400 Harvey Road, Manchester, NH 03103 | T (603) 627-5500 | F (603) 627-5501
allenmajor.com

ALLEN & MAJOR ASSOCIATES, INC.

December 23, 2021

To: Linda Hansen
Conservation Administrator
Town of Wayland
41 Cochituate Road
Wayland, MA 01778

Copy: Wayland Planning Board

A&M Project #: 2562-01B

Re: Camp Chickami
139 Boston Post Road
(Assessor's Map 29, Lots 42)
Wayland, MA 01778
Response Review Comments

Dear Ms. Hansen,

Allen & Major Associates, Inc. (A&M), on behalf of our client, West Suburban YMCA, is providing the following responses to the DGT Associates December 16, 2021, review comments related to the proposed improvements to Camp Chickami. A&M's responses are indicated in bold italic below the review comments.

REVIEW COMMENTS:

1. Possible issue with the location of the permeable driveway system on the Temple Shir Tikva property:

- The eastern portion of the driveway runs across the south portion of the Temple Shir Tikva Property. The subsurface sewage disposal system leaching facility for the Temple consists of 12 leaching pits. Record plans show that four of the leaching pits would be directly beneath the area of the proposed new driveway.

  Response: The locations of the Temple Shir Tikva leaching pits have been added to the drawings. The location of the proposed driveway has been adjusted to avoid crossing over the leaching pits.

- There are two existing restroom sheds on the YMCA property that are just south of the proposed driveway. The applicant's plans show sewer lines exiting the restrooms and heading to the north toward the proposed driveway. The configuration of the on-site septic system for these restrooms is not shown on the plan and is likely to be in that same area or could be connected into the Shir Tikva system in some fashion.

  Response: The location of the YMCA cesspool for the existing restrooms has been added to the drawings and the location of the sewer service has been revised to show the connection to the on-site cesspool. The YMCA restrooms do not connect to the Temple Shir Tikva system.

- If there are subsurface sewage disposal systems in this area, constructing the permeable pavement driveway (which is an infiltration BMP) over the leaching area would not be allowable.

  Response: The access driveway within the vicinity of the Temple Shir Tikva leaching pits and the YMC cesspool has been revised to be a reinforced turf access drive. There is no infiltration proposed within 25' of the sewage disposal systems. The drainage analysis has been revised to reflect the access drive in this area to be constructed as reinforced turf (no stone reservoir, no infiltration).

- The driveway is designed to carry a heavy fire truck load. It would be important to determine if a leaching system(s) in that area could take the anticipated load.

  Response: The driveway has been relocated to avoid crossing over the existing leaching pits.

- DGT recommends that the applicant investigate whether the record subsurface sewage disposal systems exist and, if present, determine actual configuration, depth, etc., and make appropriate revisions to the design.

  Response: The locations of the Temple Shir Tikva leaching pits and the YMCA cesspool have been added to the drawings and the design has been revised to avoid impacts to these existing systems.

2. General Tree Replacement and Replanting (193 Bylaw Regulations 5.0 E.)

- The plans do not show existing trees in the project area that would need to be removed as required by the Bylaw Regulations. There will be a significant number of trees removed for the project. No other information was included in the submitted documents as required under this section of the Bylaw Regulations and would need to be addressed unless a waiver is requested by the applicant and granted by the Conservation Commission.

  Missing items include but are not limited to:

  · Inventory of trees to be removed with sizes and species.
  · Evaluation by an Arborist as to condition of the trees.
  · No information on reasons for tree removal.
  · No tree and shrub planting plan (and no landscape plan).
  · No information on mitigation to be provided for tree removal.

  Response: Our understanding of Chapter 193 of the Bylaw "Stormwater and Land Disturbance" is that projects subject to Chapter 194 "Wetlands and Water Resources Protection" are exempt from Chapter 193. This project is subject to Chapter 194, therefore, Chapter 193 does not apply. The pertinent section of the adopted Bylaw is §193-4.B.(5). The draft version of the Chapter 193 Bylaw is not enforceable or waivable. That being said, the project has minimized the tree removal to the extent practicable. The project is largely within previously developed areas (basketball and volleyball courts) and the clearing required for the access drive is to satisfy the life safety requirements of the Wayland Fire Department.

3. Application Requirements for Major Permit - 5.0 B. 1) and 3):

   The following is a list of items that we found were not included or lacking required necessary information. Note that these comments are general, and more specific findings are noted in later sections of this report. Also note that the required information may be added to or reduced by the Conservation Commission based on the scope of the project.:

   3.C. Site Plan Requirements:

   1) General information on all sheets: Plans are at 1″=30′ scale. 1″ = 20′ is required. Waiver necessary and had been requested by the Applicant.

Response: As noted, this waiver request under Chapter 194 has been included as part of the Notice of Intent application.

2) Existing Conditions Plan:

The existing topographic information is included on Sheet V-101 and V-102. The plan meets the requirements with the following exceptions.
- Trees over 6 inches DBH within the limits of work to be removed are not shown.

Response: The applicant respectfully requests that the Conservation Commission accept the existing conditions survey (V-101 and V-102) as presented because the applicant has limited the tree clearing to the maximum extent practicable.

- Existing septic system within the work area discussed above in this report is not shown. This is important as detailed above.

Response: The existing septic system has been added to the drawings as requested.

3) Proposed Conditions Plan:

- A Landscape Plan is needed to show the general limits of proposed Lawn and planting areas including replacement plantings of trees and shrubs required under the Design Standards.

Response: The applicant respectfully requests that the Conservation Commission accept the site plan without a formal Landscape Plan. The proposed plantings include the turf areas, which are detailed on Sheet C-502.

- Soil test locations are shown on the plans. Additional comments on this item is contained in later sections of this review.

No Response Required.

4) Erosion and Sediment Control Plan and Details:

The plans include details and Erosion and Sediment Control on the Site Preparation Plan (C-101) and Detail Sheet (C-501).

This project will disturb more than one acre of land, so this project will need to file for coverage under the NPDES Construction General Permit prior to construction. A full Stormwater Pollution Prevention Plan (SWPPP) will need to be prepared for that purpose as required by the Bylaw. DGT recommends that the Stormwater and Land Disturbance Bylaw Permit require that copies of the SWPPP be submitted for review and approval prior to any site alterations and a copy of the NPDES permit be submitted for record.

Response: The applicant will prepare a SWPPP and file an eNOI under the EPA NPDES program at least 14 days prior to any land disturbing activities. The applicant will provide a copy of the SWPPP to the Conservation Commission if requested (electronic or paper copy).

5) Site Demolition Plan:

Site demolition is provided on the Site Preparation Plan (C-101). Tree removal per the regulations is not included. A waiver would be needed if that is not to be provided**.**

Response: The applicant respectfully requests that the Conservation Commission accept the Site Preparation Plan without identifying the specific trees to be removed. Much of the proposed project is within existing cleared areas and the access drive is required for life safety.

3.D. Design Standards (Stormwater):

In general, the engineer is attempting to meet the design standards in this section. Certain specifics of the design and hydrologic calculations have issues that need to be addressed in order to bring the design into compliance. Information on these will be detailed through comments on the requirements on Appendix B that follow:

No Response Required.

4. APPENDIX B – Wayland Stormwater Management Report Contents Checklist

Narrative (Summary of Project and Stormwater Report).

1. Inventory of trees to be removed including trees greater than 6 inches DBH, the species of the tree, size and condition. (Not provided).

Response: The applicant respectfully requests that the Conservation Commission accept the site plan without a form tree survey, recognizing that the clearing has been minimized to the maximum extent practicable.

2. LID and Sustainable Stormwater Techniques:

The engineer is using a permeable driveway design which is an LID technique. Given the size of the project, this should satisfy the requirement for LID. The Engineer should discuss other LID techniques that were considered and why this technique was selected.

Response: The permeable driveway LID was used to mitigate for stormwater runoff and to maintain the "camp feel" of the access drive.

3. Waivers: Certain waivers will be necessary for the project as presently submitted. The only stormwater related waiver requested is the plan size at 1" = 30'. The number of waivers will be dependent on the final design.

Response: The applicant has requested a waiver for the plan scale under the Chapter 194 Bylaw. The Draft Chapter 193 Bylaw is not enforceable or waivable; however, the applicant has noted in this response which of the Draft regulations we are seeking relief from.

Stormwater Standards and Compliance and Compliance Calculations and Details

4. Mass. DEP Checklist. (Provided)
- Engineer needs to stamp, sign and date the Checklist.

Response: The Checklist has been signed, stamped, and dated as required.

- Standard 3: The Infiltration BMP is designed to attenuate peak rates of discharge for storms greater than a 10-year storm. This box needs to be checked.

Response: The infiltration BMP checkbox has been checked as required.

- Standard 8: Check the last box for the NPDES Compliance. Note that a copy of the completed, signed SWPPP document will need to be submitted for review and approval prior to any site alterations.

Response: The last check box for Standard 8 has been checked as required. The applicant will prepare the SWPPP and file the EPA NPDES eNOI prior to land disturbing activities.

5. Summary of compliance with each of the 10 Mass. SWM Standards:

5.1 Standard 1. Calculations for stability at discharge points: Provided.

No Response Required.

5.2 Standard 2. Existing and Proposed Peak Rates of Runoff.

The intent of the design is to not increase the peak rates of runoff to any wetland resource area. The calculations presented do show this intent being met, however, there are some issues that need to be addressed as discussed in following sections that may affect the results.

Response: There is no increase in peak rate of runoff during each of the design storm events.

5.3 Standard 3 Stormwater Recharge:

The intent of the design will meet the recharge requirements for this development. The Permeable Driveway has plenty of storage, so I do not expect the revisions to cause an issue with this standard. However, there are a couple of items that need to be addressed.

Response: Understood. Further comments are addressed below.

For the main infiltration system (the permeable driveway) the engineer uses the infiltration rate of 10 inches per hour. The text states that the infiltration rate is twice this rate, but there is no information on how this rate was determined or selected. The soil testing indicates that the soils in this area is a Loamy Sand. Per the Mass. Stormwater Management Regulations and Handbook (MSWMR) the standard infiltration rate for Loamy Sand is 2.4 inches per hour (Rawls Rate). To use a higher rate than this requires a field tests using an duel ring infiltrometer or similar device. Then one half the rate determined may be used. I did not see any such test performed in the documentation.

Response: The 10 inches per hour was based on the percolation testing performed as part of the Title 5 septic system design and included a 2x safety factor (the actual rate observed was 20 inches per hour or 3 minutes per inch). The applicant recognizes that the MA DEP Stormwater Handbook requires different permeability testing than Title 5. As such, the drainage design has been revised to use the 2.4 inches per hour listed in the MA DEP Handbook for a Loamy Sand as required.

Depending on the results of the investigation on septic systems at the east end of the driveway, that portion may not be useable for an infiltration BMP. This would need to be addressed in another manner**.**

Response: The portion of access driveway crossing the septic systems has been revised to eliminate the infiltration BMP. This area is now just reinforced turf. The access drive has also been revised to avoid crossing the leaching pits.

A portion of the roof area of the new building appears to be directed to a downspout and is piped to the infiltration trench below the driveway. The building elevation drawings do not show that roof drain. That needs to be coordinated prior to construction.

Response: Understood. The final building plans will indicate the location of the gutter and downspout along this side of the building.

The section of the permeable driveway in front of the proposed building slopes at about 5%. For small rainstorms, this is not an issue, but the system is being used to mitigate for a 100 year storm and will receive run-on from the building. Water will follow the bottom of the stone layer to the lower portion of the driveway. To address this, cell dividers in the base layer are typically installed at intervals down the slope to keep the water in the particular area, or the roadbed needs to be modeled differently like a basin with differing bottom elevation.

Response: The design has been revised to include several cell dividers as recommended. The stormwater model has been revised accordingly.

Note that the infiltration trench below a portion of the roadbed is not taken into account in the model. This could be applied if changing the infiltration rate to 2.41 inches per hour creates a problem.

Response: The stormwater model has been revised to include the infiltration trench as part of the storage volume as recommended.

Note that infiltration systems, including permeable pavement systems and subsurface trench drains need observation tubes installed so that the system can be inspected to make sure it is operating properly. I did not see any on the plans.

Response: The design includes two nyloplast risers with removal covers for inspection or the system.

5.4 Standard 4 – Water Quality:

The proposed stormwater trench drain systems drains to the infiltration trench and permeable driveway bed. Water falling on the porous pavement has the surface peastone and filter fabric for pre-treatment. Water getting to the infiltration trench via the trench will also need pre-treatment to protect the underground infiltration system. Granted, most of the runoff will be from the roof and tent that would be relatively clean, but there is some exposed pavement draining to the trench drain. Leaves and debris will collect in the drain and end up in the infiltration trench. DGT recommends that at least a deep sump hooded catch basin or manhole be installed upstream from the infiltration system for pretreatment.

If the system can be adjusted to meet the requirements, they will provide in excess of 80% TSS removal. The question remains regarding the easterly end of the driveway.

Response: The trench drains use slotted grates with openings that are only ¼" wide. This will prevent leaves and debris from entering the drainage system. There is an integral

catch basin at the end of the trench drain that includes a small sump that will further protect the drainage system. The two nyloplast structures also include sumps, which will further protect the system. As the reviewer notes, the stormwater flowing to the trench drain is almost entirely clean rooftop runoff.

5.5 Standard 5 Land Uses With Higher Potential Pollution Loads: Not Applicable.

No Response Required.

5.6 Standard 6 Critical Areas:

The project is in the watershed of a cold water stream (Pine Brook) with fisheries habitat that must not be degraded. However, if the system can be made to meet the design intent of having no runoff for a 100 year storm, there can be no degradation of the brook. It would also help preserve base flows during dry weather from the groundwater recharge being provided. So this standard would be met.

No Response Required.

5.7 Standard 7 – Redevelopment: Not applicable as presented.

No Response Required.

5.8 Standard 8 – Construction Period Erosion and Sediment Control:

The erosion control and site demolition provided on the Site Preparation Plan and Grading and Drainage Plan and related details (C-101, C-103 and C-105) are general in nature at this point and is adequate for these purposes at this time. The project will require a full SWPPP prior to construction. DGT recommends that the permit conditions require submittal of the SWPPP for approval by the Commission prior to construction work. The condition should require that it be submitted with a specified time before construction to allow sufficient time for review and approval.

Response: The applicant will prepare a SWPPP and file an eNOI under the EPA NPDES program at least 14 days prior to any land disturbing activities. The applicant will provide a copy of the SWPPP to the Conservation Commission if requested (electronic or paper copy).

It is noted that there will be some steep slopes of 2:1 and 1.5: 1 (horiz. To vert.) These are shown to have special slope treatment on the plans for stabilization. It appears that this is being done to stay out of the 30 foot no disturbance zone under the Ch. 194 Regulations. DGT concurs that these slopes will need such measures to assure stability.

No Response Required.

5.9 Standard 9 – Long Term Pollution Prevention Plan (LTTP):

An LTPPP with stormwater operation and maintenance information and the general management of the site has been provided in the Stormwater Drainage Report**.**

The Stormwater O&M information provides some minimal information of the inspection frequency of the gravel and grass paver system, but nothing else. Additional detailed

information is needed for that system and the stormwater O&M for the other stormwater BMPs is not provided.

The additional BMPs requiring O&M information includes the Subsurface Infiltration Trench, the Trench Drain system and the pre-treatment BMP that is required and discussed earlier in this report.

Response: The O&M plan schedule has been revised to include additional maintenance information regarding the stormwater management system. See O&M plan schedule attachment within the drainage report.

The O&M plan is to include detailed instructions for the owner as to the management of the systems. The information provided states that the EZ Roll System must be inspected at certain intervals, but generally does not tell the owner how to do the inspection, what they are to look at and what the signs are that the system is in need of maintenance (How much sediment, etc. What are signs of failure (eg: infiltration system not draining in 72 hours). What type of tools and equipment is necessary for maintenance and inspection for each BMP. The document should detail both routine maintenance requirements and common repairs. These instruction details need to be added.

Response: Technical specifications for the EZ Roll grass and gravel systems is included within the attachments of the drainage report. See attachments for detailed operations/instructions to maintain the system.

The web site for the EZ Roll system has some recommended maintenance information and has very specific instructions for snow removal and other maintenance information and this should be included, as well as routine repairs. Some portions of the driveway will receive stormwater run-on from impervious surfaces and adjacent land area. As such, it will be more subject to surface clogging which would require removal of the clogged area and cleaning of the EZ Roll system and replacement of the system and clean stone.

Response: Technical specifications for the EZ Roll grass and gravel systems is included within the attachments of the drainage report. See attachments for detailed operations/instructions to maintain the system.

The infiltration BMPs must have inspection ports. Instructions on how to perform the inspection is important to make sure the systems are working properly.

Response: Inspection ports have been added as recommended.

Per the MSWMR, the Stormwater O&M Plan needs annual inspection and maintenance budget for each BMP.

Response: The O&M checklist has been revised to include an annual budget as required.

5.10 Standard 10 – Illicit Discharges to the stormwater system are prohibited:

A statement regarding illicit discharges is included in the Stormwater Report. No further comment on this item.

No Response Required.

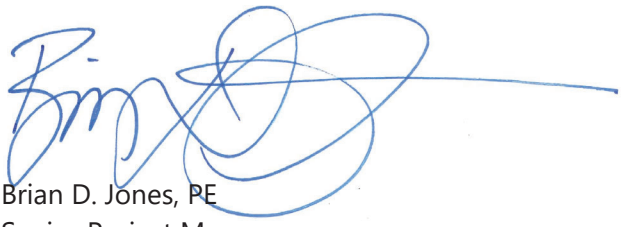
6. Design Standards (5.0 D)

   In general, the intent of the design is to meet the Bylaw Regulations Standards per this section. Addressing the issues noted in our review comments above would bring the project into compliance.

   Response: The applicant has made the requested revisions as noted in the previous pages.

We thank you in advance for your consideration and look forward to presenting this project at the January 5, 2022, meeting.

ALLEN & MAJOR ASSOCIATES, INC.



Brian D. Jones, PE
Senior Project Manager

Enclosures:

1. Camp Chickami Site Plan, revised as of December 23, 2021
2. Camp Chickami, Drainage report revised as of December 23, 2021