

PROJECT NARRATIVE

The Governor's Academy – Proposed Walkway – Middle Road, Byfield
March 15, 2023

Site Description

The main project area, which is Assessor map and lot number R15-0-11 with an address of 313 Newburyport Turnpike, is located on the southeast corner of the intersection of Middle Road and the driveway leading to The Governor's Academy (TGA) Facilities buildings. This driveway also leads to the recently approved Alford Coastal Research Center (ACRC) that TGA has under construction on the hill above the Facilities complex and the Parker River. This project area will contain the proposed pedestrian walkway that will allow TGA students, faculty, and staff to walk from the main campus to the ACRC along an off-street pathway.

A second project area, which is Assessor map and lot number R15-0-5 with an address of 306 Middle Road, is also part of the TGA campus and is located across from the main project area along Middle Road on its west side. This area will contain a sidewalk that connects the existing sidewalk from its terminus to the new pathway on the east side of the road. A crosswalk is proposed across Middle Road to connect these two sections of walkway.

The east side, main parcel contains several wetland Resource Areas. These jurisdictional areas include Bordering Vegetated Wetlands (BVW) with associated Buffer Zone and Bordering Land Subject to Flooding (BLSF) which is associated with the FEMA flood plain in the area. The walkway, where it must span over these Resource Areas, is proposed to be an elevated boardwalk. Due to the presence of these Resource Areas, a Notice of Intent application has also been submitted to the Newbury Conservation Commission.

Project Description

The proposed walkway begins as a 115 foot long, 5 foot wide paved sidewalk on the west side of Middle Road to match the existing walks in this area of the campus. After crossing Middle Road via a painted crosswalk, the walkway transitions to compacted crushed rock as it heads perpendicular to the road for its off-street route to the ACRC access driveway. This walk will have a 5 foot wide crushed rock surface with 18 inch maintained vegetated shoulders for a total effective width of 8 foot minimum to provide some open area "comfort" for two people walking side by side. The limit of work will be wider where "off-grading" (both cut and fill) is required. Proposed grading is depicted on the site plans. The vegetation will be native grasses and/or ground covers that will be regularly trimmed where necessary to keep it low-lying.

Where the walkway crosses wetland areas and the stormwater basin spillway, an elevated boardwalk will be used. The maximum height of the boardwalk will be 30 inches so that railings are not required. A "bumper" edging, that is anticipated to be about 3.5 inches high (above the boardwalk deck), is proposed. Again, the boardwalk is 5 feet wide to provide comfort for two people to walk side by side. The boardwalk surface will be fiberglass grating that will have a 62% open area to allow sunlight and water to reach the vegetation below. The fiberglass material will have a slip resistant surface to allow safe use at the proposed walk slopes.

Except for the fiberglass grating, the boardwalk structure otherwise is similar to the boardwalk proposed for the ACRC. Additionally, no railings are proposed where railings will be required in

certain sections of the ACRC boardwalk. Like the ACRC walkway, Diamond Pier footings are proposed so that hand tools can be used for installation.

The total length of the crushed rock path (itself) is approximately 432± feet where the total of the two sections of boardwalk is approximately 132 feet. Of this 132 feet of length, approximately 81 feet of boardwalk is within/over Resource Areas.

The total project area “graded, re-graded or cleared” is estimated to be approximately 7,082± sq. ft. This is comprised of 6,285 sq. ft. for the rock paths and grading, 779 sq. ft. for the bituminous walk and an allowance of 18 sq. ft. for the 18 boardwalk posts.

The wetland area being crossed has areas at or below elevation 10.0 which is the FEMA flood plain elevation. The flood plain area is shaded/hatched on the site plan set. The boardwalk was designed to keep the boardwalk structure, other than the posts, above elevation 10.0. While not specifically required in this case, “compensatory flood storage” volume is provided along with wetland replication for the alteration of the wetlands required for post installation.

The entire walkway will comply with ADA / AAB accessibility requirements. According to the ADA, an “accessible” surface is firm, stable, and slip resistant. The Architectural Barriers Act (ABA) guidance on trails states that firm and stable trail surfaces must resist “deformation by indentations. A stable trail surface is not permanently affected by expected weather conditions and can sustain normal wear and tear from the expected uses between planned maintenances.” To achieve this, ¼” minus crushed rock that includes “crusher dust” is proposed to provide a firm and stable surface after compaction. And this surface is permeable to minimize surface runoff (and erosion) and promote groundwater recharge. Regarding slopes, ADA requires longitudinal slopes to be 5.0 % maximum and cross slopes to be 2% maximum. To be conservative, the walkway is designed to have 4.5% longitudinal and 1.5% cross slope maximums. Additionally, the fiberglass boardwalk grating is ADA compliant and curb ramps with tactile warning panel and landings are provided at the ends of the walkway.

The Massachusetts Stormwater Management Standards apply to the maximum extent practicable to *“Footpaths, bikepaths and other paths for pedestrian and/or nonmotorized vehicle access.”* The vast majority of the walkway will generate minimal stormwater runoff since it is either elevated boardwalk or a permeable crushed rock product to enhance recharge. “Maximum extent practicable” means a standard for implementation of stormwater management programs to reduce pollutants in stormwater. It takes into account consideration of competing factors, including environmental benefits, pollutant removal effectiveness, health risk, regulatory compliance, ability to implement, cost and technical feasibility. While switching from woodland to a crushed rock surface could in theory result in an increase in stormwater runoff, we anticipate that by providing a permeable surface, such an increase would be minimal. And, while providing stormwater-specific management areas is possible, it is our opinion that disturbing additional woodland Buffer Zone area to do so is simply not justified. The remaining walkway area along Middle Road that is paved/impervious is located where the street drainage system can provide any necessary mitigation.

A 50± sq.ft. replication area, which is proposed to replace the 14± sq.ft. of altered BVW, is provided in the “upland island” area. The north end of this area was selected instead of an unaltered upland area to provide wetland restoration in addition to replication. The planting in this area, in addition to the existing tree that will be retained, will be native species that will be discussed/coordinated with the Conservation Commission. Inclusion of a planting list/schedule in the final plans would be an appropriate condition of the Board’s approval. Please refer to the plan set for information related to the replication area detail and construction.

Much of the floodplain area is contained within the BVW area so the minimal filling of the flood plain with boardwalk posts, which amounts to approximately 2 cu.ft., is not required to be compensated for. However, the wetland replication area as proposed is mostly below elevation 10.0 and therefore will provide a new flood storage volume well in excess of this fill amount.

Regarding maintenance, compacted rock surfaces require maintenance to maintain ADA/AAB compliant smoothness and sometimes slope. Maintenance may include fixing divots or potholes, re-grading the surface to evenly redistribute material, or adding and compacting more crushed rock on the surface to keep it level with adjacent surfaces. TGA Facilities is aware of this requirement and will incorporate the new walkway into their Conservation Commission-approved *Buffer Zone Management Plan* which already includes maintenance of trails on the campus. This also would be an appropriate condition of the Board’s approval.

Regarding lighting, “dark sky” compliant LED light bollards are proposed generally 50’ on center. While this spacing may not provide the typical 1.0 foot-candle average lighting level, we believe this spacing will be suitable for user guidance and comfort while protecting the wetland habitat interests. TGA’s lighting vendor is preparing a photometric plan for the lighting and the plan will be submitted for the Board’s review before the public hearing. The underground conduit for the lighting will be within the limit of proposed grading so that no additional disturbance will be required.

Regarding other Site Plan Review considerations:

- No walkway-specific signage is anticipated.
- No parking spaces are proposed.
- The walkway will not create any additional vehicle trips.
- No building is proposed.
- The walkway will not result in water usage or wastewater discharge.
- No solid waste will be generated (post-construction).
- Vegetative buffer screening is not required nor warranted.

Lastly, alternative routes were considered from the end of the existing sidewalk and running alongside Middle Road to the maintenance facility and ACRC access driveway. A route on the east side was blocked by recent utility pole installation and involved more flood plain filling. A route along the west side resulted in more wetland alteration and flood plain filling. TGA determined that the proposed off street route was preferable to a route along Middle Road given the potential for vehicle pedestrian conflicts if the route was to remain on Middle Road.