum	Full-Part Sun	8-12'	8-12'	
<i>Viburnum obovatum</i> 'Mrs Schillers Delight'	Small Viburnum	Full-Part Sun	2-3'	2-3'	X
OTHER PERENNIALS					
BOTANICAL NAME	COMMON NAME	SUN/SHADE	HT	WIDTH	EVERGREEN
Monarda	Bee Balm	Full Sun	2-4'	2-3'	
<i>Panicum virgatum</i>	Switchgrass	Full-Part Sun	3-6'	2-3'	X
<i>Rudbeckia fulgida</i>	Black-Eyed Susan				
<i>Sisyrinchium angustifolium</i>	Blue-Eyed Grass	Full-Part Sun	1-2'	0.5-1'	

The Path Forward

This feasibility study has provided recommendations and information on the greenway location, structures, utilities, right-of-way, segmentation, costs, and desirable amenities for the proposed Ridgewalk Greenway. The Town of Hillsborough will need to review the information presented and determine if they would like to proceed with identifying and pursuing potential funding sources. Once funding has been obtained a design team can be contracted to assist the Town with final design for the project, including right-of-way acquisition and utility relocations. Finally, construction on the Ridgewalk Greenway can begin.



Concept of Greenway at Beckett's Ridge Drive Crossing (Design Subject to Change)

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>

Appendix



EXECUTIVE SUMMARY

Prepared For: Summit Design and Engineering Services

Project Name: Town of Hillsborough Greenway Trail

Location: Town of Hillsborough Estimate Date: 5/24/2023

Project Area (SF): 1.7 ACRE Revised Date: 6/13/2023

Project #: 23188 Palacio Lead Contact: Syed Bukhari

Project Phase: Schematic Design

Project Description: Greenway Trail

CONSTRUCTION COST SNAPSHOT				
PROJECT TYPE				TOTAL
Greenway Trail Phase 1				\$6,460,343
Greenway Trail Phase 2 (I-85 & South)				\$5,180,225
TOTAL ESTIMATED CONSTRUCTION COST				\$11,640,568

ALTERNATES (INCLUDES COST OF WORK AND MARKUPS)		
1	Alternate for Mulched Tree Clearing (cost per phase)	\$30,000
2		
3		
4		

ESTIMATE ASSUMPTIONS
Anticipated Bid Date: 2nd Quarter 2024 (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



PALACIO

Name: Town of Hillsborough Greenway Trail

Location: Town of Hillsborough

Date: 5/24/2023

Area (SF): 1.7 ACRE

Rev. Date: _____

Phase 1

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	Clearing and Grubbing	1.7	ACRE	16,000.00	27,200
	Unclassified Excavation	1,210	CY	30.00	36,300
	Borrow Excavation	730	CY	60.00	43,800
	Erosion Control	1	LS	50,000.00	50,000
	Culvert Extension	1	EACH	10,000.00	10,000
	New Pipe	100	LF	150.00	15,000
	Bioretention Site	1	EACH	100,000.00	100,000
	3" Asphalt Paving Greenway Trail	2,775	SY	45.00	124,875
	Concrete Boardwalk spread footings & Piling	17,850	SF	120.00	2,142,000
	Concrete Bench Pad	15	SY	90.00	1,350
	Curb Ramps	4	EACH	7,500.00	30,000
	Prefabricated Bridge including railings	160	LF	6,965.06	1,114,410
	Bridge Piers	2	EA	50,000.00	100,000
	Metal Railing by Boardwalk Both Side	1,642	LF	175.00	287,350
	Benches	4	EACH	1,500.00	6,000
	Picnic Tables	2	EACH	2,000.00	4,000
	Trash Can	4	EACH	950.00	3,800
	Dog Waste	4	EACH	951.00	3,804
	Bollards	1	EACH	850.00	850
	Bike Racks	2	EACH	2,500.00	5,000
	Lighting	3,900	LF	75.00	292,500
	Plantings	1	LS	100,000.00	100,000
	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
	Crosswalk	85	LF	64.00	5,440
	Retaining Wall (4.7' avg height)	450	LF	750.00	337,500
SUBTOTAL					\$4,903,979
	General Condition as %	7%			\$343,279
	Bonds as %	1%			\$52,473
	Insurance as %	1.50%			\$79,496
	Contractor Fee as %	3%			\$161,377
	Design/Market Conditions Contingency as %	10%			\$554,060
	Escalation as %	6%			\$365,680
TOTAL PROBABLE CONSTRUCTION COST					\$6,460,343

Additional percentages are included as an estimate of the General Contractors costs for the project including:
 General Condition - Project staff and maintenance
 Bond - Payment and performance bonds
 Insurance - Liability insurance
 Fee - General Contractor's profit
 Design/Market Conditions Contingency - Estimators contingency for items not yet designed or may be discovered
 Escalation - Increase for estimate from today's price to estimated bid date (2nd Quarter 2024)



PALACIO

Name: **Town of Hillsborough Greenway Trail**

Location: Town of Hillsborough

Date: 5/24/2023

Area (SF): 2.1 Acre

Rev. Date: _____

Phase 2 South of I-85

ESTIMATE SUMMARY					
GROUP	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
	Clearing and Grubbing	2.1	ACRE	16,000.00	33,600
	Unclassified Excavation	7,730	CY	30.00	231,900
	Borrow Excavation	3,470	CY	60.00	208,200
	Erosion Control	1	LS	75,000.00	75,000
	New Pipe	200	LF	150.00	30,000
	3" Asphalt Paving Greenway Trail (2572' x 10')	2,725	SY	45.00	122,625
	Concrete Boardwalk (1012' x 10') spread footings & Piling	3,205	SF	120.00	384,600
	Concrete Sidewalk	76	SY	72.00	5,472
	Concrete Bench Pad	11	SY	72.00	792
	Curb Ramps	1	EACH	7,500.00	7,500
	Prefabricated Bridge including railings(I-85)	170	LF	10,447.59	1,776,091
	Bridge Piers	3	EA	75,000.00	225,000
	Metal Railing by Boardwalk Both Sides	641	LF	175.00	112,175
	Traffic Control	1	LS	100,000.00	100,000
	Benches	3	EACH	1,500.00	4,500
	Picnic Tables	2	EACH	2,000.00	4,000
	Trash Can	3	EACH	950.00	2,850
	Dog Waste	3	EACH	500.00	1,500
	Bollards	1	EACH	850.00	850
	Bike Racks	2	EACH	2,500.00	5,000
	Lighting	2,920	LF	75.00	219,000
	Plantings	1	LS	100,000.00	100,000
	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
	Interpretive Signs	2	EACH	2,000.00	4,000
	Crosswalk	25	LF	64.00	1,600
	Retaining Wall, 9.5 Avg	200	LF	1,250.00	250,000
SUBTOTAL					\$3,932,255
	General Condition as %	7%			\$275,258
	Bonds as %	1%			\$42,075
	Insurance as %	1.50%			\$63,744
	Contractor Fee as %	3%			\$129,400
	Design/Market Conditions Contingency as %	10%			\$444,273
	Escalation as %	6%			\$293,220
TOTAL PROBABLE CONSTRUCTION COST					\$5,180,225

Additional percentages are included as an estimate of the General Contractors costs for the project including:
 General Condition - Project staff and maintenance
 Bond - Payment and performance bonds
 Insurance - Liability insurance
 Fee - General Contractor's profit
 Design/Market Conditions Contingency - Estimators contingency for items not yet designed or may be discovered
 Escalation - Increase for estimate from today's price to estimated bid date (2nd Quarter 2024)



UTILITY COST ESTIMATE

Project: **Hillsborough Greenway**

County: Orange

Description: Greenway Extension through the Town of Hillsborough

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: Yes Sewer: Yes Drainage: Yes Other: Yes

Relocation Totals	Construction Totals	Alternate Totals
Power Poles: \$ 181,344.00	Power Poles:	Relocation Total: \$ 350,213.00
Power Items: \$ 28,500.00	Power Items:	Construction Total: \$ 49,350.00
Telephone Poles: \$ 24,516.00	Telephone Poles:	
Telephone Items: \$ 3,060.00	Telephone Items:	Alternate Total: \$ 399,563.00
Gas Line: \$ 42,750.00	Gas Line:	
Gas Items:	Gas Items:	
Water Line:	Water Line: \$ 17,850.00	
Water Items:	Water Items: \$ 6,000.00	
Sewer Line:	Sewer Line: \$ 25,500.00	
Sewer Items:	Sewer Items:	
Misc. Items: \$ 70,043.00	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: 5/10/2023

DATE ASSIGNED: 5/10/2023 # of Alternates Requested: 1

DATE DUE: 5/25/2023

TIP No.:	DESCRIPTION: <u>Hillsborough Greenway Feasibility Study</u>
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WBS ELEMENT: **COUNTY:** Wake **DIV:** 7 **APPRAISAL OFFICE:** 3

REQUESTOR: Faith Jahnke, PE **DEPT:** Summit, Transportation 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:** 5/25/2023 # of Alternates Completed: 1

	Hillsborough Greenway							
	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 type="checkbox"/>	PARTIAL: <input type="checkbox"/>	FULL: <input type="checkbox"/>	PARTIAL: <input type="checkbox"/>	FULL: <input type="checkbox"/>
ESTIMATED NO. OF PARCELS:	6							
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:	\$ 55,000		\$		\$		\$	
ACQUISITION:	\$ 38,000		\$		\$		\$	
TOTAL ESTIMATED R/W COST:	\$ 93,000		\$		\$		\$	

** 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 Detailed Right-of-Way Estimate

Number	TAX ID	Owner Name	Property Address	Land Size (AC)	Value/AC	ROW (SF)	ROW (AC)	TCE (SF)	TCE (AC)	\$\$ ROW ACQ	Easements	Improvements	Value	ROW Costs
001	9.874E+09	KNIGHTON GLORIA E HRSFARIBAULT WALTER JR	115 FARIBAULT LN162 EXC	3.03	\$349,464.03			6123	0.140564738	\$0.00	\$14,736.70	\$380,380.00	\$1,424,519.30	\$14,736.70
002	9.865E+09	WHITTED CHARLES KWHITTED JAPONICA L	281 EXCHANGE PARK LN	1.27	\$46,001.57			740	0.016988062	\$0.00	\$234.44	\$301,574.00	\$359,761.56	\$234.44
003	9.874E+09	PARSLEY JAMES M A	240 S CHURTON ST	3.01	\$59,134.88			2349	0.053925620	\$0.00	\$956.67	\$635,726.00	\$812,765.33	\$956.67
004	9.874E+09	PARSLEY JAMES MPARSLEY CAROLYN C	S CHURTON ST	2.08	\$62,212.50			4565	0.104797980	\$0.00	\$1,955.92	\$0.00	\$127,446.08	\$1,955.92
005	9.874E+09	GOODE ELIZABETH C W	205 US 70A203 US 70A	6.92	\$53,127.17	11629	0.266965106	193	0.004430670	\$14,183.10	\$70.62	\$694,148.00	\$1,047,534.28	\$14,253.72
006	9.873E+09	OLD MILL PROPERTIES LLC	BECKETTS RIDGE DR	1.79	\$1,931.84	6367	0.146166208	9703	0.222750230	\$282.37	\$129.10	\$0.00	\$3,046.53	\$411.47

\$32,548.91
X 1.7 **\$55,333.15**

		Appraisals /
Number of Appraisals	3	\$13,215.00
		Negotiation Cost
Total Parcels	6	\$25,200.00
		Relocation
Res Relo	0	\$0.00
Corn Relo	0	\$0.00
Sign Relo	0	\$0.00
Misc Move	0	\$0.00
		\$0.00
		Appraisals
		\$13,215.00
		Negotiations
		\$25,200.00
		Relocations
		\$0.00
Acquisition Consultant Costs Total		\$38,415.00
		Rounded
		\$38,000.00
		Factor
RoW Acq Cost	\$32,549	\$55,333.15
		\$55,000.00
Land, Imp, & Damages		\$55,000.00
Acquisition		\$38,000.00
		\$93,000.00



Agenda Abstract

BOARD OF COMMISSIONERS

Meeting Date: Sept. 25, 2023
Department: Community Services
Agenda Section: Regular
Public hearing: No
Date of public hearing: N/A

PRESENTER/INFORMATION CONTACT

Matt Efird, Assistant Town Manager
Marie Strandwitz, Utilities Director
Shannan Campbell, Planning & Economic Development Manager
Dustin Hill, Public Works Manager
Terry Hackett, Stormwater & Environmental Services Manager
Bryant Green, Environmental Engineering Supervisor

ITEM TO BE CONSIDERED

Subject: Update presentation on ongoing development and infrastructure coordination challenges

Attachments:

Development Coordination Update Presentation

Summary:

As the town has experienced a period of significant growth over the last 5-10 years, several new developments have been or are currently being built that will significantly expand the public infrastructure of the town, to include water and sewer utilities, stormwater conveyance and controls, and streets and sidewalks. With significant town staff turnover and many changes in developer and contractor representatives, some processes are not working effectively leading to frustration, legal challenges, and unhappy residents. This discussion is intended to update the board and public on the status of current challenges, where deficiencies have been identified, and recommendations for future improvements.

Financial impacts:

N/A

Staff recommendation and comments:

Staff recommends that the board receive the report and provide feedback on the proposed process improvements and next steps. This action is consistent with the Strategic Plan: Sustainability Objective 1, as well as the Comprehensive Sustainability Plan: Land Use & Development section.

Action requested:

Receive report and discuss.

Development Coordination Update

September 25, 2023



TOWN OF
HILLSBOROUGH

1

Why a Topic?

- Immense amount of staff time spent trying to get compliance and quality construction from developers and contractors
- Dealing with legacy neighborhoods already built that still have not been properly accepted by town due to administrative or physical infrastructure issues
- Pressures mounting between developers, residents and staff are elevated to board members
- Continued growth will only be a further complication if process is not refined AND the town does not develop and administer clear standards and expectations with the development community



HILLSBOROUGH

2

The Blame Game – Part 1

- Sometimes no extension agreement issued, bonds not vetted for adequate costs or covered items, bond language not adequate for future enforcement
- Communications between departments has not always been well coordinated
 - Acceptance of infrastructure at different times or mismatched release of bonds
 - Lack of knowledge of other department development processes
- Lack of proper oversight due to staff resources or inexperience
 - As example, historically never looked at stormwater infrastructure for proper construction, no time to look at project holistically with existing infrastructure
 - Sometimes miss a requirement and developer points to our acceptance as a way not to fix something we find later
- Current process of WSEC with annexation may result in excessive capacity reservation
 - Conflicts with WSEC conditions
- Acceptance of water and sewer prior to homes being built then building process causes great damage and easement encroachments that were not approved
- Outdated, non-existent or conflicting specifications
 - UDO doesn't cover or reference utilities
 - Utilities requires frontage but UDO allows isolated lots, etc.
- Resistance to call bonds – and high cost in time and money to actually collect

The Blame Game – Part 2

- Issues with compliance on extension agreements, performance bonds, warranty bond punch lists
- Contractors go out of business; developers sell off to others
- Communications within development company (i.e., construction staff vs. sales/closing team) not great
 - Leads to misunderstanding about final acceptance, building permit approval, account setup, certificates of occupancy
 - Customer ignorance of stormwater, water and sewer easements on property
- Closings scheduled and then emergency for staff to run out to approve CO ASAP – very disruptive
- Minimize costs of surveyor and engineer – lack of proper oversight
- Building process damages inspected and approved infrastructure and things are placed in utility easements without approval
- Developer says town accepted infrastructure – shouldn't have to fix anything

Overview of Significant Active Projects

- **Defined: Projects where active construction is occurring OR where infrastructure turnover has not been completed**
 - Forest Ridge
 - Fiori Hill
 - Harmony @ Waterstone
 - Corbinton Commons
 - Hillsborough Chrysler Jeep Dealer
 - Collins Ridge



5

Forest Ridge

- **Project Description:** 118 acre development featuring 195 single family homes and 38 townhomes located off US-70A
- **Project Status:** Primary construction complete
- **Original Developer:** Burroughs Land Investors (2009)
- **Current Developer:** Dan Ryan Builders (four assignments)
- **Outstanding Issues:**
 - Asphalt repairs/final lift in phases 6&8
 - Sidewalk repairs/curb repairs
 - Truncated dome replacements
 - Sewer sags
- **Bond Information**
 - Phase 4: \$54,568.00 for asphalt overlay, sidewalks, HC ramps & valve/manhole adjustments
 - Phase 5: \$3,000.00 for a small segment of sidewalk
 - Phase 6 & 8: \$125,826.00 for sidewalks & HC ramps
 - Phase 7: \$96,549.38 for final lift of asphalt pavement, sidewalks, HC ramps, sewer manhole/valve box/ catch basin adjustments, & temporary & permanent seeding

STATUS DASHBOARD

Planning/Zoning	●
Streets/Sidewalks	●
Water System	●
Sewer System	●
Stormwater Conveyance	●
Stormwater Control Measure	●




6

Fiori Hill

- **Project Description:** 17.4 acre development featuring 32 single family cottage homes located off US-70A
- **Project Status:** Primary construction complete
- **Original Developer:** Peloquin Construction
- **Current Developer:** Peloquin Construction
- **Outstanding Issues:**
 - Easement encroachments of unapproved items like retaining walls, lights, signs, private steps
- **Bond Information**
 - Bond Amount Held: \$1,047,506.25 + \$250.00(covering stormwater control measure plantings)

STATUS DASHBOARD

Planning/Zoning	●
Streets/Sidewalks	Private
Water System	●
Sewer System	●
Stormwater Conveyance	Private
Stormwater Control Measure	●


HILLSBOROUGH


7

Harmony @ Waterstone

- **Project Description:** 42 acre development featuring 200 townhomes located off Waterstone Drive
- **Project Status:** Primary construction complete
- **Original Developer:** Lennar Homes
- **Current Developer:** Lennar Homes
- **Outstanding Issues:**
 - Water and Sewer acceptance on tonight's agenda
- **Bond Information**
 - Bond Amount Held: Project complete, bond released

STATUS DASHBOARD

Planning/Zoning	●
Streets/Sidewalks	Private
Water System	●
Sewer System	●
Stormwater Conveyance	Private
Stormwater Control Measure	●


HILLSBOROUGH

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Corbinton Commons

- **Project Description:** 25.6 acre development featuring 25 single family homes, 16 rowhomes 23 duplexes located off US-70
- **Project Status:** Primary construction complete
- **Original Developer:** Front Street Construction
- **Current Developer:** Front Street Construction
- **Outstanding Issues:**
 - Several asphalt repairs need to be made
 - Sidewalk and curb repairs
 - Stormwater concerns
 - Coating failure on sewers, sags
 - Contractor non-responsive on 2020 punchlist
- **Bond Information**
 - Bond Amount Held: \$327,244.00

STATUS DASHBOARD

Planning/Zoning	●
Streets/Sidewalks	●
Water System	●
Sewer System	●
Stormwater Conveyance	●
Stormwater Control Measure	●

HILLSBOROUGH

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Hillsborough Chrysler Jeep

- **Project Description:** The development of a new 24,600 SF car dealership facility with associated parking and car display on a 5.23-acre tract of land. Project is adjacent to the Sheetz convenience store behind the future Aldi grocery store.
- **Project Status:** Under Construction
- **Original Developer:** Hillsborough Dealership Property II, LLC c/o Tony Fisher
- **Current Developer:** Same as above
- **Outstanding Issues:**
 - Did not follow WSEC, no record drawings or certification, water not accepted, did not survey during construction, A/E won't seal record drawings, Aldi is connecting to this system – could be a hold up for them
- **Bond Information**
 - Bond Amount Held: No financial security posted

STATUS DASHBOARD

Planning/Zoning	●
Streets/Sidewalks	Private
Water System	●
Sewer System	Private
Stormwater Conveyance	●
Stormwater Control Measure	●

HILLSBOROUGH

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Collins Ridge

- Project Description: 100.9 acre development featuring approximately 1,040 combined single-family, townhome and apartment units located of South Churton St.
- Project Status: Phase 1 Under Construction, Phase 2 about to begin
- Original Developer: Caruso Homes
- Current Developer: D.R. Horton (after Criteria)
- Outstanding Issues:
 - Asphalt repairs
 - Catch basin repairs
 - Curb/sidewalk repairs
 - Phase 1A sewer has major issues– repairs before service, nobody witnessed water installation first few months as developer did not follow WSEC, extra warranty provided by DR Horton if we can get to acceptance – keep moving to next phases
 - Pressure to issue COs when no acceptance occurred and infrastructure keeps getting damaged during building
- Bond Information
 - Phase 1A Bond Amount Held: Section 1: \$1,524,526.00/ Section 2: \$56,554.43/ Section 3: \$96,932.50/ Section 4: \$6,998.75/ Section 5: \$497,049.65

STATUS DASHBOARD

Planning/Zoning	●
Streets/Sidewalks	●
Water System	●
Sewer System	●
Stormwater Conveyance	●
Stormwater Control Measure	●



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Development Status Matrix

	Forest Ridge	Fiori Hill	Harmony	Corbinton	Jeep	Collins Ridge
Planning	●	●	●	●	●	●
Streets	●	PVT	PVT	●	PVT	●
Water	●	●	●	●	●	●
Sewer	●	●	●	●	PVT	●
Stormwater	●	PVT	PVT	●	●	●
SCMs	●	●	●	●	●	●



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Upcoming Projects and Inquiries

- RTLP
- Moren tract (“Persimmon” - site plan approved)
- Capkov (Waterstone area)
- Gatewood (US 70)
- Shaw parcel (Waterstone area)
- Owl’s Woods (Hwy 86 and Business 70)
- West Hillsborough parcels
- Orange Grove Road and Exchange Club
- Train Station property area
- More Collins Ridge
- Corbinton Commons east parcel

We are a small town with a small staff undergoing a period of intense growth. We must take steps to ensure the long-term viability of our infrastructure in a timely and orderly manner for our customers, residents, and for future staff that comes after us.



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General Challenges

- Construction Inspection
 - Need to catch issues early before they become larger problems
 - Need to be looking at things we have not historically been looking at but will assume ownership of
- Need for greater standardization and consistency – staff efforts to accommodate development needs often has negative impacts down the road
 - “bending the rules”, verbal agreements, etc.
- Public vs. private street standards – things designed and permitted as private then later requested for town ownership
- Better communication on process to development community
- Orange County enforcement of building codes/permitting, fire protection review and erosion control
 - Very challenging to partner when various codes differ for in-town vs out-of-town and outside what they are used to enforcing.
- Clear delineation of who oversees what aspects of project from review to completion
- Internal – need better alignment of process timing, fees and charges, and sequencing
- Lack of sufficient enforcement mechanisms for non-performance



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Process Improvement Suggestions

- Water/Sewer capacity application earlier in the process (administrative change) and align reservation timelines with other planning permits
 - Capacity reservation method?
- Require town-administered, developer-funded 3rd party construction inspection for water, sewer, street/sidewalk and stormwater
- Explore consolidated fee billing and collections, standardize what applicants get for their fees
 - More conversation needed on what this means for capacity reservations
- Provide process and corrective requirements for continued observation of infrastructure during building process, when already inspected and approved infrastructure gets damaged, and easements are encroached with unauthorized items
- Agree on easements – where, what they contain, how they are recorded
- Consolidate standards and enshrine somewhere other than staff policy – town code or UDO
- Enforcement – town needs something... withhold building permit issuance, setting of water meter, certificates of occupancy, agreement or master plan conditions – until infrastructure is installed to standards and administrative requirements are met
 - Warranty bonds – worth it?



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Next Steps

- Identify specific near-term text amendments, policy changes, or ordinances that need to be updated
- Provide recommendation to board on specific “no-win” situations
 - Example – nobody will certify Collins Ridge streets were constructed to standards
- Identify process changes that need to be addressed in UDO or code rewrite
- This is a large undertaking
 - Board and staff need to work through refining and sticking to established process and standards to ensure quality of assets and proper paperwork to assume ownership
 - There may be a uncomfortable transition period as we work through existing challenges, but process improvements should help avoid future issues



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Development Coordination Update

September 25, 2023



TOWN OF
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Agenda Abstract

BOARD OF COMMISSIONERS

Meeting Date: Sept. 25, 2023
Department: Community Services
Agenda Section: Regular
Public hearing: No
Date of public hearing: N/A

PRESENTER/INFORMATION CONTACT

Matt Efird, Assistant Town Manager
Shannan Campbell, Planning & Economic Development Manager
Stephanie Trueblood, Public Spaces & Sustainability Manager

ITEM TO BE CONSIDERED

Subject: Update presentation on Hillsborough Station Transit Oriented Development

Attachments:

Hillsborough Station TOD Presentation

Summary:

This item is to provide the board and public with conceptual plans, potential uses and possible strategies for development of town-owned property around the new train station. The area has been dubbed “Hillsborough Station Transit Oriented Development” or “TOD” to specify discussions are about areas outside of the train station plans.

Financial impacts:

N/A

Staff recommendation and comments:

Staff recommends that the board receive the update and provide feedback on the concept plans, potential uses, affordable housing development and next steps. This action is consistent with the Strategic Plan: Economic Vitality Objective 1, Initiative 1.1, as well as the Comprehensive Sustainability Plan: Land Use & Development and Housing & Affordability sections.

Action requested:

Receive report and discuss.

Hillsborough Station Transit Oriented Development

Board of Commissioners Workshop
September 25, 2023



TOWN OF
HILLSBOROUGH

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Topics

- Project Background
- Potential Uses and Value Generation
- Development Constraints and Variables
- Affordable Housing Pro Forma
- Board Guidance



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Project Background

- Approximately 19.6 acres of town-owned property between railroad tracks and Gold Hill Way/Orange Grove Ext.
- Primary use of site is for construction of train station, but remaining property will be available for the town for additional complementary development
- Comprehensive Sustainability Plan goal is to set aside 1/3 of remaining site for affordable housing



3

Project Background

- Train Station development plan covers approximately 4.7 acres (not including 2 development sites) – meaning approximately 5 acres should be reserved for affordable housing



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Potential Uses

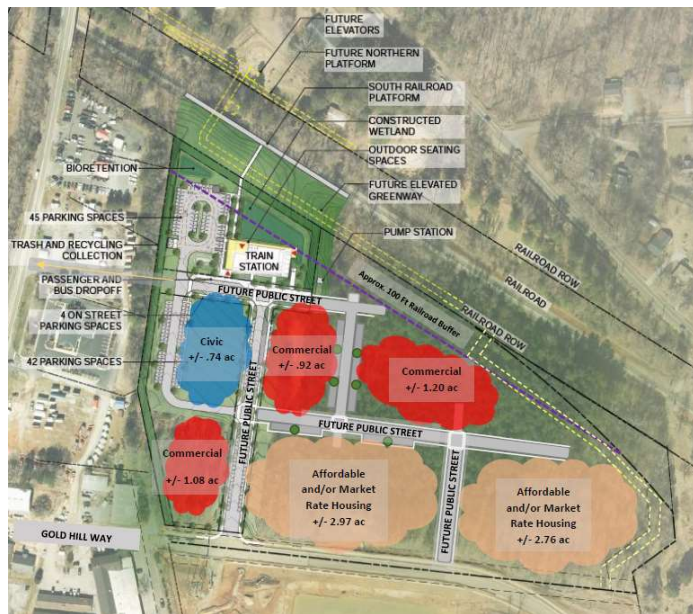
- Bubble map shows potential connectivity network and “pad” uses – totaling 9.64 acres
 - 5.7 acres residential
 - 3.2 acres commercial
 - .74 acres civic use
- Optionally, commercial and residential may combine in mixed-use projects



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Potential Uses

- What about the rest of the property? $19.6 - 4.7 - 9.6 = 5.26$ acres left
 - The remaining space is needed for streets, sidewalks, landscaping, buffers, stormwater management, etc.
 - And – each development pad will need to preserve space for parking, landscape, circulation, etc.



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Potential Uses

- What do you mean by Civic use?
 - There are multiple partnership options for the board to consider... none currently ready for public discussion



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Potential Uses

- How big are those development pads? What could go there?



Medical Office – 25k sqft with surface parking – 2.8 acres



Multifamily – 271 units and ground floor retail with structured parking – 3 acre site

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Potential Uses

- How big are those development pads? What could go there?



Retail/Office – 9k sqft with surface parking – 1.13 acres



Mixed Use– 23k sqft retail/office, 94 residential units with surface parking – 2.65 acres



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Potential Uses

- Value Generation – property taxes
- Example – Townhouses
 - Average townwide density: 16.9 units/acre
 - Average TV/Unit: \$252,749
 - Average TV/Acre: \$4,273,892
- Example – Duplexes
 - Average townwide density: 3.4 units/acre
 - Average TV/Unit: \$307,407
 - Average TV/Acre: \$1,044,115



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Potential Uses

- Value Generation – property taxes
- Example – Condo Units
 - Average townwide density: 16.1 units/acre
 - Average TV/Unit: \$404,117
 - Average TV/Acre: \$6,509,261
- Example – Single Family Residential
 - Average townwide density: 2.3 units/acre
 - Average TV/Unit: \$278,787
 - Average TV/Acre: \$645,632
- Example – Miscellaneous Commercial
 - Average townwide density: 0.44 units/acre
 - Average TV/Unit: \$1,278,915
 - Average TV/Acre: \$567,610



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Potential Uses

- Value Generation – property taxes
- Example – Newer build (2015) multifamily complex
 - Density: 12.7 units/acre
 - Average TV/Unit: \$133,817
 - Average TV/Acre: \$1,669,421
- Example – Mixed Use Commercial Project (Shelton Station)
 - Total size: 2.64 acres
 - Units: 94 residential, 6 retail/office
 - Density: 53.7 units/acre residential, 6.7 units/acre commercial
 - Taxable Value: \$16,205,800 (R), \$3,222,700 (C), \$19,428,500 (combined)
 - TV/Unit: \$172,402 (R), \$537,117 (C), \$194,285 (combined)
 - TV/Acre: \$9,260,457 (R), \$3,621,011 (C), \$7,359,280 (combined)



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Potential Uses – Value Generation

Use Type	Density (Units/Acre)	TV/Unit	TV/Acre
Townhouses	17	\$250k	\$4.27m
Duplexes	3.4	\$310k	\$1.04m
Condo Units	16	\$405k	\$6.50m
SF Residential	2.3	\$280k	\$0.65m
Misc. Commercial	0.66	\$1,280k	\$0.57m
Multifamily Complex	12.7	\$135k	\$1.7m
Mixed Use	53.7 (Residential)	\$175k/\$540k/\$195k	\$9.2m/\$3.6m/\$7.4m



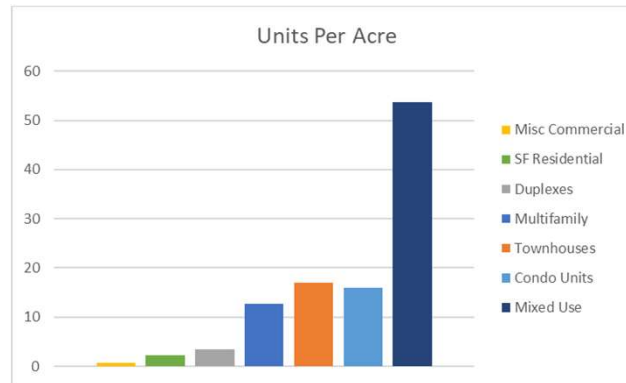
13

Potential Uses – Value Generation



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Potential Uses – Value Generation



Development Constraints and Variables

- Parking
 - Residential uses require 1.4-2 parking spaces per unit, commercial uses requirements vary by use
 - Parking spaces require 270-300 sf of space each, exclusive of drive aisles and buffers – lots of new impervious surface
 - Structured parking yields more parking per acre, but costs significantly more (\$28k/space for structured parking vs. \$2,500 for surface parking)
 - Opportunities for shared parking in new development exists, but there are a lot of potential uses (train station, transit hub, residential, commercial, etc.) – some may have complimentary high-use times, others may conflict
 - Potential RTP Train Station could mean significantly more parking needed

Development Constraints and Variables

- **Utilities**
 - Depending on the mix of uses, some water and sewer capacity constraints may exist that limit the size and scope of development
 - Stormwater – on-site treatment and containment may take up a significant portion of developable property
- **Infrastructure**
 - Depending on disposition of property, town may be on the hook for site preparation, street network, etc.
- **Disposition Method**
 - Open sale, RFP for master developer or site developers, ground lease, etc.



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Development Constraints and Variables

- **Development Uses**
 - Board will need to work with developers and/or consultant to determine the right mix of commercial and residential uses to find something complementary and commercially viable
 - Development will need to balance affordability, density, feasibility and ROI for the town
- **Other Revenue Sources**
 - Depending on the development mix, sales tax and/or food & beverage tax revenues will be generated by the new development
 - Any new development will also generate water & sewer and stormwater revenues



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Affordable Housing Pro Forma (Example)

- What level of “affordable” are we trying to reach?
- 80% AMI is affordable/workforce – but market rents are essentially at this level now
 - 80% AMI ~\$66,000, making affordable rent \$1,120-\$1,450 (30% of income less utility allowance)
 - Current market rents ~\$1,240 - \$1,450
- 60% is another common income target – low income/affordable range is 30%-50% AMI
 - 60% AMI ~\$49,500, making affordable rents at this level between \$790-\$1,040, or between \$330 - \$450 less than market rents



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Affordable Housing Pro Forma (Example)

- 4 acres of land, 100 unit multifamily development
- Mixed-income project (80% market, 20% workforce (80% AMI))
- Assumes market pricing for land
- Financing includes internal equity, capital contribution/grants, patient equity (Self Help, etc.) and commercial borrowing (80% LTV)

Assumptions		
Number of Residential Units	100	
Cost of Land/Acre	\$500,000	
Total Acres	4	
Capital Costs	Cost/Unit	Total Cost
Land	\$5,000	\$2,000,000
Soft Costs	\$14,375	\$1,437,500
Construction Costs	\$185,000	\$18,500,000
Developer Fee	\$9,250	\$925,000
Total Capital	\$213,625	\$22,862,500
Operating	Cost/Unit	Total Cost/Yr
General O&M (Payroll, contracts, utilities, etc.)	\$5,000	\$60,000
Property Taxes (Town)	\$674	\$67,440
Property Taxes (Other)	\$955	\$95,496
Town Stormwater Fee	\$49	\$4,860
Total Operating Costs	\$6,629	\$222,936



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Affordable Housing Pro Forma (Example)

- So given these development assumptions, an affordable/workforce project (20% of units at 80% AMI) pencils out as follows:
 - Projected Annual Revenues: \$1,454,071
 - Projected Annual Expenses: \$2,026,812
 - Projected Annual Deficit: (\$572,741) – no deal
- If the project inserts more affordability – say 80% market, 10% workforce, 10% affordable (60% AMI)
 - Projected Annual Revenues: \$1,391,825
 - Projected Annual Expenses: \$2,026,812
 - Projected Annual Deficit: (\$634,986) – no deal



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Affordable Housing Pro Forma (Example)

- Same examples, with donated land from town
- An affordable/workforce project (20% of units at 80% AMI) pencils out as follows:
 - Projected Annual Revenues: \$1,454,071
 - Projected Annual Expenses: \$1,838,026
 - Projected Annual Deficit: (\$383,955) – no deal
- If the project inserts more affordability – say 80% market, 10% workforce, 10% affordable (60% AMI)
 - Projected Annual Revenues: \$1,391,825
 - Projected Annual Expenses: \$1,838,026
 - Projected Annual Deficit: (\$446,201) – no deal
- Donated land brings the deficit down, but doesn't get the deal done
 - In this example, there is still a large gap that needs to be closed via some combination of lower capital costs, lower operating costs and increased revenues



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Affordable Housing Pro Forma (Example)

- How do others get there?
- Alternative financing
 - More tax credit or grant contributions, or more internal equity = less high-cost commercial borrowing
- Operating costs
 - In other states, local governments address this through property tax relief for affordable housing. Not available here currently.
 - Annual property taxes in town are 1.4% of taxable value
- Infrastructure Contributions
 - Water, sewer, stormwater, road networks, etc. Impacts both the capital cost (actual cost of installation) and soft costs (SDFs, tap fees, etc.)



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Affordable Housing Pro Forma (Example)

- Takeaways
 - Affordable housing costs the same to build as market rate – and our market is expensive
 - Land donation alone is unlikely to generate new affordable units – especially at below 80% AMI
 - Town does not currently have financial capacity for a large capital contribution, or programs in place to address infrastructure contributions or property tax relief
 - To make a development of this type work – a developer would need to charge premium (above market) rents to offset affordable units – this may drive up rents elsewhere in town



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Board Guidance

- **Mix of uses**
 - More residential, more commercial, balanced?
 - Thoughts on civic uses?
- **Scale of Development**
 - Should height/density be encouraged? To what extent?
 - Trade-off may be higher development cost and fewer interested partners.
- **Affordable Housing**
 - Is goal of 1/3 of remaining property realistic?
 - How do we define affordable? 80% AMI (workforce)? 60%?



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Next Steps

- Staff recommendation is to budget in an upcoming year funding for a development consultant and/or market study that could include:
 - Market study – what land is worth to developers, what likely uses are attractive
 - More detailed site planning for road network, utilities, stormwater management
 - Property disposition options and likely ROI for the town



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Hillsborough Station Transit Oriented Development

Board of Commissioners Workshop

September 25, 2023



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