

Alternatives Analysis

Project Description

The proposed project includes upgrades to 1,200 feet of the existing, degraded shared-use path, connecting to the Phase 1 work, previously completed. The project will allow a heavily used section of the trail to adapt to increasing frequent flooding events and allow universal access to numerous multi-seasonal recreational opportunities and scenic vistas of the Charles Rivers to the local community. The goal of the project is to provide an ADA accessible and climate resilient trail while minimizing environmental impacts.

Alternative 1- Proposed Project

The proposed project will make several improvements to the existing trail system, including:

- Converting the higher portions of the unimproved trail head into an ADA compliant surface with granite curbing;
- Installing a 500-foot-long boardwalk above the flood elevation;
- Minor grading to provide compensatory flood storage capacity and to remove the existing trail “berm” that blocks the flow of stormwater and disconnected wetlands from the floodplain; and,
- Converting approximately 15,500 square feet into an improved buffer zone area with wetland plantings.

Portions of the shared use trail abuts wooded wetlands and traverses the FEMA 100-year flood elevation in this area (38-feet NAVD88). Approximately 550-feet of the path are currently below that level and flood frequently. Flooding conditions make the existing trail impassable after significant rain events forcing users to seek alternate routes through abutting woodlands and construct makeshift “boardwalks”. The project is proposing a 500-foot boardwalk to ensure that the project does not negatively impact the area’s hydrology. The remainder of the 700 feet of trail outside of the flood zone will be constructed using the material specifications developed for the Phase 1 work.

Advantages: The existing trail would be upgraded so that it could be utilized at all times of the year and during flood events. The proposed project will also be constructed within the existing path alignment and on boardwalks to ensure that it does not negatively impact the area’s hydrology, as it is located within the floodplain. The proposed project also will install a native planting area near the proposed pathway.

Disadvantages: Portions of the proposed project are located within the 100-year flood zone; however mitigation will occur which will improve flooding conditions.

Alternative 2 – Greenway Expansion

Under this alternative, the City would expand the width of the existing pathway. This alternative would widen the pathway in certain areas, allowing more users to utilize the trails.

Advantages: The trail would accommodate more recreational users.

Disadvantages: The expansion of the path would cause greater impacts to the surrounding wetland resource areas.

Alternative 3 – Greenway Repaving

Under this alternative, the City would re-pave the path in its existing alignment and grade it to elevate certain portions in the floodplain to prevent flooding.

Advantages: The path would remain in its existing footprint.

Disadvantages: Portions of the path are located within wetland resource areas and would have unavoidable impacts. The grading work along the path would negatively impact existing trees. Lastly, the pathway would also not be elevated outside of the floodplain, which is required under the City's floodplain ordinance.

Alternative 4 – No-Build Alternative

Under this alternative, the City would not provide necessary updates to the existing pathways along the Marty Sender Greenway. As a result, flooding would continue, making the path impassable.

Advantages:

The advantages of the No Build Alternative would eliminate any potential impacts to wetland resource areas, as no work would occur.

Disadvantages:

The pathway would continue to flood, preventing the community from utilizing its greenspace.

Conclusion

Based on the alternatives analysis provided, Weston and Sampson Engineers are recommending that Alternative 1 be the option that the City of Newton pursues to improve the existing Marty Sender Greenway trail. Alternative 1 would improve the existing trail system and allow the community to utilize the trail during flooding conditions while minimizing impacts to surrounding trees and wetland resource areas. On the other hand, the proposed upgrades will have unavoidable impacts to wetland resource areas. Alternative 4 would have no impacts to wetland resource areas but would not provide the necessary improvements to the pathway. Alternatives 2 and 3 were considered but ultimately dismissed as they had greater impacts to wetland resource areas and did not comply with the City's floodplain ordinance. Alternative 1 minimizes impacts to wetlands resource areas, proposes native plantings, and is more cost effective to the City, therefore being the best option for this proposed project.