

October 25, 2021

Bianca Dygert
Greenwich Land Use – Planning & Zoning
Town Hall
101 Field Point Road
Greenwich, CT 06830

Re: PLPZ 2021 00384 & Aleksandra Moch 10/20/21 Memorandum
70 Lower Cross Road, Greenwich, Connecticut

Dear Ms. Dygert:

We are in receipt of the Conservation Commission memorandum prepared by Aleksandra Moch and dated October 4, 2021.

The proposed project will not adversely affect water quality and changes to the project design are not warranted. The stormwater management plan proposed for this project has been reviewed and approved by both the Inland Wetlands and Watercourses Agency and the Town Engineer and the project Green Area exceeds that which is required per the Greenwich Building Zone Regulations. However, Ms. Moch concludes that the proposed redevelopment of the property will adversely affect water quality and wetlands and watercourses due to too much development and water pollution. The proposed project will not adversely affect water quality of wetlands or watercourses. The project is a low-intensity development with relatively limited development and significant environmental protections and enhancements. As is noted in the drainage manuals for the Town of Greenwich, State of Connecticut, surrounding states and the EPA, low-intensity developments such as the proposed do not adversely affect water quality due alone to a low percent of impervious cover. Even with no stormwater management measures, low-intensity developments do not degrade water quality. This is well documented via dozens of studies throughout the country. Nonetheless, and to provide additional protection for stormwater quality, the proposed project does include stormwater management measures. The proposed project protects water quality and changes to the project design are not needed.

The following is more specific information regarding the items noted in Ms. Moch's memorandum:

Item 1: *This site has been granted a special permit in 2020 for allowing an excess of 51,579 cubic feet volume. The new application is requesting additional 2,000 cubic feet of increase in volume. In addition, a tennis court will be added to cover approximately 7,000 sf of soil surface.*

Response 1: No response required.

Item 2: *The drainage summary report indicates only 60% of the storm water runoff generated at the site will be renovated and only 80% of TSS reduction made before discharged to the high quality wetland/watercourse area which drains into the protected by the town Babcock Preserve. The total area generating storm water runoff once developed will reach 37,831 sf.*

Response 2: **This is wrong. The stormwater runoff from nearly all (approximately 95 percent) impervious surfaces will be treated to ensure that water quality is not degraded. The Town Engineer has reviewed and approved the proposed drainage plan.** The Drainage Summary Report indicates that 82.1 percent of impervious surfaces will be treated by one of several Best Management Practices (BMPs) and all BMPs will provide 90 percent TSS reduction. 60.5 percent of stormwater runoff from the impervious surfaces will be treated with Low Impact Development (LID) techniques, exceeding the minimum required 60 percent threshold. An additional 21.6 percent will be treated with subsurface infiltration chambers. An additional 15.2 percent of the will be treated with stone diaphragms and vegetated buffers. The LID BMPs and the subsurface infiltration chambers BMPs exceed the minimum threshold for TSS reduction (refer to Appendix 4).

Comment 3: *The proposed storm water quality measures focus on the less pollution loaded areas. The proposed rain garden which is the most effective storm water quality measure will treat the runoff from the guest house while the most polluted storm water from the driveway at the main house will be discharged towards the ponded wetland to the north. The IWWA has limited jurisdiction which excludes water quality. Therefore, it is important for P&Z to protect the drinking water watershed and make sure, development which asks to exceed the maximums set by the regulations is held to a higher standard. The site plan design should do more for the storm water renovation considering the Class AA water quality at the site.*

Response 3: **This is wrong. Water quality management is a critical component of nearly every IWWA review and decision. The Greenwich IWWA reviewed and approved the proposed project, including the project's proposed water quality management. Further, due to the low amount of proposed impervious cover and if none of the proposed stormwater management BMPs were installed, the proposed project would not adversely impact water quality.** The CT DEP Bureau of Water Management indicates that 12 percent impervious cover is an acceptable threshold for protecting streams without the inclusion of additional stormwater management BMPs. According to the results of studies conducted in many areas of the country, water quality is degraded and streams become impacted as the impervious cover of a watershed with few to no stormwater BMPs exceeds this threshold. The proposed project will result in 9.1 percent impervious cover at the property. As such, the water quality of the pond (and all other resources) is protected from degradation with no additional measures provided. While this project is within an acceptable threshold to protect water quality, stormwater management measures for the drive (i.e., the vegetated stone diaphragms) have been included to provide additional protection in accordance with the 2004 CT Stormwater Quality Manual and the Town of Greenwich Drainage Manual. Test pits in this area revealed that infiltrations BMPs are not feasible due to very high groundwater levels. The

proposed management method maintains existing flow patterns while minimizing the potential for water quality degradation through the relatively small area of proposed impervious cover in the watershed and through the proposed vegetated stone diaphragms to slow water velocity and provide some water quality treatment. Additionally, as originally proposed, the project provides significant improvements to the functions and values of the pond, beyond Town requirements. The pond will be dredged to remove accumulated sediments and muck and long-term aeration will be installed to mitigate eutrophication and improve fish habitat. Native vegetation will be installed within the pond and along the banks to create an emergent marsh. Additionally, the pond outflow pipes will be replaced with smaller pipes to control pond water levels. Overall, the proposed project provides significant enhancements to the pond and provides for the long-term protection of the water quality.

Comment 4: *The proposed tennis court will result in additional and unnecessary site paving. This large area of hard cover will increase the heat island effect, thermally pollute the storm water runoff, eliminate a large area from the natural infiltration and create additional need for the storm water capacity disturbing more areas.*

Response 4: **This is wrong. The proposed tennis court will not thermally pollute stormwater runoff because the court will be pervious and will not have runoff with detrimentally-high temperatures.** The proposed tennis court will be constructed with Har-Tru which will allow stormwater falling on the tennis court to filter through the surface to a subsurface crushed stone reservoir below the tennis court. Additional areas will not be disturbed to provide storage and infiltration will be preserved via the design of the court. As requested by DPW, the court has been raised by one foot to allow for adequate soil infiltration from the collected stormwater. The court will treat the first flush generated by a storm and provides more than 5.5 times the Town required water quality volume storage. As such, the falling stormwater will cool the surface of the court and the water will be stored, treated and cooled via infiltrating through the underlying gravel and soils..

Comment 5: *The proposed mitigation planting plan offers native species which will enhance the habitat and reduce the lawn area, but the proposed mitigation offers only 790 sf (16 shrubs x 25sf and 390 herbaceous ground cover x 1sf) of new vegetative cover while the tennis court itself will take over 7,000 sf and two trees will be cut in the process eliminating about 100 sf of planted area. There should be a point when the ongoing expansions of the site improvement exceed reasonable mitigation measures. The tennis court had reached this tipping point when the impact no longer can be balanced by the natural areas or compensated by further mitigation measures. It is recommended the tennis court be removed from the plan and the proposed guest house build over the disturbed area of the old house.*

Response 5: **This is wrong. The proposed tennis court will not adversely affect water quality, wetlands or watercourses.** The tennis court is proposed in the previously approved footprint of the guest house, pool and lawn and the guest house is proposed in an area of previously approved lawn. While two additional trees are proposed to be removed, the cover type of the development has not eliminated

naturalized vegetation in favor of improvements as compared to the originally approved design. Rather, the previously approved mitigation measures have been maintained and broadened to provide compensate of the design change. The proposed stormwater management measures for the tennis court exceed Town requirements and the previously approved Wetland & Buffer Enhancement Plan Mitigation has been maintained through the reduction of previously approved lawn area. The applicant acknowledges that two additional trees will be removed as a result of proposed design change and is pleased to plant new trees. Overall, the project achieves reasonable development in kind with typical Greenwich residential developments while providing mitigation and the enhancement and preservation of naturalized areas. The total area of proposed impervious surfaces is 9.1 percent of the property, which is within the threshold to provide water quality protection without the incorporation of the proposed stormwater management plan. Additional BMPs are however provided to meet or exceed Town requirements for peak flow, runoff volume reduction, water quality and groundwater recharge. The project provides substantial ecological mitigation through pond enhancement activity to significantly improve the functions and values of the pond, through wetland and buffer plantings to provide protection to wetlands and watercourses and through the preservation of over four acres of forest onsite adjacent to Babcock Preserve.

Thank you for your consideration of this information. If you should have any questions or comments, please do not hesitate to contact us at (203) 366-0588.

Sincerely,



William L. Kenny, PWS, PLA
Principal



Carolyn Matthews
ESA Certified Ecologist
ISA Certified Arborist, NE-6822A