

EX#35

Terrence McAuliffe, PE, CCM  
28 Hurlbutt Road  
Gales Ferry, CT 06335

September 16, 2024

Inland Wetlands & Watercourses Commission  
Town of Ledyard  
c/o Ms. Elizabeth Burdick  
Direct of Planning  
741 Colonel Ledyard Highway  
Ledyard, Connecticut 06339-1511

RECEIVED  
SEP 16 2024  
Land Use Department

Subject: Town of Ledyard IWWC Application for Permit, Application No. 24-9  
39-29-19 Military Highway, Gales Ferry, CT 06335

Dear Ms. Burdick:

My name is Terrence McAuliffe; I reside at 28 Hurlbutt Road, Gales Ferry, CT 06335. I am writing to follow up my public comment provided during the recent IWWC Commission Meeting held on September 3, 2024. I am a Professional Engineer licensed in the State of Connecticut (license #PEN.0029359), a Certified Construction Manager (CMCI #12795), and maintain certification as a Qualified Compliance Inspector of Stormwater – Connecticut (certification #2b2219d9). I have 16 years of experience providing professional engineering services related to civil, site, and construction design, and construction management and inspections. My experience also includes performing regulatory, constructability, and alternative design reviews.

Please see the detailed analysis below based on a review of the IWWC Application for Permit, Application No. 24-9 for 39-29-19 Military Highway, Gales Ferry, CT 06335 submitted by C.R. Klewin LLC, submitted on June 29, 2024, and supporting documentation available as of September 15, 2024.

- The Applicant's proposed septic design flow is 52,338 gallons per day (gpd). The proposed design greater than 7,500 gpd, is a community system, and utilizes alternative treatment and is therefore regulated by the Department of Energy & Environmental Protection (DEEP). The Application includes a DEEP Permit Application for Wastewater Discharges from Subsurface Sewage Treatment and Disposal Systems; the Applicant Name is Sweet Hill Acres, LLC. The IWWC Application for Permit notes the Applicant Name as C.R. Klewin LLC. This discrepancy in Applicant Names represents submissions by separate legal entities. ***The IWWC must recognize that the IWWC Application submitted by C.R. Klewin, LLC is incomplete and does not include an applicable septic/wastewater system design submitted to DEEP.***
- The Applicant's septic design assumes a peak daily flow of 91.5 gpd/BR (61 gpd x 1.5 factor of safety). The CT Public Health Code (2004) requires a design flow of 150 gpd/BR, allowing for revised flows based on use of data from a similar building's historical water

use. The Applicant uses a 412 bedroom, single building residential apartment located at 1395 22<sup>nd</sup> Street, San Francisco, CA. The proposed develop is 352 bedroom, four building residential apartment. The existing facility the Applicant uses as a case study is not similar to the proposed development with respect to: number of buildings, number of stories per building, and number of bedrooms. Additionally, California's water use efficiency regulatory standards differ from those of Connecticut. The Applicant's design must assume similar water efficiency practices to the "similar" case, however there is no information regarding features being employed within the proposed development. The Applicant's design flows represent approximately 61% of the standard flow – a significant reduction. ***This design does not use codified design assumptions nor reasonable assumption, resulting in undersized septic features; this design does not appear to comply with CT Public Health and DEEP requirements. This design appears to present the likely potential for long-term, significant impacts to the wetlands resulting from inadequate septic design and features and should be considered under Section 10.2 of the Town's IWWC Regulations.***

- The Applicant's septic operations and maintenance is incomplete. The plan anticipates the need for a trained and certified operator/maintainer as a 0.5 FTE to provide daily, remote monitoring is required, with additional on-site maintenance. The Applicant does not identify any qualified parties to potentially provide such critical services. The Applicant's Contingency Plan does not adequately specify critical mechanisms to maintain the wastewater system and avoid release impacting the environment and wetlands: operational fail safes do not adequately allow for prompt and immediate controls of failure; and no specific action plan for power failure and outage are provided. ***The incomplete wastewater Contingency Plan appears to present the likely potential for long-term, significant impacts to the wetlands resulting from inadequate septic design and features and should be considered under Section 10.2 of the Town's IWWC Regulations.***
- The Applicant did not properly or adequately identify all pertinent features of the land and the proposed activity. Sufficient detail to evaluate the impact of the proposed clubhouse facility area has not been provided in the Applicant's Site Plan and Engineering reports. Additionally, the Site Plan does not provide information regarding refuse storage facilities, including location and containment (Chapter 9.6.B details requirements of the Town's Zoning Regulations). Further, it was noted by the Applicant during the Public Meeting held on September 3, 2024, that a community pool has been proposed; this feature has not been identified nor considered in the Site Plans or Engineering reports. The proposed Drainage Report notes the existing condition includes "lawns". The Drainage Report should likely consider a portion of the site as farmland based on historic land use. This change may result in changes to the proposed drainage design. ***This design does not comply with Section 7.4.1.f and 7.4.1.j of the Town's IWWC Regulations.***
- The Application proposes land development to maximize land use to the detriment of the historic character of the property in terms of scale, density, architecture, and materials of all site features; environment and regulated wetlands. Feasible and prudent alternatives may exist; however, the Applicant did not provide any alternatives which would cause less

or no environmental impact to the wetlands or water courses. In accordance with Section 10.4 of the Town's IWWC Regulations, feasible and prudent alternatives may include:

- Maintaining the existing land use;
- Presenting a coordinated and comprehensive design that complies with all applicable regulatory, design, and best management practices;
- Limiting the size, scale, and scope of the development's footprint;
- Alternative stormwater management design features;

These alternatives, however, do not shift the burden from the Applicant to prove that he is entitled to the permit. ***This design does not comply with Sections 7.4.1.h and 10.3 of the Town's IWWC Regulations.***

- The Applicant did not demonstrate its commitment nor other management practices and mitigation measures to restore, enhance, and/or create productive wetland or water course resources. ***This design does not comply with Section 7.4.1.i.3 of the Town's IWWC Regulations.***
- The Application's proposed design impacts area within Special Flood Hazard Area (100-Year Floodplain) at and below Elevation 28.00. The developed site raises approximately 39,000 square feet of the area within the existing Special Flood Hazard Area. While this design approach reduces the risk to personal and property flood damage, the grading and elevation changes reduce the area available area to absorb flooding and further impact the existing wetlands. Additionally, a reevaluation of the Flood Hazard Area will be required. While the proposed site design accounts for stormwater management of the impervious developed area, the design does not appear to consider grading impacts that could result in flooding of the wetlands. ***This design appears to negatively impact the wetlands and should be considered under Section 10.2 of the Town's IWWC Regulations.***
- The proposed Typical Details for stormwater catch basins do not include a sump. Additionally, several conveyance pipes have minimal slope (0.50%). The result of the selected design features do not allow debris and sediment to settle out of the stormwater effectively, which increases the downstream pollutant load; this increases the reliance on the HDS units to protect downstream water quality and wetlands degradation. Additionally, this approach increases the likelihood of clogging and blockages. To avoid failure, maintenance frequencies will need to be significantly increased. ***This design appears to present the likely potential for long-term, significant impacts to the wetlands resulting from stormwater management features that exacerbate the need for increased maintenance and should be considered under Section 10.2 of the Town's IWWC Regulations.***
- While it is understood that the Construction Contract is yet to be identified (standard practice during the permitting process), the Stormwater Operation and Maintenance Plan included in the Application's Drainage Report notes that the Responsible Party Post Construction for Stormwater O&M is "TBD." Post Development Controls are to include litter and debris removal; sweeping of parking lots and on-site driveways; inspection and cleaning of catch basins, yard drains, trench drains, manholes and piping; checking of riprap apron/scour holes; inspection and cleaning of water quality units (hydrodynamic

separators); preventative maintenance of infiltration basin; inspection and maintenance of extended dry detention basin; and monitoring and maintenance of landscaped and eroded areas. These activities are critical to ensure functionality and continued protection for the wetlands. Without an identified responsible party, the IWWC is unable to evaluate the qualifications of the proposed development's owner and operator. ***The incomplete, post-construction Stormwater O&M Plan demonstrates a lack of specificity and potential for long-term, significant impacts to the wetlands and should be considered under Section 10.2 of the Town's IWWC Regulations.***

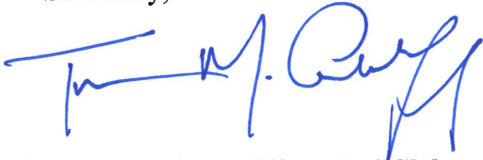
- The proposed basin bottom of Proposed Infiltration Basin P-1 is at Elevation 29.00. The ESHGW at TP-3 is Elevation 26.5; and at TP-5 is Elevation 26.2. Groundwater evaluations were taken on May 22, 2023, a time at which Gales Ferry experienced a rainfall deficit. This could mean that the ESHGW has been underestimated. Assuming the ESHGW is appropriate, though, at least 3 feet of separation is recommended between the bottom of the infiltration basin and the seasonal high groundwater table. ***The Application's design does not meet the requirements of Chapter 10 – General Design Guidance for Stormwater Infiltration Systems of the Connecticut Stormwater Quality Manual, latest revision March 26, 2024.***
- When coordinating the Application's Site Design and Wastewater Design, the proposed Treated Water Storage Tank is located approximately 33'-6" from the Proposed Infiltration Basin P-1. Infiltration systems should be located a minimum distance horizontally from certain site features to minimize adverse impacts to water quality. The recommended minimum horizontal setback distance from stormwater infiltration systems to on-site subsurface disposal systems (any component; all other uses) is 75 feet. ***The Application's design does not meet the requirements of Chapter 10 – General Design Guidance for Stormwater Infiltration Systems of the Connecticut Stormwater Quality Manual, latest revision March 26, 2024.***
- The proposed primary driveway is located within less than (10) ten feet of the adjacent property line at 23 Military Highway. ***This design does not comply with Chapter 8.28.D of the Town's Zoning Regulations.***
- The proposed driveway north of Building C is located within less than (10) ten feet of the adjacent property line at 23 Military Highway. ***This design does not comply with Chapter 8.28.D of the Town's Zoning Regulations.***
- The parking area to the south of Building D dead-ends and does not provide continuous circulation and lacks sufficient turnaround areas and adequate overall site circulation. ***This design does not comply with Chapter 9.4.4.F.5 of the Town's Zoning Regulations.***
- The proposed design exhibits several instances where parking areas or driveways are closer than ten (10) feet from any portion of the building. ***This design does not comply with Chapter 9.4.4.F.6 of the Town's Zoning Regulations.***

**Conclusion**

The Application fails to present a complete and coordinated site, stormwater, and wastewater design to ensure short- and long-term management of the proposed development. Upon review of the Application, the proposed design demonstrates various failures to meet regulatory, design, and best management practice requirements. The Application also fails to adequately present feasible and reasonable short-term and long-term commitments to protect the wetlands and water courses in accordance with Section 10.2 of the Town's IWWC Regulations. The proposed development has a reasonable potential to cause significant impact on the immediate wetlands within the property limits, as well as the downstream water courses outside the property area. **It is my recommendation, as a Professional Engineer in the State of Connecticut, that the Commission deny the submitted Application for Permit.**

If you have any questions, please feel free to contact me.

Sincerely,



Terrence McAuliffe, PE, OCM