Gilligan Road Complete Streets Enhancements Feasibility Study

Final Draft

Town of East Greenbush

Planning and Zoning Department

April 2021

Last Rev. October 2021

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Acknowledgements

The Town would like to thank the East Greenbush Central School District for its early support of this Study. In addition, this Study was made possible with support from the Technical Assistance program offered jointly by the Capital District Transportation Committee and Capital District Regional Planning

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Commission. Finally, the Town would like to thank East Greenbush Castleton Youth Baseball and members of the Town's Planning Board, Department of Public Works, Police Department, and GPI.

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Executive Summary

This feasibility study addresses safety, accessibility, and mobility needs of road users along the Gilligan Road corridor from a complete streets perspective. The study also examines potential future complete streets connections to this corridor. A review of existing conditions and prior planning efforts establishes the project need and objectives. Goals include implementing complete streets enhancement in the study area, minimizing impacts to existing adjoining property owners and land uses, and connecting the Gilligan Rd corridor to adjacent neighborhoods. Projects addressing these goals and related objectives include: A sidepath alignment and typical section between the ball fields and Goff Middle School; proposed Ternan Ave crosswalk treatments; and concept alignments for connections to 9 &20, Park Ave, Hays Rd, and Eckman Place. A phasing plan with eight discrete projects is included to facilitate implementation of projects as opportunities and funding become available. Finally, an implementation matrix is included to help identify project anticipated timing, lead agencies, funding opportunities.

Project Background and Planning Process

This Gilligan Road Complete Streets Enhancements Feasibility Study (the "Study") was developed by the Town of East Greenbush (the "Town") with support from a Technical Assistance grant awarded to the Town by the Capital District Transportation Committee (CDTC) and Capital District Regional Planning Commission (CDRPC). It is also an outgrowth of a partnership between the Town and the East Greenbush Central School District (EGCSD). The Study addresses safety, accessibility, and mobility needs of road users along the Gilligan Road corridor from a complete streets perspective. The Study also examines potential future complete streets connections to this corridor. This section outlines the need for this Study, prior planning efforts, and the planning process used to develop this Feasibility Study.

Study Need

Gilligan Road is owned by the Town and is among the busiest roadways owned by the Town. The corridor connects US 9 & 20 ("Columbia Turnpike") to the north with Hays Road to the south. Land uses along the corridor include commercial and residential multi-family closer to Columbia Turnpike. Single family residential, the Town Department of Public Works (DPW) highway garage (69 Gilligan Road), baseball fields, EGCSD Goff Middle School complex (35 Gilligan Road), McDonough's Farm (28 Gilligan Road), and First United Methodist Church (1 Gilligan Road) are uses existing along the southern 2/3 of the corridor. Ternan Ave, a residential neighborhood with about 40 homes along Ternan Ave and on Gilligan Road, intersects Gilligan Road in two places. The existing land uses are further described in Appendix 1. In sum, there are a variety of trip generators along the corridor but it lacks pedestrian and bicycling accommodations.

The project need and concept was validated and refined during a Complete Streets workshop,[1] sponsored and supported by a grant of assistance from CDTC, and the need was formally identified in the Town's Amenities Plan (last updated 2017). The need to address safety and mobility of non-motorized users along the corridor was emphasized after a serious pedestrian-and vehicle-involved crash in 2004. In 2005, the Town's Traffic Safety Committee also investigated traffic safety issues along the corridor. Crash data and history in the corridor is further detailed in Appendix 1.

[1] A copy of the notes and other Workshop materials is available here: https://www.cdtcmpo.org/images/compstreets/EGB_Summary_Final.pdf

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The Study's objective is to identify a project or projects needed to provide safe, segregated facilities and supporting infrastructure to pedestrians and bicyclists. The Study also aligns with the Town's Complete Streets policy.[2] Finally, EGCSD and the Town are partnering to share the responsibility to provide a safe pathway for all residents alike in this heavily traveled corridor.

CDTC/CDRPC Technical Assistance Grant

In 2020, the Town requested and was awarded technical assistance from CDTC and CDRPC with development of a Feasibility Study to address multi-modal needs and complete streets in the corridor. As part of the grant, the CDTC/CDRPC team provided technical services relating to traffic safety and operational analysis, identified complete streets treatment options, led the stakeholder engagement component, developed corridor mapping, examined neighborhood-level planning, and provided project support and guidance. The Town provided in-kind match of staff time. The Town also engaged a traffic engineering consultant, Greenman-Pedersen, Inc. (GPI), to provide technical support. CDTC and CDRPC along with members of the Town's Planning and Zoning Department and DPW formed the Study Team.

The CDTC/CDRPC team developed Appendix 1, which undergirds this Study and provides important existing conditions information, identifies potential segregated facility alignments and treatments, and also addresses future potential non-motorized connections.

Stakeholder Engagement

This section summarizes the stakeholder input process used to develop this study.

- January 13, 2020 – Town staff and EGCSD facilities planning committee members held a stakeholder presentation and meeting.
- December 11, 2020 – Study Team presentation of preliminary concepts to stakeholders via zoom. The presentation slide deck and meeting notes are included as Appendix 2. Participants included:
    - EGCSD
    - EGPD
    - DPW
    - East Greenbush Little League
    - Town of East Greenbush Town Board
    - Study Team
- February 10, 2021 – PZD staff presentation to and discussion with Town Planning Board. The relevant portion of the Planning Board minutes are attached as Appendix 3.
- June 9, 2021 – Town Board presentation and public hearing
- June 23, 2021 & August 25, 2021 – Follow-up meeting among Town staff and EGCSD facilities planning committee members
- September 20, 2021 – Presentation to EGCSD Budget Review and Advisory Committee (BRAC)
- November 10, 2021 – Town Board public hearing (anticipated)

[2] [INSERT LINK TO RESO]

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Summary of Existing Conditions and Constraints

The Study Team inventoried and analyzed existing conditions, including traffic operations, traffic safety, topography, existing land use and parcel boundaries, and study area intersections. As part of this effort, the Study Team also identified constraints to installation of various complete streets enhancements along the Gilligan Road corridor. The existing conditions inventory and analysis was developed by CDTC and CDRPC with input from Town staff and consultants and the technical memorandum is included as Appendix 1. This section summarizes some of the key findings and constraints from this memo.

Study Area Environmental and Traffic Conditions

The study area is shown in Figure 1. Gilligan Road is classified as an urban collector/major collector (NYSDOT functional classification 17) with a speed limit of 25 MPH for its entire length. A federal-aid eligible roadway, pavement condition reported by NYSDOT was 8 out of 10. According to traffic count information from NYSDOT, the most recent traffic count is 1,956 vehicles/day and seasonally adjusted average annual daily traffic (AADT) is 1,796 vehicles/day. Truck traffic was less than 5%. As Appendix X notes, variability in traffic counts since 2004 may have to do with special events, school being in session, or other seasonal factors. Traffic at certain times of the year and during certain events, therefore, appears to have a significant impact on vehicle volumes. There are four intersections in the study area, with Gilligan Road and Columbia Turnpike being the only signalized one.

The steepest grade present on the corridor is the slope just north of the DPW garage. The elevation near the DPW garage is approximately 270 feet, and from here, Gilligan Road slopes downward to a minimum elevation of approximately 240 feet near Greenbush Terrace Apartments with a negative grade of 7 to 8%. Gilligan Road then slopes upward toward Columbia Turnpike with a grade of 7 to 8%. South from the DPW garage Gilligan slopes up to

Safety

In the period between 2014 and 2019, a total of 19 crashes were reported along the Gilligan Road corridor. Of these, 15 were crashes between motor vehicles. Three were collisions with deer, and the remaining crash was reported to be a collision with a snow embankment. There were no crashes involving bicyclists or pedestrians during the 5-year period examined. About half of crashes occurred at the Gilligan Road and Columbia Turnpike intersection.

Prior to the five-year analysis period there was a pedestrian-involved collision on Gilligan Road. On October 26, 2004, a student crossing Gilligan Road was struck by a vehicle while crossing near the southern intersection with Ternan Ave. The student was reported to be injured. The student was crossing near the Goff Middle School exit driveway. This incident demonstrates the need to safely accommodate pedestrians on the corridor and to provide connections to nearby neighborhoods for all roadway users.

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Figure 1 Study Area

Pedestrian and Bicycle Infrastructure

Limited facilities and accommodations for pedestrians and bicyclists are present in the Gilligan Road corridor. The following table summarizes existing conditions.

Table 1. Existing sidewalks and shoulder widths on Gilligan Road

Segment	Sidewalk	Shoulder width
US 9 & 20 to Hannaford Driveway (325')	Yes – east side, separated from road	None – asphalt gutter, no curb
Near Hannaford Driveway (150')	None	None – asphalt gutter continues 75'
Hannaford Dr. to Greenbush Terrace (125')	Yes – east side, separated from road	None
Greenbush Terrace to Hays Road (4000')	None	None

Physical Constraints

Several constraints and potential barriers to installation of separate complete streets facilities were identified along the corridor:

- *Hannaford Plaza entrance*: Guardrail and sections of concrete curb are present. There appears to be a drain next to the north entrance road as well.
- *DPW Garage*: Chain link fencing is close to the roadway on the east side, and DPW uses the area within the fence for stockpiling and equipment storage.
- *Ball fields* - Just to the south of the DPW Garage, guardrail is present on the east side of the roadway. There is a steep embankment between the roadway edge and the outfield fence.

Trip Generators

The map below depicts local neighborhoods that may contribute to non-motorized trip generation and usage of the Gilligan Road sidepath. The Ternan Ave neighborhood across from Goff Middle School has 40 housing units. Park Ave and the adjoining streets (Mountain View, Castleton, Rugby, and Petalas) form a neighborhood with 105 housing units. Bloomingdale Ave has approximately 100 homes, while Kriss Krossing and the neighborhood south of Hays has 135 homes.

Public Input, Goals, and Objectives

This section summarizes the public input received during development of this Study as well as public input documented in prior planning and related initiatives. It then develops goals and objectives for complete streets enhancements along Gilligan Road.

Prior Planning Efforts and Related Initiatives

The following presents a summary of recommendations and considerations relating to the Gilligan Road corridor:

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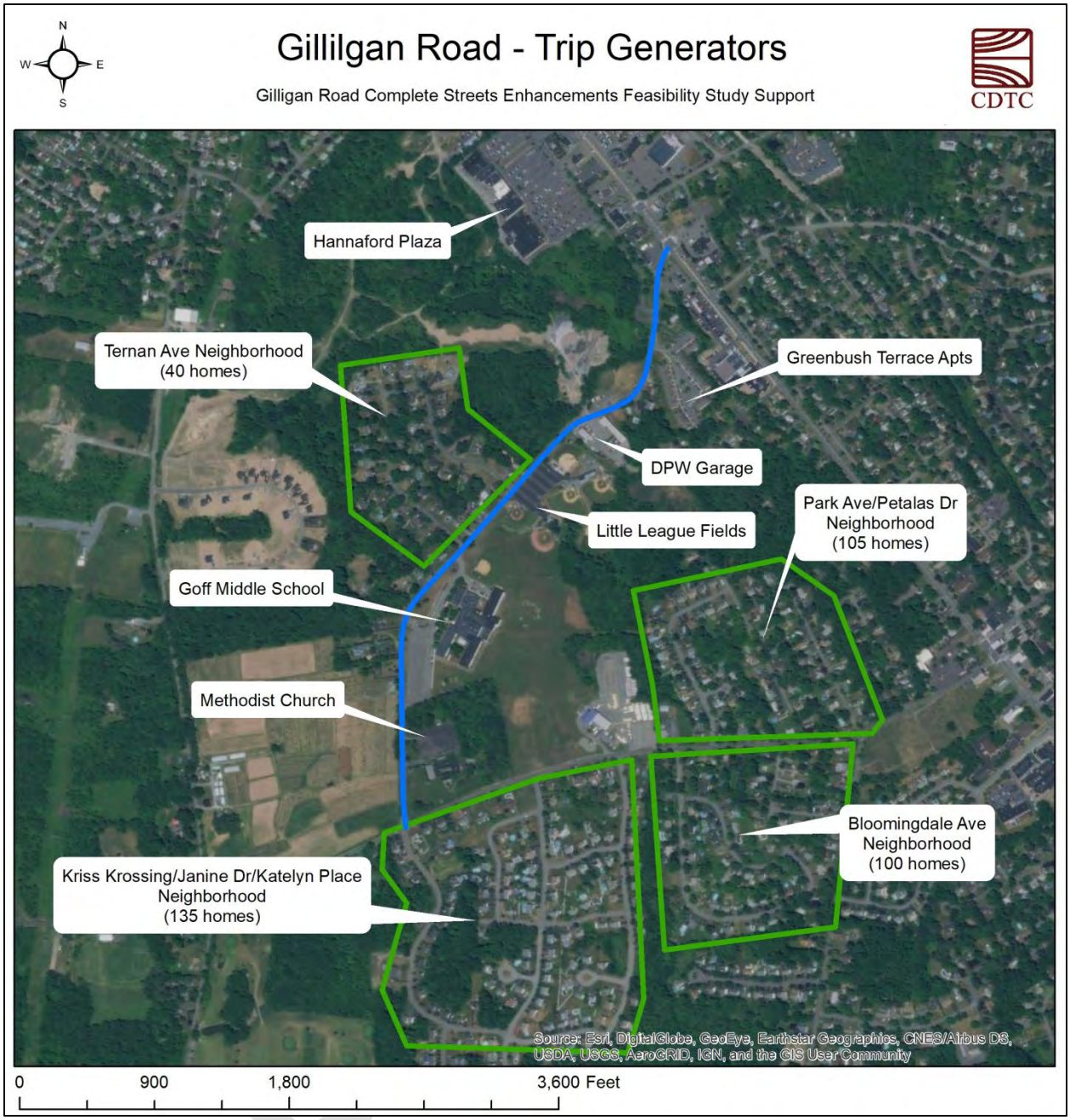

Figure 2. Trip generators

Town of East Greenbush 2021 Comprehensive Plan (May 2021) Create a sidewalk linking Eckman Park to Columbia Turnpike and the Albany Hudson Electric Tail: There is a short run of sidewalk on Gilligan Road off of Columbia Turnpike that could be extended to Goff Middle School allowing connections to the Turnpike, the future Albany-Hudson Electric Trolley trail, and the surrounding neighborhoods.

Town of East Greenbush Complete Streets Implementation Workshop (September 24, 2018) Gilligan Road Sidepath Concept[3]: Seems like a place in the Town where improvements are desperately needed. At times, when the ballfields get busy, the area where the sidepath is marked on the rendering is used for overflow car parking. This connection could extend to the Hannaford Plaza and soccer fields. Much of the planning of this is part of the effort needed to holistically decide where we want the connections and how to best integrate those ideas into all relevant site plans going forward. There was a student hit by a car on Gilligan Road which correlates with the consultant team identification of this location as one that has issues and could use improvements. This could be a good location for a HAWK signal across Gilligan. At times, when the ballfields get busy, the area where the sidepath is marked on the rendering is used for overflow car parking.

Amenities Plan (last updated 2017) Create a sidewalk linking Goff Middle School to Columbia Turnpike and the Albany-Hudson Electric Trolley trail: There is a short run of sidewalk on Gilligan Road off of Columbia Turnpike that could be extended to Goff Middle School allowing connections to the Turnpike, the future Albany-Hudson Electric Trolley trail, and the surrounding neighborhoods.

Town of East Greenbush: Land Use Plan update and Zoning Study (2006) Town-Wide Principles Guiding Growth and Change in East Greenbush, #4: Build a diverse and functional traffic and circulation system: Provide alternatives for pedestrians including trail, sidewalks, and appropriate road crossings at intersections. Transportation and Circulation Planning Concepts, #3: Create safe facilities for bicycle travel for both transportation/commuting, and for recreation and health. This includes a mix of recreation bicycle trails, bike lanes and routes on roadways (where appropriate) and necessary safety measures including intersection improvements. Pedestrian and bicycle trail improvements are important to the community. Over 75% of community survey respondents indicated that they are in favor of bicycle and trail improvements.

Summary of December 10, 2020 Stakeholder Meeting Input

The following summary is reproduced from Appendix 1:

- Regarding connecting to Hays Road south of Goff Middle School, a number of stakeholders agreed that connecting via church ROW is preferable due to concerns about safety or mischief if the sidepath was built close to the school. Additionally, there are drainage issues on the school ROW alternative alignment.
- The portion of sidepath along the Goff Middle School parking lot will need to be placed close to the road to avoid steep grades. A grassy median separation may not fit; treatments for reduced roadway separation (discussed later in this report) may need to be used. A project next year will reconfigure the parking area to allow more room for student drop-offs, and may impact sidepath alignment.

[3] See Appendix 1 for Gilligan Road Sidepath Concept drawings

- Attendees noted that losing parking spaces at the Little League fields is an issue, and that parking reduction would need to be kept to a minimum. However, the sidepath would fit even if only the first row of parking is removed. An additional impact to parking is that connections between aisles will need to be provided in order to reduce entry/exit conflict points.
- On the northern end of Gilligan Road, issues were noted relating to the configuration of the Hannaford driveway. This intersection would likely be completely re-worked if sidepath were implemented during a future phase in order to remove the turn restriction.
- GPI noted that trail treatments such as signals and RRFBs have been installed on the Albany-Hudson Electric trail, and could be considered for use on Gilligan Road. Examples of crossing treatments can be seen on the AHET at US-4 and Elliot Road.

February 10, 2021 Planning Board Meeting

A summary of the discussion is below. The meeting minutes are on file with the Town and can be accessed from the Town's website.[4]

- The Planning Board asked whether it is possible to keep any facility on one side of Gilligan Road but it was discussed that there are right-of-way constraints.
- The Planning Board stated that sight distance on Gilligan Road southbound in the vicinity of the DPW garage location should be looked at and that enhancements to the DPW garage facility could be made as part of this project.

June 9, 2021 Town Board Public Hearing

The Town Board conducted a public hearing and received public comment on the proposed project. A copy of the presentation to the Town Board is included as Appendix 7.

September 20, 2021 EGCSD BRAC Meeting

This meeting, and the two staff-level meetings preceding it, led to changes to the plans to address school bus movements, sidewalk connections, landscaping, lighting, parking area constraints, and other considerations with respect to the alignment and other enhancements proposed for the Goff Middle School parcel. BRAC meeting and related materials are included as Appendix 8.

Goals and Objectives

Based on the study need, existing conditions analysis, prior planning studies, related initiatives, and summary of stakeholder input gathered as part of this study, the following is a list of Study goals and objectives:

1. Complete streets enhancements should be made to address multi-modal safety, mobility, and accessibility along the Gilligan Road corridor.

   Objective 1.1: A separate facility for pedestrians, bicyclists, and other non-vehicular users, such as a sidepath, should be constructed along Gilligan Road. This facility should be multi-modal and its alignment should connect destinations and neighborhoods along the corridor. A sidepath is a

[4] https://www.eastgreenbush.org/application/files/8316/1435/4457/2021-02-10_Approved_Planning_Board_Meeting_Minutes.pdf

type of separate facility (i.e., a bidirectional shared use path) located immediately adjacent and parallel to a roadway that should be considered.

Objective 1.2: In accordance with traffic engineering and safety best practices, crosswalk safety and mobility treatments should be installed at the two (2) intersections of Ternan Ave with Gilligan road and any locations where the sidepath must cross public roadways.

2. Any complete streets facility designs and projects should minimize potential impacts to existing land uses and activities along the Gilligan Road corridor.

   Objective 2.1: Planning and design of the sidepath and complete streets enhancements should carefully consider and mitigate potential to, for example, reduce parking quantity at the little league ball fields and avoid deviating from the roadway and directing new traffic and trips through the Goff Middle School parcel for safety considerations.

3. The Gilligan Road corridor should be connected to adjacent neighborhoods and Columbia Turnpike and the Albany Hudson Electric Trail (AHET).

   Objective 3.1: Future connections to the Park South neighborhood, to the east, and the proposed Town Center mixed use development, to the west, should be analyzed as part of this study.

   Objective 3.2: Connecting Gilligan Road to Columbia Turnpike and the AHET is desirable. Any project to connect to these corridors to the north should also address the non-standard access drive to the Hannaford shopping plaza at 592 Columbia Turnpike.

Complete Streets Enhancements Recommendations

Building from the existing conditions analysis, prior planning efforts, and stakeholder input, this section presents recommended complete streets treatments to address the needs and objectives for the Gilligan Road corridor. This section also discusses phasing of these enhancements.

Sidepath Preferred Alignment

In order to address Objective 1.1, construction of a sidepath is recommended along the preferred alignment shown in Figure 4. The proposed alignment follows Gilligan Road. Starting from Columbia Turnpike, the alignment connects to existing infrastructure on the west side of Gilligan Road and proceeds south to the northerly intersection of Gilligan Road and Ternan Avenue, where it crosses Ternan.

The trail then crosses Gilligan Road and intersects with the southwesterly corner of the existing ball fields parking area, as depicted by Figure 4. The sidepath crossing here accomplishes multiple objectives, including avoiding the need to make alterations to the existing ball fields parking area (Objective 2.1); avoiding limited southbound motorist sight distance in the vicinity of the DPW garage entrance, which would be a consideration should the trail cross farther north, at the northerly end of the ball fields parking area (Objective 1.2); and maximizes efficiency of crossing treatment installations by limiting the total number of crossings of Gilligan Road to two (2) as compared to Alternatives 1 and 2 (see Appendix 4). One utility pole relocation will be required in this segment.

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From its crossing of Gilligan Road, the sidepath continues south along the easterly side of Gilligan Road along the frontage of the Goff Middle School parcel. Six parking spaces and one accessible space would be constructed on the Goff parcel, roughly between the Ternan Ave intersections. A concrete sidewalk, flush with the northerly Goff driveway pavement, provides a connection to the School building that is sufficiently differentiated (i.e., transition from asphalt to concrete) to discourage through traffic through the Goff parking lot and building area.

At the southerly end of Goff's parking area, roughly 6 parking spaces would be converted into lands needed for the sidepath; a similar concrete sidewalk connection would be made to the Goff parking area and buildings. The sidepath preferred alignment then continues south along the First United Methodist Church parcel frontage and terminates at the intersection of Gilligan Rd and Hays Road. At Hays Rd, an appropriate intersection treatment would be installed. Crossing treatment options are shown in Figure 3 Crossing Treatment Options, below.

More detail for the preferred sidepath alignment between the northerly intersection of Ternan Avenue and Gilligan Road to a point connecting to existing sidewalk infrastructure at Goff Middle School is presented by **Error! Reference source not found.** in order to address phasing and funding needs (see Project Phasing, below). This alternative was selected to minimize changes to the existing Goff Middle School property while providing a safe connection to the existing sidewalks leading to the main entrance of the building. Two

Figure 3 Crossing Treatment Options

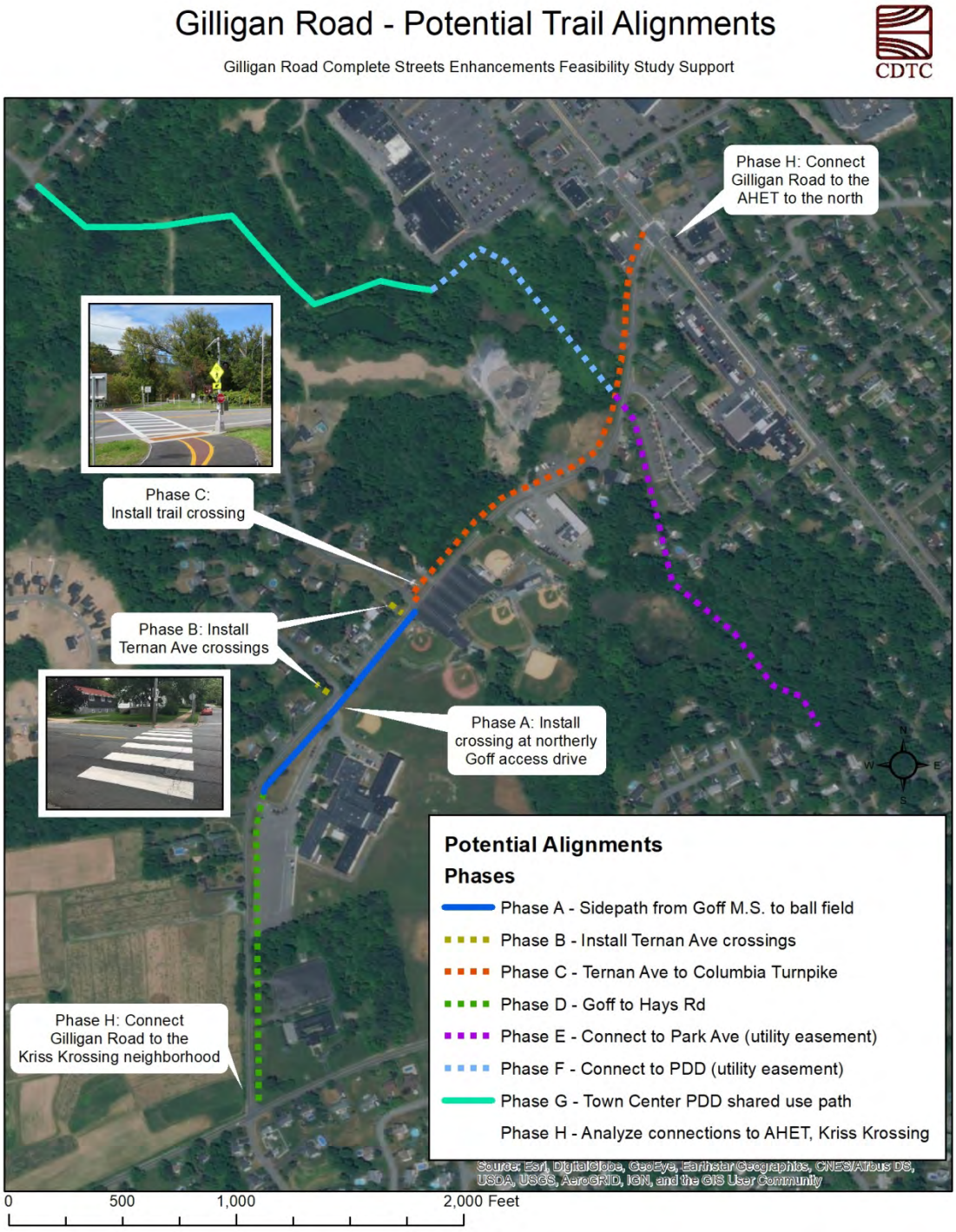


Figure 4 Preferred alignment and complete streets enhancements

Gilligan Road

Kriss Krossing

Hoyt Road (CR-59)

Ternan Avenue

Ternan Avenue

Gilligan Road

Columbia Turnpike (US-9)

Proposed Concrete Sidewalk Connection (Flush With Parking Lot)

Proposed Concrete Sidewalk Connection (Flush With Parking Lot)

SCHOOL SPEED LIMIT 25 YOUR SPEED 30

SCHOOL SPEED LIMIT 25 YOUR SPEED 30

Connection to EST via On-Going NYSDOT US-9 Pedestrian Improvements Project

Legend

- Proposed Sidepath
- Marked & Signed Crossing
- Raised Crosswalk & RRFB Enhanced Crossing
- Potential Pedestrian Light (Spaced 100' O.C.)
- Potential Future Intersection Upgrades
- Approximate Property Boundary
- Potential Future Connection via Existing 20' Sewer Easement

East Greenbush, NY

Gilligan Road Sidepath - Overall Concept
Town of East Greenbush, Rensselaer County, New York

CDTC Capital District Transportation Committee

Capital District Regional Planning Commission

Gilligan Road

Ternan Avenue

Proposed Concrete Sidewalk Connection (Flush With Parking Lot)

Proposed Concrete Sidewalk Connection (Flush With Parking Lot)

166.19-3-1 Stachelski, Tara B

166.19-2-16 Buonocore, Daniel J

166.19-2-15 Iannini, James V

166.19-2-14 Wolf, Bethany S

166.19-2-12 Sluto, Bruce

166.19-2-11 Boomhower, Danielle M

166.19-2-10 Malone, Joan

166.19-2-9 Couture, Jeanne

166.19-2-8 Philbert-Cox, Antonette

166.19-2-7 Willmott, David

166.-7-7 Nova, Victor A

166.-7-6.3 Warner, Marilyn G, Co-Trustee

166.-6-11 Town of East Greenbush

166.-6-1 East Greenbush Central

177.-4-1 Methodist Church

Legend

- Proposed First Phase of Sidepath
- Proposed Future Phase of Sidepath
- Marked & Signed Crossing
- Raised Crosswalk & RRFB Enhanced Crossing
- Potential Pedestrian Light (Spaced 100' O.C.)
- Approximate Property Boundary

East Greenbush, NY

Gilligan Road Sidepath - East Greenbush CSD Property Concept
Town of East Greenbush, Rensselaer County, New York

CDTC Capital District Transportation Committee

Capital District Regional Planning Commission

other alternatives (see Appendix 5) were developed in an effort to increase parking in the area for the ball fields but were not selected because the preferred alignment does not affect existing parking quantities at the ball fields.

Sidepath Cross Sections

A sidepath is a type of shared use path, and shared use path design guidelines indicate that the path should be between 10'-12' wide, with shoulders on either side that are 2' wide, and separated at 6.5' from the adjacent roadway. For a summary of the design guidance, see Appendix 1. Deviations from these standards should be minimized and, especially where roadway separation cannot be achieved, other protective measures, such as vertical barriers, may need to be installed. The standard cross section is shown in Figure 7.

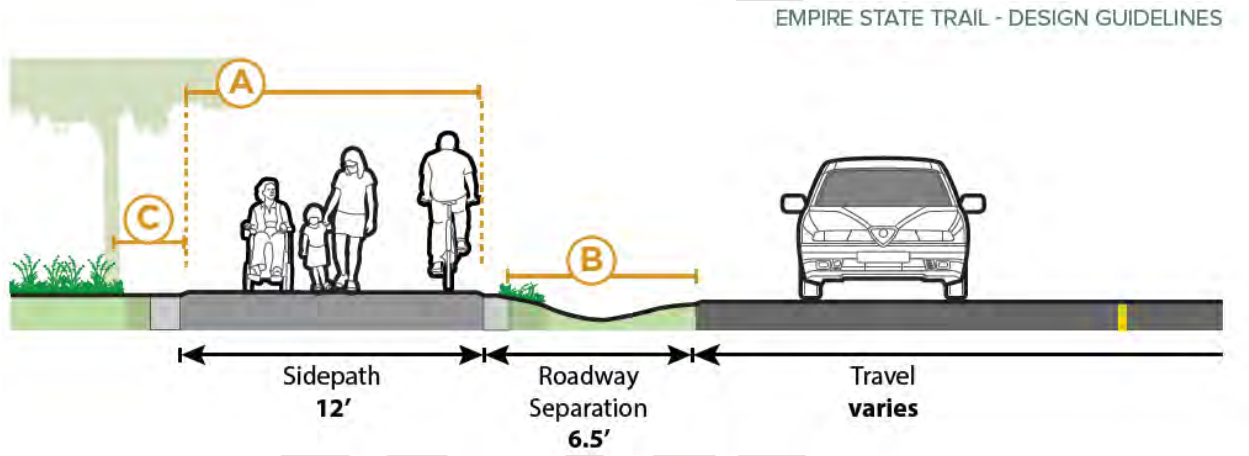


Figure 7. Typical sidepath cross section

Along the preferred alignment, the sidepath would generally be 10' wide in accordance with design guidelines. However, in certain areas, sidepath width would be reduced to 8'. A width of 8' would be necessary for a roughly 300' section extending northeast from the northerly intersection of Gilligan Road and Ternan Avenue. The proposed 8' section is depicted in Figure 8 Typical Section Concepts.

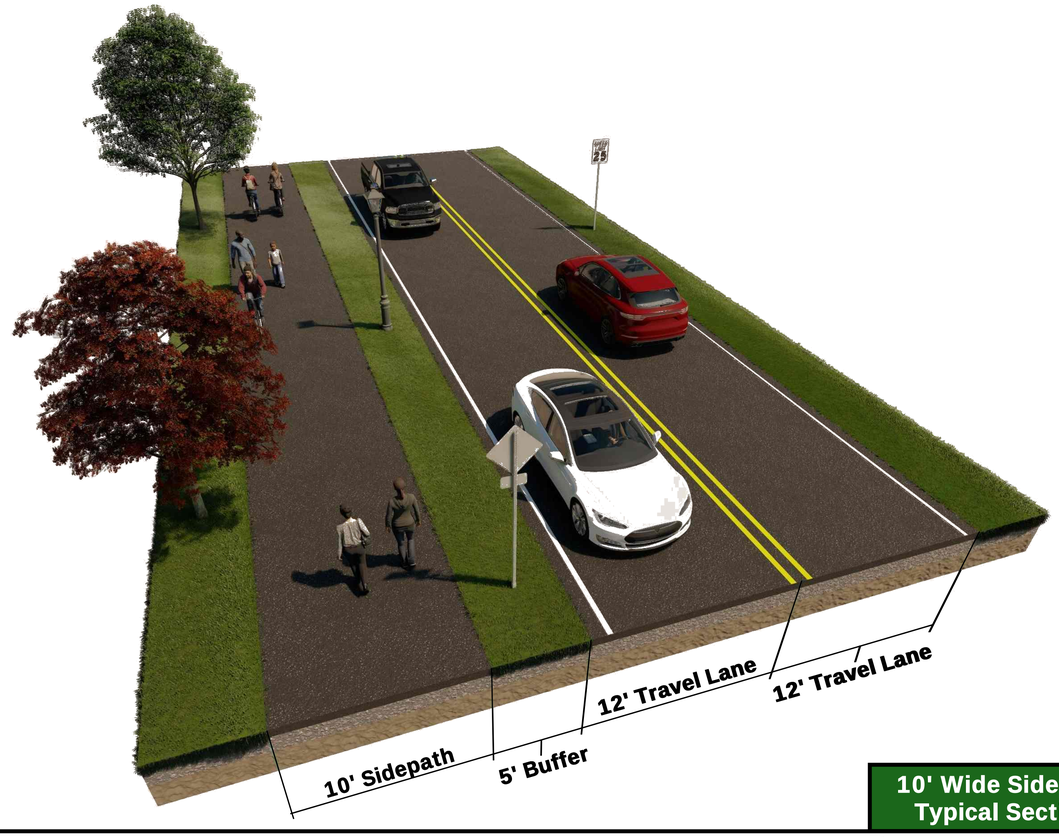
Ternan Avenue Crossings and Signage

To create safe and comfortable opportunities for bicyclists and pedestrians to access the preferred sidepath alignment, crossing Gilligan Road at these two locations is necessary. For both Ternan Avenue intersections with Gilligan, a combination of raised crosswalks and rectangular rapid flashing beacons (RRFBs) are proposed. A detail and standard specifications for each treatment are included as Appendix 6. Raised crosswalks, also known as "speed tables," provide additional traffic calming functionality as compared to other crosswalk treatments.[5] Responsive, radar speed feedback signs would be installed along Gilligan as well to alert motorists of the school zone and present speed limit of 25 mph.

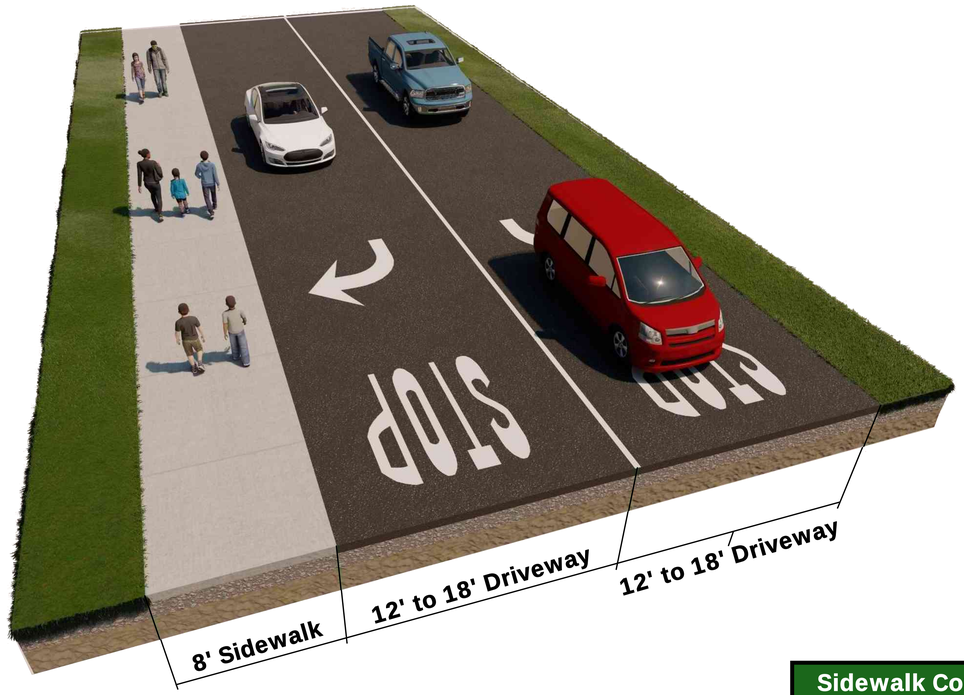
Neighborhood Connections

As discussed in the Trip Generators section, there are a number of destinations along Gilligan Road as well as adjacent to the Gilligan Road corridor and in the neighborhood. To address Objectives 3.1 and

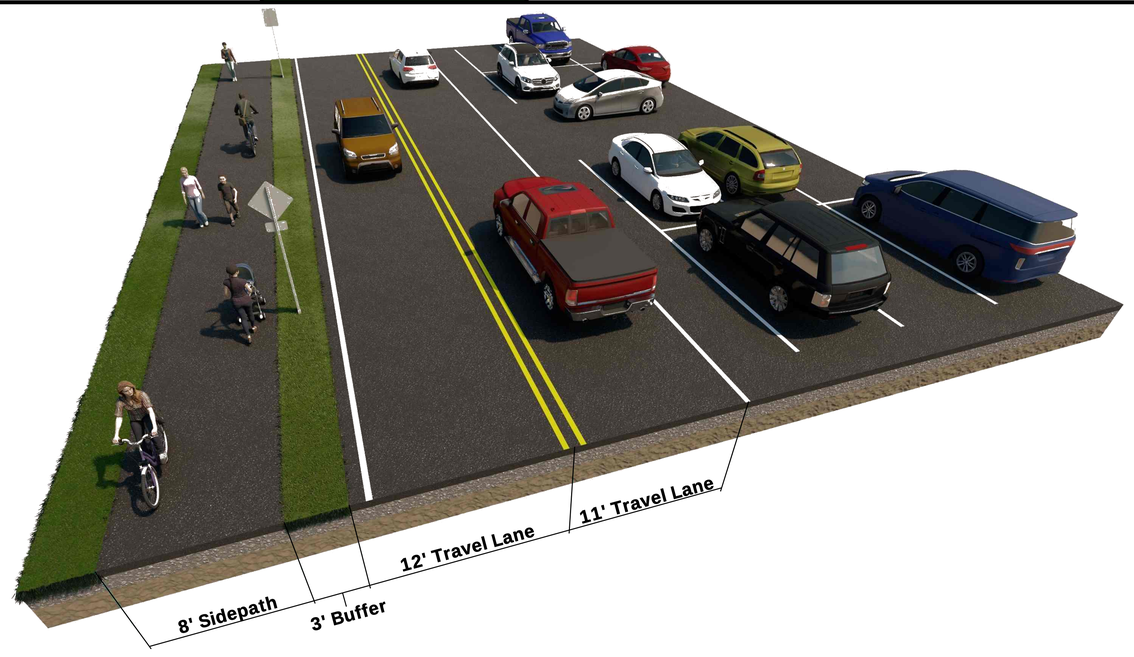
[5] For additional information about raised crosswalks see the Albany Hudson Electric Trail (AHET) Design Guide: https://ahettrail.org/wp-content/uploads/2017/10/2017.10.10_EST-Design-Guide.pdf



10' Wide Sidepath Typical Section



Sidewalk Connection to Goff Middle School Typical Section



Ballfield Parking Lot 8' Wide Sidepath Typical Section

East Greenbush, NY

Gilligan Road Sidepath - Typical Section Concepts
Town of East Greenbush, Rensselaer County, New York

CDTC Capital District Transportation Committee

Capital District Regional Planning Commission

3.2, the Study analyzed opportunities for connecting Gilligan Road to these locations in order to increase pedestrian and bicycle accessibility and mobility to and from the corridor. The recommended connections are detailed in Appendix 1 and summarized below.

There is an existing utility easement passing through the project area that would facilitate connections to the east and west:

- Connections to Park Ave to the east could be made using this existing utility easement held by the Town. This segment is shown in green on Figure 4, above.
- Similarly, a shared use path can be constructed in this easement, which extends west from its intersection with Gilligan Road, to connect to Eckman Place. This segment is shown in orange on Figure 4, above.
- As part of the Town Center Planned Development District (located at 580 Columbia Turnpike), the developer has committed as part of the required amenity package to construct a trail segment on the southern edge of the PDD boundary – also along a Town utility easement. The proposed Town Center PDD trail amenity would extend roughly from Eckman Place to intersect the Hannaford Plaza shopping area, passing east of the existing pond. There is an opportunity to coordinate with the developer and adjacent property owners to connect the Gilligan Road sidepath to the shopping center, Town Center PDD development, and Woodland Park neighborhood.

The following connections were not analyzed in detail as part of this effort but are included here as a starting point for future opportunities and analysis:

- At the intersection of Gilligan Road and Columbia Turnpike the alignment intersects with existing pedestrian and bicycle infrastructure. The AHET is approximately 500’ (as the crow flies) to the northeast from this point. Future analysis should examine complete streets enhancements needed to access the AHET. By existing roadways, the AHET is about 880’ away via Columbia Turnpike east and Point View Drive; alternatively, the AHET is about 1,100’ via Columbia Turnpike west and Elliot Rd.
- From the Gilligan Road and Hays Road intersection to the south, there are opportunities to make connections to the Kriss Krossing development.

Project Phasing

The Town envisions the Gilligan Road Complete streets enhancements and neighborhood connections to be installed as part of a multi-phase effort. The proposed project phasing is set forth below. It is important to note that installation of a shared use path to connect Eckman Place and Park Ave along the existing utility easement is not dependent on completion of the sidepath on Gilligan Road.

Table 2. Project Phasing Summary

Phase	Project Description
A	Install approximately 1,000’ of sidepath between Goff Middle School and the ball field parking lot and crossing treatments at the northerly Goff Middle School access drive
B	Install raised crossings and related signage and other improvements at the two(2) Ternan Ave and Gilligan Road

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Phase	Project Description
	intersections
C	Install approximately 2,500' of sidepath from northerly Ternan Ave intersection to Columbia Turnpike
D	Install approximately 1,6300' of sidepath from Goff Middle School south to Hays Road
E	Install approximately 2,000' of shared use path along utility easements from Park Ave to Gilligan Road; install Gilligan Road crossing (coordinate with Phase C, F)
F	Install approximately 1,300' of shared use path along utility easements from Gilligan Road to the intersection of the utility easement with the property at 592 Columbia Turnpike (coordinate with Phase C, E)
G	Install approximately 1,800' of shared use path as part of the Town Center PDD project
H	Analyze connecting Gilligan Road to Columbia Turnpike and the AHET to the north and to the Kriss Krossing neighborhood to the south

In order to construct the preferred alignment, property acquisition may be necessary. This is mainly in the form of narrow strips of frontages along Gilligan Rd. Figure 9 illustrates potential land needed for the project in relation to current property ownership along the corridor. Any right-of-way acquisition needed will be determined during detailed design.

Maintenance and Operations

It is important that this Study present considerations relating to long-term operation and maintenance of the proposed projects identified by the Study. The Town and EGCSD would partner to maintain the sidepath to be installed as part of Phase A. Projects installed within the Town right-of-way, including the crossing treatments in Phase B, would be operated and maintained by the Town.

Implementation Plan

An implementation matrix and plan is included below. The following potential funding sources have been identified. A cost estimate for the preferred alignment and related treatments is included as Appendix 9.

List of potential funding sources

1. East Greenbush Central School District capital program
2. Town of East Greenbush own source revenues
3. Congestion Mitigation and Air Quality program (USDOT/NYSDOT)
4. Transportation Alternatives Program (USDOT/NYSDOT)
5. Recreational Trails Program (OPRHP)
6. Consolidated Local Street and Highway Improvement Program (CHIPS)
7. Private/developer
8. CDTC Technical Assistance Grant Program
9. Hudson River Valley Greenway grants program

DRAFT

10. Capital District Transportation Committee (CDTC) Transportation Improvement Program
11. Consolidated Funding Application (CFA) process

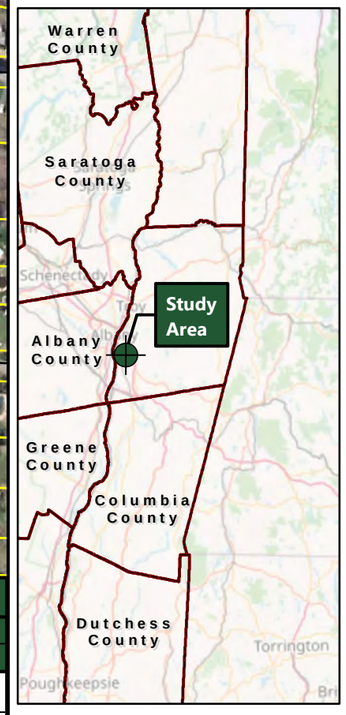
DRAFT

Gilligan Road Sidepath & Complete Streets Study
Town of East Greenbush
Rensselaer County

Potential ROW Impacts

Legend

- # — Property ID Designation
- Potential Private Property Impacts
- Proposed Project Elements (Sidepath, Parking Area, etc.)
- Approximate Parcel Boundary



N W E S

0 50 100 200 300 Feet

Produced For Planning Purposes Only.
Data provided by NYS GIS Clearinghouse & Other Third Parties.

Issuance Date: 10/27/2021

Potential Right-of-Way Impacts

Parcel Designation	Parcel Number	Reputed Owner	Impact Area	
			Square Feet	Acres
1	177.-4-1	Methodist Church	12,200	0.280
2	166.-6-1	East Greenbush Central School District - Goff	30,300	0.696
3	166.19-2-12	Bruce Stuto	300	0.007
4	166.19-2-8	Antonette Philbert-Cox	200	0.005
5	166.19-2-7	David & Nancy Willimott	400	0.009
6	166.-7-7	Kimberley M Mathias	100	0.002
7	166.-7-6.3	Warner, Marilyn G.& Witbeck, Janet L.,Co-Trustee	2,100	0.048
8	166.-7-24	Warner, Marilyn G.& Witbeck, Janet L.,Co-Trustee	1,500	0.034
9	166.-7-6.113	Hoosick Enterprises LLC	1,400	0.032
10	166.15-8-5	Hssl Inc	2,100	0.048

Action Item	Description	Timeline/ Considerations	Lead Agency	Partner(s)	Project Potential Funding Source(s)
1.1	Design and construct Phase A	Anticipated construction start 2023	EGCSD	TOEG, East Greenbush Castleton Youth Baseball, East Greenbush Girls Softball League	1
1.2	Construct Phase B	Dependent on AI #1.1/Phase A	TOEG	EGCSD	2,6,10,11
2.0	Identify and pursue funding sources for final design and construction of Phases C-F	Ongoing	TOEG	-	n/a
3.0	Coordinate with Town Center PDD development with respect to final design and construction of Phase G	Ongoing	TOEG	Town Center PDD Developer, Owner of Hannaford Shopping Plaza (598 Columbia Turnpike)	n/a
4.0	Include Study recommendations in the update of the Western East Greenbush Generic Environmental Impact Statement (GEIS)	2022	TOEG	-	n/a
5.0	Analyze and plan for potential to enhance connections to the north and south (Phase H)	Can start immediately/ ongoing depending on resources	TOEG	NYSDOT, Rensselaer County Highway Department	2,9,11

DRAFT

Appendix 1 – East Greenbush – Gilligan Road Technical Memorandum (prepared by Capital District Transportation Committee and Capital District Regional Planning Commission)

Capital District Transportation Committee (CDTC)/ Capital District Regional Planning Commission (CDRPC) Technical Assistance Program

TECHNICAL MEMORANDUM

East Greenbush – Gilligan Road

Complete Streets Enhancements Feasibility Study Support DRAFT 12/31/2020

Contents

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Complete Streets and Neighborhood Connections Concepts 19

Supplemental Mapping 29

Background

The Town of East Greenbush has requested technical assistance to study the feasibility of complete streets enhancements on Gilligan Road. This feasibility study shall identify bicycle and pedestrian routing options that provide safe, separated, and supporting infrastructure in the Gilligan Road corridor. CDTC and CDRPC shall conduct an existing conditions assessment, identify complete streets options on Gilligan Road, and identify options for neighborhood connections and a public engagement process. The data and analysis will feed into a consultant led design effort to be undertaken by the Town.

The purpose of this technical memorandum is to compile an assessment of available traffic and existing conditions data, results from prior planning efforts, and recommendations for complete street and neighborhood connection options for Gilligan Road.

Study Area

Gilligan Road is an approximately 4600 ft long (0.87 mile) local roadway that connects US-9 & 20 ("Columbia Turnpike") at its northern terminus to Hays Road at its southern terminus. The posted speed limit is 25 mph. The study area is comprised of Gilligan Road and nearby facilities including Goff Middle School, the Little League and Softball fields, the United Methodist Church, Greenbush Terrace Senior Apartments, the Ternan Avenue neighborhood, and the under-construction Albany-Hudson Electric Trail. Public right-of-way in the vicinity of Gilligan Road, such as sanitary sewer easements, are also part of the study area.

Prior Planning Efforts

East Greenbush Traffic Safety Committee (2005)

In the early-to-mid 2000s, the East Greenbush Traffic Safety was convened to review citizen complaints, planning studies, and to generate recommendations for improving safety. The committee was involved in examining issues relating to Gilligan Rd, including speed limits and school zones.

Town of East Greenbush: Land Use Plan and Zoning Study (2006)

In the Town's 2006 Land Use Plan, Gilligan Road is described as "a road used for local and regional connections". The plan notes that much of the town's land area used to be comprised of active farms, which are being converted to residential uses, and notes that one greenhouse/farm operation on Gilligan Road is close to expanding neighborhood development.

The Land Use Plan states that "… a new residential development is currently being proposed in the area behind Hannaford and connecting to Gilligan Road, as well as a senior housing development proposed on Gilligan Road near 9 & 20." As of 2020, the wooded area behind Hannaford remains undeveloped but the senior housing ("Greenbush Terrace") has been built with a full-access driveway 600 feet from 9 & 20.

During the Land Use Plan's public input phase, the intersection of 9 & 20 and Gilligan Road was noted as an area of safety concern. This intersection is also noted to be in the Central Marketplace development node, expected to be the area of "potentially the most intense development" on the 9 & 20 corridor.

Town of East Greenbush Amenities Plan (2017)

In the Sidewalks & Bike Lanes section of the Amenities Plan, one of the recommended actions is to create a sidewalk linking Goff Middle School to Columbia Turnpike and the Albany-Hudson Electric Trail. The plan notes that there is a short segment of existing sidewalk on Gilligan Road near 9 & 20 that could be extended to the Middle School and to surrounding neighborhoods.

Town of East Greenbush Complete Streets Implementation Workshop (2018)

In the Design Discussion portion of the workshop, the concept for a 10-foot sidepath along the eastern side of Gilligan Road was presented. The concept included a crosswalk at the unsignalized intersection of Gilligan and Ternan Ave, near the ballfields. It was noted that a separated sidepath is the preferred option given that likely users will be children.

Attendees noted that improvements "are desperately needed" along Gilligan Road. It was also noted that the sidepath alignment on the concept rendering is sometimes used for ballfield overflow car

parking, and that the proposed sidepath connection could extend to the Hannaford Plaza and soccer fields.

During the Design Discussion it was also noted that a student was hit by a car on Gilligan Road, and that one potential safety countermeasure could be the installation of a HAWK (High-Intensity Activated Walk) Beacon.

Above: Sidepath concept presented at the Complete Streets Workshop.

Town of East Greenbush Complete Streets Policy (2019)

On November 20, 2019, the East Greenbush Town Board adopted "A Resolution Adopting a Complete Streets Policy for the Town of East Greenbush". The resolution references the Complete Streets Implementation Workshop conducted by CDTC in 2018. The resolution's stated purpose is "to recognize bicyclists and pedestrians as equally important as motorists in the planning and design of all new street construction and street reconstruction undertaken by the Town".

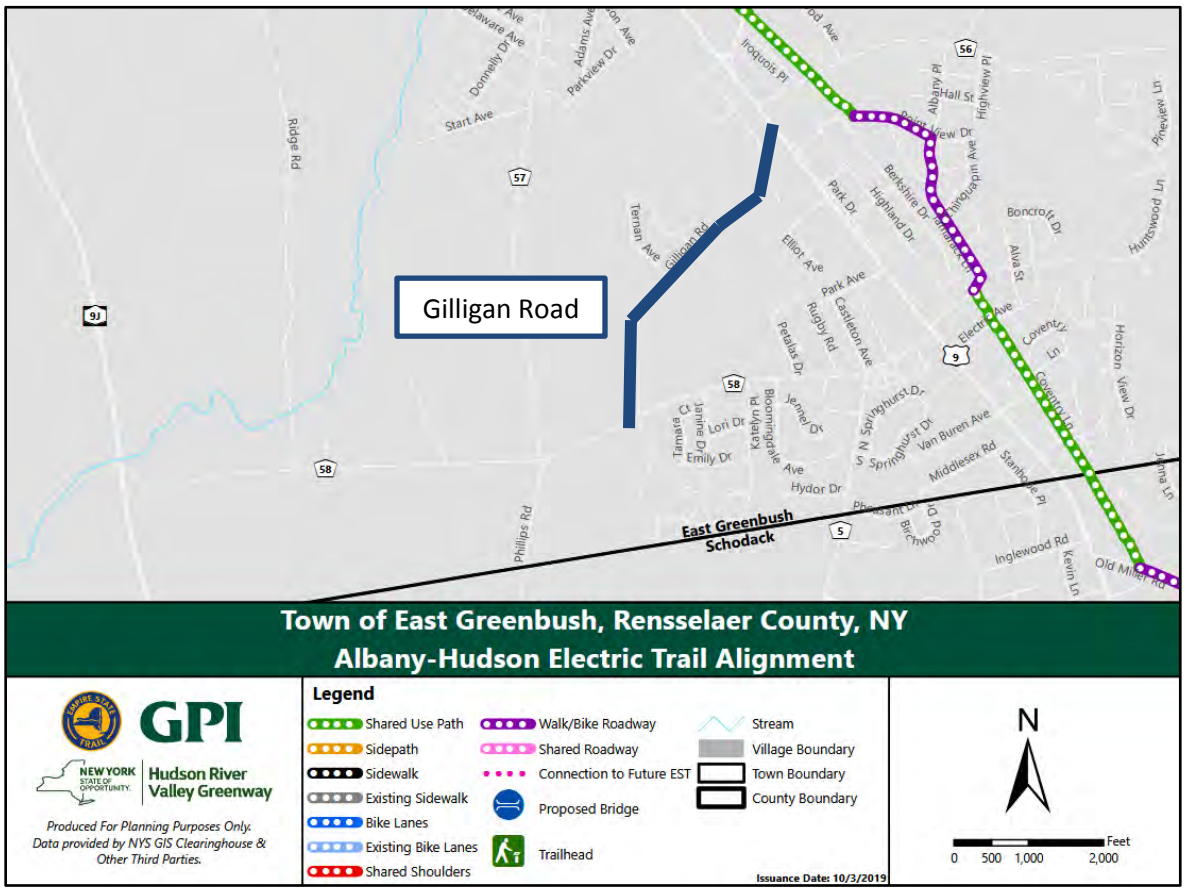
TIP Project: ADA Compliance on NY 4 and NY 9/20 (2019-2024)

In the current CDTC Transportation Improvement Program, a segment of 9 & 20 in the vicinity of Gilligan Road is programmed for federal funding to "upgrade pedestrian facilities to ADA Compliance, upgrade traffic signal at NY 9/20 and Elliot Road, & install safety features identified in PSAP." This project is programmed for $2.232 million in Federal FY 2020.

Albany-Hudson Electric Trail

The Albany-Hudson Electric Trail (AHET) is part of the statewide Empire State Trail. The trail is being constructed by the Hudson River Valley Greenway, and a portion of the AHET passes through East Greenbush parallel to Columbia Turnpike. The AHET is being built on a historic electric trolley corridor, now owned by National Grid. The AHET passes within 900 feet of the northern terminus of Gilligan Road. The trail is expected to soon be open to the public.

There is an opportunity to connect the proposed Gilligan Road sidepath to the AHET. One potential connection could be made via Elliot Road, which intersects Columbia Turnpike 300 feet north of Gilligan. Connecting the proposed Gilligan Road sidepath to the AHET would improve non-motorized accessibility to Gilligan Road destinations from communities north of Columbia Turnpike.

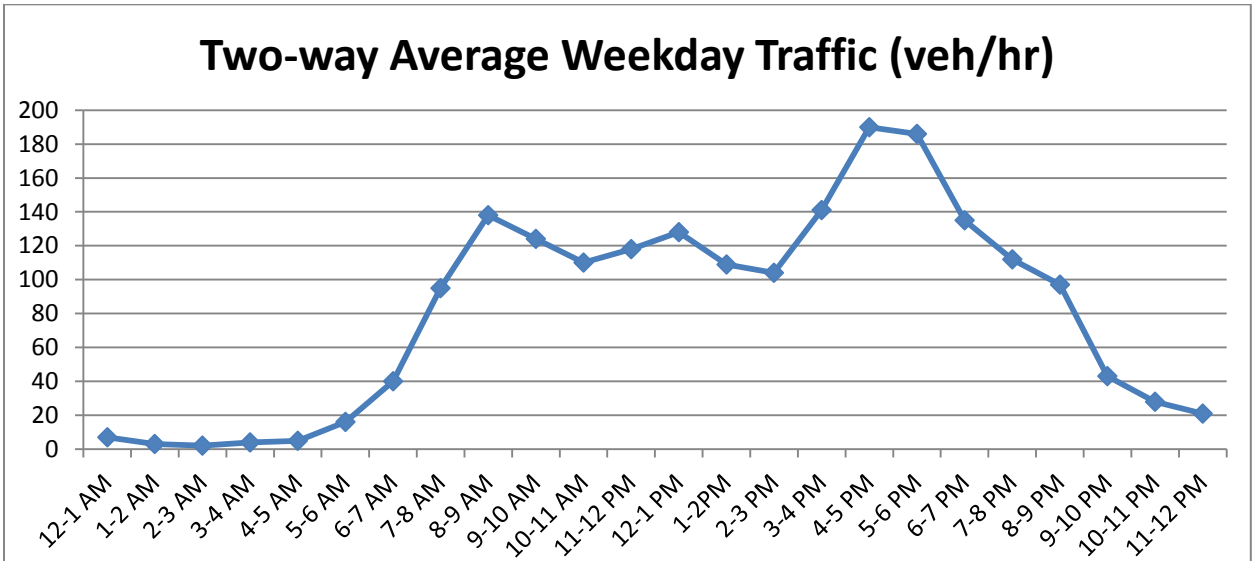


Existing Conditions

Vehicle movement

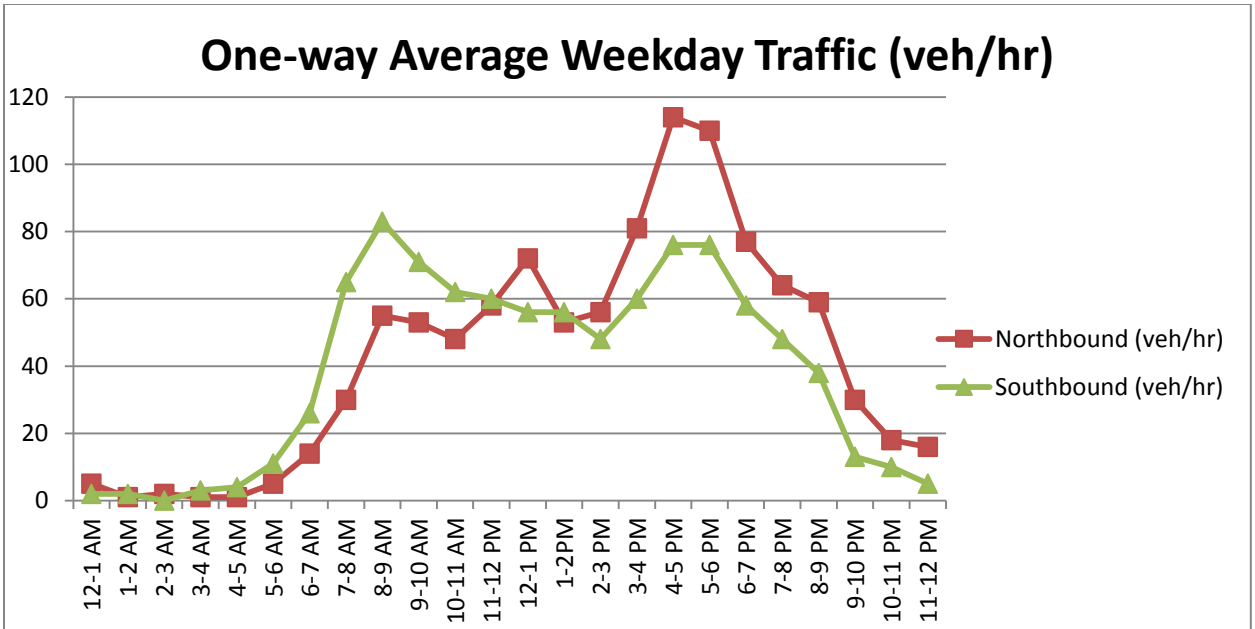
According to the NYS Traffic Data Viewer, average annual daily traffic on Gilligan Road was estimated to be 1,899 veh/day in 2016. There were an estimated 12 trailer trucks and 74 non-trailer trucks per day, giving a truck percentage of 4.58%.

The most recent traffic count available in the NYSDOT Traffic Data Viewer is a 64-hour count conducted in August of 2016. Two full days of traffic data were captured on Tuesday August 16th and Wednesday August 17th. The count was conducted 900 feet north of Hays Road. The average weekday traffic was 1,956 veh/day. With seasonal adjustment, the average annual daily traffic (AADT) was 1,796 veh/day.



Source: NYSDOT Roadway Traffic Count Hourly Report; Aug 15 - Aug 18, 2016;
Station ID: 142021

Some directionality of traffic was observed, with southbound traffic being greater in the AM peak hour (8 AM to 9 AM) and northbound traffic being greater in the PM peak hour (4 PM to 5 PM). Traffic volume is low enough that Gilligan Road is not considered congested at any hour of the day. It is worth noting that this count would not include school traffic due to being conducted in mid-August. An earlier count conducted in May of 2013 reports a higher AADT of 2,411.



Source: NYSDOT Roadway Traffic Count Hourly Report; Aug 15 - Aug 18, 2016; Station ID: 142021

Historical traffic

Earlier traffic counts are available through the NYS Traffic Data Viewer on Gilligan Road for the years 2013, 2010, and 2004. The three earlier counts were conducted while school was in session, and report higher AADT. The 2004 count may have captured special event traffic as well, as there are high volumes in evening hours not observed in the other counts.

Count Year	Two-way AADT
2004 (October)	3,342
2010 (September)	1,974
2013 (May)	2,411
2016 (August)	1,796

NYSDOT Roadway Inventory System

According to the NYSDOT Roadway Inventory System (RIS), Gilligan Road is classified as an Urban Collector/Major Collector (Functional Class 17), and is a Federal-aid Eligible Local Road. Gilligan Road is not a part of the National Highway System (NHS). The speed limit is 25 mph for the entire length of the roadway. The AADT reported in RIS is 2,009 – consistent with the counts obtained from the Traffic Data Viewer.

Pavement condition

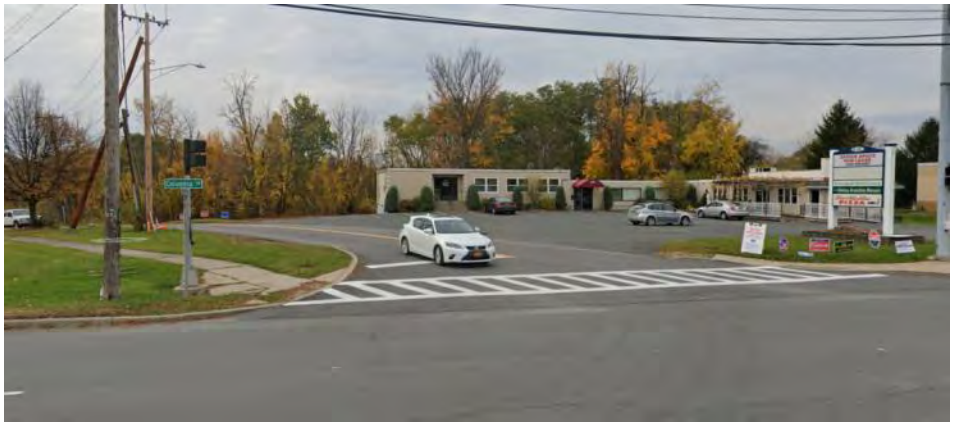
As part of CDTC's Pavement Condition Assessment program, the condition of Gilligan Road was assessed by CDTC staff in 2019. As Gilligan Road is a Non-State Federal Aid road, the pavement condition is rated every other year. Gilligan Road was last paved in 2018. In 2019, the condition was rated an "8" out of 10 using the NYSDOT Windshield Survey methodology. This score indicates that there are only infrequent pavement distresses, which are minor in severity.

Study Area Intersections

US-9 & 20 ("Columbia Turnpike") and Gilligan Road: the only signalized intersection in the study area. This intersection is four-legged, with the east approach serving the KeyBank driveway and the west approach serving Gilligan Road. At the intersection, Columbia Turnpike has two through lanes and a left turn lane in each direction. Crosswalks are present on three approaches, adjoining to curb ramps that are in poor condition. The crosswalks have been re-striped recently, and the crosswalk on Gilligan Road is not present in imagery from September 2019. Pedestrian pushbuttons and signal heads are present. Sidewalk connectivity in the vicinity of the intersection is poor, with sidewalk only present on the KeyBank frontage and on the east side of Gilligan. There is no street lighting present. This intersection may be subject to improvements as part of the ongoing ADA Compliance TIP project.

Above: aerial of US-9 & 20 and Gilligan Road (left) and street view facing northbound (right)

Below: crosswalk on Gilligan Road approach



Gilligan Road and Hannaford Plaza side entrance: this unsignalized intersection provides access to the Hannaford Plaza via a pair of median-separated driveways that adjoin Gilligan Road at a slight skew. There is a left-turn only sign facing the Hannaford driveway – a non-standard turn restriction as traffic on Gilligan is two-way. No crosswalks are present and there is a 150-foot gap in sidewalk connectivity. Two street lights are present. Guardrail is present on the driveway approaches. On the east side of Gilligan, there is a drain on the shoulder near the utility pole.

Above: aerial of Gilligan Road and Hannaford Plaza (left) and street view facing northbound (right)

Below: utility poles and drainage features across from the Hannaford Plaza driveway may constrain sidepath alignment.

Gilligan Road and Ternan Ave (north intersection): Ternan Ave is a U-shaped residential roadway that intersects Gilligan Road at two spots. This intersection is directly across from the baseball and softball fields. There is a stop-sign and a School Zone 15 mph sign facing Ternan, and no stop control on Gilligan. There are no sidewalks or crosswalks present. Street lighting is present on utility poles approximately 100 feet north and south of the intersection. In the sidepath concept presented at the 2018 Complete Streets Workshop, the sidepath was striped through the existing parking lot.

Above: aerial of Gilligan Road and Ternan Ave (left) and street view facing north(right)

Gilligan Road and Ternan Ave (south intersection): the southern intersection with Ternan is 500 feet from the northern intersection. There is a stop-sign and a School Zone 15 mph sign facing Ternan, and no stop control on Gilligan. No sidewalks or crosswalks are present. There are utility poles near the shoulders on both sides. There is a street light on the west side utility pole. This intersection is 100 feet from Goff Middle School's northern driveway.

Above: aerial of Gilligan Road and Ternan Ave (left) and street view facing north (right)

Gilligan Road and Hays Road: This four-legged intersection is the southern terminus of Gilligan Road. Across from the Gilligan Road approach is the housing development 'Kriss Krossing'. This intersection has two-way stop control on Gilligan and Kriss Krossing. There are no sidewalks or crosswalks present. There is a street light on the northeast utility pole.

Above: aerial of Gilligan Road and Hays Road (left) and street view facing south (right)

Pedestrian & Bicycle Movement

On most of Gilligan Road, sidewalks are not present. Travel lane width appears to be 10 feet for the entire corridor with no paved shoulders. Bicyclists must ride in the travel lane, and pedestrians must walk in the travel lane or off the roadway.

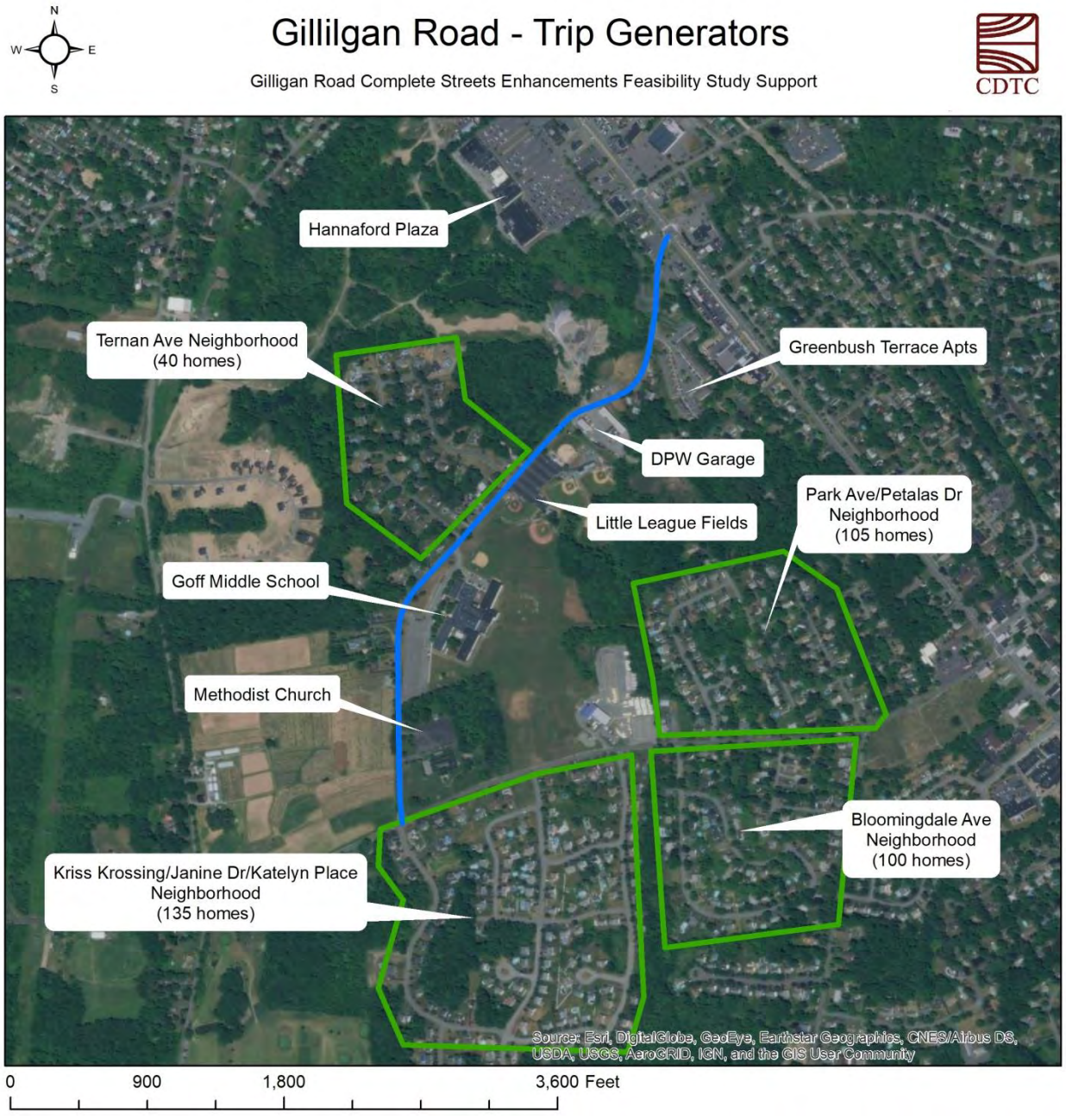
Table 1 - Sidewalk and shoulder presence

Segment	Sidewalk	Shoulder width
US 9 & 20 to Hannaford Driveway (325')	Yes – east side, separated from road	None – asphalt gutter, no curb
Near Hannaford Driveway (150')	None	None – asphalt gutter continues 75'
Hannaford Dr. to Greenbush Terrace (125')	Yes – east side, separated from road	None
Greenbush Terrace to Hays Road (4000')	None	None

Above: typical roadway section with 10 ft. travel lanes and no shoulders

Trip Generation

The map below depicts local neighborhoods that may contribute to non-motorized trip generation and usage of the Gilligan Road sidepath. The Ternan Ave neighborhood across from Goff Middle School has 40 housing units. Park Ave and the adjoining streets (Mountain View, Castleton, Rugby, and Petalas) form a neighborhood with 105 housing units. Bloomingdale Ave has approximately 100 homes, while Kriss Krossing and the neighborhood south of Hays has 135 homes.



Fencing and other barriers

In some portions of the corridor, obstacles including fencing, guardrail, and drainage features are present that may impact sidepath alignment:

Hannaford Plaza entrance – guardrail and sections of concrete curb are present. There appears to be a drain next to the north entrance road as well.

Above: view of Hannaford Plaza entrance facing north. Below: view facing south.

DPW Garage – near the East Greenbush DPW Garage, chain link fencing is close to the roadway on the east side.

Above: DPW Garage fencing

Ball fields – just to the south of the DPW Garage, guardrail is present on the east side of the roadway. There is a steep embankment between the roadway edge and the outfield fence.

Above: guard rail just north of the ball fields parking area

Safety

CDTC conducted an analysis of the most recent available 5-year period of crash data for Gilligan Road, including crashes that occurred at the intersection with Columbia Turnpike. Crash data was pulled for a 5-year period from 2014 to 2019 using the NYSDOT Accident Location Information System.

During this period, 19 crashes were reported. Of these:

- 10 crashes occurred at the intersection with Columbia Turnpike (US-9 & 20)
- 3 crashes occurred in the vicinity of the Hannaford Plaza driveways
- 1 crash occurred on the horizontal curve south of Greenbush Terrace
- 1 crash occurred at the southern intersection of Gilligan and Ternan
- 4 crashes occurred in the vicinity of Hays Road

The map on the following page displays crash locations along Gilligan Road.

Of the 19 crashes that occurred, 15 were crashes between motor vehicles. Three were collisions with deer, and the remaining crash was reported to be a collision with a snow embankment. There were no crashes involving bicyclists or pedestrians during the 5-year period examined.

The table below summarizes the collisions by type.

Type of collision	Number
Left turn (against other car)	1
Left turn (with other car)	1
Rear end	6
Right angle	3
Right turn (with other car)	1
Other	5
Unknown	2
Grand Total	**19**

Prior to the five-year analysis period there was a pedestrian-involved collision on Gilligan Road. On October 26, 2004, a student crossing Gilligan Road was struck by a vehicle while crossing near the southern intersection with Ternan Ave. The student was reported to be injured. The student was crossing near the Goff Middle School exit driveway. This incident demonstrates the need to safely accommodate pedestrians on the corridor and to provide connections to nearby neighborhoods for all roadway users.

Crash Locations - Gilligan Road, East Greenbush

Complete Streets and Neighborhood Connections Concepts

Potential Alignments

Following discussions with Town of East Greenbush staff, several constraints to sidepath alignment were identified:

- The Town desires the first phase of sidepath implementation to be a segment connecting Goff Middle School to the Little League fields to the north. This sidepath would fall on the east side of Gilligan Road and would be approximately 900 feet in length. This segment would pass through the parking area near the ball fields, and would require delineation between the trail and the parking area. Connection to the Ternan Ave neighborhood, also part of the first phase, would be made by enhancing crosswalk treatments, such as striping and flashing beacons.
- The Town wishes to minimize the impact of the sidepath on DPW Garage operations, and for the sidepath to eventually connect to destinations west of Gilligan Road including Hannaford Plaza and the 580 Columbia Turnpike Planned Development District (PDD), consisting of 275 apartments and approximately 22,000 sq. ft. of commercial space. For these reasons, the sidepath is expected to cross to the west side of Gilligan. As there are no signalized or stop-controlled intersections on Gilligan, a mid-block trail crossing will need to be installed.
- The mid-block trail crossing would best be located at the north end of the Little League parking lot, so as to avoid the steep gradient and guardrail on the east side of Gilligan, and to avoid the residential parcels on the west side of Gilligan.
- The Town provided sewer district utility basemaps and identified a 20-foot sewer easement that may potentially be used for future trail connections. The easement could be used to provide connections to Parkview Ave to the west and Park Ave to the east.
- As part of the 580 Columbia Turnpike Planned Development District, a portion of trail will be constructed on the southern edge of the PDD boundary. This portion of trail could be connected to Gilligan Road as part of a future phase.

On December 11th, 2020, a stakeholder workshop was held virtually and was attended by East Greenbush staff, CDTC, CDRPC, GPI, East Greenbush Department of Public Works, Police, Recreation Department, East Greenbush Central School District, Little League, and the Town Board. CDTC presented the draft Complete Streets Enhancements Feasibility report. Feedback was received from local stakeholders on a number of subjects:

- Regarding connecting to Hays Road south of Goff Middle School, a number of stakeholders agreed that connecting via church ROW is preferable due to concerns about safety or mischief if the sidepath was built close to the school. Additionally, there are drainage issues on the school ROW alternative alignment.
- The portion of sidepath along the Goff Middle School parking lot will need to be placed close to the road to avoid steep grades. A grassy median separation may not fit; treatments for reduced

roadway separation (discussed later in this report) may need to be used. A project next year will reconfigure the parking area to allow more room for student drop-offs, and may impact sidepath alignment.

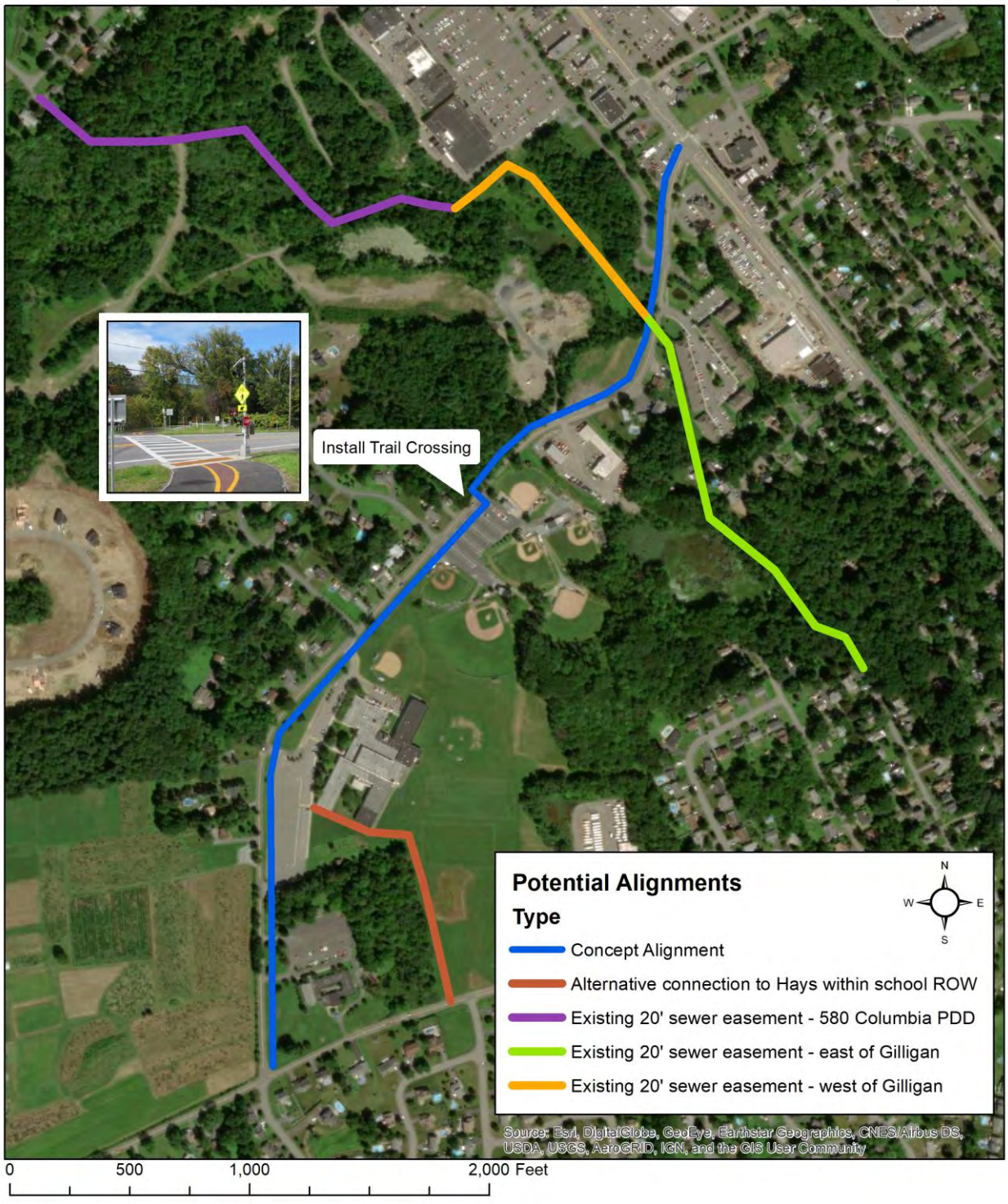
- Attendees noted that losing parking spaces at the Little League fields is an issue, and that parking reduction would need to be kept to a minimum. However, the sidepath would fit even if only the first row of parking is removed. An additional impact to parking is that connections between aisles will need to be provided in order to reduce entry/exit conflict points.
- On the northern end of Gilligan Road, issues were noted relating to the configuration of the Hannaford driveway. This intersection would likely be completely re-worked if sidepath were implemented during a future phase in order to remove the turn restriction.
- GPI noted that trail treatments such as signals and RRFBs have been installed on the Albany-Hudson Electric trail, and could be considered for use on Gilligan Road. Examples of crossing treatments can be seen on the AHET at US-4 and Elliot Road.

The map on the following page displays the candidate alignment that has been identified following discussions with Town staff, along with opportunity alignments that may potentially be used to provide trail connections to nearby neighborhoods.

Gilligan Road - Potential Trail Alignments

Gilligan Road Complete Streets Enhancements Feasibility Study Support

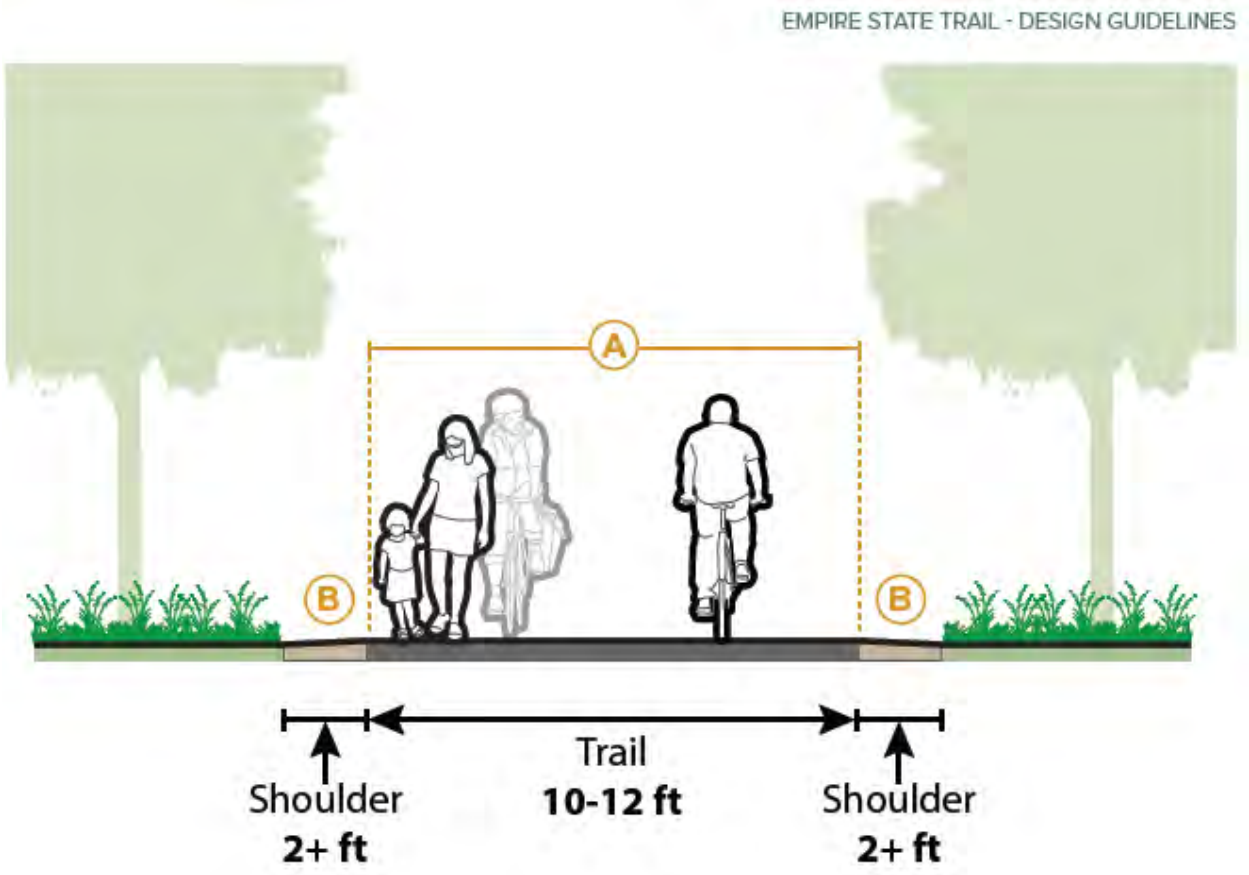
CDTC



Recommendations: Sidepath Design

Shared use paths provide bicyclists and pedestrians with a safe, dedicated travel area separated from motorized traffic. Construction of a shared use sidepath along Gilligan Road would provide opportunity for recreational travel while safely accommodating non-motorized travel to Goff Middle School and the Little League Fields.

Design guidance for shared use paths is provided by resources such as the Empire State Trail Design Guide. Per the Empire State Trail Design Guide, standard shared use path width is 12 feet, which is sufficient to enable a bicyclist to pass another path user going the same direction while another path user is approaching from the opposite direction. Path width of 10 feet is adequate for low to moderate use. Shoulders with width of 2 feet or greater should be provided on both sides, with an additional 2 feet or more of lateral clearance free of signage, vegetation, or other obstacles. The NACTO Urban Bikeways Design Guide and AASHTO Guide to the Development of Bicycle Facilities recommend a minimum 10-foot width for shared use paths.

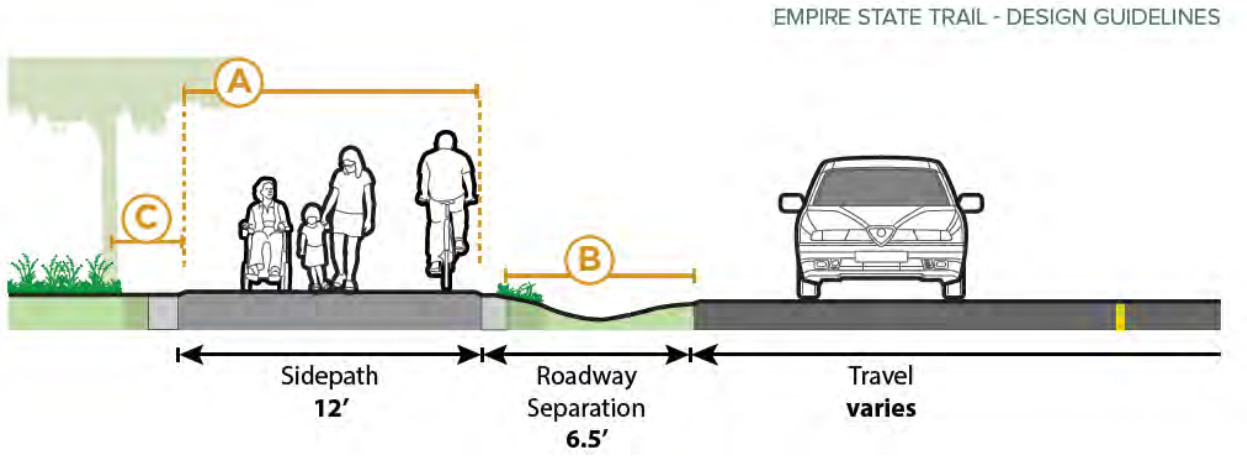


Above: Standard shared use path section. Source: Empire State Trail Design Guide, p. 5-14

To ensure the accessibility of shared use paths to users of all ages and abilities, the Empire State Trail Design Guide recommends surfacing the path with asphalt, concrete, or other hard surfaces, and

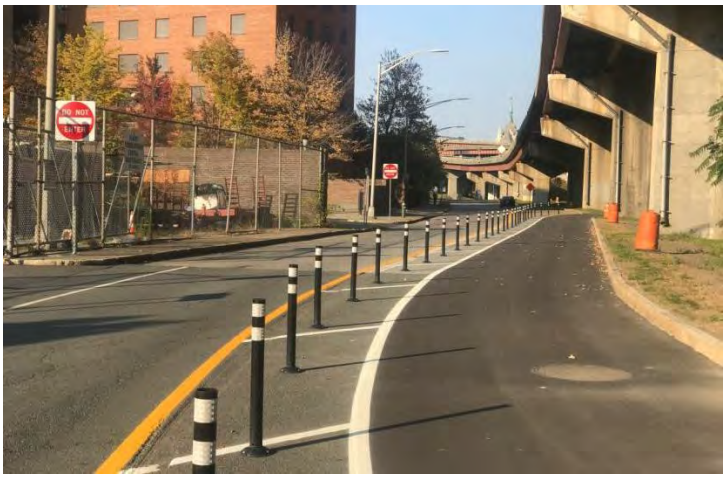
periodically maintaining the surface to ensure smoothness and stability. The path running slope is recommended to be less than 5% - however, in portions of the proposed alignment, running slope exceeds 5%. North of the DPW Garage, Gilligan Road has a maximum slope of approximately 7 to 8%. North of the Greenbush Terrace entrance, Gilligan Road again has a slope of approximately 7 to 8%. The design guide states that when the shared use path is contained within a street or highway border, its grade shall not exceed the general grade established for the adjacent street or highway. The design guide also recommends that the path cross slope not exceed 2%. To further improve accessibility, rest areas or widened areas of trail may be provided every 300 feet.

Per the Empire State Trail Design Guide, the preferred minimum roadway separation width is 6.5 feet.



Above: Recommended roadway separation width

In constrained conditions where 6.5 feet of grassy median or similar separation cannot be provided, sidepath may be accommodated at roadway grade with the use of a marked buffer area or physical barrier. A local example of an at-grade shared use sidepath can be found on the South End Connector trail in Albany. The path is separated from the roadway using bollards in a 5-foot striped median.



Above: South End Connector, Albany

Between Goff Middle School and the Little League Fields, the proposed alignment crosses through a parking area. The sidepath concept proposed at the 2018 Complete Streets Workshop shows the path striped through the parking area. It is recommended that the path be delineated from the parking area as clearly as possible so that drivers have the expectation that bicyclists and pedestrians may be present, and to prevent vehicles from driving on the path when searching for parking. If possible, a physical barrier such as a curb or median should be provided to separate the sidepath from the roadway and parking area.

Above: Sidepath concept presented at the 2018 Complete Streets Workshop.

Recommendations: Sidepath Crossing

The proposed sidepath alignment contains a crossing just south of the DPW garage. To improve the safety of the crossing, the appropriate safety countermeasures should be used. According to FHWA's Safe Transportation for Every Pedestrian (STEP) guidance, the following design elements should be considered for the proposed mid-block crossing:

- **High-visibility crosswalk markings** – According to FHWA, high-visibility crosswalks are preferred over parallel line crosswalks and should be provided at all established midblock pedestrian crossings.
- **In-street signage** – These signs serve to remind road users of laws regarding right-of-way; per FHWA, they may be appropriate on 2-lane or 3-lane roads where speed limits are 30 mph or less, such as Gilligan Road. FHWA suggests that in-street signage has been observed to increase vehicle yielding rates (near 75 percent) and decrease vehicle speeds.

Above: Crosswalk Visibility Enhancements. Source: FHWA Safe Transportation for Every Pedestrian.

- **Advance yield or stop sign and markings** – The stop bar or yield markings (sometimes referred to as "sharks teeth") are placed 20 to 50 feet in advance of a marked crosswalk to indicate where vehicles are required to stop or yield in compliance with the accompanying "STOP Here for Pedestrians" or "YIELD Here to Pedestrians" sign. FHWA suggests they are associated with a 25% reduction in pedestrian crashes.

- **Improved nighttime lighting** – Consideration should be given to placing lights in advance of midblock and intersection crosswalks on both approaches to illuminate the front of the pedestrian and avoid creating a silhouette. Per FHWA, proper lighting may reduce pedestrian injury crashes by 23%.
- **Rectangular Rapid Flashing Beacons (RRFB)** – RRFBS are pedestrian-actuated conspicuity enhancements used in combination with a pedestrian, school, or trail crossing warning sign to improve safety at uncontrolled, marked crosswalks. The device includes two rectangular shaped yellow indications, each with an LED-array-based light source, that flash with high frequency when activated.
- **Pedestrian Hybrid Beacon (PHB)** – also referred to as a HAWK signal, a PHB consists of two red lenses above a single yellow lens. Unlike a traffic signal, the PHB rests in dark until a pedestrian activates it via pushbutton or other form of detection.

An example of a local trail crossing that incorporates many of the FHWA-recommended design elements is the Mohawk Hudson Bike Trail crossing pictured below. This crossing features high-visibility crosswalk enhancements and a pedestrian-actuated flashing signal head.

Above: Mohawk Hudson Bike Trail crossing

Above: Mohawk Hudson Bike Trail crossing

Another crossing on the Mohawk Hudson Bike Trail (at Aqueduct Road in Niskayuna) features RRFBs:

Left: Mohawk Hudson Bike Trail crossing of Aqueduct Road. Right: close-up of RRFB.

Another local example of a trail crossing is the Railroad Run Trail crossing with NY-50 near Saratoga Springs. This crossing features a full signal which rests on green until actuated by a crossing pedestrian. The trail has bollards to prevent unauthorized vehicle entry. A signalized crossing is also present on the AHET crossing of US-4 in East Greenbush.

Above: Railroad Run Trail crossing NY-50, Saratoga Springs

Supplemental Mapping

On the following pages, maps are provided for:

- Tax parcels with owner labels
- Soil types
- Topography – 2’ contours
- Topography – 10’ contours

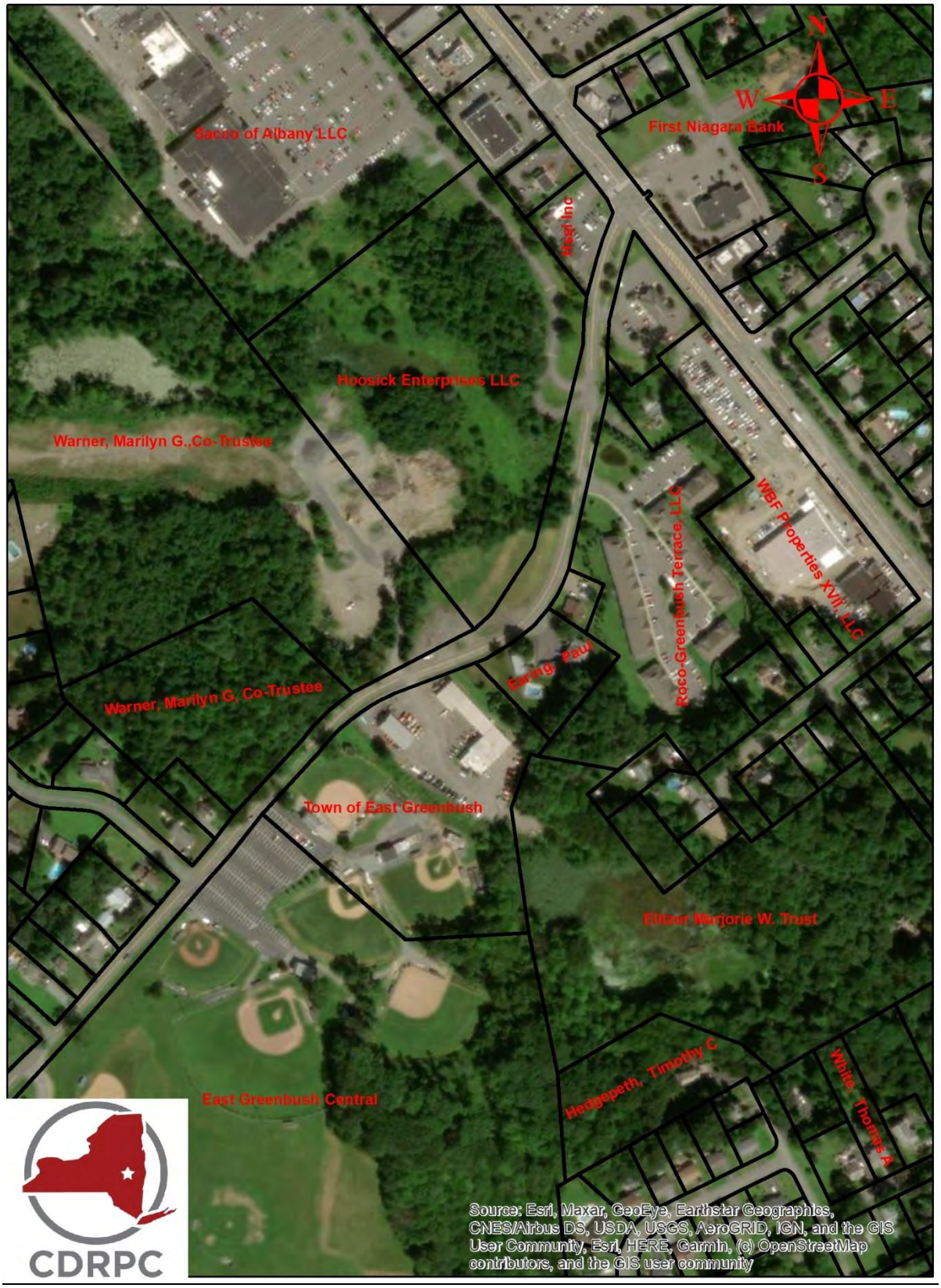
Right-of-way

The maps on the following two pages depict parcel boundaries on Gilligan Road. Large parcels are labeled by owner. On the east side of Gilligan Road, East Greenbush Central Schools and the Town of East Greenbush own two large parcels containing Goff Middle School, Little League fields, and the DPW Garage.

The data source is the 2019 Rensselaer County Tax Parcel dataset provided by the New York State GIS Clearinghouse.

Tax Parcels with Owner Labels

Tax Parcels with Owner Labels

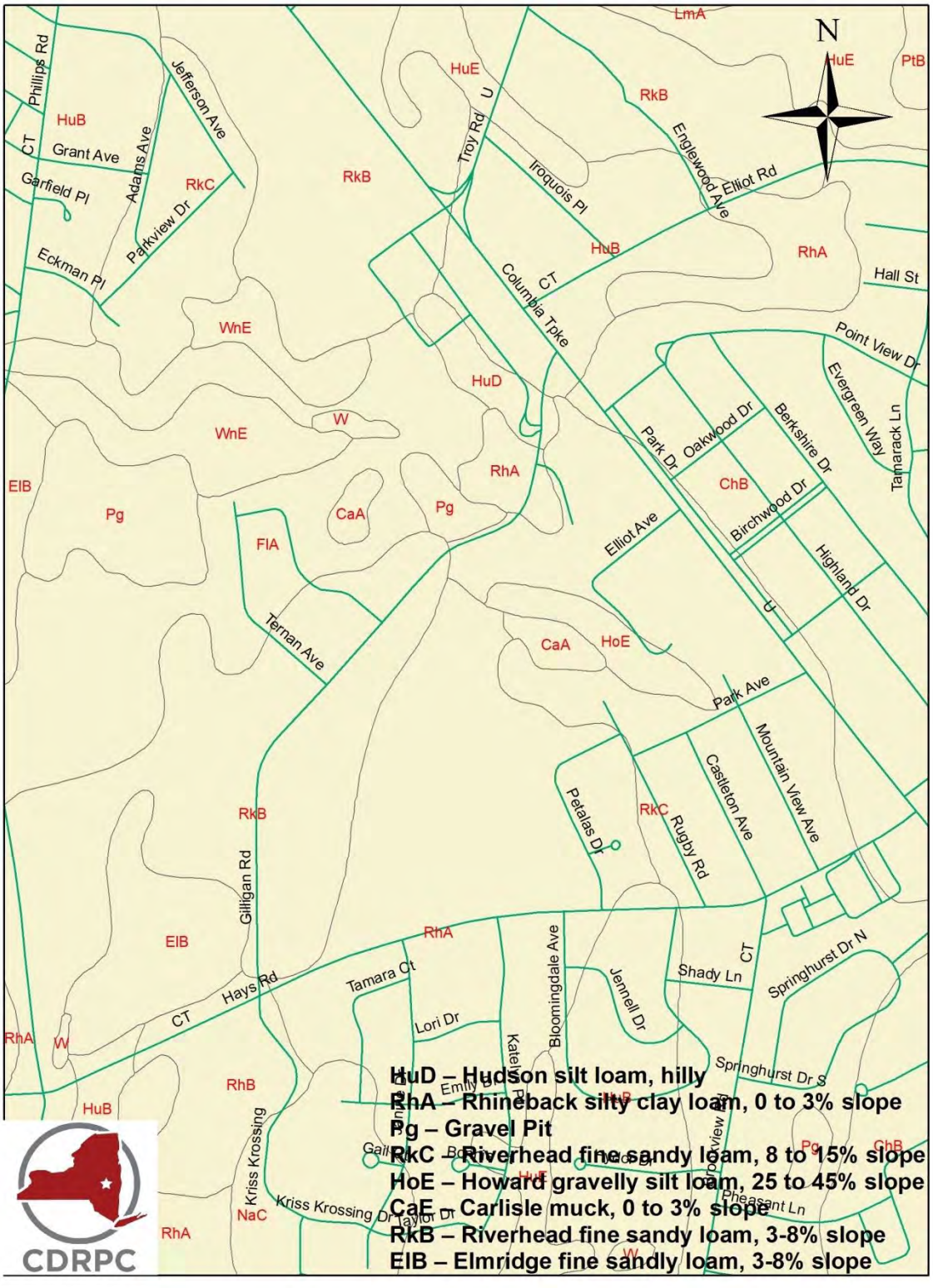


Soil types

The map on the following page depicts soil types in the vicinity of Gilligan Road. The following soil types are present on the proposed sidepath alignment:

- **RkB – Riverhead fine sandy loam, 3-8% slope** (southern portion of corridor; Methodist Church to DPW garage)
- **Pg – Gravel Pit** (across from the DPW Garage)
- **RhA – Rhineback silty clay loam, 0 to 3% slope** (short section north of gravel pit)
- **HuD – Hudson silt loam, hilly** (short section around the Hannaford Plaza entrance)
- **HuB – Hudson silt loan, 3-8% slope** (north section of corridor near Columbia Turnpike)

Gilligan Road Soil Composition



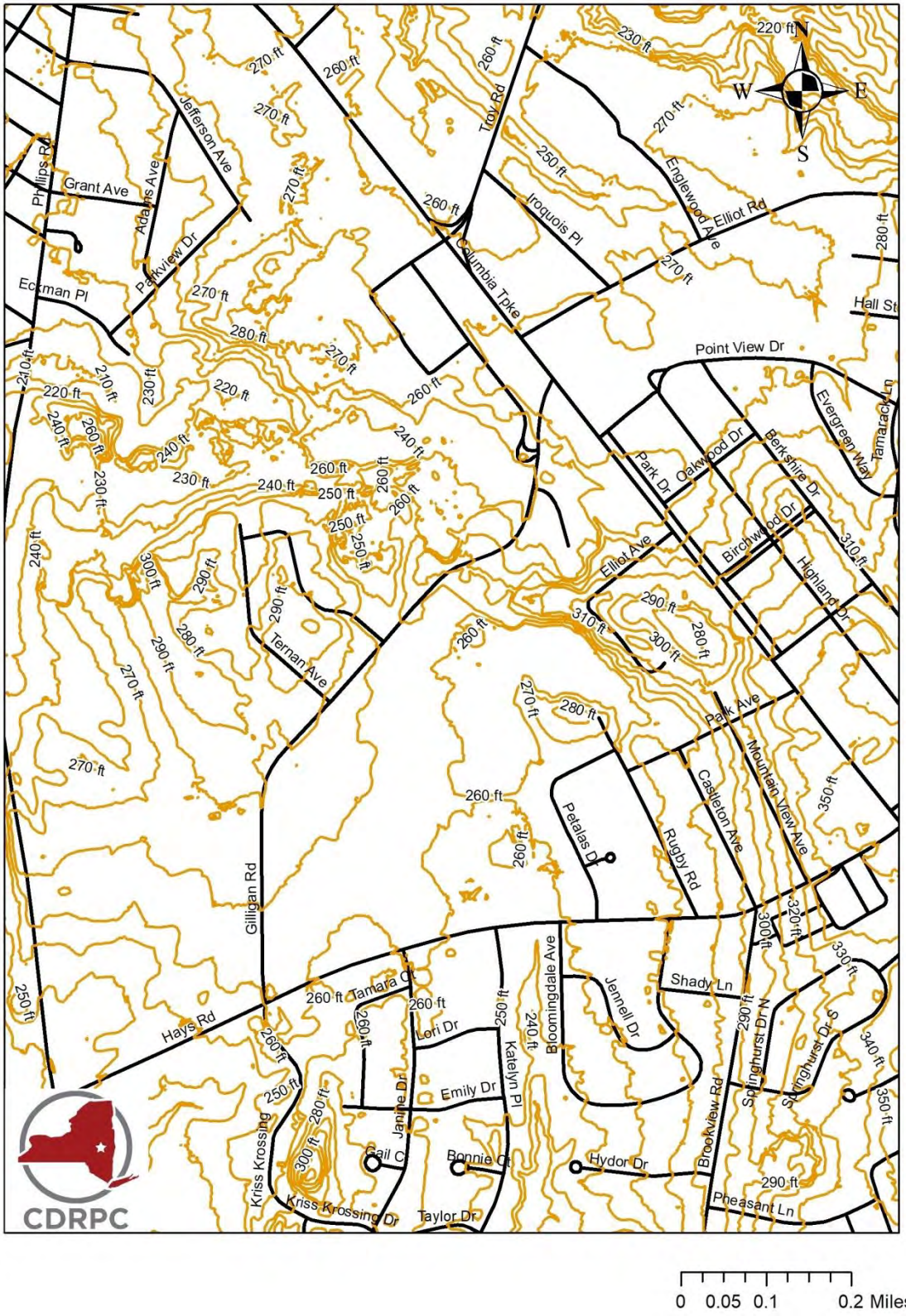
Topography

The following maps depict topography along Gilligan Road at the 2-foot and 10-foot resolution. The steepest grade present on the corridor is the slope just north of the DPW garage. The elevation near the DPW garage is approximately 270 feet. Gilligan Road slopes downward to a minimum elevation of approximately 240 feet near Greenbush Terrace Apartments with a negative grade of 7 to 8%. Gilligan Road then slopes upward toward Columbia Turnpike with a grade of 7 to 8%.

The data source is the New York State 2-ft Contours elevation dataset on the New York State GIS Clearinghouse. Per the GIS Clearinghouse: “The 2-ft Rensselaer County contours were created using the NYSGPO Columbia/Rensselaer 2015, FEMA Hudson Hoosic 2012 and NYSGPO Rensselaer Hoosic River 2010 LIDAR collections. They include the overlap of the 2008 Captial District LIDAR collection”.

Gilligan Road 2ft Contours

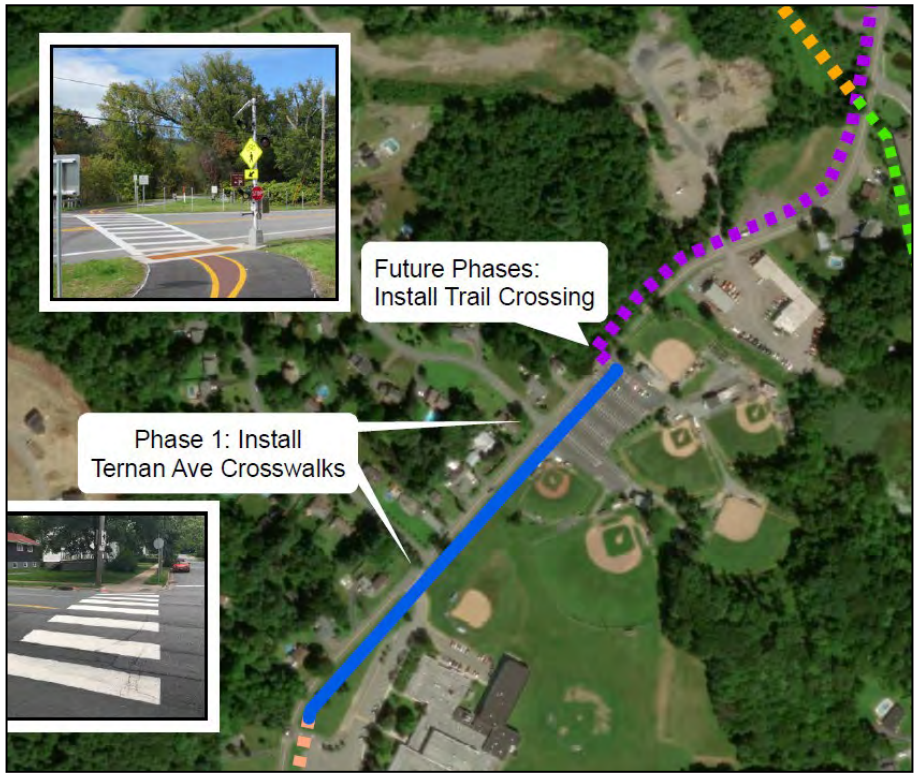
Gilligan Road 10ft Contours



Appendix 2 – December 11, 2020 Stakeholder Presentation and Notes

Gilligan Road Complete Streets Enhancements

Sidepath through Little League parking area:

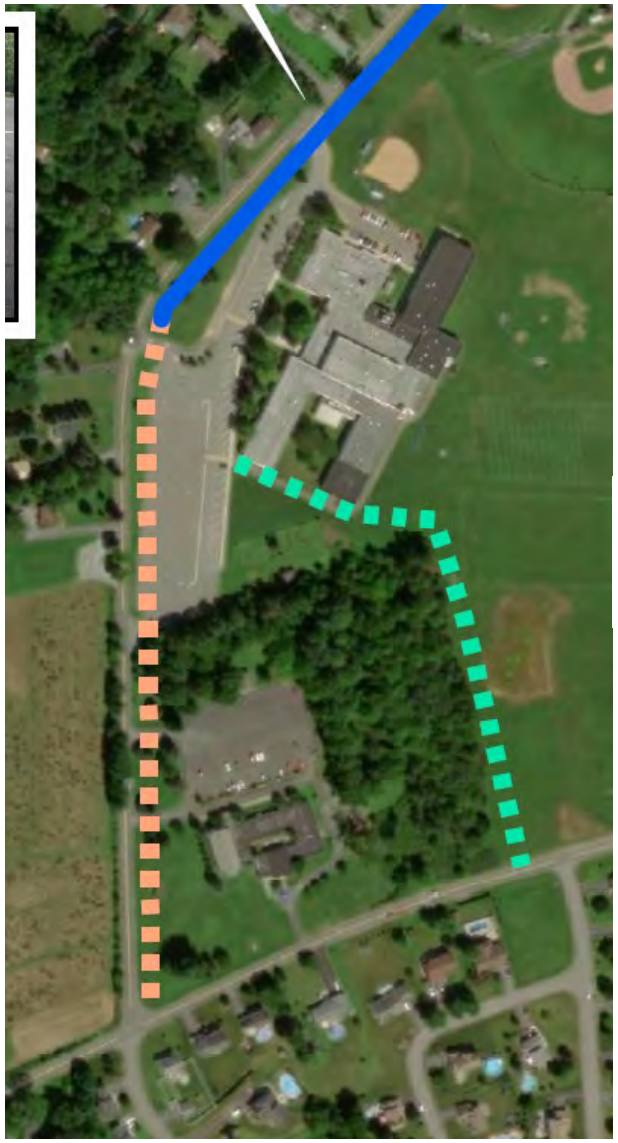


- Physical barrier such as a curb or median should be provided
- Limit vehicle access points

Gilligan Road Complete Streets Enhancements

Connection to Goff Middle School and south to Hays:

- Input wanted from school and local stakeholders:
- How best to connect to school parking and entrances?
- How best to connect to Hays?



Connection to Hays via church ROW

Alternative connection to Hays within school ROW

Thank You!

Andrew Tracy

Senior Transportation Engineer

atracy@cdtcmpo.org

Adam Yagelski

From: Dalia Szarowicz
Sent: Wednesday, December 16, 2020 2:48 PM
To: Dan Fiacco; Scott Gallerie; chief@egpolice.org; 'eashley@egpolice.org'; 'wagerli@egcsd.org'; 'bickelpa@egcsd.org'; 'lellsworth@sanorubin.com'; 'mfrattarola@sanorubin.com'; 'swickman@marchassoc.com'; 'president@egcybl.com'; 'sorensco@gmail.com'; Hollie Kennedy; 'lforbes477@gmail.com'; 'jcgigi3@gmail.com'; 'tweetyj36@gmail.com'; 'tookxc83@yahoo.com'; Planning Chair; Joseph Slater; 'Andrew Tracy'; 'Kate Maynard'; Michael Martin; Taylor Tibbetts; Jack Conway; Tina Tierney; 'smisiewicz@cdtcmpo.org'; 'Mark Castiglione'; 'Christopher Cornwell'; 'Ryan Walsh'; Adam Yagelski; 'president@egsoftball.org'; 'scomoceri@aol.com'; Joshua Tocci; 'sgallerie@gmail.com'
Subject: Gilligan Rd - Stakeholder Presentation
Attachments: Gilligan Road Complete Streets - Stakeholder kickoff 12-10-2020.pptx

Good afternoon everyone,

Please see attached presentation and notes from the meeting. Again, thank you to all who were able to attend. It was a pleasure meeting you all!

12/10/20 Notes:

In attendance: Scott Moccerine – Little League
Paul Bickel – EGCSD
Josh Tocci – CDRPC
Lynn Ellsworth – Sano Rubin
Chris Cornwell – GPI
Ryan Walsh – GPI
Mike Martin – Recreation Director
Taylor Tibbits – Recreation Dept.
Assitant Chief Reickert – EGPD
Officer Edward Ashley – EGPD
Dan Fiacco – DPW
Scott Gallerie – DPW
Hollie Kennedey – Member, Town Board
Dalia Szarowicz – PZD
Adam Yagelski – PZD
Andrew Tracy – CDTC
Tina Tierney – Member, Town Board
Steve Wickman – EGCSD/Sano Rubin Arch

Presentation by Andrew Tracy, CTDC regarding the technical memo. The slides will be circulated to the group.

- Andrew noted that the traffic data do not reflect some events, such as at the ball fields. As well there is some directionality to the data, showing regular peak times.
- Andrew discussed Potential Trail Alignments and proposed phasing
    - The Town Center PDD provides a potential connection as do various sewer easements.
    - After the first phase, the trail would need to cross Gilligan at the north portion due to constraints, like grades, DPW facility, and ball fields.
    - Southern connections – two options – would like feedback from EGCSD stakeholders

- For intersections, Andrew discussed that the various treatments have been verified by USDOT to alter the nature of crashes, including crash reduction, ("crash modification factors") to varying degrees
- Andrew discussed the sidepath through the Little League parking area
    - Merely striping would not be sufficient: Cars would park on it, driver expectation would not be modified to expect ped/bike ROW.
    - Some sort of physical barrier is desired.
    - Limiting vehicle access points is also desirable.
    - 1 or 2 rows of parking may be lost but accessibility to Goff MS parking area
- Andrew highlighted southern connections as a gap in information need and opened the floor to the group
    - Paul B. via the Church is ideal. The alternative on school ROW is less desirable. Concerned about safety and mischief along side of school district.
    - Paul B. said EGCSD will have a project next year to divide the parking lot to make more room for parent drop-off, potentially affecting the alternative connection (via school ROW).
    - Steve Wickman – will need to hug tight to road along parking lot due to grades. Southern end has a pinch point of 9 feet between parking lot and roadway. A. Tracy said treatments exist to reduce separation – such as a curb or similar
    - S. Wickman – said that it's 2 years out to include project in EGCSD capital plan. State ED funds can only be spent on School property
    - A. Yagelski – asked about
    - L. Ellsworth – two concerns as a taxpayer and parent. Alternate connection would make parents uncomfortable. The ball fields parking lot – losing spaces seems like an issue.
    - S. Moccerine – paving lost some spaces – connection to Goff would encourage more people to park in Goff – right now they park along Ternan. Losing parking associated with reducing access points due to the need for aisle ways
    - A. Tracy measured roughly 16' is available for the trail if losing one row of parking
    - A. Yagelski – suggested we'll need signage for motorists and peds to find parking overflow
    - P. Bickel – asked about whether moving the path across Gilligan prior to parking area has been investigated. A. Tracy explained that there is limited public ROW on the west side.
    - O E. Ashley – traffic safety – school speed limit signage. Current signage is difficult to enforce – no timeframes, no illumination. C. Cornwell suggested radar-activitated and time boxed. O. E. Ashley. Need to make regulatory signage – S. Gallerie
    - O. E. Ashley mentioned that the alternative alignment option has drainage issues.
    - A. Yagelski asked about priorities
        - S. Moccerine said their kids ride through the bus garage and that priorities would likely depend on to whom you're speaking: those north of Goff may well wish to connect to 9/20
        - S. Gallerie said any northerly work would need to examine realignment of the Hannaford driveway
    - A. Yagelski – bi-weekly construction meetings – can leverage those to incorporate nuts and bolts – can also start by email.
    - D. Szarowicz asked for email through any additional comments by 12/16 next week
    - O. E. Ashley – offered use of EGPD's speed trailer for traffic data collection
    - C. Cornwell – indicated that several treatments discussed by A. Tracy, including the signal and RRFB, have been installed as part of the AHET and their functionality can be experienced at the AHET and US-4 and AHET and Elliot Rd

Dalia Szarowicz
Planner & Stormwater Officer
Town of East Greenbush
225 Columbia Turnpike
Rensselaer, NY 12144
Ph: (518) 694-4011

Appendix 3 – February 10, 2021 Planning Board Meeting Minutes

PLANNING AND ZONING UPDATE:

Gilligan Road Complete Streets Feasibility Study:

Adam Yagelski stated that he was a little behind in getting the Board the draft report & presentation. So he was asking if anyone has any comments tonight. Chairman Mastin asked what the time frame was for getting comments to him. Adam Yagelski stated that his aim is to get the technical stuff and put the feasibility study together for the end of March and get it in front of the Town Board for April.

•Kurt Bergmann asked if there was a way to have the sidewalk all on one side of the street. Adam Yagelski stated that there are right away constraints.

•Ralph Viola stated that they don't have the proper site distance where the crosswalk is proposed & should be reviewed more & also feels that the DPW entrance should be looked at.

Adam Yagelski asked the Board if they wanted to see the draft of the feasibility study and draft of the drawings once he receives them. The Board stated that they would.

REVIEW AND APPROVAL OF MEETING MINUTES:

Motion by Chairman Mastin to approve the January 27, 2021 meeting minutes as is.
Seconded by Kurt Bergmann. Motion carried by a 6-0 vote.

CLOSING:

There being no further business before the Board, the meeting was closed by Chairman Mastin.
Seconded by Kurt Bergmann. Motion carried by a 6-0 vote.

Respectfully Submitted

Alison Lovely

Alison Lovely, Planning Secretary

Appendix 4 – Ballfields Alternative Sidepath Alignments

166.-7-6.3
Warner,
Marilyn G,
Co-Trustee

166.-7-7
Nova,
Victor A

166.19-2-7
Willimott,
David

166.-6-11
Town of
East
Greenbush

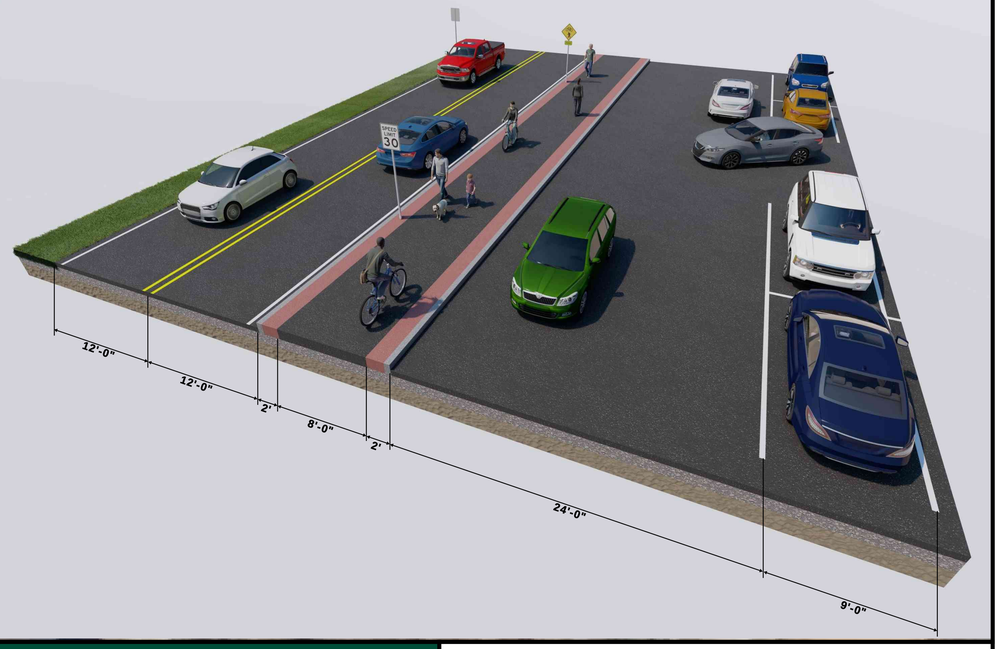
Ternan Avenue

Gilligan Road

166.-6-11
Philbert-
Cox,
Antonette

166.19-2-9
Couture,
Jeanne

166.-6-1
EG Central
School
District



East Greenbush, NY

Gilligan Road Sidepath Concept Plan - Alternative 1A
Town of East Greenbush, Rensselaer County, New York

GPI

166.-7-6.3
Warner,
Marilyn G,
Co-Trustee

166.-7-7
Nova,
Victor A

166.19-2-7
Willimott,
David

166.-6-11
Town of
East
Greenbush

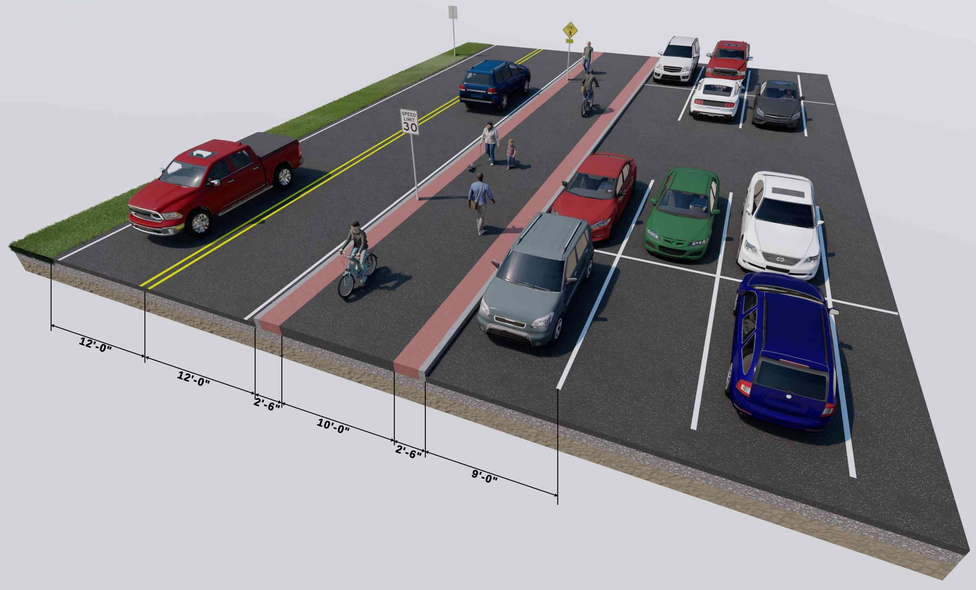
Ternan Avenue

Gilligan Road

166.-6-11
Philbert-
Cox,
Antonette

166.19-2-9
Couture,
Jeanne

166.-6-1
EG Central
School
District



East Greenbush, NY

Gilligan Road Sidepath Concept Plan - Alternative 1B
Town of East Greenbush, Rensselaer County, New York

GPI

166.-7-6.3
Warner,
Marilyn G,
Co-Trustee

166.-7-7
Nova,
Victor A

166.19-2-7
Willimott,
David

166.-6-11
Town of
East
Greenbush

Ternan Avenue

Gilligan Road

166.-6-11
Philbert-
Cox,
Antonette

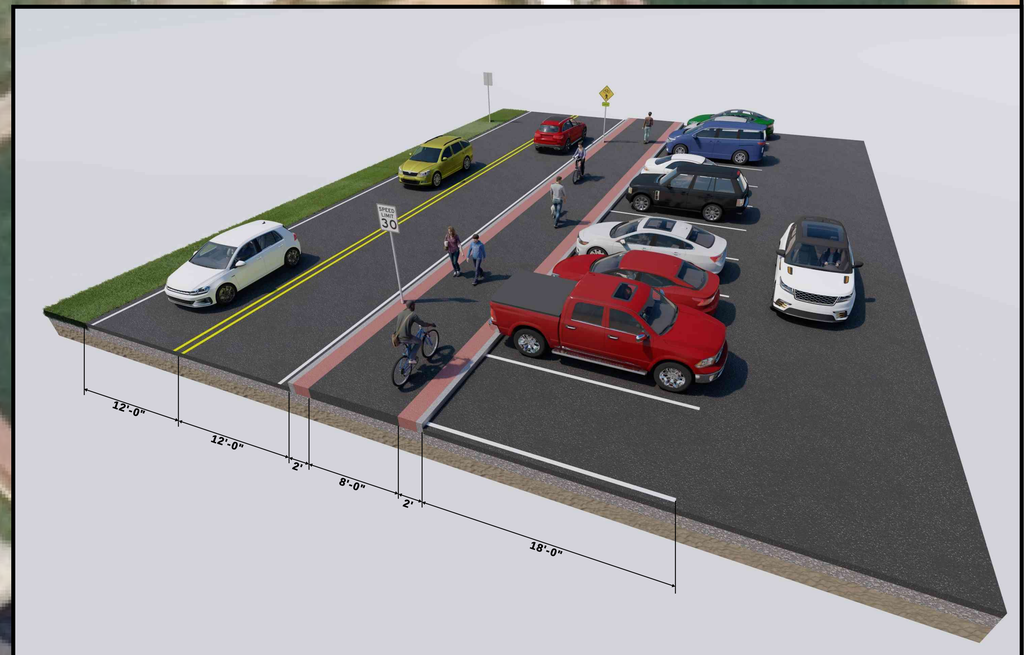
166.19-2-9
Couture,
Jeanne

Potential
Greenspace Creation
Approx. 1,030 SF

Required
Additional Pavement
Approx. 715 SF

Potential
Greenspace Creation
Approx. 1,730 SF

166.-6-1
EG Central
School
District



East Greenbush, NY

Gilligan Road Sidepath Concept Plan - Alternative 1C
Town of East Greenbush, Rensselaer County, New York

GPI

166.-7-6.3
Warner,
Marilyn G,
Co-Trustee

166.-7-7
Nova,
Victor A

166.19-2-7
Willimott,
David

166.-6-11
Town of
East
Greenbush

Ternan Avenue

Gilligan Road

Required Utility
Pole Relocation

166.-6-11
Philbert-
Cox,
Antonette

166.19-2-9
Couture,
Jeanne

166.-6-1
EG Central
School
District

East Greenbush, NY

Gilligan Road Sidepath Concept Plan - Alternative 2
Town of East Greenbush, Rensselaer County, New York

GPI

Appendix 5 – Goff Middle School Alternative Sidepath Alignments

166.19-3-1
Stachelski,
Tara B

166.19-2-16
Buonocore,
Daniel J

166.19-2-15
Jeannin,
James V

166.-6-11
Wolf,
Bethany S

Ternan Avenue

166.19-2-12
Stuto,
Bruce

166.19-2-11
Boomhower
Danielle M

166.19-2-10
Malone,
Joan

166.19-2-9
Couture,
Jeanne

166.19-2-8
Philbert-Cox,
Antonette

Ternan Avenue

Gilligan Road

166.-6-1
East
Greenbush
Central
School

East Greenbush, NY

Gilligan Road Middle School Sidepath Concept Plan - Alternative 1
Town of East Greenbush, Rensselaer County, New York

GPI

East Greenbush, NY

Gilligan Road Middle School Sidepath Concept Plan - Alternative 2
Town of East Greenbush, Rensselaer County, New York

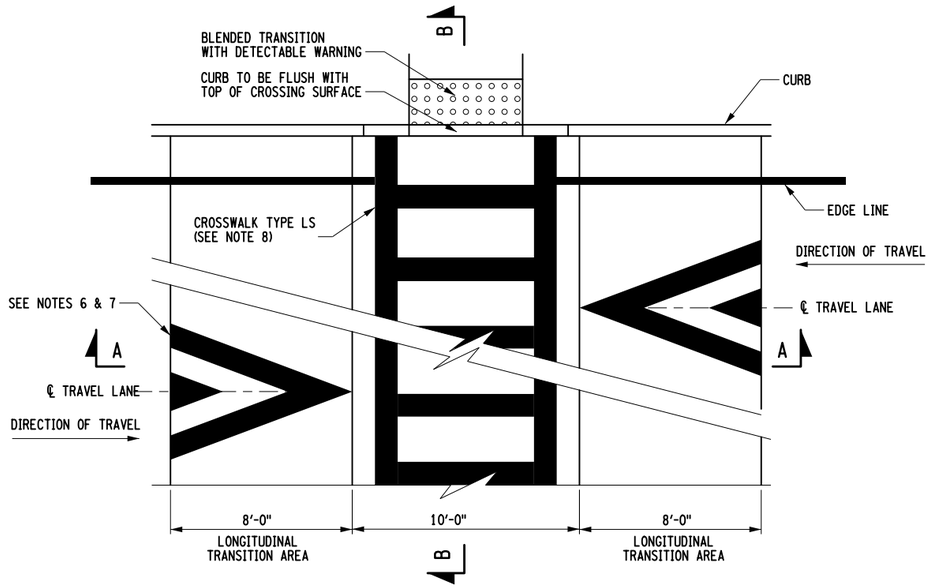
GPI

East Greenbush, NY

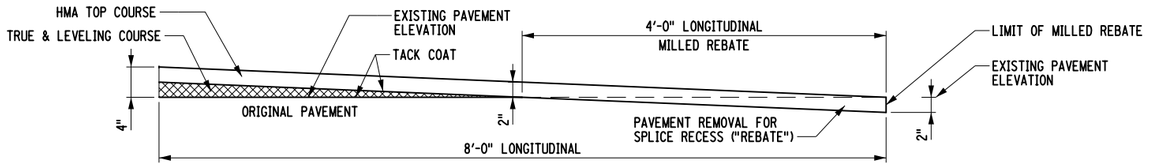
Gilligan Road Middle School Sidepath Concept Plan - Alternative 3
Town of East Greenbush, Rensselaer County, New York

GPI

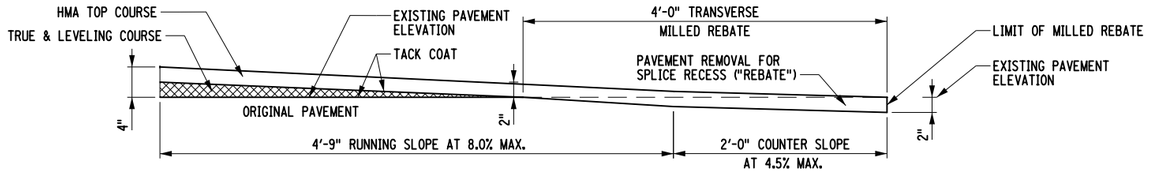
Appendix 6 – Ternan Avenue intersections: Raised crosswalk detail and standard specifications



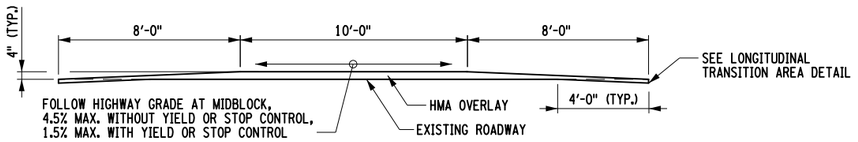
PLAN VIEW WITHOUT OPTIONAL DRAINAGE TREATMENT



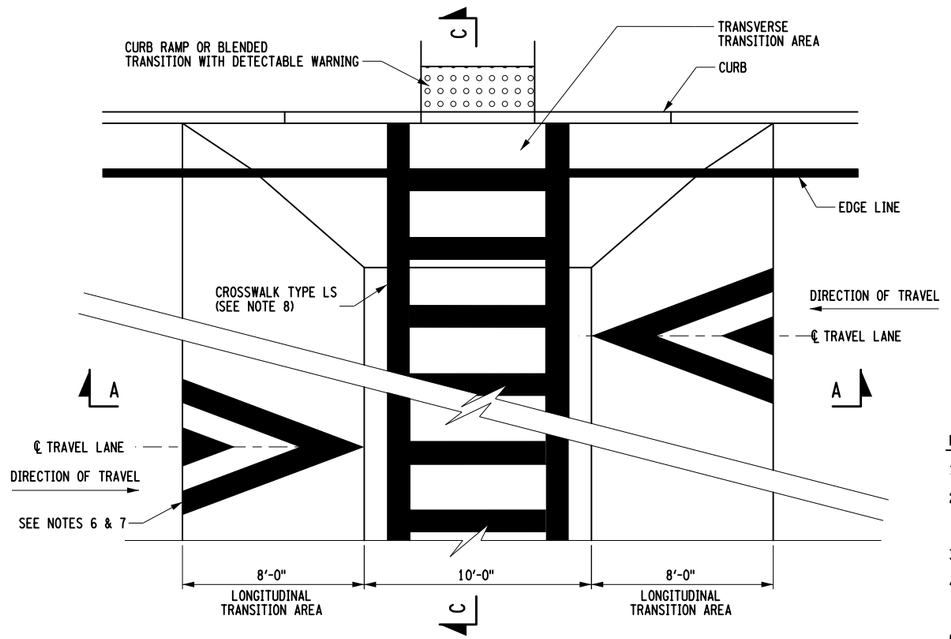
LONGITUDINAL TRANSITION AREA - HOT MIX ASPHALT OVERLAY SPLICE



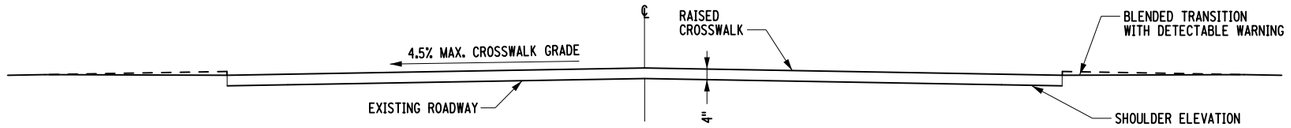
TRANSVERSE TRANSITION AREA - HOT MIX ASPHALT OVERLAY SPLICE
(SEE NOTE 2)



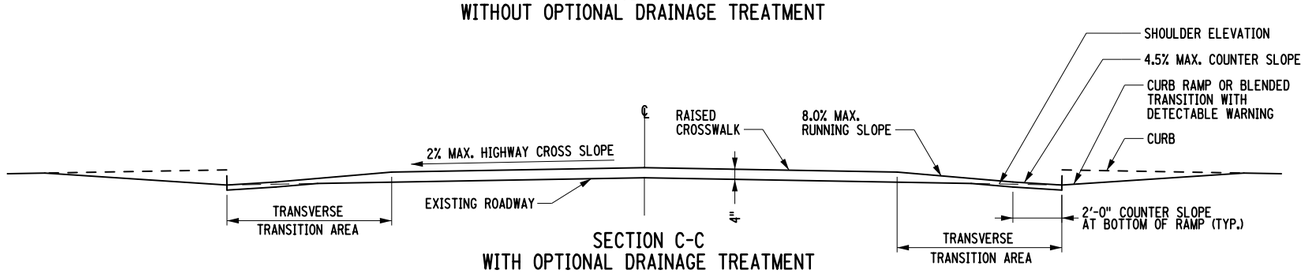
SECTION A-A
WITH OR WITHOUT OPTIONAL DRAINAGE TREATMENT



PLAN VIEW WITH OPTIONAL DRAINAGE TREATMENT
(SEE NOTE 2)



SECTION B-B
WITHOUT OPTIONAL DRAINAGE TREATMENT



SECTION C-C
WITH OPTIONAL DRAINAGE TREATMENT
(SEE NOTE 2)

NOTES:

1. RAISED CROSSWALK REQUIRES STORM WATER TO BE COLLECTED AND CONVEYED TO AN APPROPRIATE LOCATION.
2. THE OPTIONAL DRAINAGE TREATMENT SHALL ONLY BE USED IN RETROFIT SITUATIONS. THE TRANSVERSE TRANSITION AREA DETAIL ABOVE IS FOR USE ON HIGHWAYS WITH CROSS SLOPES. RETROFIT RAISED CROSSWALKS ON ROADWAYS THAT EXCEED THIS LIMIT SHALL BE DETAILED IN THE PLANS.
3. THE TRANSITION AREA MAY BE CONCRETE OR HMA, AND WILL BE AS SHOWN ON THE PLANS.
4. ALL SURFACES OF THE MILLED TRANSITION AREA SHALL BE CLEANED. TACK-COAT SHALL BE APPLIED PRIOR TO HMA PLACEMENT. THE COST OF MILLING REBATES AND TACK COAT IN THE HMA OVERLAY SPLICE TRANSITION AREA SHALL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS. THE COST OF LEAVING A NEAT EDGE SHALL BE INCLUDED IN THE MILLING ITEM.
5. SEE SHEET 2 OF 3 FOR PCC RAISED CROSSWALK DETAILS.
6. SEE SHEET 3 OF 3 FOR SIGNING AND PAVEMENT MARKING DETAILS.
7. SIGNING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD.
8. FOR CONTRAST OR AESTHETICS, A TYPE S CROSSWALK PAVEMENT MARKING MAY BE USED WITH A COLORED OR TEXTURED CROSSWALK SURFACE.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

RAISED CROSSWALK DETAILS (SHEET 1 OF 3)

APPROVED MARCH 07, 2016
/S/ RICHARD W. LEE, P.E.
DEPUTY CHIEF ENGINEER (DESIGN)

ISSUED UNDER EB 16-012

608-07

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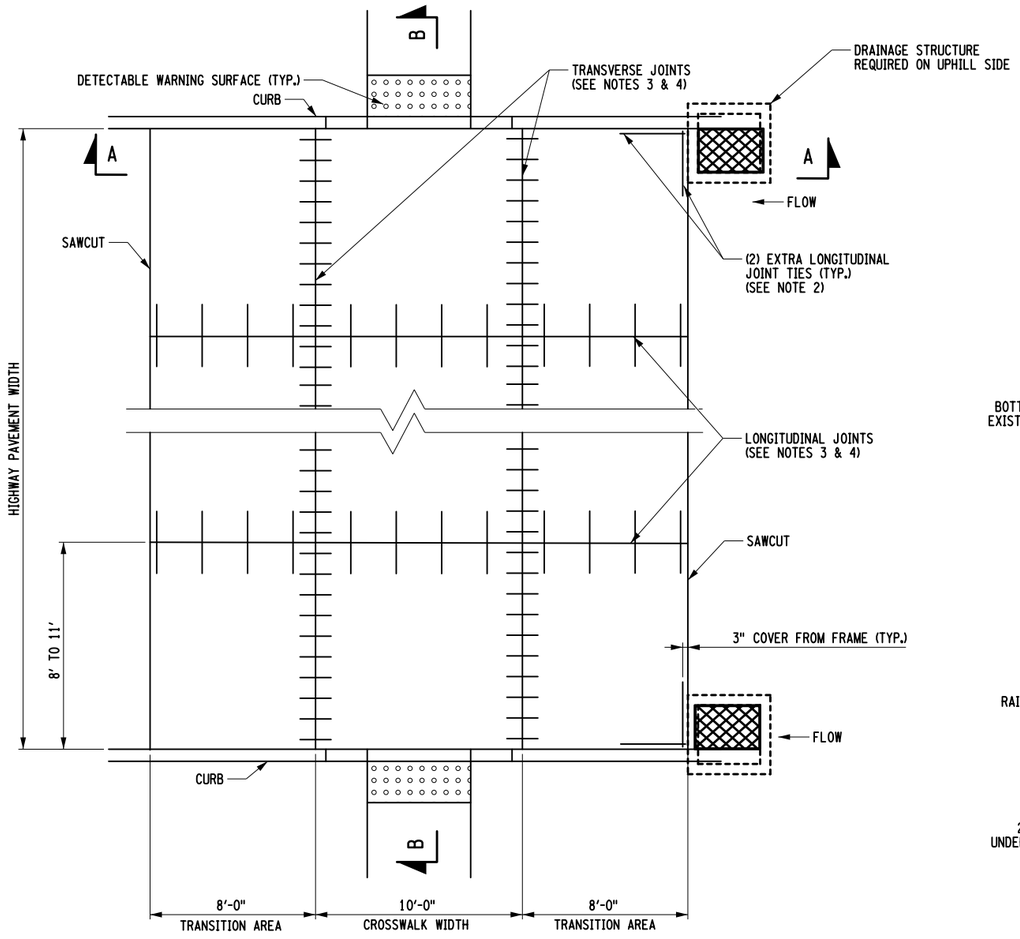
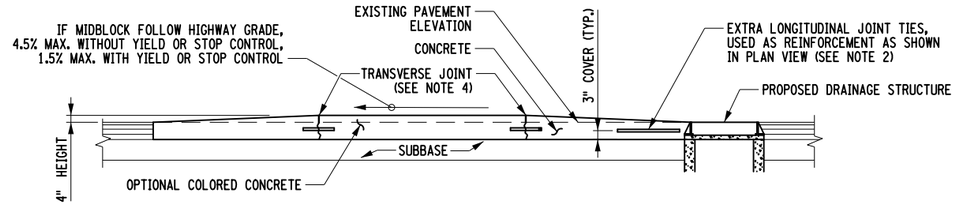
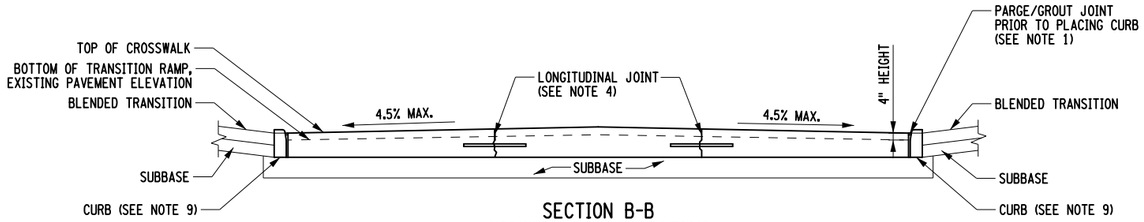
DATE/TIME = 08-MAR-2016 15:06
USER = lmontgomery



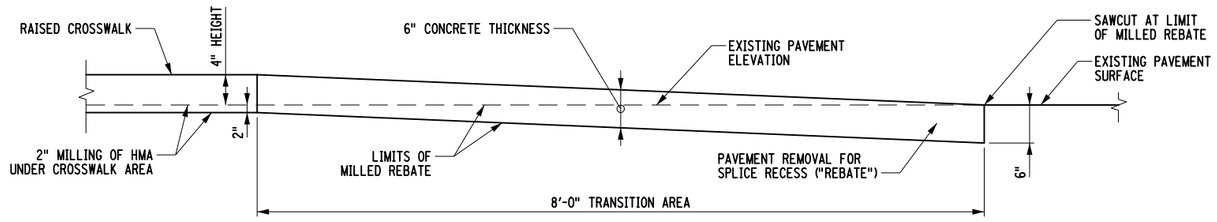
CAST IN PLACE CONCRETE
RAISED CROSSWALK REINFORCEMENT PLAN
(SEE NOTE 9)



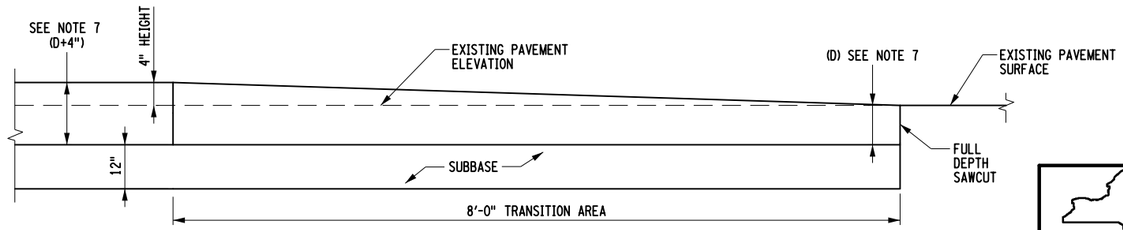
SECTION A-A
HIGHWAY PROFILE



SECTION B-B
HIGHWAY CROSS SECTION



OPTIONAL TRANSITION AREA
FOR PCC OVERLAY SPLICE ON FULL DEPTH HMA
(SEE NOTE 6)



TRANSITION AREA - FULL DEPTH
(SEE NOTE 8)

NOTES:

1. GROUT BETWEEN GRANITE/PRECAST CURBS AND CONCRETE PAVEMENT SHALL MEET STANDARD SPECIFICATION 705.21 FOR TYPE S MASONRY MORTAR. CAULKING SHALL CONFORM TO REQUIREMENTS OF CAULKING COMPOUND FOR DRAINAGE STRUCTURES.
2. EXTRA LONGITUDINAL JOINT TIES, USED AS REINFORCEMENT, ARE NEEDED ONLY WHEN DRAINAGE STRUCTURES ARE PRESENT.
3. SEE NYSDOT STANDARD SHEET 502-02 FOR PROPER DOWEL BAR/TIE BAR SPACING.
4. SEE NYSDOT STANDARD SHEETS 502-03 THROUGH 502-07 FOR LONGITUDINAL AND TRANSVERSE JOINT DETAILS.
5. SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD. SEE STANDARD SHEET 608-07 SHEET 3 OF 3 FOR SIGNING AND PAVEMENT MARKING DETAILS.
6. MAY BE USED FOR HIGHWAYS WITH ≤ 20,000 ADT, ≤ 5% TRUCKS, AND A PAVEMENT SURFACE SCORE OF 7 OR GREATER.
7. DETERMINE PCC THICKNESS (D) FROM THE CONTRACT DOCUMENTS.
8. FOR PCC PAVEMENT, COMPOSITE PAVEMENTS, AND HMA PAVEMENTS NOT MEETING NOTE 6, FULL DEPTH REPLACEMENT IS REQUIRED.
9. SEE CURB & GUTTER STANDARD SHEETS FOR ANCHOR REQUIREMENTS, IF APPLICABLE.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

RAISED CROSSWALK DETAILS
(SHEET 2 OF 3)

APPROVED MARCH 07, 2016	ISSUED UNDER EB 16-012
/S/ RICHARD W. LEE, P.E. DEPUTY CHIEF ENGINEER (DESIGN)	608-07

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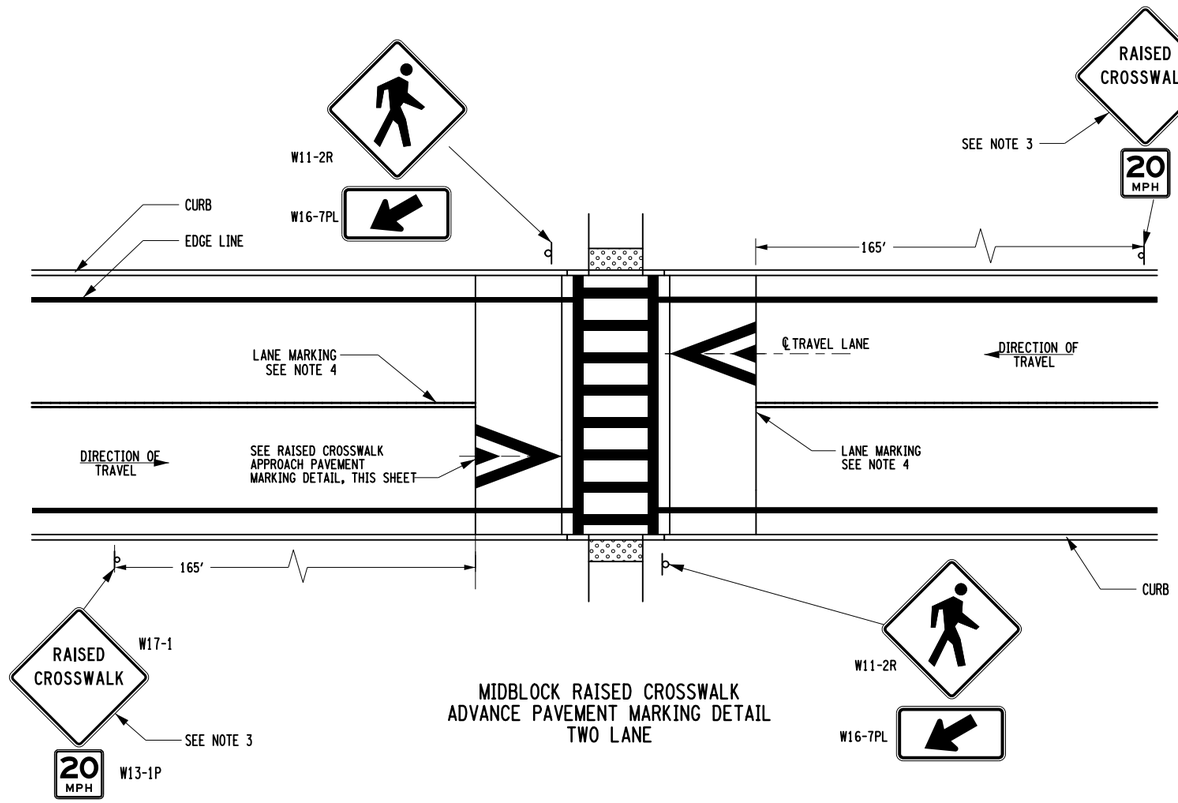
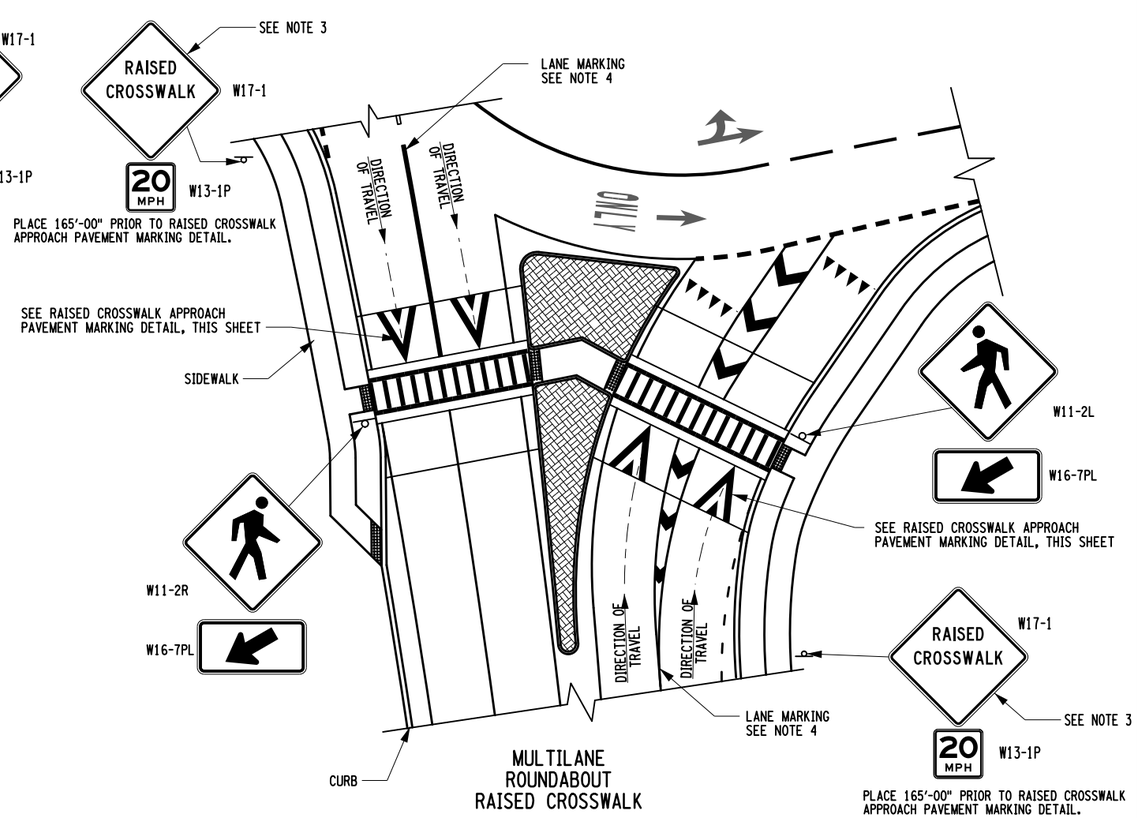
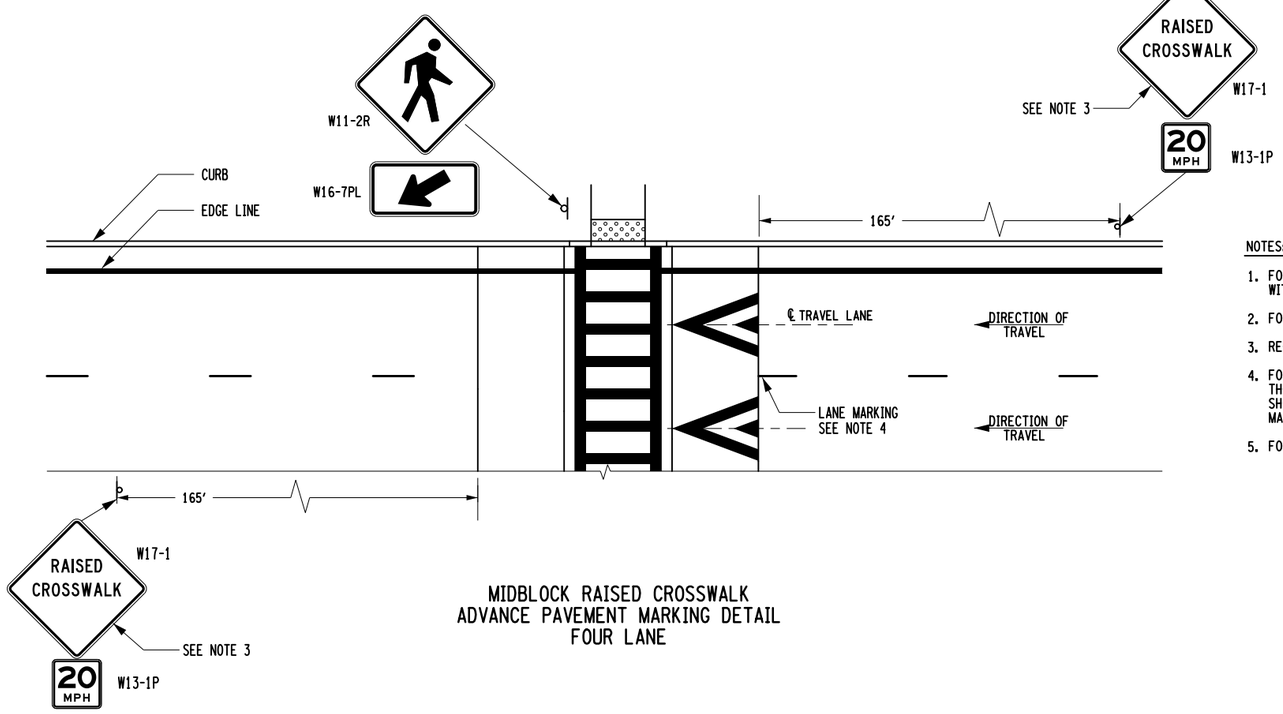


MIDBLOCK RAISED CROSSWALK
ADVANCE PAVEMENT MARKING DETAIL
TWO LANE



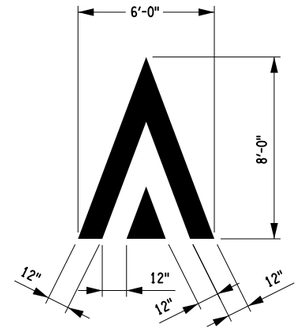
MULTILANE
ROUNDABOUT
RAISED CROSSWALK



MIDBLOCK RAISED CROSSWALK
ADVANCE PAVEMENT MARKING DETAIL
FOUR LANE

NOTES:

1. FOR CONTRAST OR AESTHETICS, TYPE S CROSSWALK PAVEMENT MARKING MAY BE USED WITH A COLORED OR TEXTURED CROSSWALK SURFACE.
2. FOR ONE-WAY TRAFFIC, PAVEMENT MARKING SHALL BE PLACED ON APPROACH SIDE ONLY.
3. REFER TO THE MUTCD FOR ADDITIONAL ADVANCED WARNING SIGNS, TYPE AND LOCATION.
4. FOR CONCRETE RAISED CROSSWALKS, TERMINATE LANE MARKINGS AT THE BEGINNING OF THE LINEAR TRANSITION FOR CONCRETE, EXCEPT AT ROUNDABOUTS, WHERE LANE MARKINGS SHALL TERMINATE AT THE CROSSWALK MARKING. FOR HMA RAISED CROSSWALKS, LANE MARKINGS SHALL TERMINATE AT THE CROSSWALK MARKING.
5. FOR CROSSWALK MARKING DETAILS, REFER TO STANDARD SHEET 685-01, SHEET 2 OF 9.



RAISED CROSSWALK APPROACH
PAVEMENT MARKING DETAIL

NEW YORK STATE OF OPPORTUNITY.
Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

RAISED CROSSWALK DETAILS
(SHEET 3 OF 3)

APPROVED MARCH 07, 2016
/S/ RICHARD W. LEE, P.E.
DEPUTY CHIEF ENGINEER
(DESIGN)

ISSUED UNDER EB 16-012

608-07

FILE NAME = 608-0703.dgn
DATE/TIME = 08-MAR-2016 15:10
USER = lmontgomery

ITEM 680.8225XY10 - RECTANGULAR RAPID FLASHING BEACON (RRFB) ASSEMBLY

1.0 DESCRIPTION

This work shall consist of furnishing and installing a Rectangular Rapid Flashing Beacon (RRFB) assembly in accordance with the contract documents or as directed by the Engineer. All materials and labor required to provide a complete functioning system are to be included.

1.1 General Requirements

1.1.1 RRFB unit shall consist of two rapidly flashed, rectangular-shaped yellow indications with an LED-array-based light source. It shall be designed, located, and operated in accordance with the detailed requirements of the contract and as specified below.

1.1.2 Each RRFB shall conform to all provisions of the MUTCD.

1.1.3 Each RRFB shall be a complete assembly consisting of supporting structure (pole, breakaway transformer base, sign, cabinet, and solar panel supports), indications, signage, cabinet, solar panel, and electrical components (wiring, solid-state circuit boards, etc.).

1.1.4 Each RRFB shall be supplied with all required hardware to install assembly.

1.1.5 Each RRFB shall be ADA compliant.

1.1.6 Each RRFB shall be rated for 90 mph wind conditions.

1.1.7 All components shall be designed to operate under ambient temperature conditions from -30 to 165 °F.

1.2 Functional Requirements

1.2.1 The RRFB shall be normally dark, shall initiate operation only upon pedestrian actuation, and shall cease operation after a predetermined period of operation. The predetermined period of operation shall be based on the procedures provided in Section 4E.06 of the current MUTCD for the timing of pedestrian clearance times for pedestrian signals.

1.2.2 When actuated, all RRFB units associated with a given crosswalk shall simultaneously commence operation of their rapid-flashing indications within 120 milliseconds. All RRFB units associated with a given crosswalk shall simultaneously cease operation of their rapid-flashing indications within 120 milliseconds.

1.2.3 During activation, a small light, directed at and visible to pedestrians in the crosswalk, shall be installed integral to the RRFB to give confirmation that the RRFB is in

operation. The pedestrian indication shall flash concurrently with one of the vehicle indications to give confirmation that the RRFB is in operation.

1.2.4 Upon actuation, the two or four yellow indications in each RRFB unit shall flash in a sequence of 75 cycles per minute. The left and right RRFB indications shall operate using the following sequence during each 800-millisecond cycle:

The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 50 milliseconds.

The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 50 milliseconds.

The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 50 milliseconds.

The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 50 milliseconds.

Both RRFB indications shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 50 milliseconds.

Both RRFB indications shall be illuminated for approximately 50 milliseconds.

Both RRFB indications shall be dark for approximately 250 milliseconds.

1.2.5 The flash rate of each individual RRFB indication, as applied over the full flashing sequence, shall not be between 5 and 30 flashes per second to avoid frequencies that might cause seizures in anyone viewing the activated RRFB.

1.2.6 The light intensity of the yellow indications during daytime conditions shall meet the minimum specifications for Class 1 yellow peak luminous intensity in the current Society of Automotive Engineers (SAE) Standard J595 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles).

1.2.7 To minimize excessive glare, an automatic signal dimming device shall be used to reduce the brilliance of the RRFB indications during nighttime conditions.

2.0 MATERIALS

All provisions of §709-01, §715, §723, §724 and §730 shall apply except as detailed below:

2.1 Indicators:

2.1.1 Each RRFB facing shall consist of two rectangular-shaped yellow indications each with an LED-array-based light source. The size of each RRFB indication shall be at least 5 inches wide by at least 2 inches high and shall be aligned horizontally, with the longer dimension horizontal and with a minimum space between the two indications of at least 7 inches, measured from the nearest edge of one indication to the nearest edge of the other indication.

2.1.2 The outside edges of the RRFB indications, including any housings, shall not project beyond the outside edges of the signage of the RRFB.

2.1.3 Indicators shall be mounted in a housing constructed of durable, corrosion resistant, powder-coated aluminum with stainless steel fasteners.

2.1.4 Mounting hardware shall be stainless steel.

2.1.5 The indicator housing shall be located between and immediately adjacent to the bottom of the crossing warning sign and the top of the supplemental downward diagonal arrow plaque (or, in the case of a supplemental advance sign, the AHEAD or distance plaque).

2.1.6 All RRFB light bars shall be field adjustable to maximize the field of view on each vehicle approach.

2.1.7 Shall be rated for a minimum 15-year life span.

2.2 Radio Network Controller and Cabinet:

2.2.1 The local equipment controlling the components of the beacon assembly shall be housed in a lockable, weatherproof, vandal and tamper resistant NEMA 3R rated aluminum enclosure, intended for outdoor use, primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, hose-directed water, and damage from ice formation.

2.2.2 The cabinet shall be mounted on the pole and a work pad shall be provided, in accordance with signal system details. Cabinet shall not intrude into sidewalk or obstruct the pedestrian push button.

2.2.3 The cabinet shall be mounted on the side of the pole away from approaching traffic at a height between 3.5 – 4.5 feet from the bottom of the cabinet to the ground. In unpaved areas a concrete work pad shall be installed in front of the cabinet door not to exceed 5 feet by 5 feet by 4 inches deep and shall abut the pole foundation.

2.2.4 The cabinet shall be of sufficient size to house all required equipment.

2.2.5 Cabinet locking mechanisms shall meet NYSDOT standards currently used by the regional traffic signal groups. All keys to installed locking mechanisms shall be supplied to the Engineer upon acceptance of the work. The cabinet shall be secured with a Corbin lock and keyed as directed by the Regional Traffic Engineer for securing the cabinet door.

2.2.6 The controller shall be replaceable independently of other components.

2.3 Controls:

2.3.1 Controls shall include integrated constant current LED drivers with a minimum of two output channels for driving one or two assemblies.

2.3.2 Controls shall be completely programmable:

2.3.2.1 To run for a user specified time period when activated via switch, button contact closure, or when triggered from an external sensor such as a wireless transmitter, radar detector, presence detector, or wireless walk through bollard with a compatible sensor output.

2.3.3 Controls shall be capable of being programmed for alternate flash rates and patterns with a minimum resolution of 0.25s per trigger action.

2.3.4 Controls shall seamlessly integrate with the wireless transceiver to form a network of connected devices.

2.3.5 Controls shall allow adjustable and programmable light intensity levels for the beacons. Intensity level programming shall allow for manual and automatic modes. Manual mode shall allow the light intensity to be configured for a constant output on every available intensity level. Automatic mode shall allow for automatic intensity adjustment based upon assembly's ambient light conditions. Assemblies shall have a minimum of two brightness intensities available, exclusive of any unlit condition.

2.3.6 Controls shall include data-logging capabilities with selectable interval from one minute to one day with at least a 60-day logging period.

2.3.7 Controls shall include an RS232 serial interface and ethernet interface for local programming. Controls mays include USB cable interfaces for supplemental data connections.

2.3.8 Controls shall be locally programmable using software for Microsoft Windows 2007 or later or web based program.

2.3.9 The controller software shall allow programmable operation of the Assembly. Direct control of functions such as lighting controls shall be possible.

2.4 Transceiver:

2.4.1 Shall provide wireless communication between the assemblies to integrate the

pushbutton activation of indications.

2.4.2 Shall seamlessly integrate with the controller to ensure sequential activation of other radio-equipped devices in the system.

2.4.3 Shall synchronize the system components to activate the indications within 120 ms of one another and remain synchronized throughout the duration of the flash (timeout) cycle.

2.4.4 Shall include network-wide modification of sign controller settings and output durations using programmability from any networked transceiver without the use of additional equipment or software.

2.4.5 Shall be capable of operating as a parent (gateway) or child (node or repeater).

2.4.6 Shall be capable of providing site-survey data for verification of signal strength between network devices.

2.4.7 Shall operate on the license-free ISM band.

2.4.8 Radio control shall operate on an FCC approved 900 MHz frequency, hopping spread spectrum network with a normal operating range of ~1000 feet.

2.4.9 Shall operate from 3.3 to 15 VDC input.

2.4.10 Shall comply with 47 CFR Part 15.

2.4.11 Shall be replaceable independently of other components.

2.4.12 The product must be FCC certified to comply with all 47 CFR Part 15 Subpart B Emission requirements.

2.5 Emergency Shutoff:

2.5.1 One toggle-type power switch, for either the AC or solar power source, shall be provided for emergency shutoff at the local cabinet on the pole.

2.6 Power Supply:

2.6.1 The power supply shall be either solar or 120 VAC and meet all applicable codes.

2.6.2 With the exception of conduits run for service entrance cables as detailed in NFPA 70: National Electric Code, the assembly shall contain no externally mounted wiring or wiring conduits.

2.6.3 Autonomy with a fully charged battery shall be at least 30 days of continuous operation without charging at an ambient temperature of 70 °F with at least ten actuations per hour.

2.6.4 Battery:

- 2.6.4.1 Shall have a nominal output voltage of 12 VDC and a capacity of 48 Ah at a C100 discharge rate.
- 2.6.4.2 Shall be sealed and spill proof.
- 2.6.4.3 Shall have terminals that accept screws or bolts for secure wiring connections.
- 2.6.4.4 Shall be replaceable independently of other components.

2.6.4.5 Shall be fused for short circuit protection.

2.7 Solar Power:

2.7.1 One solar array with a bracket for mounting to the top of the pole.
2.7.2 Flexible, liquid tight conduit shall be used from the solar panel to the weather head/pole cap or as instructed by the solar panel manufacturer's instructions.
2.7.3 The solar panel shall be affixed to an aluminum plate and bracket, adjustable at an angle of 45 – 60 degrees to facilitate adjustment for maximum solar collection and optimal battery strength.
2.7.4 The solar panel assembly (panel, plate and bracket) shall be secured to a pole cap mount, capable of 360-degree rotation, to facilitate adjustment for maximum solar collection and optimal battery strength.
2.7.5 The solar panel shall be capable of withstanding operating temperatures of -30 to 165 °F.
2.7.6 If an Accessible Pedestrian Signal (APS) system is called for in the contract documents, all provisions for the continuous operation of the APS will be accounted for in the solar power system.
2.7.7 Solar Charge Controller:
2.7.7.1 Shall automatically provide Low Voltage Disconnect (LVD) to protect diminished power batteries.
2.7.7.2 Shall automatically provide Load-Reconnection once battery levels have been restored to an acceptable power level.
2.7.7.3 Shall protect against and automatically recover from short circuits, overloads, reverse polarities, high temperatures, lightning and transient surges, and voltage spikes.
2.7.7.4 Shall be independently replaceable of other control panel components.

2.8 Electrical Power:

2.8.1 The AC input terminals shall be equipped with a 210 J (joule) capacity power line surge suppressor. The suppressor shall have noise blanking capability.
2.8.2 Where required by the contract documents, or as required by the utility company, a meter shall be included.
2.8.3 All electrical components and wiring shall be approved to CSA or UL standards as applicable.
2.8.4 AC Power shall have electrical service disconnect.

2.9 Pole Shaft:

2.9.1 Shall be a standard 4.5-inch OD galvanized steel pole as per §724 with 4 bolt base plate with a 12.75-inch bolt circle.
2.9.2 Shall meet MUTCD height requirements.

2.10 Pole Pedestal Base:

2.10.1 Shall conform to §723-15 and mount on a concrete foundation attached by four anchor 'J' bolts that are to be imbedded in a concrete foundation.
2.10.2 Shall meet or exceed AASHTO break-away requirements for traffic signal supports.

2.11 Pedestrian Push Buttons:

2.11.1 A piezo pushbutton shall be ADA compliant, and shall operate as normally open (n/o) circuit.

2.12 Static Signs:

2.12.1 All signs shall conform to the MUTCD and the NYS Supplement to the MUTCD.
2.12.2 All sign panels and plaques shall conform to the requirements of §645-2.02 of the NYS Standard Specifications.
2.12.3 Sign sheeting shall conform to the requirements in §645-2.02.
2.12.4 All sign assemblies shall use anti-vandal fasteners and tools to mount components to sign and sign to fixture.
2.12.5 Crossing sign assemblies shall consist of one of the following with the appropriate plaque: Pedestrian Crossing (W11-2), ~~a~~ School Crossing (S1-1), or ~~a~~ Trail Crossing (W11-15).
2.12.6 R10-25 shall be furnished, at least a size of 9 by 12 inches, to be mounted adjacent to and above each pedestrian pushbutton.

3.0 CONSTRUCTION DETAILS

3.1 All provisions of §645 and §680 shall apply except for all electrical wiring and as modified below.

3.2 Electrical and communication wires shall be run in separate conduits.

3.3 Prior to any fabrication or installation of any of the components of the Flashing Beacon Assembly, the Contractor shall submit detailed specifications, parts lists, manufacturer's cut sheets, instruction sheets, and wiring diagrams to the Engineer for approval at least 14 calendar days before installation.

3.4 The Contractor shall install and position the beacon assembly in such a manner as to optimize visibility for roadway traffic, and optimize incident light for the solar assembly, using the manufacturer's recommendations and instructions for installation.

3.5 If the Engineer determines that the unit is not functioning properly, the Contractor shall secure the services of the manufacturer's representative for installation and testing.

3.6 Where new work is to meet existing infrastructure, the Contractor's methods shall provide for neat lines, to achieve a satisfactory installation.

4.0 METHOD OF MEASUREMENT

This work will be measured as the number of RRFB assemblies furnished and installed in accordance with the Contract Documents, or as directed by the Engineer.

5.0 BASIS OF PAYMENT

5.1 The unit price bid shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work, including the signs shown in the associated details.

5.2 Note:

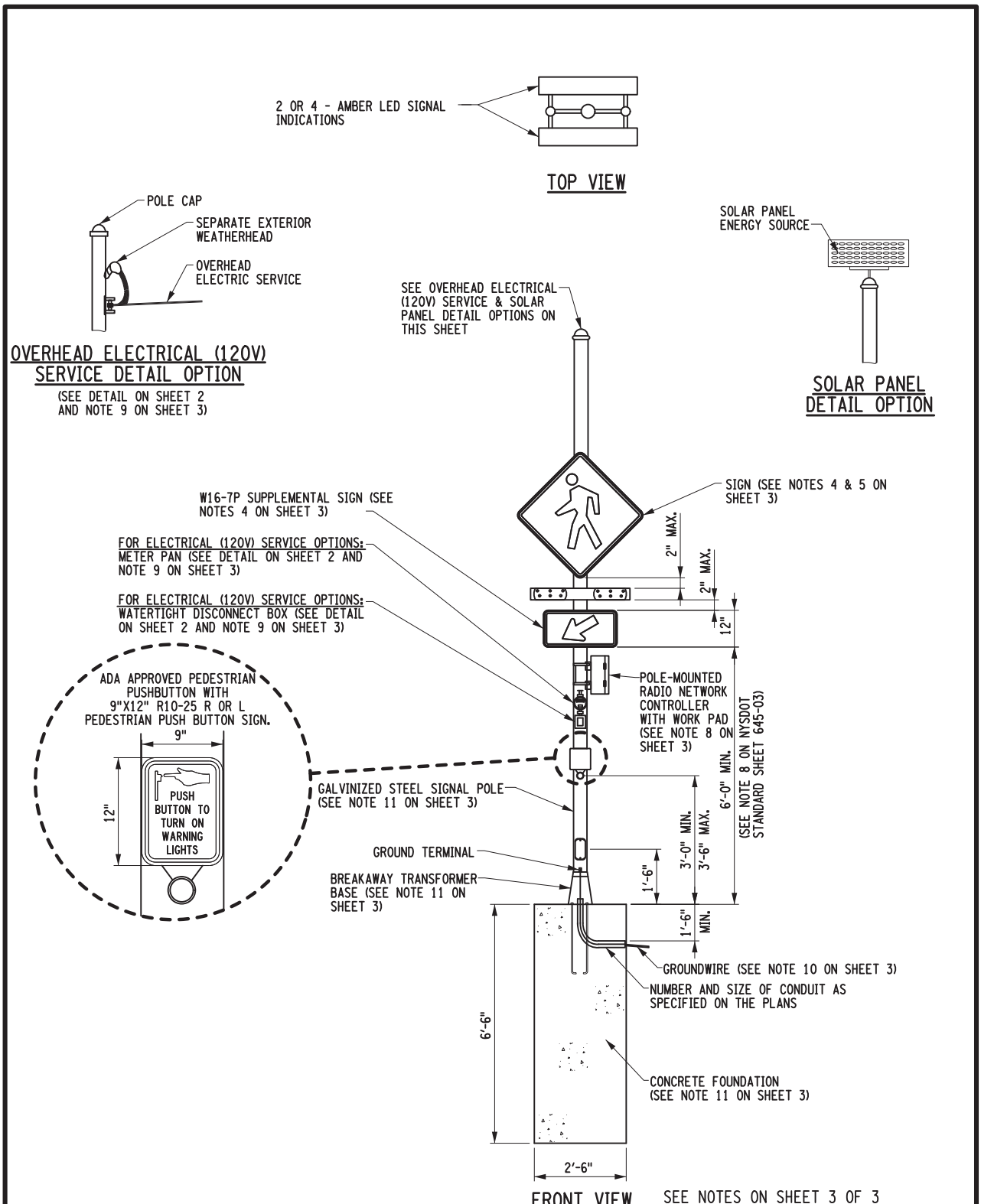
X= 2 = two forward beacons,

4 = four beacons, two forward facing beacons, and two rearward facing beacons;

Y= 1 = AC powered (overhead supply),

2 = AC powered (underground supply),

3 = Solar powered



SEE NOTES ON SHEET 3 OF 3

SHEET 1 OF 3

ALL DIMENSIONS ARE IN ft UNLESS OTHERWISE NOTED

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

ITEM 680.8225XY10- RECTANGULAR RAPID FLASHING BEACON (RRFB) ASSEMBLY

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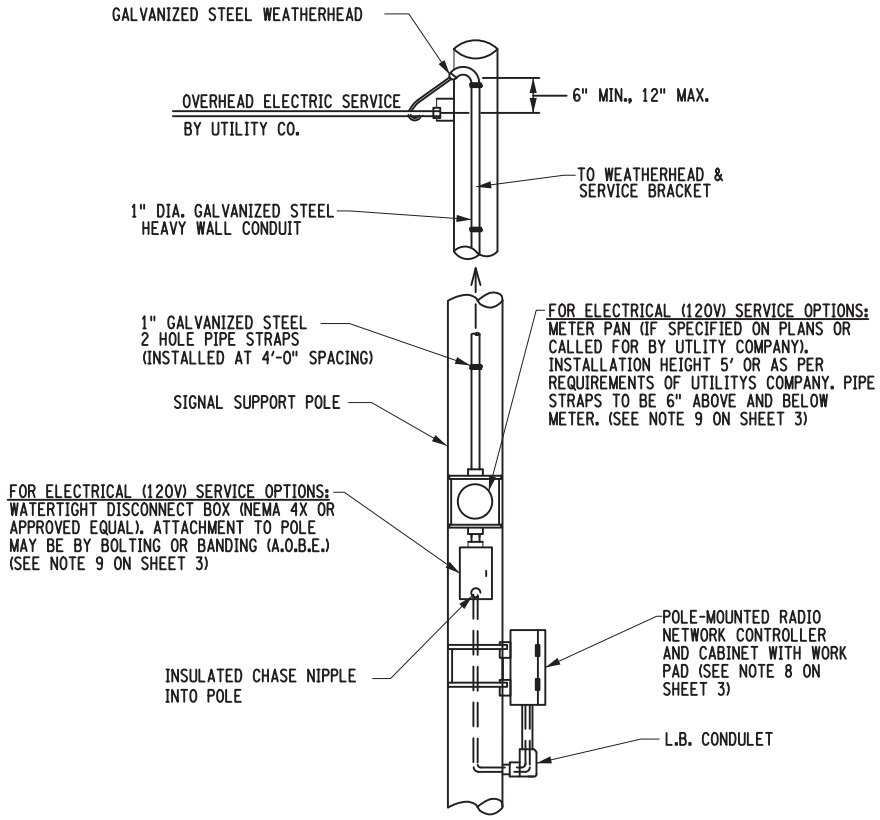
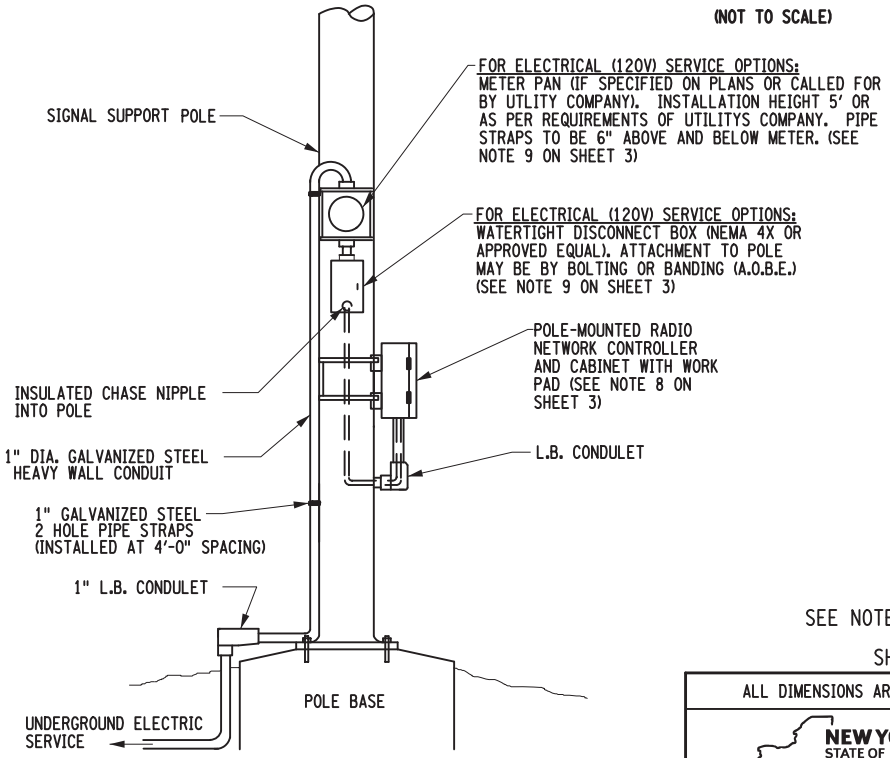


OVERHEAD ELECTRICAL SERVICE DETAIL
(POLE MOUNTED CABINET)

(NOT TO SCALE)



UNDERGROUND ELECTRICAL SERVICE DETAIL
(POLE MOUNTED CABINET)

(NOT TO SCALE)

SEE NOTES ON SHEET 3 OF 3

ALL DIMENSIONS ARE IN ft UNLESS OTHERWISE NOTED

NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

ITEM 680.8225XY10- RECTANGULAR RAPID FLASHING BEACON (RRFB) ASSEMBLY

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NOTES:

1. NOTIFY DIG SAFELY - NEW YORK AT (800) 962-7962 PRIOR TO ANY EXCAVATION.

2. WIDTH OF SOLAR PANEL AND LED SIGNAL INDICATION ASSEMBLY SHALL NOT EXCEED THE WIDTH OF SIGN PANEL.

3. WHEN MULTIPLE UNITS ARE USED AT A LOCATION CONTRACTOR SHALL USE DIFFERENT RADIO FREQUENCIES TO AVOID COMMUNICATION ISSUES.

4. SEE CONTRACT DOCUMENTS FOR THE TYPES(S) AND LOCATION(S) OF PROPOSED RRFB ASSEMBLIES . IN THE ITEM NUMBER:

   X INDICATES IF IT IS A FORWARD FACING ASSEMBLY ONLY OR FORWARD AND REARWARD FACING (BACK-TO-BACK) ASSEMBLY WHERE:

   X=2 A FORWARD FACING ASSEMBLY CONSISTING OF 2 AMBER LED BEACON INDICATIONS WITH 1-W11-2 OR S1-1 OR W11-15 CROSSING SIGN AND 1-W16-7P SUPPLEMENTAL SIGN.

   X=4 FOR A FORWARD AND REARWARD FACING (BACK-TO-BACK) ASSEMBLY CONSISTING OF 4 AMBER LED BEACON SIGNAL INDICATIONS (TWO FORWARD FACING AND TWO REARWARD FACING) WITH 2-W11-2 OR S1-1 OR W11-15 CROSSING SIGNS AND 2-W16-7P SUPPLEMENTAL SIGNS (ONE SET OF EACH FACING FORWARD AND REARWARD),

   Y IS METHOD OF PROVIDING ELECTRICAL SERVICE WHERE:

   Y=1 FOR OVERHEAD ELECTRICAL SERVICE

   Y=2 FOR UNDERGROUND ELECTRICAL SERVICE.

   Y=3 FOR SOLAR POWER

   SEE DETAILS ON SHEET FOR ADDITIONAL REQUIREMENTS.

5. CROSSING SIGNS AND SUPPLEMENTAL PLAQUES SHALL UTILIZE FLUORESCENT YELLOW-GREEN TYPE IX SHEETING. SIGN AND PLAQUE SIZES SHALL CONFORM TO HE MUTCD. ALL SIGNS AND PLAQUES SHALL CONFORM TO THE MATERIAL REQUIREMENTS IN SECTION 645 OF THE STANDARD SPECIFICATIONS.

6. WHEN USED IN PAIRS/SET (SUCH AS ON BOTH TERMINUS POINT OF A CROSSWALK) ACTIVATION OF ONE SHALL ACTIVATE THE OTHER(S) IN THE SET/SYSTEM.

7. POLE PENETRATING MOUNTING DEVICES (RELATING TO LIGHTS, SIGNS, CABINETS, CONDUITS, CLAMPS, BUTTONS, ETC.) SHALL NOT SIGNIFICANTLY DEGRADE THE INTEGRITY OF THE SIGNAL POLE.

8. THE POLE-MOUNTED RADIO NETWORK CONTROLLER CABINET SHALL NOT INTRUDE INTO THE SIDEWALK AREA OR OBSTRUCT THE PEDESTRIAN PUSHBUTTON. THE CABINET SHALL BE MOUNTED ON THE SIDE OF THE POLE AWAY FROM APPROACHING TRAFFIC AT A HEIGHT BETWEEN 3.5-4.5 FROM THE BOTTOM OF THE CABINET TO THE FINISHED GROUND SURFACE. IN UNPAVED AREAS A CONCRETE WORK PAD SHALL BE CONSTRUCTED IN FRONT OF THE CABINET DOOR (AOBE) NOT TO EXCEED 5'X5'X4" DEEP AND SHALL ABUT AND BE FLUSH WITH THE POLE FOUNDATION. THE CABINET SHALL BE OF SUFFICIENT SIZE TO HOUSE ALL REQUIRED EQUIPMENT.

9. ELECTRICAL SERVICE MAY ALSO BE PROVIDED UNDERGROUND AND ENTER THROUGH THE BASE AS SPECIFIED ON THE PLANS. WHERE ELECTRICAL SERVICE IS PROVIDED OVERHEAD, THE POLE HEIGHT SHALL BE AS NECESSARY TO ACHIEVE MINIMUM SERVICE CABLE CLEARANCES AND/OR AVOID CONFLICTS. SEE DETAILS ON SHEET 1 & 2 FOR ADDITIONAL REQUIRMENTS.

10. SEE NOTES 3.6 & 3.7 ON STANDARD SHEET 680-04 FOR ADDITIONAL GROUNDING REQUIREMENTS.

11. THIS ASSEMBLY SHALL INCLUDE A GALVINIZED STEEL POLE WITH AN APPROVED BREAKAWAY TRANSFORMER BASE AND CONCRETE FOUNDATION MEETING ALL THE MATERIAL REQUIREMENTS OF STANDARD SPECIFICATION SECTION 680-2 AND BE SUITABLE TO HANDLE THE STATIC & DYNAMIC LOADING OF THE ASSEMBLY AS PER MANUFACTURER REQUIREMENTS. FOR FOUNDATION REINFORCEMENT, SEE STANDARD SHEET FOR TRAFFIC SIGNAL POLE FOUNDATIONS, CODE J-2.

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NEW YORK STATE OF OPPORTUNITY. Department of Transportation

ITEM 680.8225XY10- RECTANGULAR RAPID FLASHING BEACON (RRFB) ASSEMBLY

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Appendix 7 – June 9, 2021 Town Board Public Hearing slide deck

CDTC/CDRPC Technical Assistance Program

East Greenbush – Gilligan Road
Complete Streets Enhancements Feasibility Study Support

Town Board

June 9th, 2021

Gilligan Road Complete Streets Enhancements

Study Development Process

- Complete Streets Workshop (Sept. 2018)
- CDTC and CDRPC Existing Conditions Assessment and preliminary recommendations (Dec. 2020)
- Stakeholder meetings (Dec. 2020 & Feb 2021)
- Town's designated engineer (ongoing)
  - Refined alignments
  - Crossing recommendations
- Draft Feasibility Study (April 2021)
- Public Hearing (June 2021)

Gilligan Road Complete Streets Enhancements

Background

CDTC/CDRPC Community Planning Technical Assistance Program

- Small-scale planning studies to prepare future projects
- Eligible project types include:
  - Comprehensive/Neighborhood Planning
  - Community Design Assessment
  - General Community Planning
  - Land Use Plan Implementation
  - Data Collection
  - Data Analysis and Mapping
  - Recreation Trail Planning
  - Transportation Safety and Operations Planning
  - Zoning and Site Planning

www.cdtcmpo.org/what-we-do/technical-assistance

Gilligan Road Complete Streets Enhancements

Scope of Work: CDTC/CDRPC

- **Literature Review** – review of prior planning efforts
- **Existing Conditions Assessment** – including:
  - Vehicle movement
  - Pavement condition
  - Intersection geometry
  - Bike/ped facilities
  - Safety assessment
- **Identification of potential alignments**
- **Complete Streets and Neighborhood Connections Concepts**

Scope of Work: TDE

- **Refined conceptual alignment design**
- **Road crossing designs**
- **Stakeholder engagement support**

Scope of Work: PZD

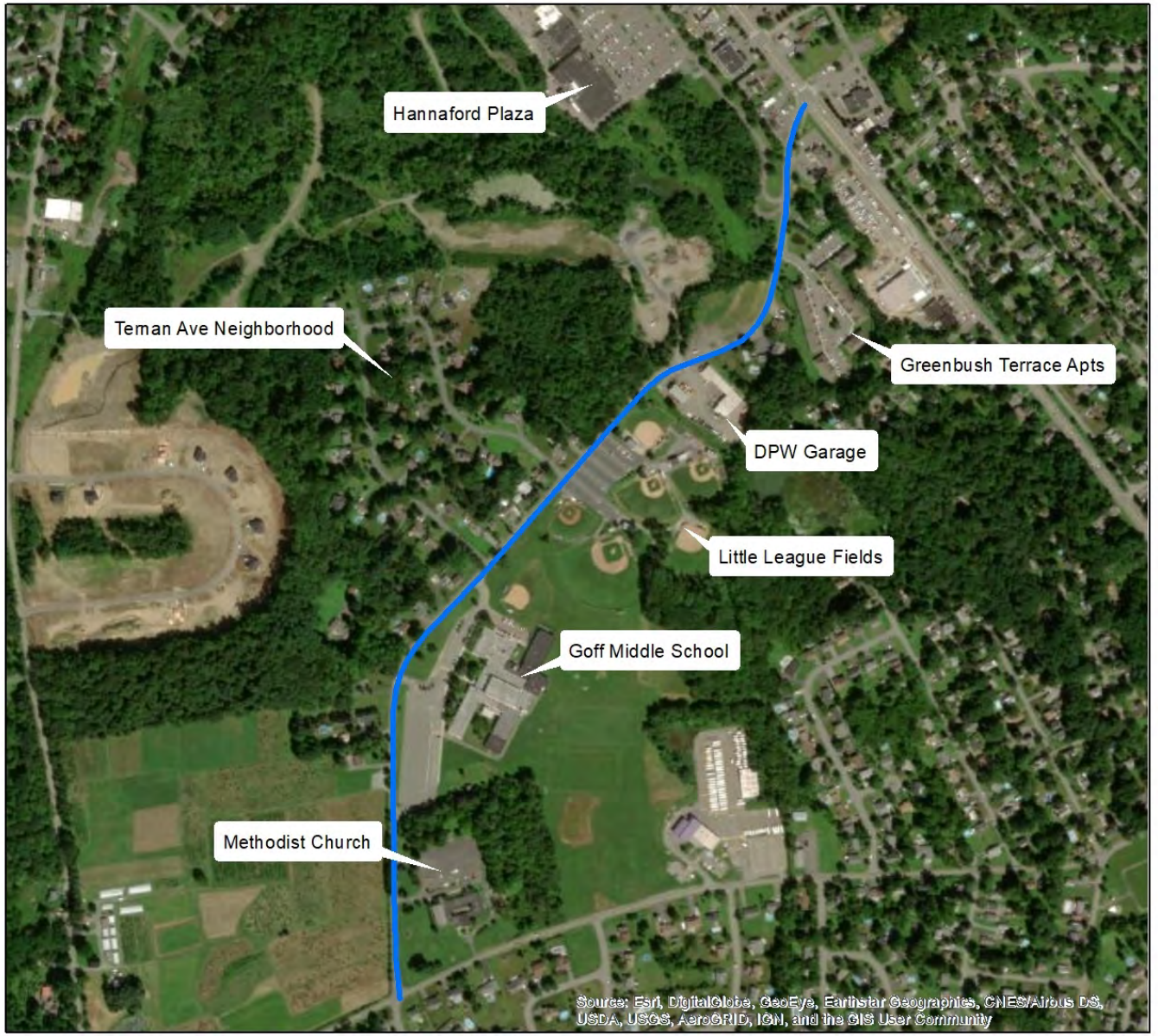
- **Project management**
- **Write feasibility study**

Study Area Overview:

- 4600 ft long (0.87 mile) local roadway
- US-9 & 20 (“Columbia Turnpike”) at northern terminus
- Hays Road at southern terminus

Gillilgan Road - Study Area

Gilligan Road Complete Streets Enhancements Feasibility Study Support



Gilligan Road Complete Streets Enhancements

Prior planning efforts:

- East Greenbush Traffic Safety Committee Meeting (2005)
  - Examined issues relating to Gilligan Rd, including speed limits and school zones, following 2004 student-involved crash
- Town of East Greenbush: Land Use Plan and Zoning Study (2006)
  - Plan notes Gilligan Road area being converted to residential land use; notes 9 & 20 as intersection of safety concern
- Town of East Greenbush Amenities Plan (2017)
  - Recommended action: create a sidewalk linking Goff Middle School to Columbia Turnpike and the Albany-Hudson Electric Trail
- Town of East Greenbush Complete Streets Policy (2019)
  - "…"to recognize bicyclists and pedestrians as equally important as motorists in the planning and design of all new street construction and street reconstruction undertaken by the Town".

Gilligan Road Complete Streets Enhancements

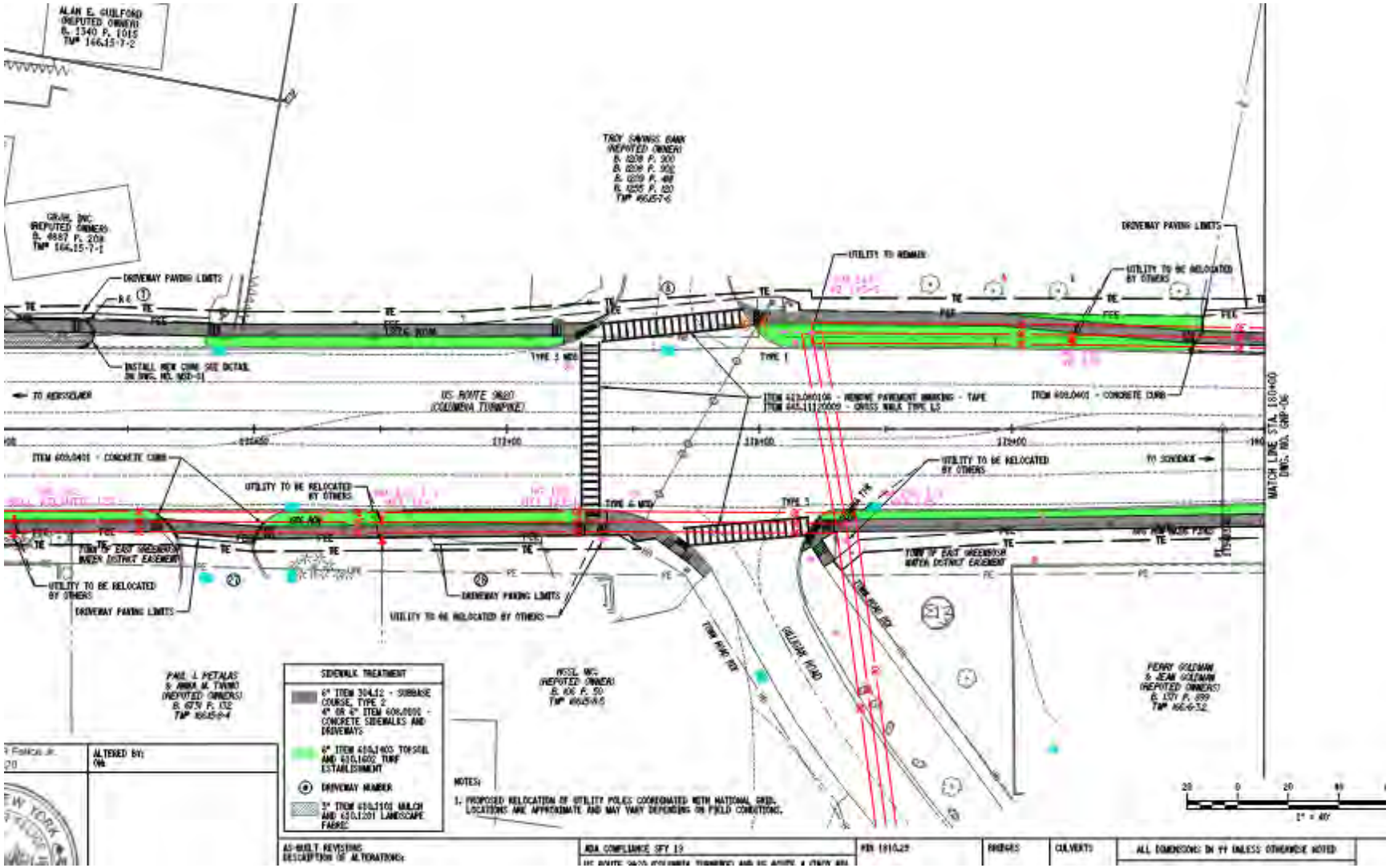
Prior planning efforts:

- Town of East Greenbush Complete Streets Implementation Workshop (2018)
  - Concept: 10-foot sidepath
  - Crosswalks at Ternan Ave.
  - Attendees noted that bike/ped improvements "are desperately needed" along Gilligan Road
  - Attendees noted student safety as a concern

Gilligan Road Complete Streets Enhancements

Ongoing projects:

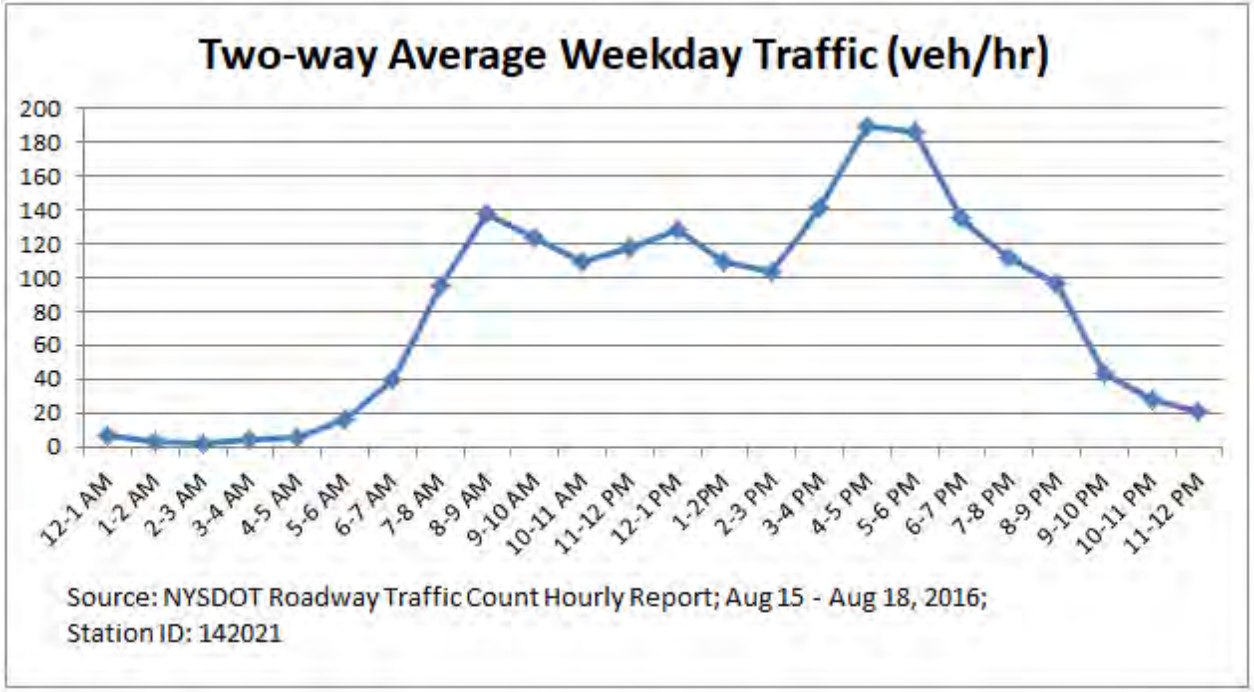
- TIP Project: ADA Compliance on NY 4 and NY 9/20 (2019-2024)
    - ADA and crosswalk improvements

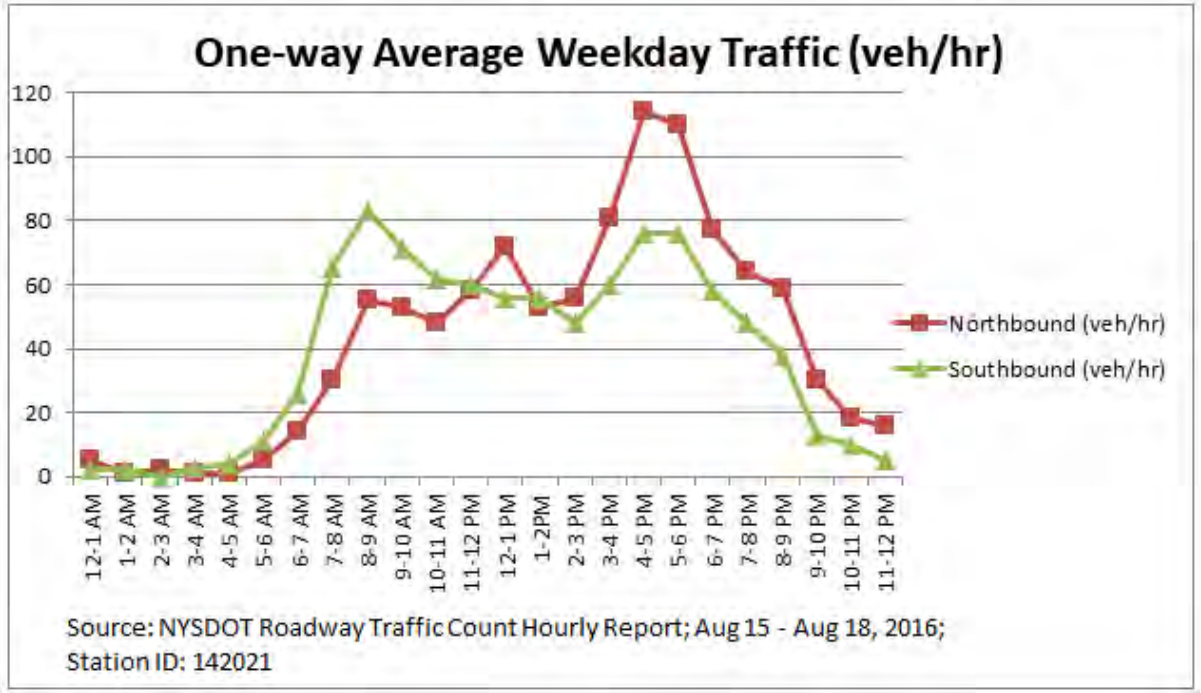


Gilligan Road Complete Streets Enhancements

Existing Conditions:

- <u>Vehicle movement</u>
  - NYSDOT Traffic Data Viewer (2016): 1,899 veh/day





Gillilgan Road - Trip Generators

Gilligan Road Complete Streets Enhancements Feasibility Study Support

Gilligan Road Complete Streets Enhancements

Safety:

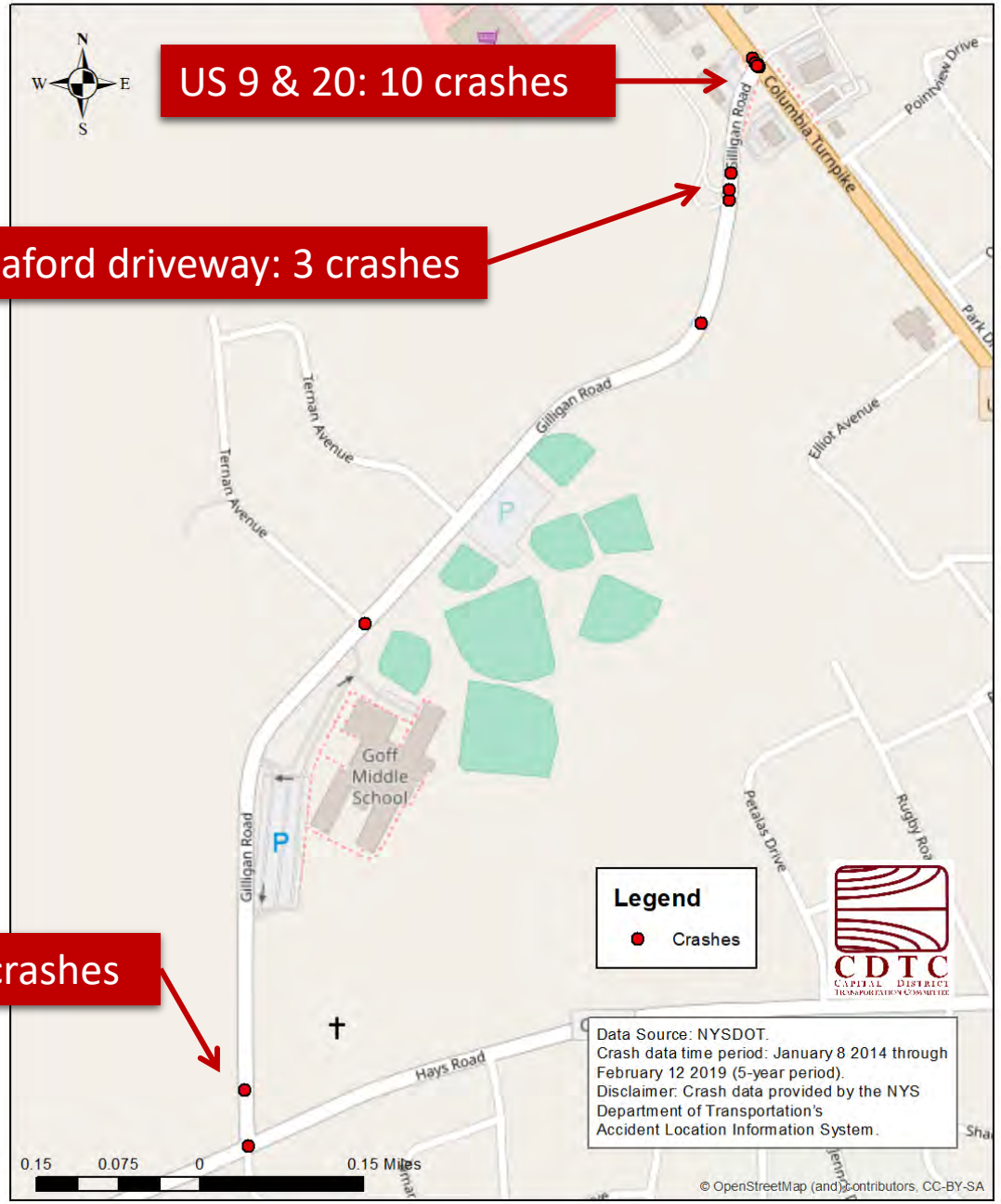
- <u>Crash analysis</u>
  - Crash data was pulled for a 5-year period from 2014 to 2019 using the NYSDOT Accident Location Information System.
  - 19 crashes reported:
    - 10 crashes occurred at the intersection with Columbia Turnpike (US-9 & 20)
    - 3 crashes occurred in the vicinity of the Hannaford Plaza driveways
    - 1 crash occurred on the horizontal curve south of Greenbush Terrace
    - 1 crash occurred at the southern intersection of Gilligan and Ternan
    - 4 crashes occurred in the vicinity of Hays Road
  - 15 crashes between motor vehicles; 3 crashes with deer; 1 with snow embankment
  - **October 26, 2004**: student crossing Gilligan Road was struck by a vehicle near the southern intersection with Ternan Ave and Goff Middle School; student was injured

Crash Locations - Gilligan Road, East Greenbush

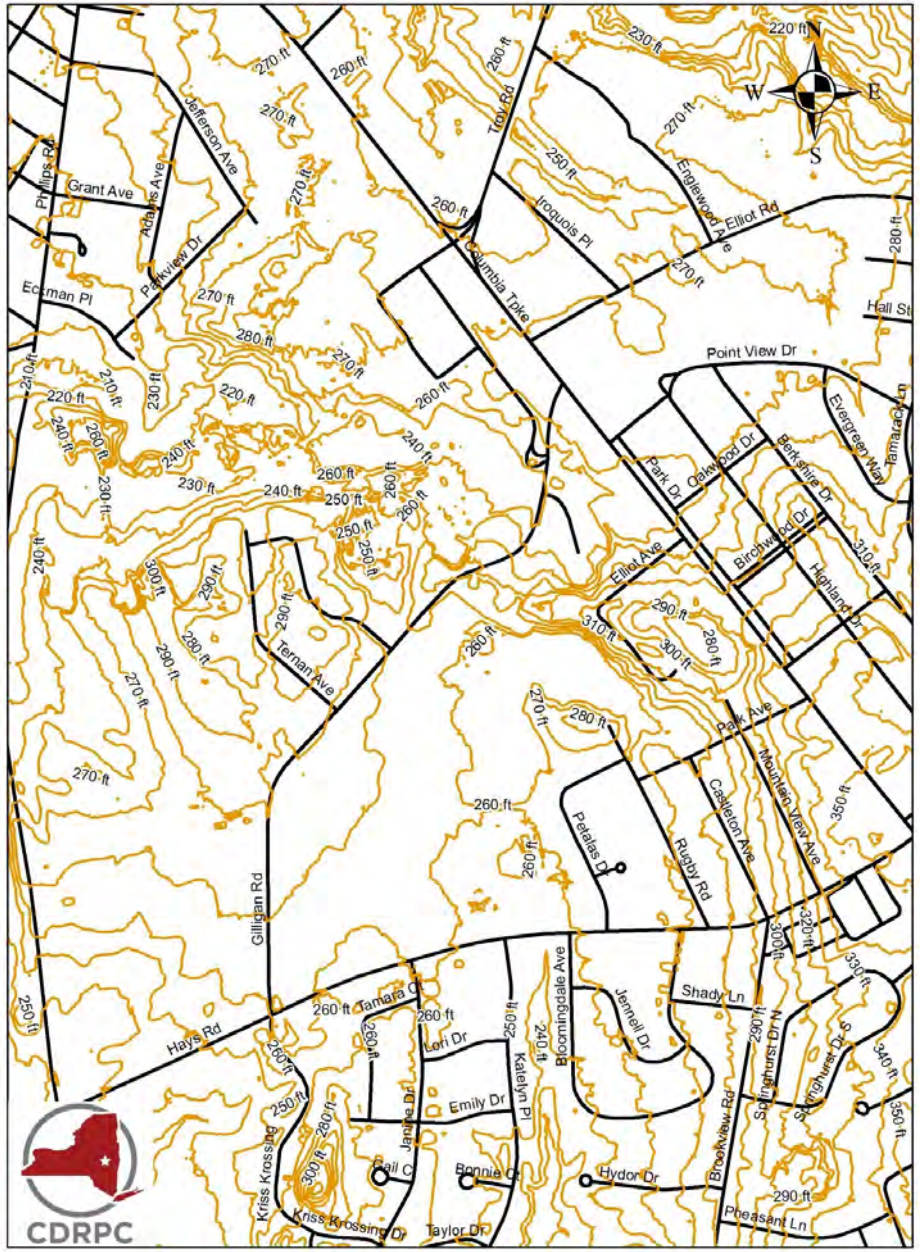
US 9 & 20: 10 crashes

Hannaford driveway: 3 crashes

Near Hayes: 4 crashes



Gilligan Road 10ft Contours



Gilligan Road Complete Streets Enhancements

Goals and Objectives

Goal 1 Complete streets enhancements should be made to address multi-modal safety, mobility, and accessibility along the Gilligan Road corridor.

- Objective 1.1 – construct a separate facility for non-motorized users
- Objective 1.2: Install crossings

Goal 2 Any complete streets facility designs and projects should minimize potential impacts to existing land uses and activities along the Gilligan Road corridor.

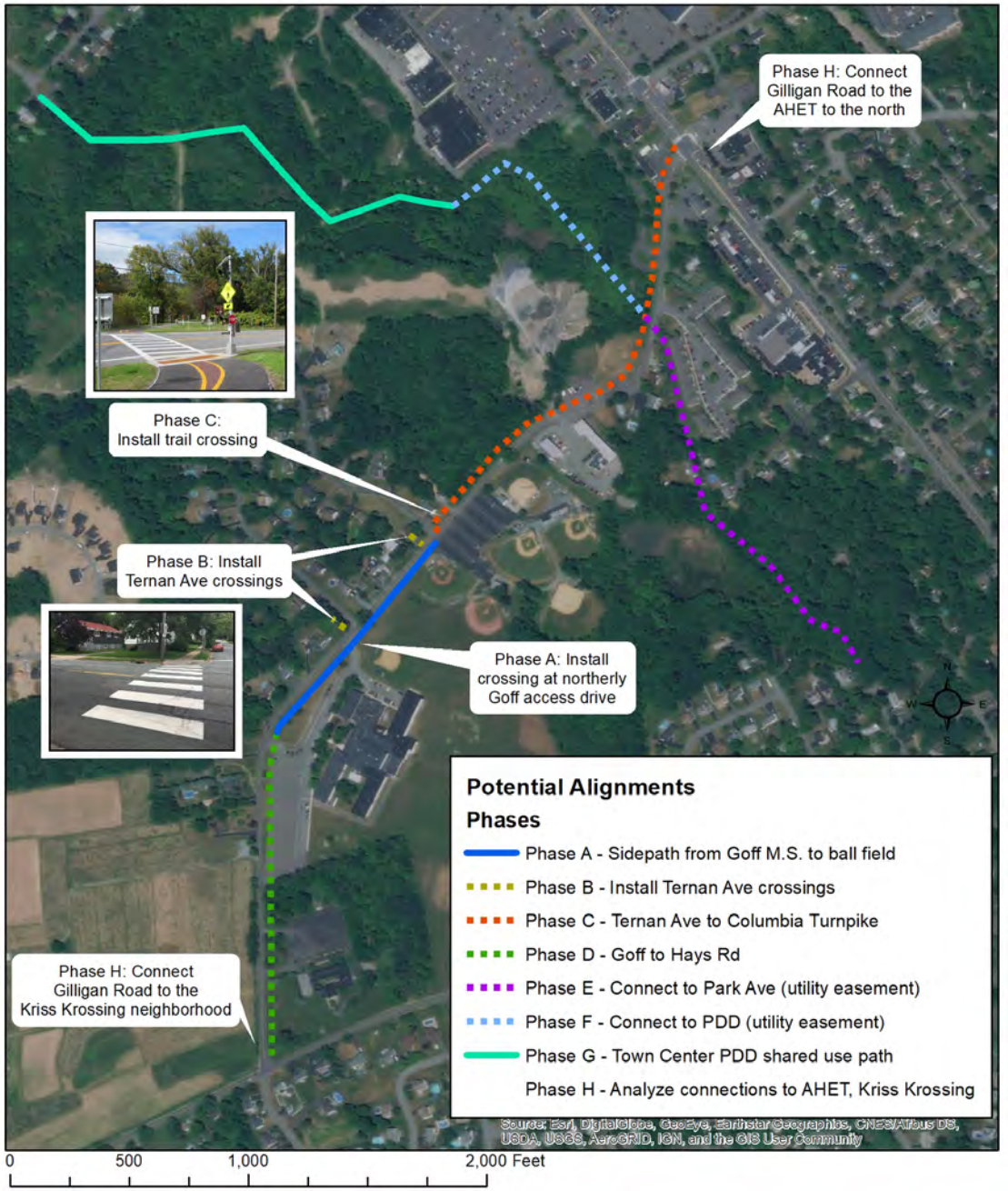
- Objective 2.1: parking at the little league ball fields and Goff Middle School safety

Goal 3 The Gilligan Road corridor should be connected to adjacent neighbor-hoods and Columbia Turnpike and the Albany Hudson Electric Trail (AHET).

- Objective 3.1: Park South neighborhood, Town Center mixed use development
- Objective 3.2: Columbia Turnpike/AHET; Hannaford plaza at 592 Columbia Turnpike access drive

Gilligan Road - Potential Trail Alignments

Gilligan Road Complete Streets Enhancements Feasibility Study Support

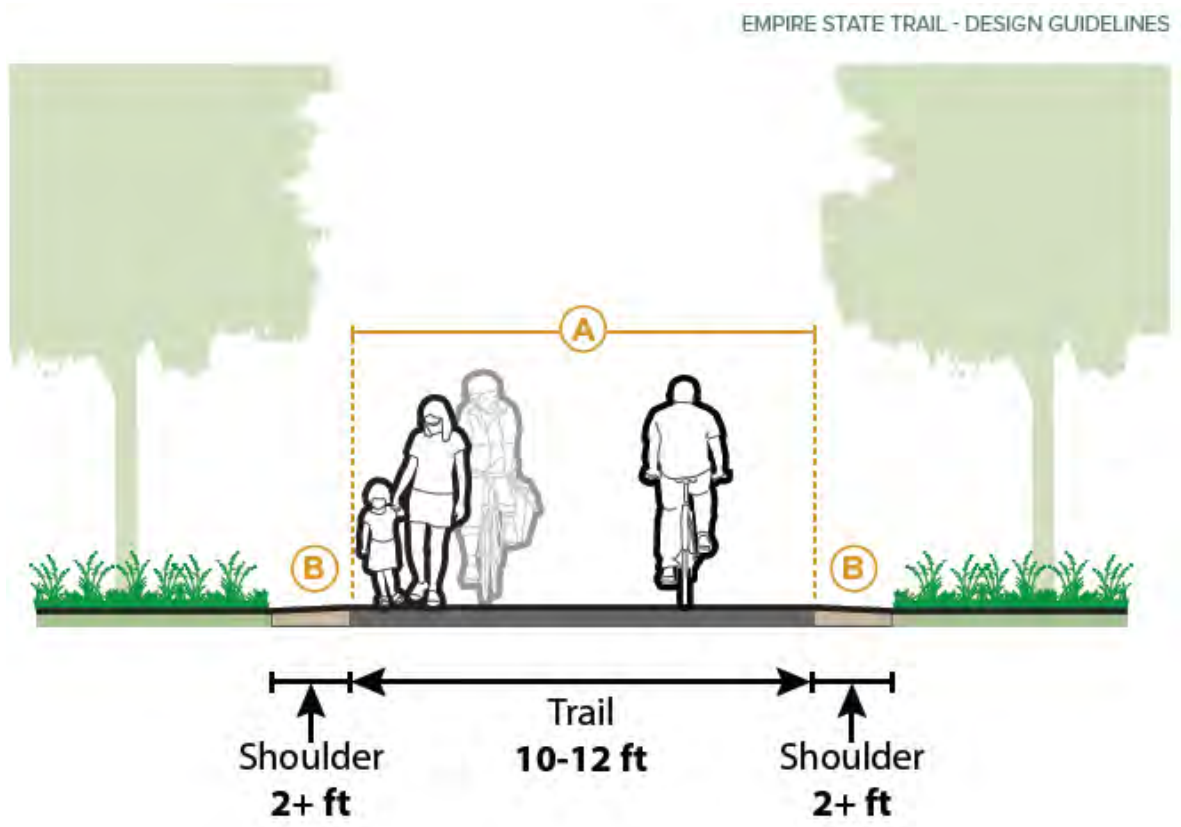


Gilligan Road Complete Streets Enhancements

Complete Streets and Neighborhood Connections Concepts

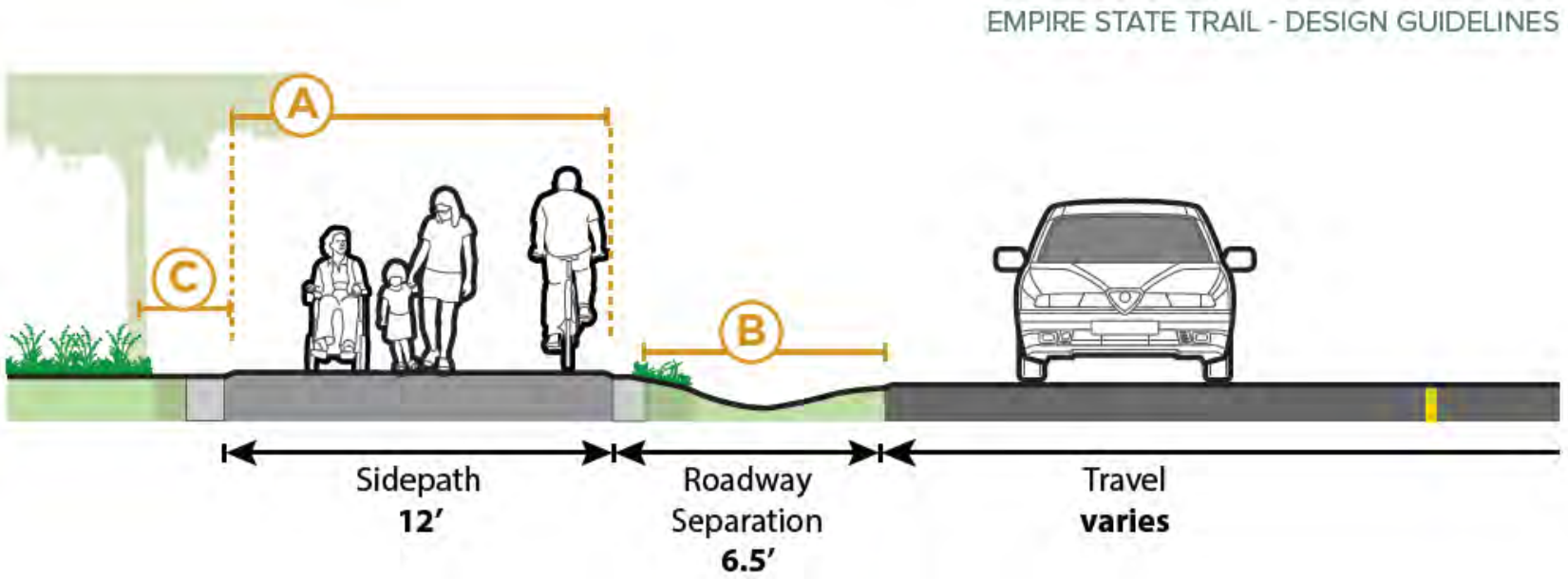
- Separated shared-use sidepaths:
  - Bicycles and pedestrians
  - Separate from motorized traffic

- Sidepath Design:
  - Standard width: 12 feet
  - Shoulders: 2+ feet
  - Grade: less than 5% recommended



Source: Empire State Trail Design Guide, p. 5-14

Gilligan Road Complete Streets Enhancements



Source: Empire State Trail Design Guide, p. 5-14

- In constrained conditions: sidepath may be accommodated at roadway grade with the use of a marked buffer area or physical barrier

Gilligan Road Complete Streets Enhancements

Complete Streets and Neighborhood Connections Concepts

- <u>Sidepath trail crossing:</u>
  - Per FHWA STEP (Safe Transportation for Every Pedestrian):
  - **High-visibility crosswalk markings**
  - **In-street signage**
  - **Advance yield or stop sign and markings**
  - **Improved nighttime lighting**
  - **Rectangular Rapid Flashing Beacons (RRFB)** or **Pedestrian Hybrid Beacon (PHB)**

Source: FHWA STEP

Gilligan Road Complete Streets Enhancements

Local example: Mohawk Hudson Bike Trail crossing

Gilligan Road Complete Streets Enhancements

Local example: Mohawk Hudson Bike Trail @ Aqueduct Road (featuring RRFBs):

Gilligan Road Complete Streets Enhancements

Local example: Railroad Run Trail crossing @ NY-50 (featuring full signal):

Gilligan Road Complete Streets Enhancements

Local examples: New AHET crossings in East Greenbush

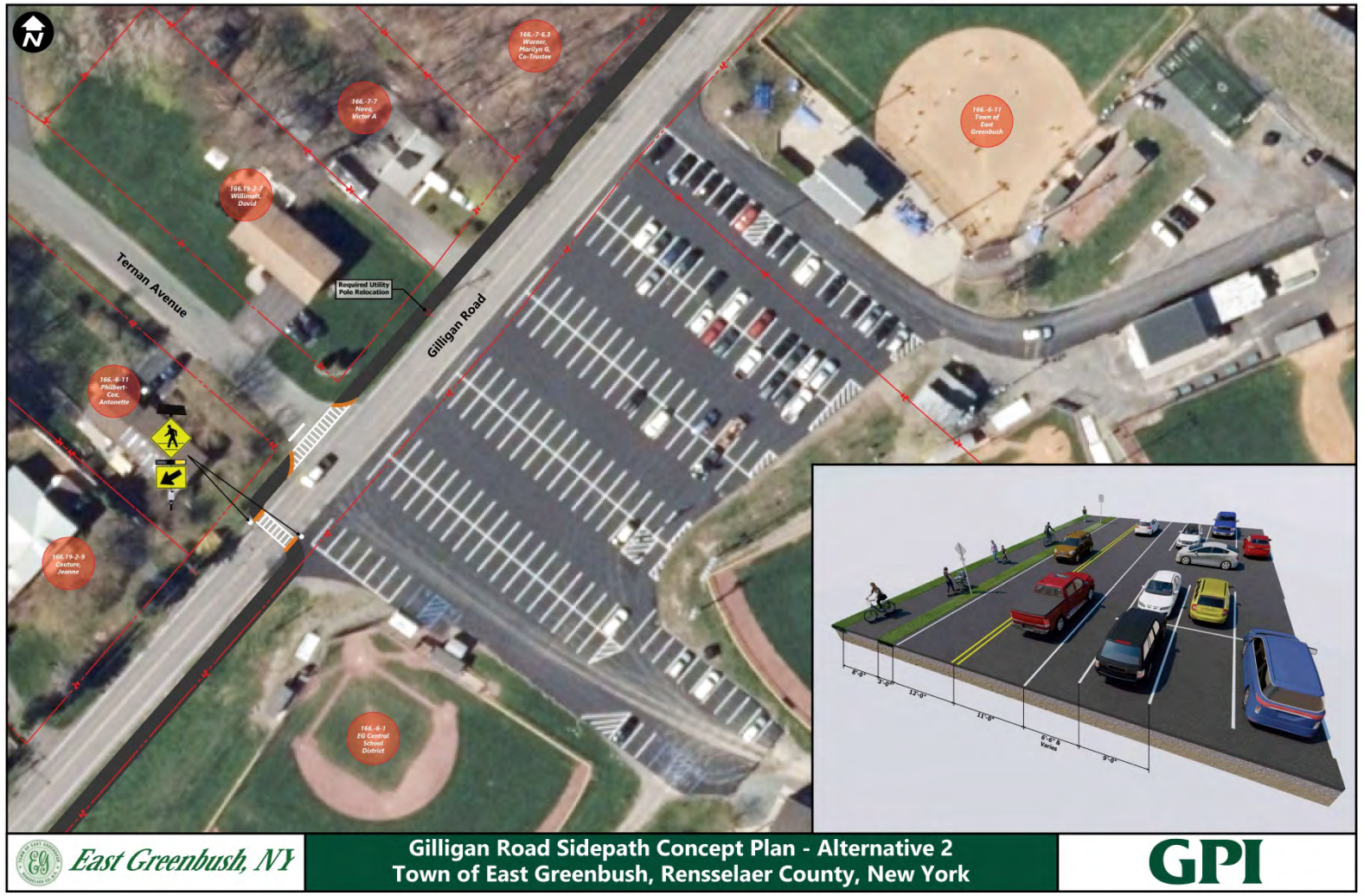
- RRFBs at Elliot Road

- Signalized crossing at Troy Road

Gilligan Road Complete Streets Enhancements

Sidepath alignment from ball fields to Goff Middle School (Phase A)

Gilligan Road and Ternan Ave crossings (Phase B)



Gilligan Road Complete Streets Enhancements

Sidepath alignment from ball fields to Goff Middle School (Phase A)

Gilligan Road and Ternan Ave crossings (Phase B)

Gilligan Road Complete Streets Enhancements

Short Term Next Steps:

- Town reps to meet with EGCSD facilities committee
- Engineering final design of Ternan Ave crossing treatments
- Town Board considers adoption of the Study

Implementation Plan:

Action Item	Description	Timeline/ Considerations	Lead Agency	Partner(s)
1.1	Design and construct Phase A	Anticipated construction start 2023	EGCSD	TOEG, East Greenbush Castleton Youth Baseball, East Greenbush Girls Softball League
1.2	Construct Phase B	Dependent on AI #1.0/Phase A	TOEG	EGCSD
2.0	Identify and pursue funding sources for final design and construction of Phases C-F	Ongoing	TOEG	-
3.0	Coordinate with Town Center PDD development with respect to final design and construction of Phase G	Ongoing	TOEG	Town Center PDD Developer, Owner of Hannaford Shopping Plaza (598 Columbia Turnpike)
4.0	Include Study recommendations in the update of the Western East Greenbush Generic Environmental Impact Statement (GEIS)	2022	TOEG	-
5.0	Analyze and plan for potential to enhance connections to the north and south (Phase H)	Can start immediately/ ongoing depending on resources	TOEG	NYSDOT, Rensselaer County Highway Department

Thank You!

Andrew Tracy

Senior Transportation Engineer

atracy@cdtcmpo.org

Adam Yagelski

Director of Planning and Zoning

ayagelski@eastgreenbush.org | 518-694-4011

Appendix 8 – East Greenbush Central School District Budget Review and Advisory Committee meeting materials

Meeting Minutes

Project: Gilligan Road Complete Streets Study

Date: June 23rd, 2021 8:00 AM to 9:00 AM

Location: Genet Elementary School, District Board of Education Conference Room

A bulleted summary of the meeting regarding the topic of the Gilligan Road Complete Streets Study is as follows:

Previous Project Meetings:
- December 11th, 2020 Stakeholder Meeting.

Current School Improvement Project Status:
- 2017 bond project
- Phases 2 & 3 are to start this summer with Phase 2 being completed this year and Phase 3 being completed next summer.
- Next building condition survey is in 2022.
    - These surveys consist of the architect making determinations of the building conditions and making recommendations based upon the findings.

Gilligan Road Complete Streets Study Status
- CDTC & CDRPC developed a draft complete streets study for the Gilligan Road corridor.
    - GPI was brought on for technical assistance.
- The Town of East Greenbush held a public hearing on the study earlier in June.
- The Town of East Greenbush will attempt to adopt the study in the fall of 2021.

Potential Project Elements and Impacts:
- Connection to the Albany Hudson Electric Trail/Empire State Trail at US 9/20.
- Enhanced crossings for pedestrians and bicyclists at the Ternan Avenue and Gilligan crossings.
    - Raised crosswalks and RRFB's (Rectangular Rapid Flashing Beacon).
- Potential reconfiguration of the baseball field parking lot.
    - Any reconfiguration will result in the loss of parking.
    - If the sidepath runs on the west side of Gilligan Road, there would be no need to reconfigure the parking lot.

School Sidepath Concept Alternative 1 Summary:
- 10' Wide asphalt multi-use trail.
- Tie into the main crosswalk at the school frontage.
- Reduce the crossing width at the northern driveway where the buses outlet onto Gilligan Road.
- Add additional parking at the northern driveway.

School Sidepath Concept Alternative 2 Summary:
- Addition of 11 parking spots in the additional proposed parking lot parallel to Gilligan Road.
- Reduce the crossing width at the northern driveway where the buses outlet onto Gilligan Road.

School Sidepath Concept Alternative 3 Summary:

- Hybrid of alternatives 1 and 2 with both the additional parking spaces at the northern driveway and separate parking lot north of the existing school parking lot.

Feedback:

- EGCSD though the original plan was to continue the sidepath along Gilligan Road in front of the School down to Hays Road.
    - The first phase of the potential project would be on the EGCSD property. Additional phases would extend the sidepath to US 9/20 and to Hays Road.
- Remove the proposed parking spaces at the northern driveway as it will interfere with school bus movements.
- Carry the sidepath for the first phase to the southern limits of the EGCSD property.
- The sidepath connection to the baseball fields is important, especially for overflow parking at middle school for baseball/softball tournaments.
- How would the crossing at near the schools northern driveway and Ternan Avenue intersection during school day start/end?
    - The use of the RRFB could be restricted during that time.
    - Sign the trail so trail users would yield to buses.
    - Crossing Guards.

Next Steps:

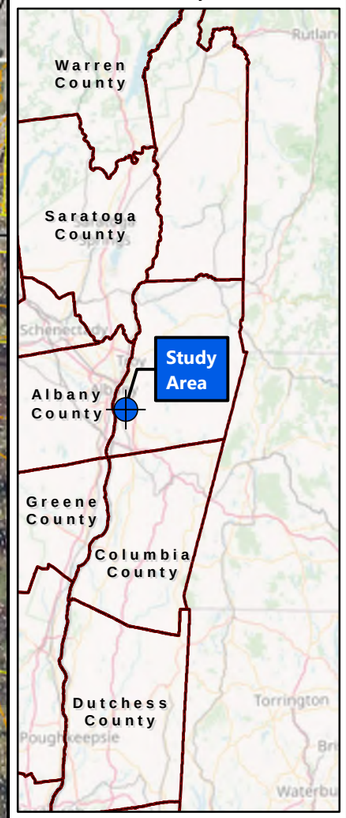
- GPI to receive the drawings of the in-progress school improvement project.
    - GPI to develop updated sidepath location plan based upon the school improvement project.

Gilligan Road Sidepath & Complete Streets Study
Town of East Greenbush
Rensselaer County

Existing Topography

Legend

- 2 ft Contour
- 10 ft Contour
- Approximate Parcel Boundary



0 50 100 200 Feet

GPI

Produced For Planning Purposes Only.
Data provided by NYS GIS Clearinghouse & Other Third Parties.

Issuance Date: 6/22/2021

166.19-3-1
Stachelski,
Tara B

166.19-2-16
Buonocore,
Daniel J

166.19-2-15
Jeannin,
James V

166.-6-11
Wolf,
Bethany S

Ternan Avenue

166.19-2-12
Stuto,
Bruce

166.19-2-11
Boomhower
Danielle M

166.19-2-10
Malone,
Joan

166.19-2-9
Couture,
Jeanne

166.19-2-8
Philbert-Cox,
Antonette

Ternan Avenue

Gilligan Road

166.-6-1
East
Greenbush
Central
School

East Greenbush, NY

Gilligan Road Middle School Sidepath Concept Plan - Alternative 1
Town of East Greenbush, Rensselaer County, New York

GPI

East Greenbush, NY

Gilligan Road Middle School Sidepath Concept Plan - Alternative 2
Town of East Greenbush, Rensselaer County, New York

GPI

East Greenbush, NY

Gilligan Road Middle School Sidepath Concept Plan - Alternative 3
Town of East Greenbush, Rensselaer County, New York

GPI

Meeting Minutes

Project: Gilligan Road Complete Streets Study

Date: September 20th, 2021 7:00 PM to 9:00 PM

Location: BRAC Meeting, Columbia High School Cafeteria, 962 Luther Rd, East Greenbush, NY 12061

A bulleted summary of a portion of the BRAC meeting regarding the topic of the Gilligan Road Complete Streets Study is as follows:

Previous Project Meetings:

- December 11th, 2020 Stakeholder Meeting.
- June 23rd, 2021 Meeting with East Greenbush CSD regarding the in-progress improvement project at the Howard L Goff Middle School.

Project Objectives:

- Create Traffic Calming and Enhanced Crossings will allow for safe crossings throughout the Gilligan Road corridor.
- Create a safe pedestrian/bicycle connection between Columbia Turnpike, the ballfields, the Goff Middle School, and the Albany-Hudson Electric Trail.
- Provide new opportunities for outdoor recreation supporting improved health and well-being.

Potential Project Elements and Impacts:

- Loss of 5 to 6 spaces at the southern driveway of the Middle School parking lot to construct a 10' wide shared use path with a required 5' minimum offset from the edge of Gilligan Road.
- Potential removal of the cottonwood tree on school property across from the southern Ternan Avenue intersection with Gilligan Road.
- Modifications to the baseball field parking lot are to be avoided by having the trail on the westside of Gilligan Road. Concepts for parking lot reconfigurations with the trail on the eastside of Gilligan Road were developed.
- Radar feedback signs at the southern and northern ends of the school district property may help reduce motorist speeds within the corridor.
- The potential RRFB's (Rectangular Rapid Flashing Beacon) at the enhanced crossings would be solar powered.

Potential Connections:

- Existing sewer easement to the east and west.
- Albany Hudson Electric Trail/Empire State Trail at US 9/20.
- Proposed Town Center (20,000 SF of commercial buildings)

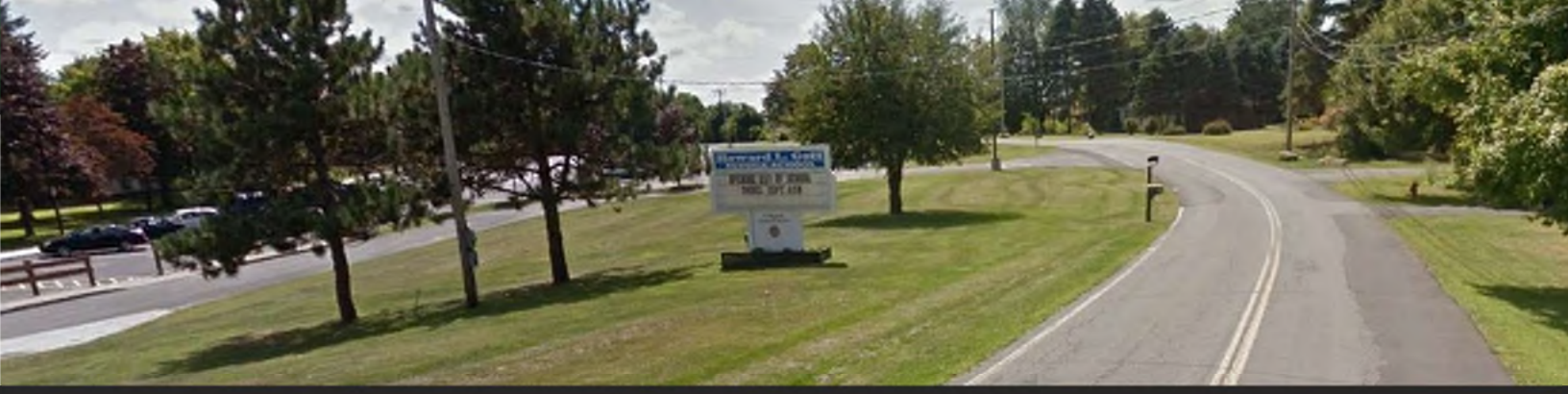
Questions/Concerns/Feedback:

- Wooded area to the west of the baseball fields has no lighting and if a trail is constructed in that location, it may create an unsafe environment for trail users with the limited lighting.
    - Potential solutions include:
        - Installing pedestrian lights along the trail
        - Install retaining wall between the trail and the woods.

        - Install cobra head lights to the existing utility poles in this area.
    - GPI to investigate the existing lighting in this area and other potential solutions for the limited lighting.
- The Town of East Greenbush would maintain the trail and be in charge of snow removal.
- Construction of the sidewalk connections on either end of the middle school parking lot may interfere with snow storage.
    - The sidewalk is proposed to be flush with the parking lot to allow for snow removal/storage.
    - Future discussions and planning for snow storage for the school will be required.

<u>Potential Future Funding Opportunities:</u>

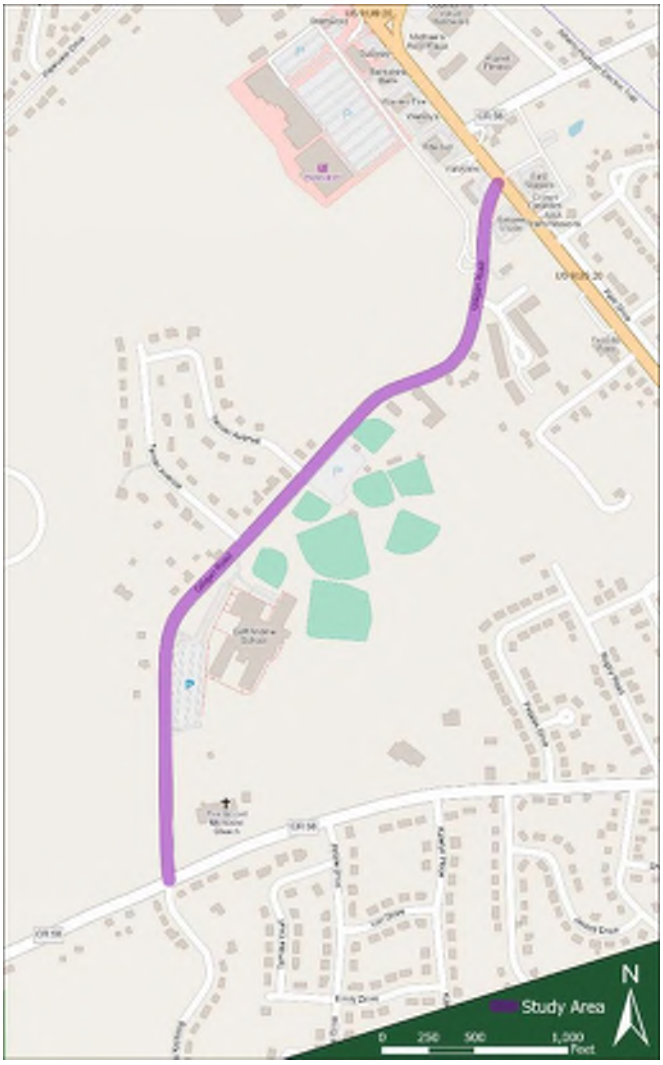
- Safe Routes to School
    - Currently proposing the first phase of the project would be on the EGCSD property.
        - Approximately 4,600 linear feet.
- TIP (Transportation Improvement Program) Funding, a federal-aid program.
    - Gilligan Road was last paved in 2018.
    - The Hannaford driveways would be realigned to improve safety for trail users and motorists.
- The match for the project will depend on the funding type/source.
- Gilligan Road is a federally aid eligible roadway.
- For funding assistance from the EGCSD, the improvements would either need to be educationally needed or making the school safer.



Gilligan Road Complete Streets Enhancements Feasibility Study

Gilligan Road Corridor

The Gilligan Road corridor stretches approximately 4,600 linear feet from Hays Road to the south and US-9 & 20 to the north. This local roadway is owned and maintained by the Town of East Greenbush. With Goff Middle School being in the middle of the corridor, the posted speed limit is 25 MPH for the length of the roadway. Within the study area is the Goff Middle School, the Little League and Softball fields, the United Methodist Church, Greenbush Terrace Senior Apartments, the Ternan Avenue neighborhood. The Albany-Hudson Electric Trail, completed in 2020, intersects the Gilligan Road corridor at its northern terminus at the Columbia Turnpike intersection.



Project Development Benefits

The implementation of complete streets within the Gilligan Road corridor would bring several benefits to the surrounding community including:

- ***Traffic Calming and Enhanced Crossings will allow for safe crossings throughout the Gilligan Road corridor.***
- ***Create a pedestrian/bicycle connection between Columbia Turnpike, the ballfields, the Goff Middle School, and the Albany-Hudson Electric Trail.***
- ***Provides new opportunities for outdoor recreation supporting improved health and well-being.***

Town of East Greenbush, Rensselaer Co., N.Y.

CDTC Capital District Transportation Committee

Capital District Regional Planning Commission

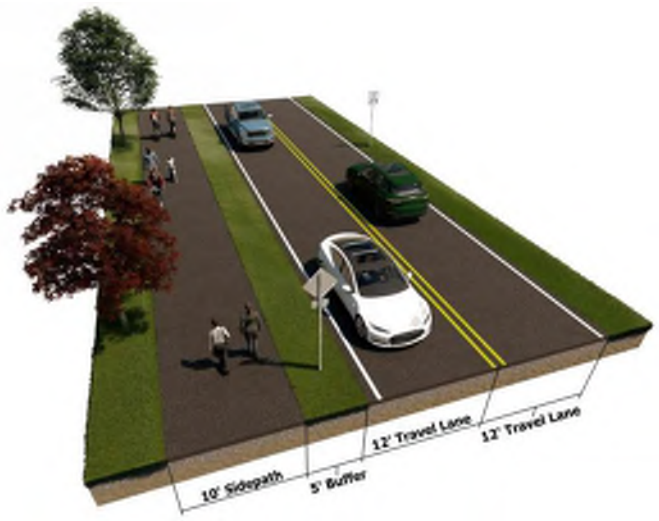
GPI

Study Objectives

As discussed in the Capital District Transportation Committee (CDTC)/ Capital District Regional Planning Commission (CDRPC) Gilligan Road Complete Streets Enhancements Feasibility Study, the need for pedestrian safety improvements within the corridor are warranted with past incidents between motorists and pedestrians/bicyclists. The main objective of this study is to investigate ways to create a safe environment for pedestrian, bicyclists, and motorists to access the several amenities within and adjacent to the Gilligan Road corridor. Other objectives of the study include:

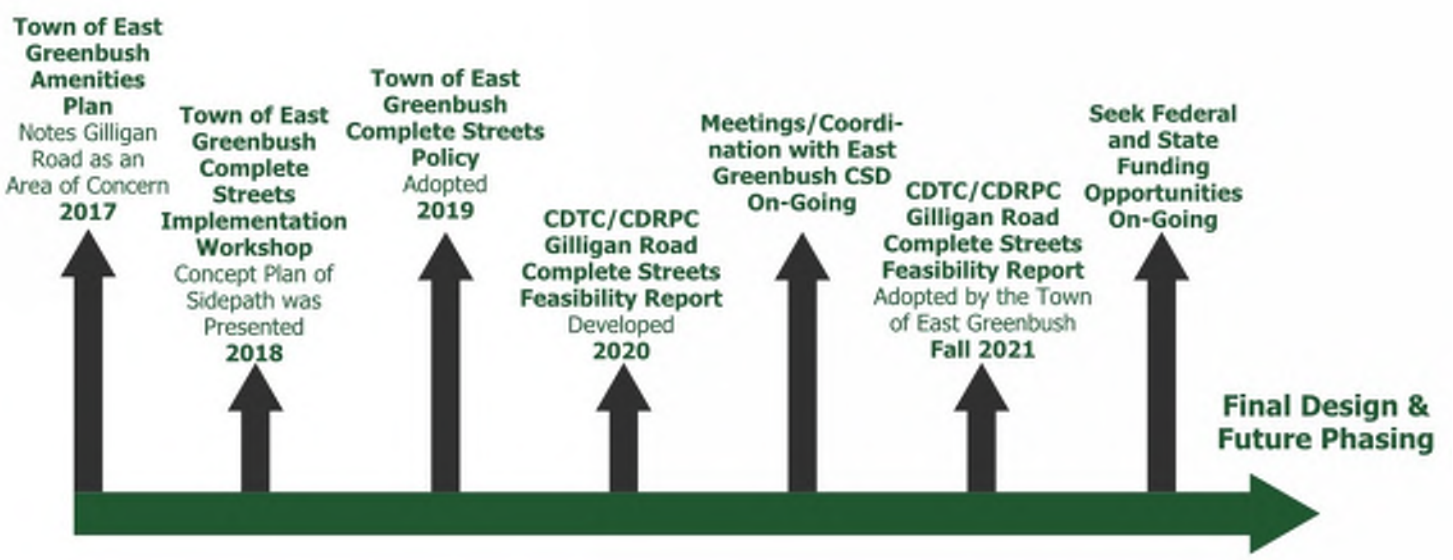
- Obtain additional public feedback regarding the corridor and the potential changes they would like to see.
- Coordinate with the East Greenbush Central School District.
- Utilize the study as a basis for future funding opportunities.

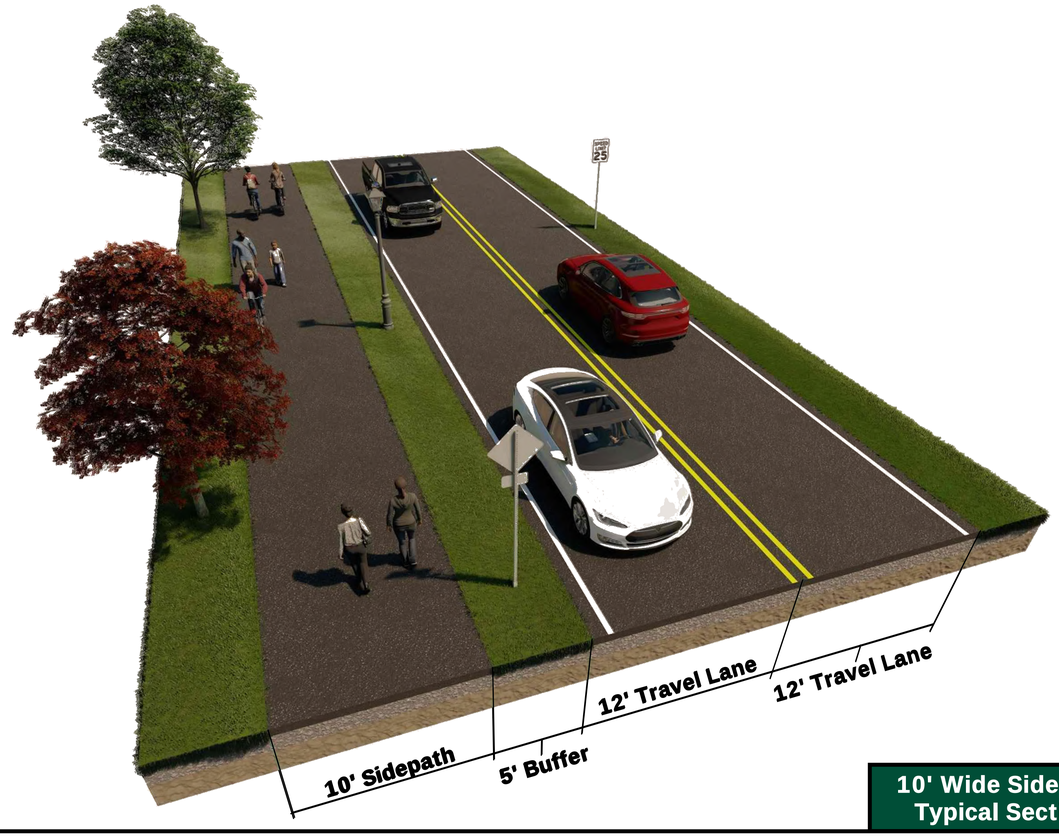
To view the additional information on Gilligan Road and other Complete Streets initiatives please Visit the Town of East Greenbush Side at:
https://www.eastgreenbush.org/departments/planning-zoning/complete-streets



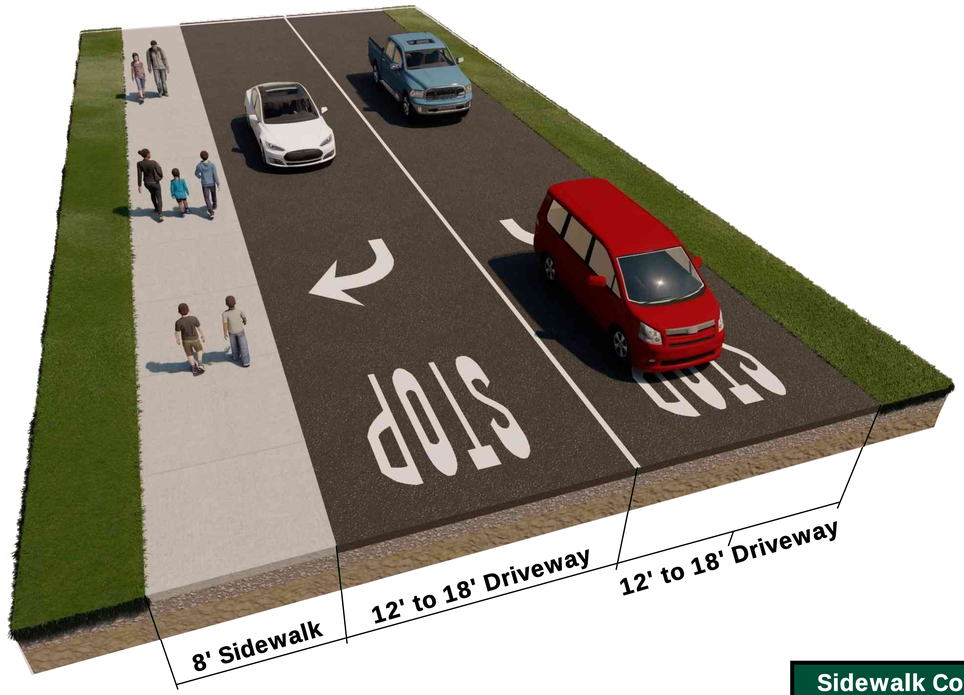
Potential Sidepath Typical Section

Example of Sidepath Paralleling School
Geyser Road Trail, Saratoga, NY

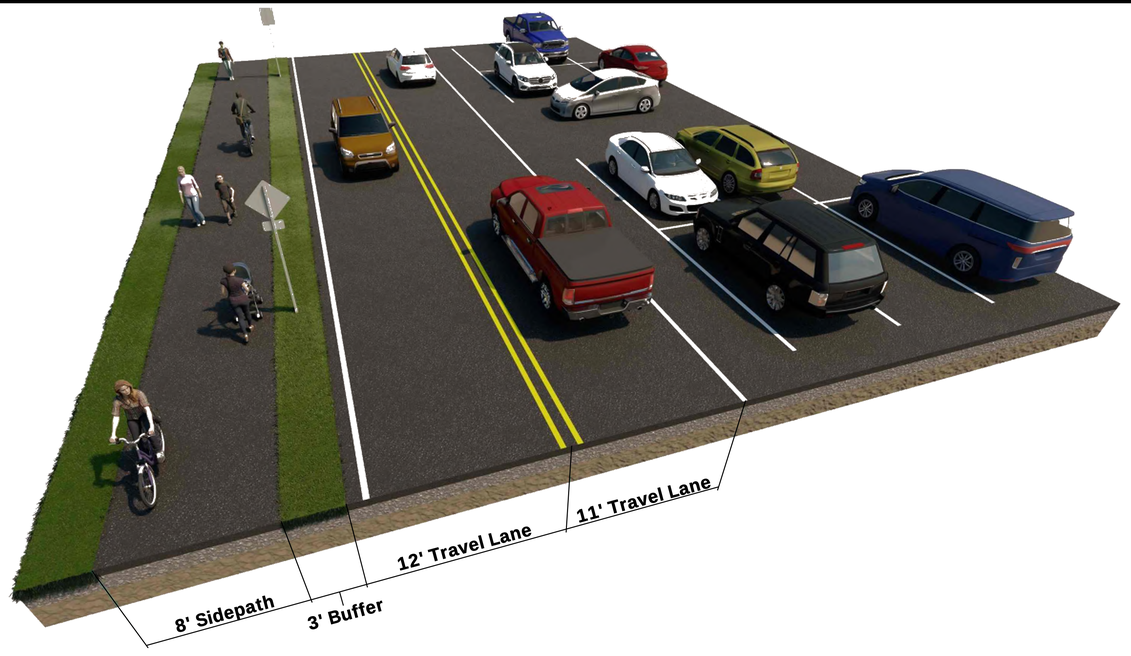




10' Wide Sidepath
Typical Section



Sidewalk Connection
to Goff Middle School
Typical Section



Ballfield Parking Lot
8' Wide Sidepath
Typical Section

CDTC Capital District Transportation Committee

Capital District Regional Planning Commission

Gilligan Road Sidepath - Typical Section Concepts
Town of East Greenbush, Rensselaer County, New York

GPI

Point Drive Raised Crosswalk Crossing in East Greenbush

Elliot Road RRFB Crossing in East Greenbush

Raised Crosswalk

Rectangular Rapid-Flashing Beacons (RRFB)

CDTC Capital District Transportation Committee

Capital District Regional Planning Commission

Gilligan Road Sidepath - Crossing Treatment Options
Town of East Greenbush, Rensselaer County, New York

GPI

Gilligan Road

Proposed Concrete Sidewalk Connection (Flush With Parking Lot)

166.19-3-1 Stachelski, Tara B

166.19-2-16 Buonocore, Daniel J

166.19-2-15 Jeannin, James V

166.19-2-14 Wolf, Bethany S

Ternan Avenue

166.19-2-12 Sluto, Bruce

166.19-2-11 Boomhower, Danielle M

166.19-2-10 Malone, Joan

166.19-2-9 Couture, Jeanne

166.19-2-8 Philbert-Cox, Antonette

166.19-2-7 Willmott, David

166.-7-7 Nova, Victor A

166.-7-6.3 Warner, Marilyn G, Co-Trustee

166.-6-11 Town of East Greenbush

177.-4-1 Methodist Church

166.-6-1 East Greenbush Central

Proposed Concrete Sidewalk Connection (Flush With Parking Lot)

Gilligan Road

Ternan Avenue

Legend

- Proposed First Phase of Sidepath
- Proposed Future Phase of Sidepath
- Marked & Signed Crossing
- Raised Crosswalk & RRFB Enhanced Crossing
- Approximate Property Boundary

CDTC Capital District Transportation Committee

Capital District Regional Planning Commission

Gilligan Road Sidepath - East Greenbush CSD Property Concept
Town of East Greenbush, Rensselaer County, New York

GPI

Gilligan Road

Kriss Krossing

Hoyt Road (CR-59)

Ternan Avenue

Proposed Concrete Sidewalk Connection (Flush With Parking Lot)

Proposed Concrete Sidewalk Connection (Flush With Parking Lot)

SCHOOL SPEED LIMIT 25 YOUR SPEED 30

Columbia Turnpike (US-9)

Connection to EST via On-Going NYSDOT US-9 Pedestrian Improvements Project

Legend

- Proposed Sidepath
- Marked & Signed Crossing
- Raised Crosswalk & RRFB Enhanced Crossing
- Potential Future Intersection Upgrades
- Approximate Property Boundary
- Potential Future Connection via Existing 20' Sewer Easement

Gilligan Road Sidepath - Overall Concept
Town of East Greenbush, Rensselaer County, New York

CDTC Capital District Transportation Committee

Capital District Regional Planning Commission

GPI

Appendix 9 – Cost estimates

ENGINEER'S ESTIMATE GILLIGAN ROAD SIDEPATH

ITEM	DESCRIPTION	UNIT	QUAN.	UNIT PRICE	AMOUNT
201.06	CLEARING AND GRUBBING	LS	1	$ 20,000.00	$ 20,000.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	1,630	$ 45.00	$ 73,362.51
203.03	EMBANKMENT IN PLACE	CY	250	$ 40.00	$ 10,000.00
206.03	CONDUIT EXCAVATION AND BACKFILL INCLUDING SURFACE RESTORATION	LF	3,000	$ 20.00	$ 60,000.00
209.XX	LINEAR EROSION CONTROL	LF	3,000	$ 10.00	$ 30,000.00
304.12	SUBBASE COURSE, TYPE 2	CY	983	$ 80.00	$ 78,643.01
402.000013	PLANT PRODUCTION QUANTITY ADJUSTMENT TO HMA ITEMS	QU	25	$ 90.00	$ 2,250.00
402.127303	12.5 F3 TOP COURSE HMA, 70 SERIES COMPACTION	TON	4	$ 100.00	$ 400.00
407.0102	DILUTED TACK COAT	GAL	341	$ 5.00	$ 1,705.00
418.7603	ASPHALT PAVEMENT JOINT ADHESIVE	LF	96	$ 1.00	$ 96.00
490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	SY	46	$ 25.00	$ 1,155.56
608.0101	CONCRETE SIDWALKS AND DRIVEWAYS	CY	109	$ 700.00	$ 76,300.00
608.020102	HOT MIX ASPHALT (HMA) SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS	TON	1,209	$ 220.00	$ 265,980.00
608.21000003	CAST IRON EMBEDDED DETECTABLE WARNING UNITS	SY	19	$ 495.00	$ 9,533.33
610.1402	TOPSOIL - ROADSIDE	CY	534	$ 60.00	$ 32,061.55
610.1601	TURF ESTABLISHMENT - ROADSIDE	SY	4,809	$ 8.00	$ 38,473.86
611.0171	PLANTING - MAJOR DECIDUOUS TREE - 3 INCH CALIPER BALL & BURLAP, FIELD POTTED OR FIELD BOXED	EA	3	$ 1,000.00	$ 3,000.00
614.060404	TREE REMOVAL OVER 18 INCHES TO 24 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EA	1	$ 1,500.00	$ 1,500.00
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	SEE	BELOW	SEE BELOW
625.01	SURVEY OPERATIONS	LS	SEE	BELOW	SEE BELOW
627.50140008	CUTTING PAVEMENT	LF	96	$ 5.00	$ 480.00
645.03020011	HIGH VISIBILITY GROUND-MOUNTED SIGN PANELS WITHOUT Z-BARS	SF	40	$ 38.00	$ 1,520.00
645.03040011	HIGH VISIBILITY GROUND-MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 30 SQ. FEET WITH Z-BARS	SF	30	$ 40.00	$ 1,200.00
645.81	TYPE A SIGN POSTS	EA	25	$ 200.00	$ 5,000.00
647.51	REMOVE AND DISPOSE SIGN PANEL, SIGN PANEL ASSEMBLY SIZE I (UNDER 30 SQUARE FEET)	EA	15	$ 40.00	$ 600.00
670.0105	FOUNDATION FOR LIGHT STANDARDS, 5 FEET LONG	EA	25	$ 1,000.00	$ 25,000.00
670.15880001	ORNAMENTAL LIGHT POLES WITH LANTERN POST TOP LUMINARE	EA	25	$ 7,000.00	$ 175,000.00
670.2602	RIGID PLASTIC CONDUIT, 2"	LF	3,000	$ 5.00	$ 15,000.00
680.82254310	RECTANGULAR RAPID FLASHING BEACON (RRFB) ASSEMBLY - FOUR BEACONS, SOLAR POWERED	EA	4	$ 15,000.00	$ 60,000.00
683.05000202	RADAR DRIVER FEEDBACK SIGN (POLE MOUNTED) SOLAR POWER SOURCE	EA	2	$ 18,000.00	$ 36,000.00
685.11	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	LF	7,213	$ 1.00	$ 7,213.00
685.14	WHITE EPOXY REFECTORIZED PAVEMENT SYMBOLS - 20 MILS	EA	20	$ 100.00	$ 2,000.00
	ENGINEER'S ESTIMATE SUBTOTAL (EES)				**$ 1,033,473.81**
	BASIC WORK ZONE TRAFFIC CONTROL (10%)	LS	1	$ 104,000.00	$ 104,000.00
	MOBILIZATION (4%)	LS	1	$ 42,000.00	$ 42,000.00
	INCIDENTALS, INFLATION AND CONTINGENCIES (30%)	LS	1	$ 311,000.00	$ 311,000.00
	ENGINEER'S ESTIMATE FOR CONSTRUCTION				**$ 1,490,473.81**
	SURVEY (4%)	LS	1	$ 60,000.00	$ 60,000.00
	DESIGN (10%)	LS	1	$ 150,000.00	$ 150,000.00
	CONSTRUCTION INSPECTION (15%)	LS	1	$ 224,000.00	$ 224,000.00
	ENGINEER'S ESTIMATE FOR TOTAL PROJECT COST				**$ 1,700,473.81**

EXHIBIT B

Date: **October 28, 2021**

Project Title: **Gilligan Road Sidepath & Complete Streets Study**

PIN: **0**

Town: **East Greenbush**

County: **Rensselaer**

SUMMARY

	221 Incidental	222 Acquisition	TOTAL
ITEM 1 - STAFFING *(Estimated - subject to audit)*	**$ 10,337.58**	**$ 10,487.40**	$ 20,824.98
ITEM 2A - DIRECT NON-SALARY COST *(Estimated - subject to audit)*	**$ 336.00**	**$ 3,336.00**	$ 3,672.00
ITEM 2B - DIRECT NON-SALARY COST (SUBCONTRACTOR COST) *(Estimated - subject to audit)*	**$ 23,200.00**	**$ 16,000.00**	$ 39,200.00
	$ 33,873.58	**$ 29,823.40**	**$ 63,696.98**

APPENDIX 11-7
ROW COST ESTIMATE AND INSTRUCTIONS

Revised
June, 2018

PIN: 0 **Acquiring Agency:** Greenman-Pedersen, Inc.

Project: Gilligan Road Sidepath & Complete Streets Study

Local No.: **Sponsor:** Town of East Greenbush

Preliminary / Incidentals Estimate: ☑ Updated / Acquisitions Estimate: ☐

ITEM			ROW Incidentals	ROW Acquisitions
1) No. of Properties & Total Prop. Costs	#:	**10**		$ 70,000.00
2) Interest				$ 3,500.00
3) Project Scoping / Cost Estimate			$ 2,946.46	
4) Progress Reporting				
5) Information Meeting / Public Hearing			$ 2,533.36	
6) Contingency Factor			$ 14,142.60	
7) Title Searches				
a) Last Owner Search	#:	**10**	$ 4,198.56	
b) Certificate ("20 yr search")	#:			
c) Abstract ("40 yr search")	#:			
8) Title Certifications			$ 3,000.00	
9) Appraisals Costs				
a) Appraisals	#:	**10**	$ 17,995.20	
b) Appraisal Reviews	#:	**10**	$ 3,200.00	
10) Closing Papers				$ 16,000.00
11) Negotiations				$ 13,823.40
12) Proration of Taxes				$ 3,500.00
RELOCATION COSTS:				
13) Mortgage Prepayment Fees				
14) Demolition Costs # Bldgs:				
15) Relocation Assistance # Relocatees:				$ -
16) Moving Expenses				
a) Families				
b) Businesses				
c) In lieu of				
d) Re-estab.				
17) Replacement Housing				
a) Housing Supplemental				
b) Rent Supplemental				
18) Last Resort Housing				
a) Owner				
b) Tenant				
19) Replacement Housing				
a) Housing Supplemental				
b) Rent Supplemental				
20) Mortgage Int. Diff.				
Total Incidentals:			$ 48,016.18	
Total Acquisition:				$ 106,823.40
TOTAL ROW ESTIMATE (Rounded):				**$ 154,839.58**

Prepared by: Date: October 29, 2021

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