

A RESOLUTION PROVIDING DIRECTION ON THE MORGAN CREEK GREENWAY PROJECT

WHEREAS, on March 16, 2010, the Board of Aldermen adopted the Morgan Creek Greenway Conceptual Master Plan; and

WHEREAS, the preliminary engineering phase of the greenway is in process; and,

WHEREAS, the results of hydraulic analyses for a creek crossing conducted as part of a requirement of the Federal Emergency Management Agency (FEMA) have prompted further Greenways Commission, and Aldermen review of the preferred alignment; and,

WHEREAS, the Greenways Commission has had an opportunity to review the two alignments.

NOW, THEREFORE BE IT RESOLVED by the Carrboro Board of Aldermen that:

1. The Board directs staff to pursue the preliminary engineering and construction of
 - Phase 1 preferred alignment, along the north side of Morgan Creek;
 - or
 - Phase 1 alternate alignment, along the south side of Morgan Creek;
 - or
 - Some combination of the two, described as _____.
2. The Board directs staff to continue to work with NCDOT to pursue the Smith Level Road bridge improvements to create a bike/pedestrian lane on the existing bridge through restriping and other safety mechanisms.
3. The Board directs staff to proceed with the exploration of a bike/pedestrian along the Smith Level Road underpass.
4. Other

This is the 16th day of October in the year 2012.



TOWN OF CARRBORO

NORTH CAROLINA

TRANSMITTAL PLANNING DEPARTMENT

DELIVERED VIA: HAND MAIL FAX EMAIL

To: **Greenways Commission**
Mayor and Board of Aldermen
David Andrews, Town Manager

From: **Randy Dodd, Environmental Planner**
Jeff Brubaker, Transportation Planner

Date: **October 11, 2012**

Subject: **Morgan Creek Greenway Project**

Background

In March of 2010, the Board of Aldermen approved the Morgan Creek Greenway Conceptual Master Plan (“Concept Plan”), a multiphase project that would extend from Smith Level Road to the University Lake Recreation Area. The Board subsequently, approved a Municipal Agreement with NCDOT and a contract with Coulter Jewell Thames (CJT) for preliminary engineering work for phases 1 and 2 of the greenway, work which is now underway. In July of 2012, CJT and sub-consultant Becky Ward met with staff to identify a decision point with regard to the Phase 1 alignment. The Greenways Commission had requested, during its review of the concept plan, an opportunity to review the project before implementation, if the Phase 1 alternate alignment was selected. CJT and Becky Ward met with the Greenways Commission at its September 2012 meeting to discuss the findings and the Commission’s recommendations for moving forward. Prior to placing the item on the Board of Aldermen’s agenda, the Board liaisons, the Commission chair and staff met to discuss various decision points. During this meeting some additional factors were identified that warranted Commission input. Noting the need to move the project forward quickly, the group suggested that the Commission hold a special meeting to revisit the alignment and other decision factors, rather than wait for the Board’s referral.

The purpose of this memo is to provide staff comments in response to recent discussions and in consideration of preliminary findings from CJT, and to facilitate successful completion of engineering plans and Phase 1 construction. The additional information is intended to provide the Board with a comprehensive understanding of the project, its various decision points, and the need for a timely decision in order to keep the project on track within an already tight schedule. Staff is seeking Board direction on which alignment to pursue for Phase 1, as well as guidance for other related aspects of the project.

Information

Town staff and the Greenways Commission have been working with Coulter Jewell Thames (CJT) to develop engineering plans for Phases 1 and 2 of the approved Morgan Creek Greenway Conceptual Master Plan (“Concept Plan”). The concept plan approved by the Board of Aldermen showed a preferred and alternate Phase 1 alignment beginning at Smith Level Road and terminating on the south side of Morgan Creek adjacent to the Berryhill neighborhood.

While the study area includes multiple constraints including stream buffers, steep slopes, hardwood stands, and a recognized National Heritage Site (the Triangle Land Conservancy—owned Rhododendron Bluffs), results from recent CJT work and subconsultant Becky Ward highlight that the most important immediate Phase 1 and 2 greenway trail planning consideration is the heavily constrained floodplain. The pursuit of flood modeling and flood studies as an immediate follow up step to the conceptual planning has determined that there is no permittable (by the NC Flood Mapping Agency in their delegated role by the Federal Emergency Management Agency) or feasible crossing location for Phase 1 with the possible exception of a new “shadow bridge” adjacent to the Smith Level Road bridge. A potential interpretation pursuant to the Morgan Creek Concept Plan development and approval is that the Phase 1 “alternative” alignment on the south side of Morgan Creek is the logical route to pursue.

During its review of the concept plan, the Greenways Commission including the following six recommendations/requests:

1. *The Commission strongly endorses the Phase 1 alignment in light of the connectivity it affords the surrounding communities with access to Abbey Ln.*
2. *The Commission finds the aesthetics of the bridge placement in the Phase 1 alignment – even if it has to be moved slightly to the north or south – far preferable to the placement of the bridge adjacent to Smith Level Rd. [“shadow bridge”]*
3. *In support of the Phase 1 alignment, the Commission recommends that all possible bridge crossings be explored along the Phase 1 alignment before resorting to the Phase 1 alternate alignment.*
4. *The Phase 1 alignment is preferable due to minimal disturbance to trees.*
5. *The Phase 1 alignment is preferable due to the availability of Abbey Ln. as a public access point.*
6. *If the Phase 1 alternate alignment is selected, this decision should be presented to the Greenways Commission and Board of Aldermen for review before implementation.*

Based on these comments, CJT and Becky Ward met with the Greenways Commission at its September 2012 meeting to discuss their findings. The Greenways Commission endorsed pursuing the alternative alignment by a majority vote (7-1), after a lengthy discussion weighing a variety of considerations. As a follow up, the Commission’s Board of Aldermen liaisons, the Greenways Commission chair, and staff met to discuss the implications of the CJT/Becky Ward

findings and pursuit of the alternative alignment. A number of issues and ideas were discussed at the meeting with a decision to quickly reconvene the Commission for further discussion, and also to prepare a Board of Aldermen agenda item to update the Board and receive additional direction as warranted.

During the follow up meeting with the Board liaisons and Commission chair, another suggestion was discussed which would involve constructing bicycle and pedestrian improvements on Smith Level Rd./S Greensboro St. from the Morgan Creek Bridge to Old Pittsboro/Rand Rd. Staff were asked to develop a map showing potential bike-ped improvement options. Additional attachments show some considerations for making this corridor safer for nonmotorized transportation. The considerations in some cases reflect Bike Plan recommendations and in other cases reflect staff judgment.

On Wednesday, October 10th, the Greenways Commission met again to further discuss how best to proceed with the Phase 1 preliminary engineering work given the inability to cross the creek and pursue the preferred alignment. The Commission made no formal new recommendation at this meeting; however, it did wish to convey to the Board the complexity and diversity of the discussion. To maintain a focus on the immediate and pressing need for the Town to provide clear direction to CJT, it is beyond the scope of this memo to capture all the points discussed at these recent meetings. However, several points concerning some of the interests and considerations are worth summarizing:

- There appear to be diverse viewpoints on the impact, potential community reaction, and relative merits of a Phase 1 terminus adjacent to Berryhill in contrast to completing a connection on the northern side of the creek between Smith Level Road and the Canterbury Townhomes, especially given the uncertainty in when future construction funding will be available to proceed upstream/west with the greenway. (It is worth noting that the terminus adjacent to Berryhill was approved in the concept plan for either the preferred or alternate alignment.)
- A newer consideration is that there is sensitivity to the recent change in status of Frank Porter Graham to a magnet school, suggesting that fewer students will be able to take advantage of the greenway to get to and from school.
- While it is uncertain at this point when funding will be available to pursue future phases of the greenway, completing preliminary engineering is a significant step that increases the likelihood and reduces the time frame for future funding.
- There is no interest in further engineering of a “shadow” bike/ped bridge at this point in time. There is significant interest in pursuing on-road improvements to improve bike/ped connectivity and safety.

In consideration of these recent developments, staff have developed some summary points and recommendations to help compare different options for moving forward. A helpful supplement to this memo has also been created by excerpting materials from the approved Concept Plan, and annotating the Phase 1 plan.

Prior to considering any significant alternations to the planning and design scope currently being pursued, three important points should be taken into consideration:

- 1) The municipal agreement between the Town and NCDOT and the contract between the Town and CJT are premised on the approved Conceptual Master Plan. The contract took over a year to negotiate.
- 2) The bond funds being used as the local match for the project expire in November, 2013. All engineering and construction work covered under current and future contracts needs to be complete at that point. There is essentially no schedule buffer to allow the necessary engineering, regulatory, and administrative work to be completed within this window.
- 3) The bond funds are leveraging \$480,000 of federal Surface Transportation Program (STP-DA) funds, some or all of which could be lost if the project is not successfully completed.

Key considerations for different greenway sections and road connections have been outlined in Table 1, and include the following six topics:

- Crossing
- “Preferred” Phase 1 Alignment
- “Alternate” Phase 1 Alignment
- Smith Level Rd. bridge improvements
- Smith Level Rd. underpass
- Bicycle and pedestrian improvements on Smith Level Rd./S. Greensboro St. from the Morgan Creek Bridge to Old Pittsboro Rd./Rand Rd.

Amongst these, an essential matter for the Town to immediately resolve is whether the preliminary engineering should focus on the alternative alignment or the preferred alignment.

Bicycle and pedestrian improvements on Smith Level Rd./S. Greensboro St. from the Morgan Creek Bridge to Old Pittsboro/Rand Rd.

It is not recommended that the Town attempt to include these improvements in the Morgan Creek Greenway TIP allocation (Project # EL-4828), and such a request may not be approved. The attempt would require a number of administrative steps that would cause substantial project delays and could jeopardize STP-DA reimbursement. Steps and associated issues include:

1. A TIP amendment would need to be approved by the MPO’s Transportation Advisory Committee (TAC). The MPO’s Policy Framework for Federal Funds¹ states:
 An existing project’s scope may not be modified so substantially as to effectively constitute a new project. This will be reviewed on a case-by-case basis, but a change in location or outcome may be considered a new project (e.g., changing the scope from a high occupancy vehicle lane to a general purpose lane). A key factor will be how the project was described and evaluated during the competitive process – any scope changes will then be reviewed to determine if the project is essentially meeting the spirit of the original evaluation.

¹ http://www.dhcmpo.org/index.php?option=com_docman&task=doc_download&gid=529&Itemid=34

Therefore, a request to change the scope of EL-4828 would not accord with the intent of the policy.

2. A Supplemental Agreement would then need to be approved by the Town and NCDOT to amend the scope of the project. Because this entails approval by both the Board of Aldermen and State Board of Transportation, the mere time for administrative processing would take 1-2 months.
3. An amendment to the professional services contract with CJT would need to take place, including the submittal and review of a revised scope and fee estimate. This would also take 1-2 months.
4. Because Smith Level Rd. between the southern end of the Morgan Creek Bridge and the northern side of Merritt Mill Rd. ROW is half in Carrboro, half in Chapel Hill, the Town would not be able to pay for improvements on the Chapel Hill half. Completing these improvements would entail coordination with Chapel Hill and determination of a funding strategy.

Staff recommend that the Board direct staff to prioritize these improvements by seeking an independent, future funding allocation. As it is, this segment is the junction between two Top 10 Priority projects in the adopted Bike Plan, so there is some Board precedent for prioritizing improvements.

Table 1: Considerations for Phase 1 Engineering Completion*

<u>Section</u>	<u>Notes</u>	<u>Staff Recommendation</u>
Crossing	CJT/Becky Ward have indicated that no conceivable bridge solution has been found that would result in a permissible (“no rise”) crossing primarily because of the constraints of upstream insurable properties and the broad floodway.	Future planning should assume that no bridge crossing between Weatherhill Point and the Smith Level Road is feasible because of floodplain constraints
“Preferred” Phase 1 alignment (north of Morgan Creek)	In the near term, this would primarily connect the Canterbury neighborhood to Smith Level Road and the future Chapel Hill greenway, by way of the Town Public Works facility. (Some PW activities may be impacted).	The Greenways Commission/ Board of Aldermen should provide direction by October 16 as to whether CJT should complete engineering for either the “Preferred” or “Alternative” Phase 1 alignment
“Alternate” Phase 1 alignment (south of Morgan Creek)	In the near term, this would primarily connect the Berryhill neighborhood to Smith Level Road.	The Greenways Commission/ Board of Aldermen should provide direction by October 16 as to whether CJT should complete engineering for either the “Preferred” or “Alternative” Phase 1 alignment

Table 1: Considerations for Phase 1 Engineering Completion (continued)

<u>Section</u>	<u>Notes</u>	<u>Staff Recommendation</u>
Smith Level Road bridge improvements	Primarily in the context of pursuing Alternative Phase 1, the southbound merge lane could be converted into a two-way protected bicycle path (“cycle track”) on the Smith Level Road bridge, connecting Alternative Phase 1 with the crosswalk at Public Works Drive and improving safety for bike/ped users.	Staff and CJT continue to develop and discuss this concept, including dialogue with NCDOT about feasibility
Smith Level Road underpass	This would connect Chapel Hill and Carrboro greenway segments below road grade	CJT should continue to pursue engineering for this connection regardless of main corridor alignment. Construction should be timed based on anticipated completion of Chapel Hill.
Bike/ped improvements on Smith Level Rd./S. Greensboro St. between the Smith Level Rd. bridge and Old Pittsboro Rd./Rand Rd.	Would facilitate connection to future S. Greensboro St. sidewalk, signed bike route on Old Pittsboro Rd., and potentially through Rogers Triem property to Roberson Bike Path.	Inclusion of this road section in future planning should be prioritized as a separate project with MPO/NCDOT to avoid jeopardizing receipt of \$480k of federal funding. Board could direct staff to prioritize this section for future planning, coordinating with the Town of Chapel Hill since the east side of the road is within ToCH corporate limits. Alteration of current Municipal Agreement authorizing the Morgan Creek greenway project and CJT contract should not be pursued in consideration of this possibility.

*see the graphic with annotation from the Morgan Creek Concept Plan in the separate appendix for geographical reference

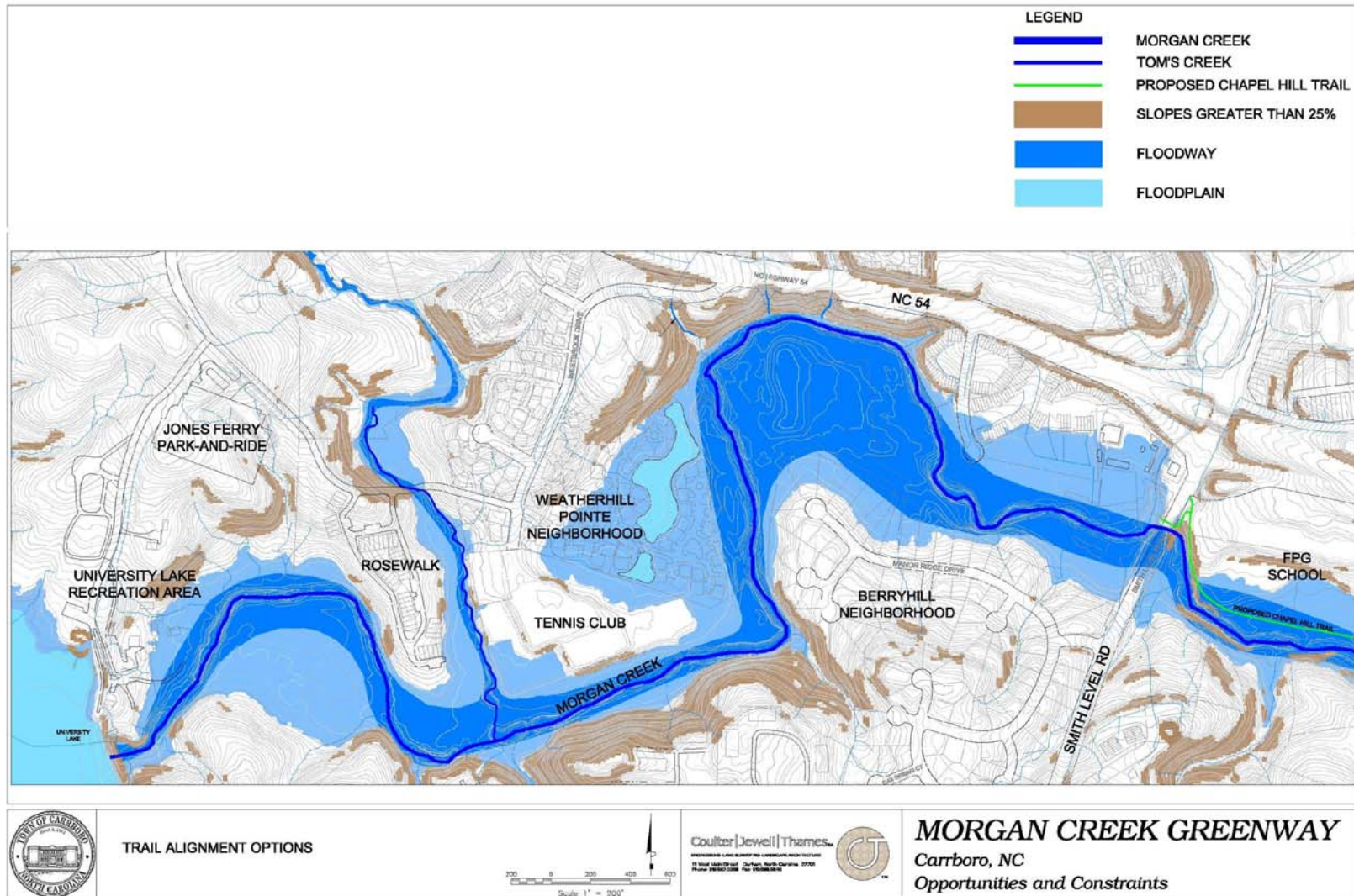
As a supplemental recommendation to the information and recommendations provided in Table 1, staff recommends that CJT complete all engineering work for Phase 2 as outlined in the Concept Plan and detailed in the contract. This work is “midstream,” and suspending this work will result in significant additional future expenses and delays.

It is also worth noting that the Morgan Creek Greenway was designed as a multiphase project, which over time, would connect the Chapel Hill Greenway system, at its terminus at the Smith Level Road Bridge, to the University Lake Recreation Area. Therefore, effort should be made to design each phase so that an individual segment starts and ends at logical points and so that each segment connects with the next phase of the project without leaving any gaps. Connecting the Canterbury Townhouse spur directly to Smith Level Road, may require the construction of a parallel greenway along the south side of Morgan Creek in order to link Phase 1 to the proposed starting point of Phase 2—near the Berryhill soccer field.

Recommendations

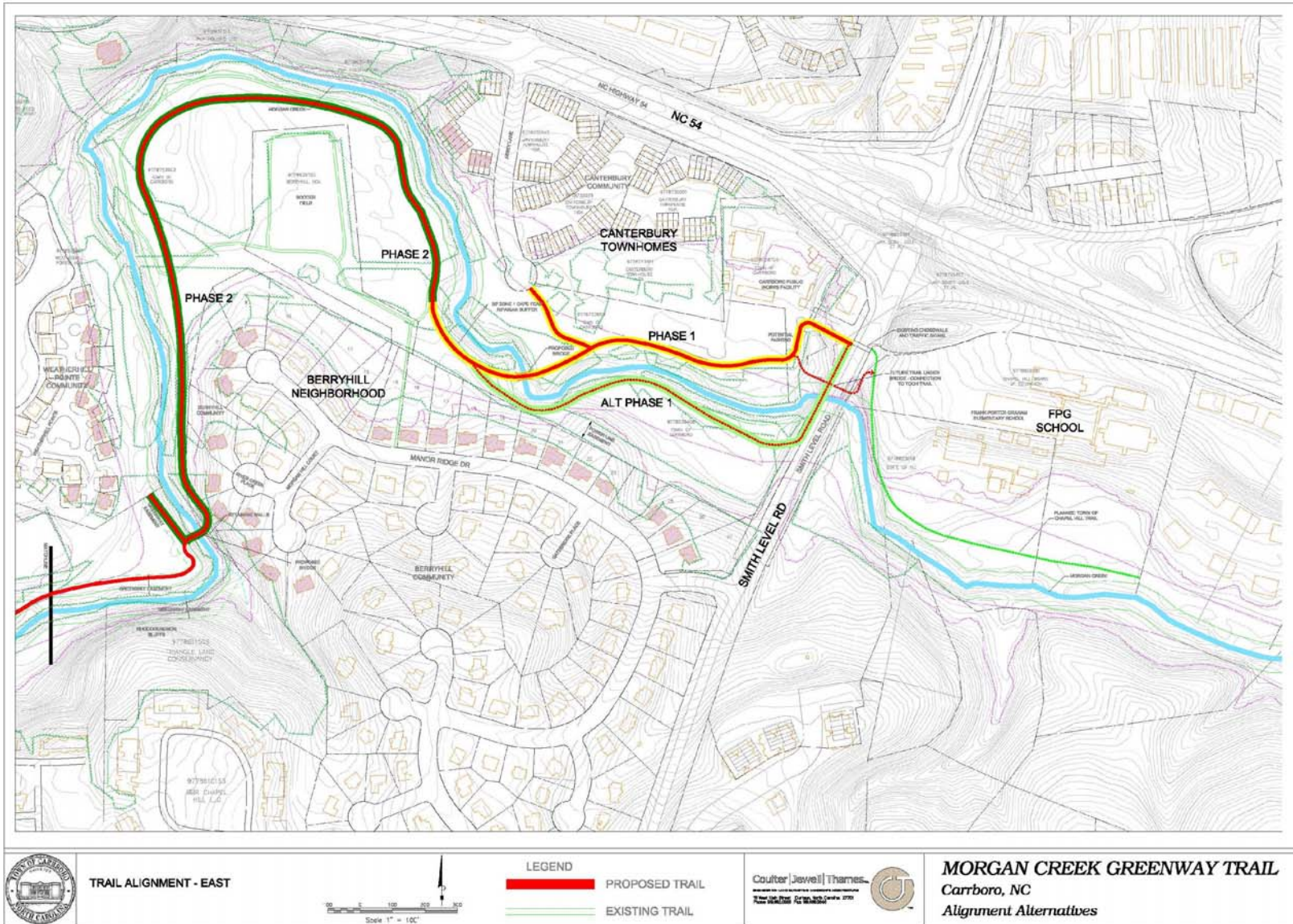
Staff recommend that the Greenways Commission and Board of Aldermen adopt the recommendations provided in Table 1, including a recommendation for the Phase 1 alignment or the Alternative alignment, and also direct staff to work with CJT to complete both Phase 1 and Phase 2 engineering per the current contract.

MORGAN CREEK GREENWAY Final Report



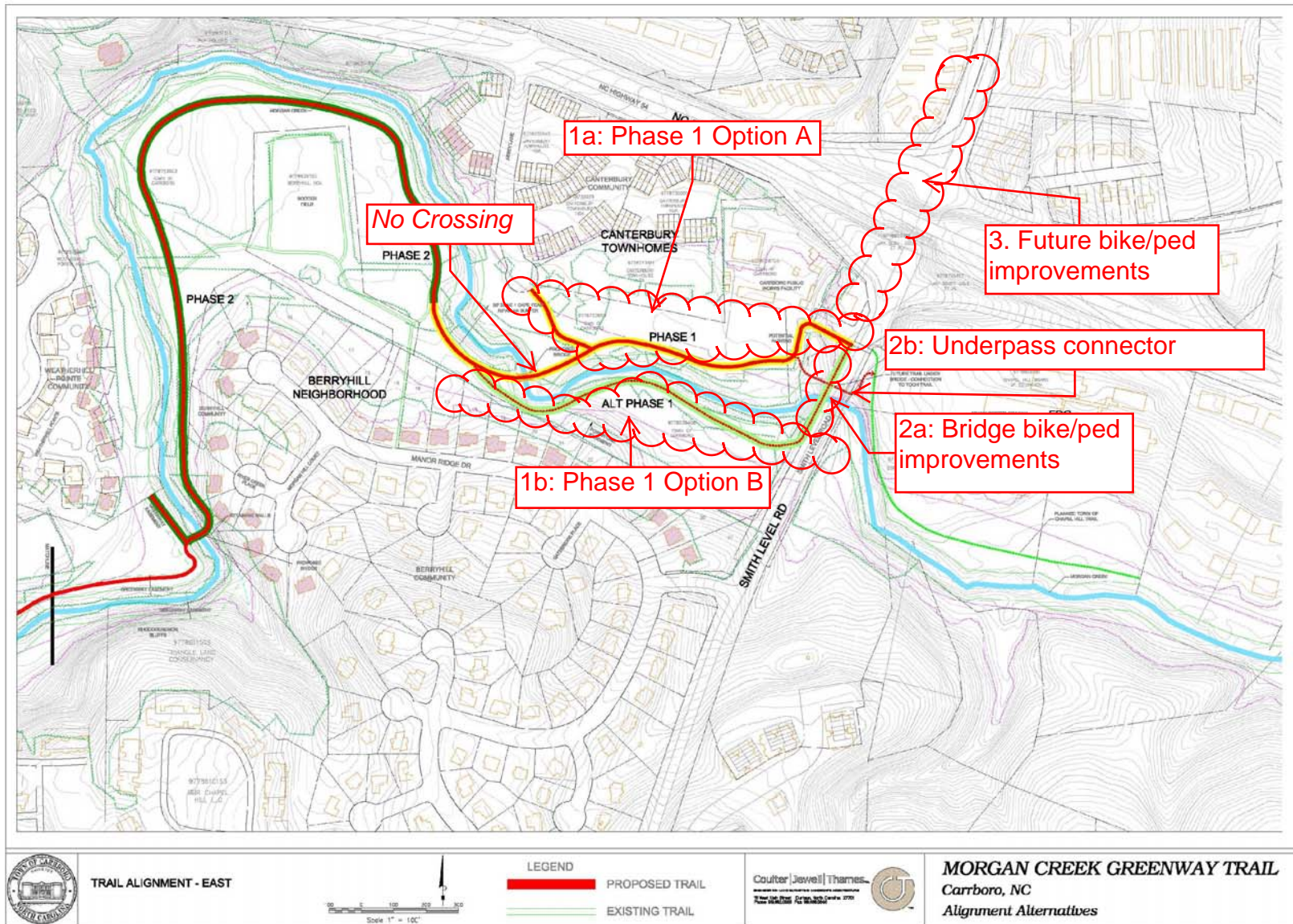
Map 11 – Composite Opportunities and Constraints Map – Main Trail Corridor





Map 13 – Recommended Trail Alignment – Main Trail, East





Map 13 – Recommended Trail Alignment – Main Trail, East



CHAPTER 6 - IMPLEMENTATION

ACTION STEPS

The study to date has been based on information taken from GIS mapping from various sources. All future work on the design will require more accurate data. A field survey will be the first work that will need to be done. The surveyed area will need to include the main corridor as well as a corridor that follows the preferred route to the high school site. Although surveying could be done on a phase by phase basis, some overall creek surveying will need to be completed for the whole trail corridor to provide base information for bridge / creek crossing details.

Design development drawings will be done next using the surveyed base data. Talks should start with private landowners to start obtaining greenway easements. At this point the bridge crossings should be determined so the no-rise studies can be started. These studies will need to be done for four bridge crossings: the bridge over Tom's Creek, the bridge over Morgan Creek near Tom's Creek to be used for the high school connection, the bridge over Morgan Creek between Weatherhill Pointe and Berryhill, and the bridge over Morgan Creek between Berryhill and the Carrboro Public Works facility site. The no-rise studies may result in a different bridge design or slightly different bridge location. When bridge locations are determined, the plans and studies will need to go through FEMA for approvals which could take up to a year to obtain.

Once design development is complete, the Town should finalize any needed greenway easements or property purchases. While the Town is waiting for bridge crossing approvals the project may progress into the construction drawing phase.



PHASING PLAN

The entire trail project is estimated to cost substantially more than the amount of funds that the Town currently has available. It will therefore be necessary to divide the project into phases so that the project may proceed, focusing on the highest priority sections while additional funding is pursued.

Phase 1

The budget for the first phase of the trail will allow approximately \$400,000 for construction after design and permitting fees. We feel that at least one creek crossing would be an important component for the first phase. There are various small walkable sections (paved and unpaved) along the corridor but no way or crossing the creek between Jones Ferry Road and Smith Level Road.

Our recommendation for the first phase is to build the trail between Smith Level Road and the existing pathways near the Berryhill recreation area. By starting at the eastern end of the trail, the Town will be able to provide a trailhead for corridor use on the Public Works site. It will also provide for the connection to the western end of the Chapel Hill trail when it gets built out. This section would provide a creek crossing and would provide a safe alternate route for Berryhill residents and Canterbury Townhouse residents to walk or ride to the Frank Porter Graham School site.

Included in the early phases of trail construction should be an allowance for cleaning out the creek. The extent of cleaning could range from simply removing large debris (fallen trees) and trash to removal of construction debris along the banks.

Phase 2

The second phase of the project should continue to link users and destinations. Two options for this phase present themselves.

The first option would be a 4000 linear foot westward extension of the phase 1 trail around the Berryhill recreation area, south along the creek, over the creek and dead ending in the Tennis Club property near the Weatherhill Pointe property line. This would provide a way for Weatherhill Pointe residents and Tennis Club members to cross the creek and join the trail system on foot. But there are no greenway easements or current trails through the Tennis Club or in this section of Weatherhill Pointe for connection, so the Town trail would need to stop at the property line and therefore would not actually end at a user access point. The Greenways Commission prefers this option as an extension of the first phase.



Alternatively, the second phase could be an extension from Rosewalk over Tom's Creek, along a short section of the Tennis Club property, over Morgan Creek and up the OWASA easement to BPW Club Road where there are existing sidewalks and bike lanes. This option would provide a route for neighborhoods on the north side of the creek to access the bike lanes and high school on the south side of the creek. This alternative would be only an 1800 linear foot stretch but would involve two bridge crossings.

Future Phases

As each section of trail is built, it should connect users and destinations. A separate phase could also be the Jones Ferry Park-and-Ride lot to the existing Rosewalk trail. This section would provide the western trailhead and additional parking.

As one of the links will be to the Chapel Hill trail section it would be advisable for both Towns to apply for federal grant money together to construction the connecting sections.



COST ESTIMATES

The main trail is estimated to cost approximately \$ 2.425 million including design, permitting, and construction. That is made up of \$ 2,137,300 in hard costs and an additional \$287,700 in soft costs.

Basically the design development, bridge crossing studies and permitting should be done for the entire trail at the beginning. Then construction drawings could be done phase by phase. The plans would be phased so that a section of trail linking two destinations could be built completely. Initial construction drawings that include a bridge crossing will have to include the no rise study for all the Morgan Creek bridge crossings. Because of this, some surveying will need to be done at each section. The no rise studies should be done at the very beginning to tie down the crossing locations and provide the Town with a comfort level that the crossings will be allowed. The Town has also requested that detailed construction drawings and permits for phases 1 and 2 be completed initially, with enough funding left for phase 1 construction. The design of phases one and two, and the installation of the phase one section should be buildable within the Town's budget.

The spur trail is estimated to cost approximately \$ 641,775 (\$558,000 hard costs and an additional \$83,775 in soft costs). This is an estimated cost for a trail to cross Morgan Creek and extend from the creek to existing transportation facilities on BPW Club Road.



Phase 1

The Town staff has indicated there is approximately \$600,000 for the first phase, or approximately \$400,000 for actual trail construction after surveying, design, studies, and permitting have been completed.

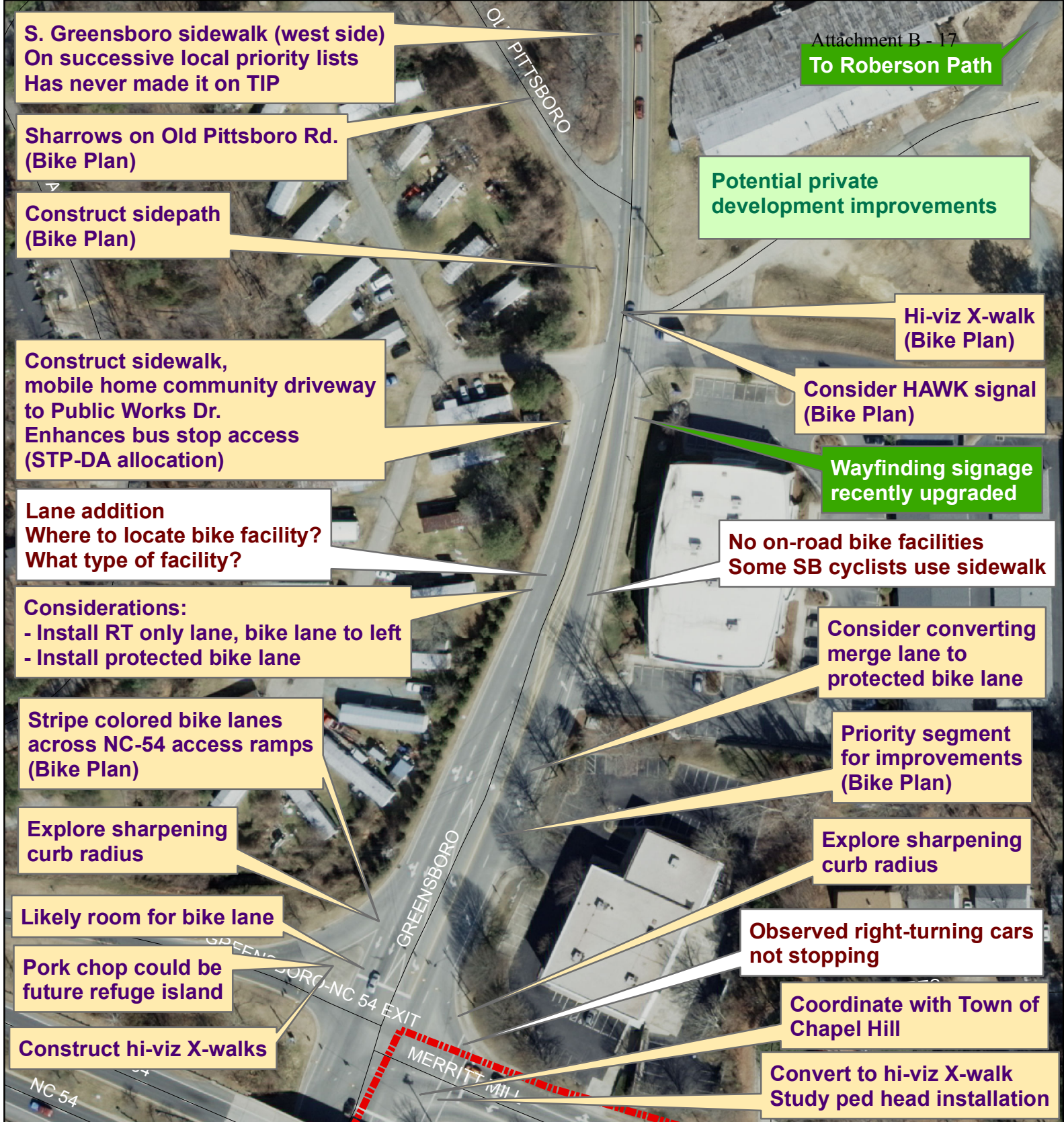
The unit cost of the trail without bridges is approximately \$100 per linear foot. That number includes periodic boardwalk installation for overland drainage, but longer boardwalk sections would be closer to a \$400 per linear foot cost.

The first phase should include a bridge to provide access to both sides of the creek for all users, even if it means some travel back and forth on either side of the creek. A bridge should be budgeted at about \$ 170,000. That would leave \$230,000 of funding for trail, or approximately 2300 linear feet of paving.


The first phase should provide connectors to bits of trail or sections already passable. It should also provide some trailhead parking.

The cost estimate for initial design a section of trail running from Smith Level Road to the Berryhill gravel trail is \$132,350. This estimate includes no rise studies for the whole trail, alterations of an existing parking lot for trailhead use, one bridge crossing, and a concrete overland trail. The estimated hard costs for construction of this proposed section is \$426,350. These costs include a 15% contingency.






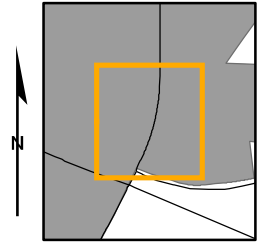
Smith Level Rd./S. Greensboro St. ped-bike issues and opportunities - North of NC-54

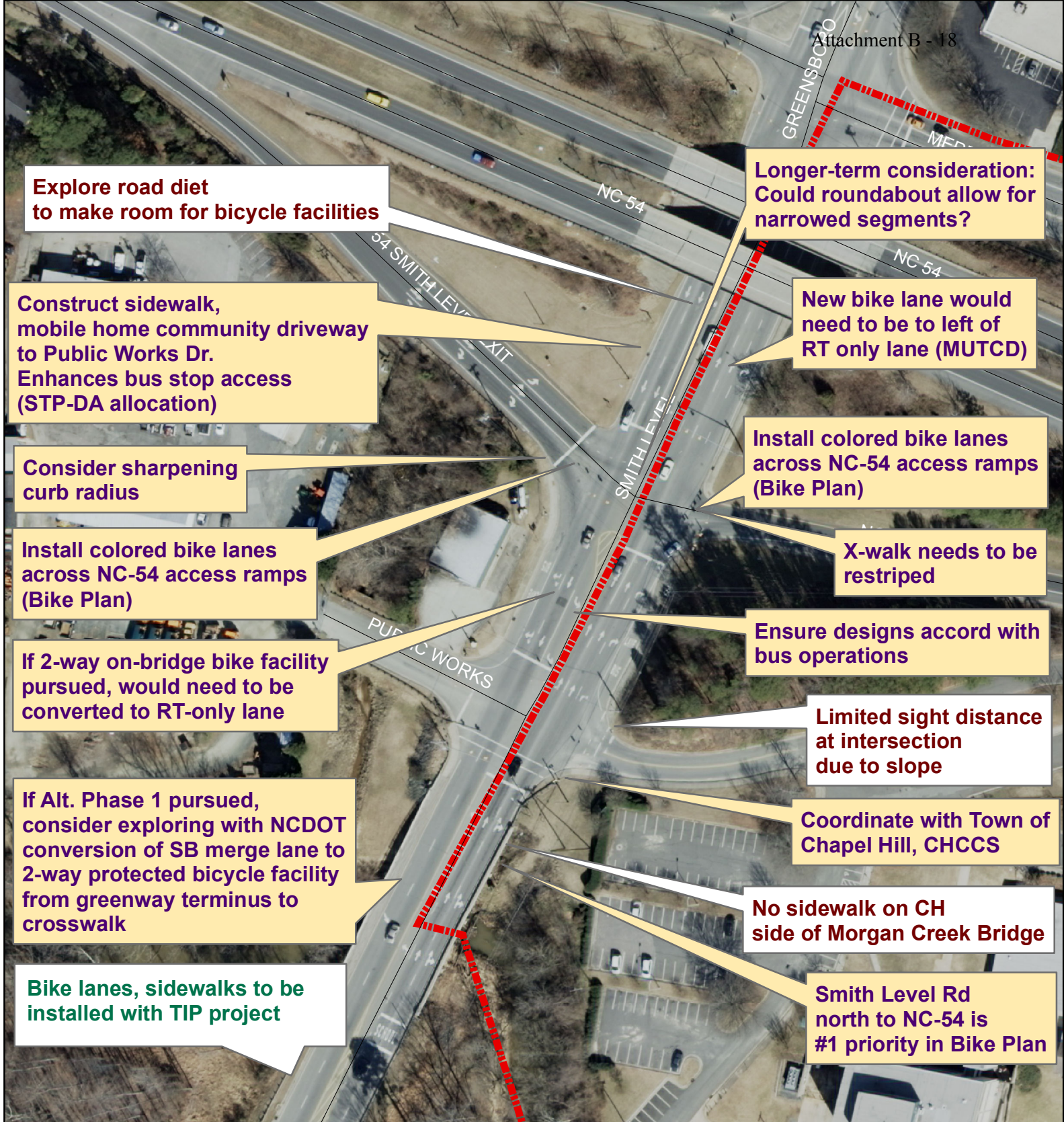

TOWN OF CARRBORO
 301 W. Main St.
 Carrboro, NC 27510
 Created October 6, 2012
 Feet
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 NC State Plane Coordinate System (NAD83)
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Legend

 City Limits

0 100 200 400 Feet





Explore road diet to make room for bicycle facilities

Longer-term consideration: Could roundabout allow for narrowed segments?

Construct sidewalk, mobile home community driveway to Public Works Dr. Enhances bus stop access (STP-DA allocation)

New bike lane would need to be to left of RT only lane (MUTCD)

Consider sharpening curb radius

Install colored bike lanes across NC-54 access ramps (Bike Plan)

Install colored bike lanes across NC-54 access ramps (Bike Plan)

X-walk needs to be restriped

If 2-way on-bridge bike facility pursued, would need to be converted to RT-only lane

Ensure designs accord with bus operations

If Alt. Phase 1 pursued, consider exploring with NCDOT conversion of SB merge lane to 2-way protected bicycle facility from greenway terminus to crosswalk

Limited sight distance at intersection due to slope

Coordinate with Town of Chapel Hill, CHCCS

No sidewalk on CH side of Morgan Creek Bridge

Bike lanes, sidewalks to be installed with TIP project

Smith Level Rd north to NC-54 is #1 priority in Bike Plan

Smith Level Rd./S. Greensboro St. ped-bike issues and opportunities - South of NC-54

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