

Town of Concord, MA

Concord Public Works (CPW)

Cambridge Turnpike Improvement Project (CTIP)

September 2017 Design Update

The Town of Concord, Concord Public Works (CPW), and the Public Works Commission (PWC) are completing the design of the Cambridge Turnpike Improvement Project (CTIP), which will implement comprehensive improvements to address roadway deterioration from Lexington Road to Routes 2 and 2A (Crosby’s Corner), as illustrated in Figure 1 below.



Figure 1 – Cambridge Turnpike Project Overview

The primary focus of this project is to resolve chronic flooding of the roadway at the eastern and western ends of the corridor, while integrating multi-modal uses of the corridor, including vehicles, pedestrians, and cyclists. The goal is to meet project objectives in ways that complement the community's character, and are also sensitive to environmental and historical resources. In the last update, it was described that:

- The geotechnical requirements are based on deep low-strength soil materials in the vicinity of the two Mill Brook crossings of the corridor. The documented presence of these conditions has resulted in designs which include pile-supported bridge and large culvert structures, and deep ground improvements to stabilize roadway crossings of the marsh areas.
- With these geotechnical measures to manage long term settlement, elevations of the bridge, large culverts, and roadways in the marsh crossings have been established that will greatly reduce the frequency of roadway flooding events.
- A sidewalk will extend the entire corridor, located on the south side of the roadway. A 2-foot grass strip will be included between the sidewalk and the rehabilitated roadway in most areas.
- The typical roadway cross section includes 11-foot wide travel lanes, 1-foot shoulders, sloped curbing where needed, and a 2-foot grass strip separating the roadway from a 5-foot sidewalk for most of the corridor. See Figure 2 below.

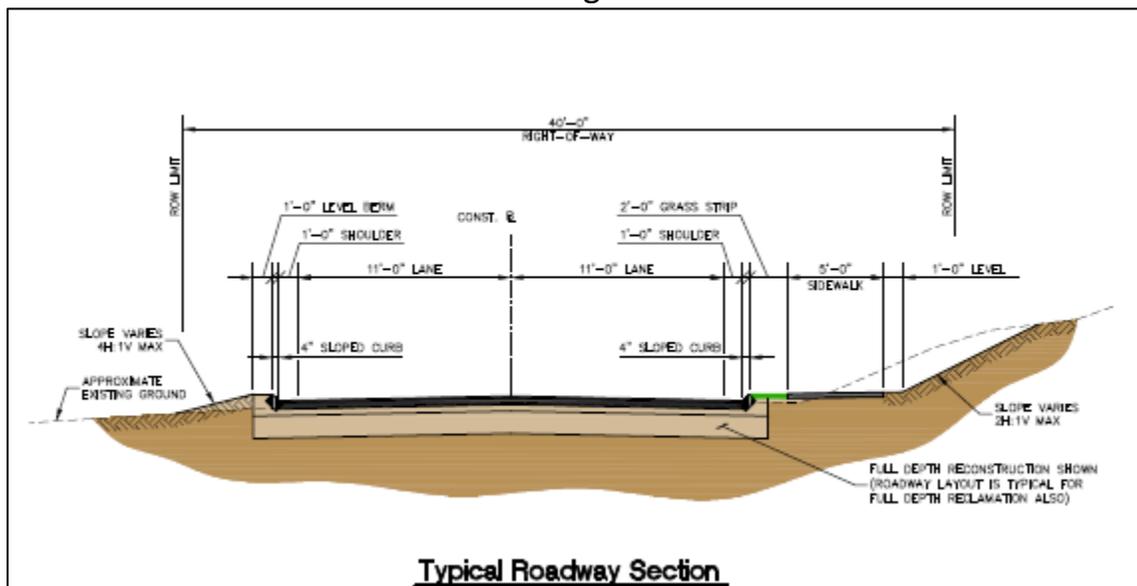


Figure 2 – Typical Roadway Section

- Alternatives were being evaluated regarding roadway details of the bridge and large culverts at the marsh crossings, types, configurations, and locations of guardrail and bridge rail; and any plantings or landscaping along these stretches.

Since the last update, several important steps have been completed, including:

- Final decisions have been made regarding the cross section of the bridge and large culvert structures for the crossings of Mill Brook, and for the associated roadway crossings of the marsh areas. Decisions include selection of appropriate materials and structural configurations. The project has undergone a “Value Engineering” process to ensure it meets project objectives while balancing cost effectiveness, performance, and aesthetics. This “preferred option” is shown in Figures 3, 4, 5 & 6 below.

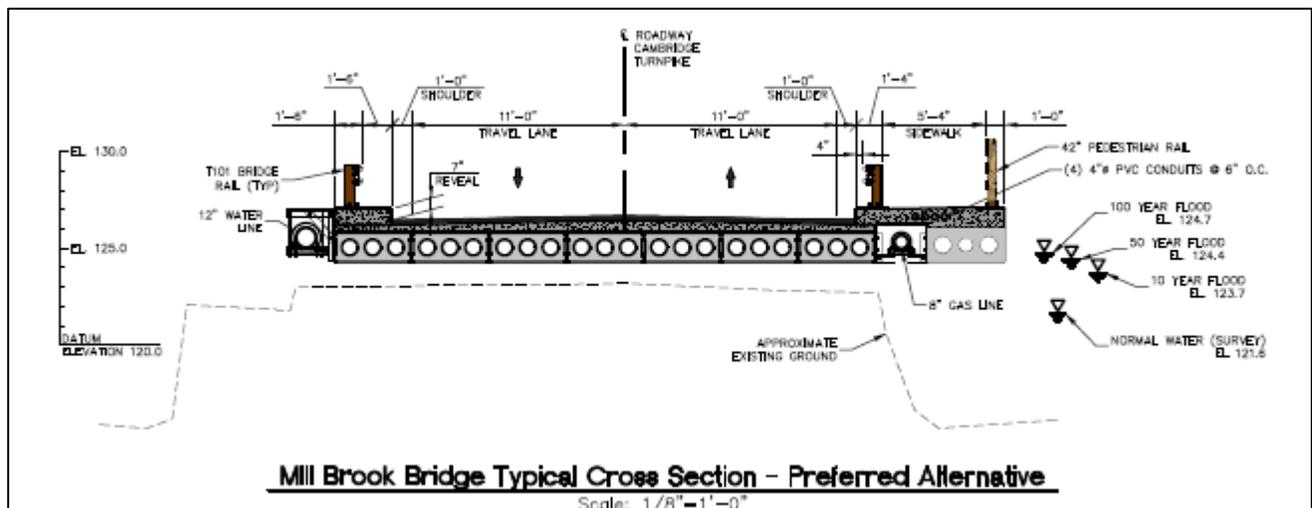


Figure 3 – Mill Brook Bridge Typical Cross Section – Preferred Alternative

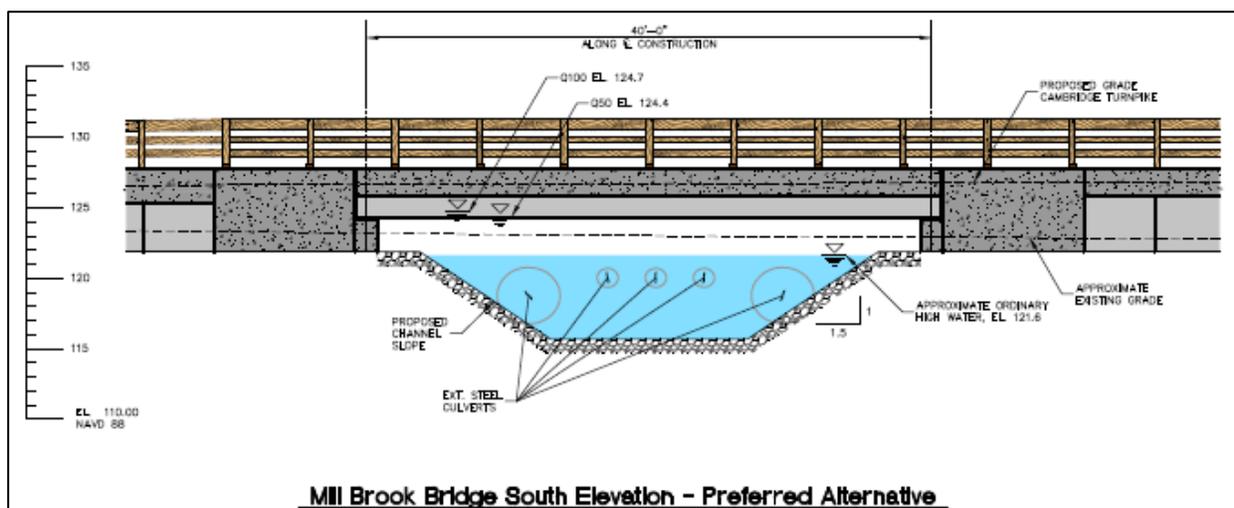


Figure 4 – Mill Brook Bridge South Elevation – Preferred Alternative

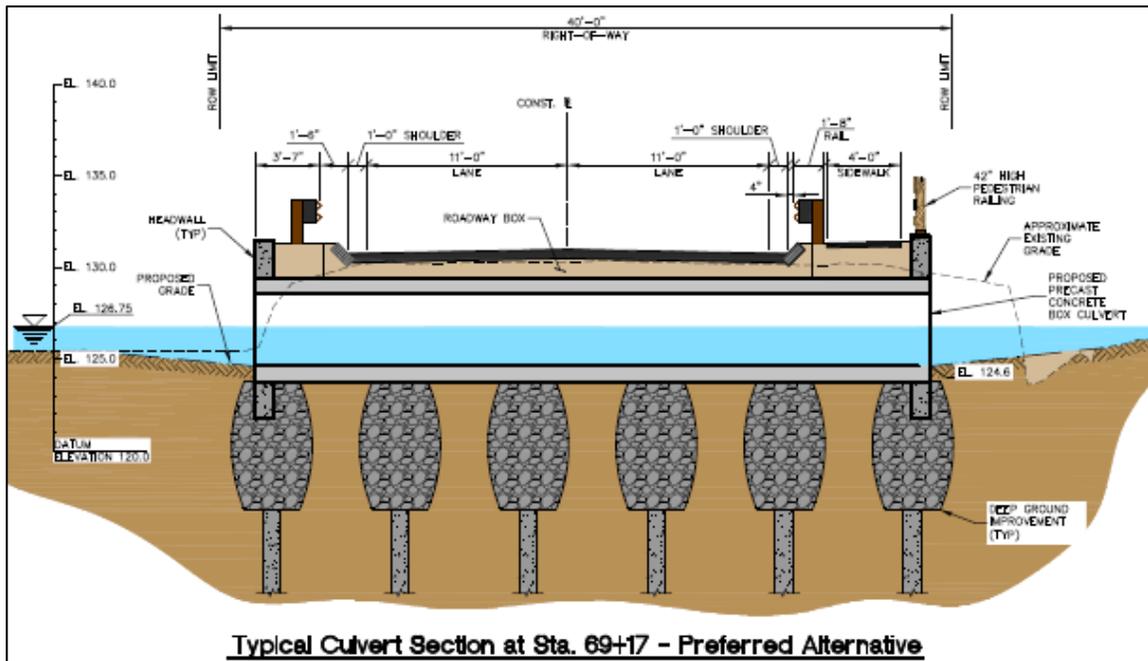


Figure 5 – Typical Culvert Section at Sta. 69+17 – Preferred Alternative

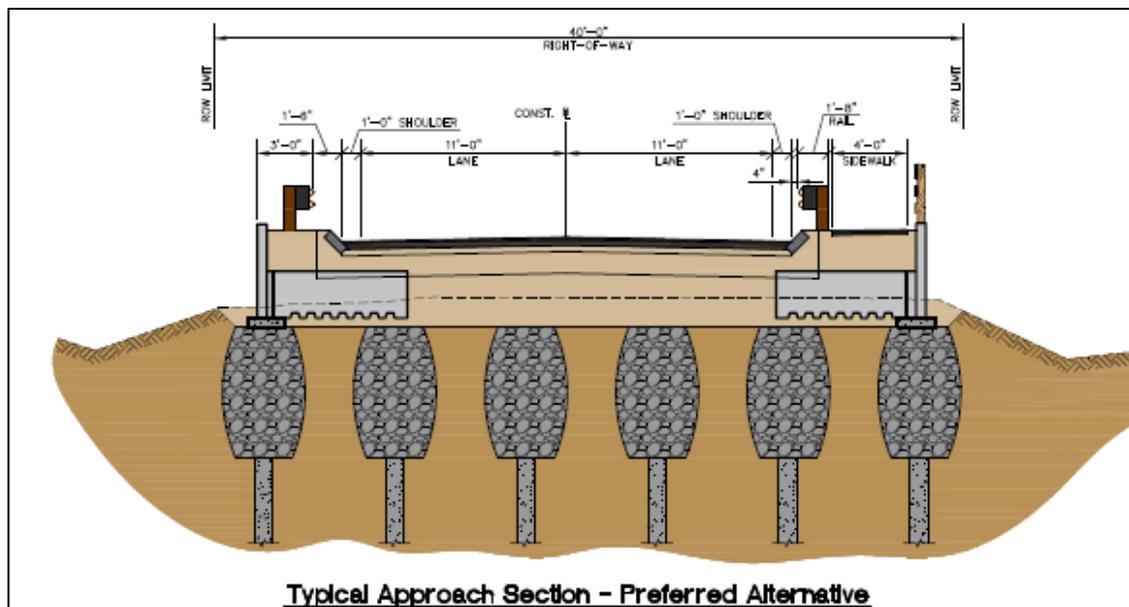


Figure 6 – Typical Approach Section – Preferred Alternative

- Review was conducted by the Concord Historic Districts Commission (HDC) and project stakeholders, particularly associated with the intersection of the Cambridge Turnpike and Lexington Road, which is in the “American Mile District” with historic surroundings of that intersection. The Concord HDC submittal included a reconfiguration of the intersection to improve pedestrian/vehicular/cyclist safety and pedestrian connectivity with the Concord

Museum, Emerson House, and other locations in historic Concord. The design also included a “pocket park”. This area was made available by reconfiguring the intersection in a manner that embraces and enhances the historic surroundings. The design integrates with planned improvements at the Concord Museum, and formalizes and improves parking in front of the Emerson House. Design modifications were made based on the HDC review, and a “certificate of appropriateness” was granted for the project in April. Figures 7 and 8 below depict the approved design.



Figure 7 – Lexington Road Intersection as Approved by the Concord Historic District Commission

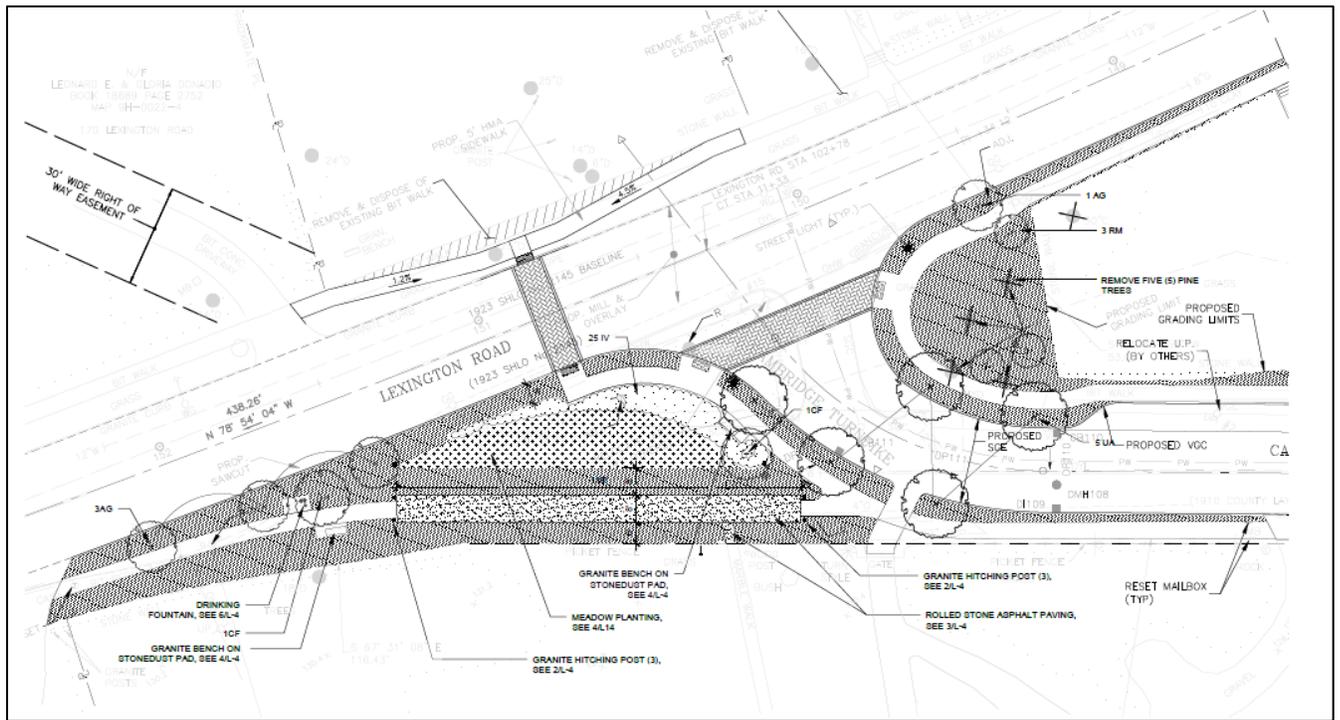


Figure 8 – Pocket Park Design at Lexington Road Intersection

- An improved pedestrian treatment and crosswalk near the intersection of the Cambridge Turnpike and Hawthorne Lane has been incorporated into the design. See Figure 9 below.



Figure 9 – Crosswalk at Hawthorne Lane Intersection

- The 75% design of the conventional roadway segments, and 30% design of the structural elements were completed by the end of May. The structural design is currently being advanced to the 75% level.

- The environmental permitting process was initiated with the filing of the MEPA “Environmental Notification Form” process in August. To support the ENF filing a preliminary archaeological review of the corridor was completed and CPW presented a project overview at the June Concord Historic Commission. Wetlands impacts have been kept to a minimum, with mitigation areas for the impacts targeted.
- Evaluation of potential phasing concepts for construction phase of the project began, to minimize and coordinate the unavoidable disruptions to through traffic on Cambridge Turnpike. Associated with these planned disruptions is an evaluation of traffic detour routes that will be necessary during construction.
- Coordination with private utilities that will be affected during project construction was continued. The project will propose improvements and relocations to gas, electricity, cable, water and communications.
- Outreach to affected parties and abutters are ongoing. Any concerns/comments can be provided via email at CTIPcomments@Concordma.gov or by contacting Concord Public Works at (978-318-3206).

The project schedule includes the completion of design and permitting in late 2017, with completion of contract documents for bidding in late winter 2017/ early spring of 2018. Construction is anticipated to proceed in the 2018 construction season, and extend through the 2019 season.