


MEMORANDUM

TO: North Castle Planning Board

CC: North Castle Conservation Board
Adam Kaufman, AICP
Nathaniel J. Holt, P.E.
Hugh Harris

FROM: John Kellard, P.E. 
KSCJ Consulting
Consulting Town Engineers

DATE: October 22, 2021
Updated February 24, 2023
Updated November 10, 2023

RE: Hugh Harris
9 Sterling Road North
Section 108.02, Block 1, Lot 58

As requested, KSCJ Consulting has reviewed the site plans submitted in conjunction with the above-referenced project. The applicant is proposing a new pool, patio and legalization of constructed retaining walls. Associated improvements include construction of a stormwater mitigation system and relocation of the existing septic system to accommodate the proposed pool layout. The property is ±2.0 acres in size and is located in the R-2A Zoning District.

Our comments are outlined below.

GENERAL COMMENTS (WITH OUR MOST RECENT COMMENTS IN BOLD)

1. The applicant has revised the plans based on previous site walks with the Planning Board and Conservation Board and meetings with the Conservation Board. Based on the mitigation plan, there is 15,352 s.f. of buffer disturbance proposed and 33,379 s.f. of buffer mitigation. This meets the 2:1 mitigation ratio required by the Town Code, which would require 30,704 s.f. of mitigation.

Memorandum from the North Castle Conservation Board, dated June 24, 2021, provides a Negative Recommendation of Approval to the Planning Board. The majority of the Conservation Board

members determined that the project would have a negative impact on the wetland and local environment.

The applicant has submitted a Wetland Functional Assessment, which was prepared after the Conservation Board memorandum was prepared to your Board. While the assessment does not appear to provide any new information which was not already understood, the Board may want to consider referring the Assessment back to the Conservation Board and Wetland Consultant for their review and comments.

Memorandum from the Town Conservation Board, dated August 3, 2023, recommends approval of the proposed project with the condition that the Witch Hazel plants proposed for mitigation be replaced with alternative native species and a long-term Wetland Maintenance and Monitoring Plan (5-year) be implemented by the applicant. The applicant should revise the planting plan and submit the Wetland Maintenance and Monitoring Plan.

2. We note that entirety of the proposed pool and septic will be located within the wetland buffer.
3. The shape of the pool has been changed since the previous submission, where the pool remains 800 s.f., but the associated pervious pavers have been reduced in size from 1,935 s.f. to 1,573 s.f.

A portion of the pool patio may have changed to a trex deck. The applicant should clarify the changes to the plan since their last appearance before the Board.

The pool deck has changed to a trex deck with a pre-treatment gravel/infiltration practice below. The pre-treatment practice is located within 50 feet of the proposed septic. The septic plan does not include the pre-treatment practice. The applicant should provide verification from the Westchester County Department of Health (WCHD) that the pre-treated practice is acceptable within the septic setback.

4. The applicant shall quantify (s.f.) the size of the proposed rain gardens. We note that a detail for the rain gardens had been provided in the January submission for this project.

It appears the rain garden has been removed from the proposal, however, a detail of the rain garden is included with the landscape details. Perhaps the applicant can explain.

The rain garden detail has been removed from the plan set. Comment addressed.

5. The plan includes a wall at the pool and patio's edge, which ranges from 5' to 6' in height.

The walls appear to have been reduced to a four (4) foot height.

The applicant should provide a retaining wall design for the proposed wall surrounding the proposed pool.

6. The applicant is proposing to replace the existing septic system with a new system; both the existing and proposed are located within the wetland buffer. If approved, the new system will be larger in size than the current system; however, due to recent WCHD policy updates, the WCHD does not approve septic systems within the wetland buffer. We recommend the applicant meet with the WCHD for a determination regarding the ability to approve the system as proposed before proceeding with this project.

The applicant's Engineer accusations of inaccuracies and misinformation is not justified. This application has continually been changed and we have not always been updated of these changes. In regard to the septic system, please remember when the project was initially proposed, the existing septic system was portrayed as a functioning system which was to remain to service the residence. Later in the process, it was to be removed to make room for the new pool. After the WCHD changed its policy on septic systems within wetland setbacks, the existing system was determined to be in failure. WCHD Regulations are more lenient when a system is in failure and remediation is required.

We are obviously pleased the septic failure was uncovered and that the applicant will be proceeding immediately to correct the problem by installation of the new system. Please provide a copy of the WCHD Remediation Approval.

WCHD Remediation Approval was granted on October 28, 2022. The remediation will provide a new, 1,250 gallon septic tank and 500 l.f. of absorption trench with eight (8) junction boxes and three (3) feet of run of bank fill. Comment addressed.

7. After meeting with the WCHD, the applicant should clarify the approval status of the proposed septic system.

Please submit the WCHD Septic Remediation Approval.

WCHD Remediation Approval #NC-2022-15C has been submitted by the applicant. Comment addressed.

8. Please clarify the depth of the junction box at the infiltration units, it appears to be 25 feet deep.

Elevations corrected. Comment addressed.

9. Also, please clarify how the runoff from the pool patio is treated. The patio elevation is shown below the elevation of the infiltrators.

The applicant is requesting that the increase in runoff for this project not be mitigated since the applicant reduced runoff during a previous project. The request is a bit confusing; the work was performed prior to this application being proposed, there is no documentation regarding the design, inspection or confirmation of the installation. The present Design Professional clearly states he cannot confirm the design parameters or confirm what is actually in place. The applicant needs to seriously examine the runoff impacts for this project and provide the necessary mitigation. Mitigation should include soil testing and all increases in runoff for the project, including the pool cover.

The applicant shall provide the pool deck pre-treatment detail referenced on Sheet 4 of 4 within the Engineer's plan package.

The applicant should update the stormwater analysis, as follows:

- **Use consistent runoff curve numbers for permeable patio pavers and driveway permeable pavers, both RCN values should be 88.**
- **Existing lawn area is not poor grass coverage and therefore, should have a lower RCN value for good lawns.**
- **Detail for the pre-treatment under the deck has not been provided within the plans submitted, however, if it is gravel, the RCN value should be between 88 and 95.**
- **Pool area must be included within the runoff numbers, since a pool cover can be installed at any time. Please use RCN of 98 for the pool.**
- **The applicant is proposing to mitigate stormwater by adding infiltration units to the existing infiltration practice located on the north side of the residence, by adding an**

infiltration unit with drain below the proposed permeable paver patio and applying a credit for previous changes to the driveway from an asphalt surface to permeable pavers. It appears that such mitigation should more than compensate for the increase in runoff from the project. The applicant, however, should revise the stormwater computations as requested above.

10. The retaining walls to the north of the driveway were constructed without prior approval. The applicant has provided as-built locations and heights of the walls. The site plans indicate the walls will be lowered to a maximum height of four (4) feet. However, it is unclear how this will be achieved. The walls, as constructed, will require certification by a NYS Licensed Professional Engineer.

The applicant notes that certification of the previously constructed walls has been obtained. The applicant should submit the certifications.

11. **The proposed limit of disturbance shall be illustrated and quantified on the plans and include all areas of proposed disturbance and development. The plan shall note that the limits will be staked in the field prior to construction.**
12. The applicant is proposing a pump system to convey stormwater runoff from the pool backwash and patio area to an infiltration system located behind the newly constructed retaining wall. We recommend that the applicant consider an alternative gravity system located downgrade of the improvements. Doing so will alleviate future maintenance concerns and the introduction of additional stormwater behind the retaining wall. In addition, we note that only the top 25% of the infiltration systems can be installed in fill. This would require the infiltration system to be installed relatively deep in this instance. Given the proximity to the adjacent wetland area, suitable soils are unlikely. The applicant should consider using a rain garden, or other acceptable practice, to treat stormwater. This could then be incorporated into the anticipated wetland mitigation plantings. Deep and soil percolation tests must be completed by the applicant and witnessed by the Town Engineer. Pumping of the pool drawdown is acceptable, however, runoff from the patios should not be pumped.

As previously stated, pumping of the pool drawdown is an acceptable practice. The applicant's professional, however, must confirm that the existing infiltration system, which the pool drawdown is to be pumped, is actually in place and functioning.

Comment addressed.

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13. There are existing gravel and woodchip stockpiles, associated with prior disturbance activities, located within the regulated wetland buffer and wetland proper. The plans shall include the removal of these materials and restoration of these areas. The restoration shall be included in the limit of disturbance and made part of the mitigation plan.

Comment addressed.

As additional information becomes available, we will continue our review. It is noted that an itemized response to all comments will facilitate completeness and efficiency of review.

PLANS REVIEWED, PREPARED BY NATHANIEL J. HOLT, P.E., DATED MARCH 25, 2023:

- Existing Conditions Plan (Sheet 1 of 4)
- Site Plan w/ Approved SSDS (Sheet 2 of 4)
- Proposed Coverage Plan (Sheet 3 of 4)
- Construction Details (Sheet 4 of 4)

PLANS REVIEWED, PREPARED BY YOST DESIGN LANDSCAPE ARCHITECTURE, DATED OCTOBER 31, 2022:

- Mitigation/Planting Plan (L-701)
- Details Sheet (L-801)

PLANS & DOCUMENT REVIEWED, PREPARED BY NATHANIEL J. HOLT, P.E., DATED OCTOBER 17, 2022:

- Existing Conditions Plan (Sheet 1 of 3)
- OWTS Construction Plan (Sheet 2 of 3)
- Details (Sheet 3 of 3)
- Remediation Approval Application, signed by WCHD on October 28, 2022

JK/dc