August 26, 2022
File No. 2020-034B

Mr. Benjamin Frost
Town of Warner
Planning Board Chairman
5 East Main Street
PO Box 265
Warner, NH 03278

Re: Site Plan Comments
Proposed Comet, LLC 24-Unit Multi-Family Development
Tax Map 34, Lots 4-3
9 Route 103 West
Warner, New Hampshire

Dear Mr. Frost:

Aries Engineering, LLC (Aries) is pleased to provide to the Town of Warner Planning Board (WPB) the following review of an application for site plan for a 24-Unit Multi-Family Development proposed by Comet, LLC of Windham, New Hampshire (applicant).

Aries understands that the applicant proposes the new construction of a 24-unit apartment building on a parcel of land located within the C1 Commercial District and the Intervale Overlay District on Lot 4-3 on Warner Tax Map 35 (site) on Route 103 in Warner, New Hampshire.

Aries further understands that the site is located within the Warner River Protected Corridor and that the Planning Board considers protection of the Warner River a critical requirement of the proposed development.

This review was conducted in accordance with Aries' June 8, 2020, proposal to the Planning Board.

OBJECTIVE

As requested by the Planning Board, Aries' objective was to conduct a review of the site plan application and provide general comments regarding stormwater management and potential impacts to the adjacent Warner River, site wetlands, and floodplain, which extends onto the site parcels. Aries will also assist the WPB in evaluating proposed site traffic flow, including the potential for interconnection with adjacent parcels, as well as with the New Hampshire Department of Transportation (NHDOT) right-of-way.

Aries prepared this review on behalf of and for the exclusive use of the Planning Board. This report shall not be transmitted to any other party, or relied upon by any other party, without Aries' written consent. However, Aries acknowledges the review may be conveyed to the Applicant and other Town of Warner representatives.

The findings and conclusions presented herein are not scientific certainties, but rather our professional opinions concerning our evaluation of information and data submitted by others, and are subject to revision based on our receipt and evaluation of new information not available for this preliminary review. Aries makes no warranty, either expressed or implied.

COMMENTS

Aries' review comments and opinions are based on our review of Site Plan drawings prepared by Ranger, dated August 8, 2022.

Aries comments follow:

Site Development Planning

1. Sheet 5 shows buildings on Lots 4-1 and 4-2 as "proposed", while we understand these building to be constructed. The planning board should confirm with the Applicant that the Site Plan depicts "as-built" features on Lot 4-1 and 4-2.
2. The Existing Conditions plans (Sheet 4) should show the "as-built" site features.
3. The proposed site access through existing Lot 4-2 commercial property is problematic:
    a. Only Sheet 14 depicts the traffic flow directions for existing development on Lots 4-1 and 4-2;
    b. Traffic flow on Lot 4-2 is counter-clockwise to avoid crossing lanes, while traffic flow on 24-Unit development is clockwise. In this configuration, traffic exiting the site needs to cross the inbound lane to exit property.
    c. Inbound traffic needs to cross outbound traffic for the commercial development on both Lots 4-1 and 4-2.
    d. There is only one exit for all three properties.
4. Consideration should be given to providing access through commercial Lots 4-1 and 4-2 and primary access to the 24-unit multi-family development directly from Route 103 (West Main Street) on an existing access grade.
5. Consideration should also be given to reversing the traffic flow to be counter-clockwise around the 24-Unit building.
6. The Site Plan shows a sidewalk between Lot 4-3 and 4-2, but does not show crosswalks at either end of the sidewalk. Pedestrian access to other area shops and restaurants located across Route 103 is not considered in the Site Plan. Aries recommends that pedestrian sidewalks be incorporated into the Site Plan.
7. Plan set does not show all traffic flow directions on one plan.
8. Easement areas are depicted on Sheet 3, but are undefined on the sheet. Please define on Sheet 3.

9. Easements for access to Lot 4-3 do not encompass entire driveway in northeastern property corner. An overlay of the easement areas and the proposed driveway areas should be provided. The access easement should fully encompass the proposed travel area used to access the 24-unit development.
10. The Federal Emergency Management Agency (FEMA) Zone AE 100-year base flood elevation (BFE) depicted on Ranger's plans is 421 feet. This is consistent with the most recent (2010) flood mapping for the Warner River.
11. Catch basin CB-3 on Sheet 6 is missing the invert out elevation.
12. Rim elevation for CB-3 listed at 421 feet, which is the same height as the BFE for the site area.
13. The ground surface located around the developments on Lots 4-1 and 4-2 is generally 429 feet to 428 feet. The ground surface elevation located around the proposed site building ranges from ~423 feet to 421 feet, which is approximately 6 feet to 7 feet lower than the ground surface at the adjacent commercial properties. Aries recommend raising the site development ground surface elevation to be a minimum of 2 feet above the base flood elevation as a protective measure to limit the potential for flooding of the site building due to anticipated future increases in flooding frequency and intensity.
14. The Site Plan drawings do not indicate whether the proposed 3-story site building has a basement. Consistent with New Hampshire Floodplain Management Program regulations, lowest floor (including basement) should be located at or above the base flood elevation consistent with New Hampshire Floodplain Management Program regulations to limits back flow of stormwater through anticipated building footing drains.
15. The Grading and Drainage Plan (Sheet 6) is incomplete and does not include details regarding proposed infiltration system, curbing, etc.
16. Erosion control plan (Sheet 16) depicts control measure for Lots 4-1 and 4-2 that are no longer necessary.
17. Sheet 6 depicts test pit logs for 12 test pits. Test pit location are not shown on Sheet 6. Test pit location shown on other sheets do not depict test pits TP-11 through TP-13, which are listed on Sheet 6.
18. According to Article XI: E;1. Parking and circulation are located to the side and rear of proposed building(s). No parking may be located within the front yard of the building(s) with the exception of handicapped parking. The proposed Site Plan shows parking along the "front yard" of Lot 4-3. However, similar parking is provided on adjacent Lots 4-1 and 4-2.
19. The proposed development meets the C-1 dimensional and impervious surfaces requirements. The project proposes approximately 41,000 square feet (s.f.) of impervious surfaces.
20. Stormwater from the site building and paved areas appears to be contained in a closed system by curbing that directs stormwater flows to an underground stormwater storage/infiltration system (stormwater system). Stormwater flows should be attenuated by the proposed stormwater system and off-site flow rates should be less than or equal the pre-development flows. A hydraulic model and drainage report, which are necessary to size the depicted stormwater system, were not provided for review. A final design of the proposed stormwater system that

limits stormwater flows to pre-existing conditions or less should be a conditions of Site Plan approval.

21. In the retaining wall design detail on Sheet 9, Aries recommends installing a 6-inch perforated underdrain in the crushed stone backfill behind the base of the wall that drains to daylight.
22. Sheet 12 depicts proposed stormwater system detail that indicates a "Top of Stone" elevation equal to 426.20 feet. Please revise to meet proposed ground surface elevations on Lot 4-3 that are considerably lower (422 feet). Also, test pit Estimated Seasonal High Groundwater (ESHGW) elevations should be representative of the test pits located in the area of the proposed stormwater system.
23. Test pits should be installed in the areas of the proposed stormwater systems. The closest test pit to the stormwater systems depicted in the site plan drawings is located at TP-9. The ESHGW elevation recorded for this test pit is 414.57 feet. Similar ESHGW elevations are recorded for test pits TP-11, TP-12 and TP-13, which range between 414.5 feet and 415.5 feet and are presumed to be located near the proposed stormwater systems. Based on these ESHGW elevations and the proposed stormwater system specifications provided on Sheet 12, a minimum depth of approximately 7.5 feet from finished ground surface to ESHGW is required to install the proposed stormwater system. Using the highest recorded ESHGW elevation of approximately 415.5 feet, a minimum finished grade elevation of 423 feet would be required to install the proposed stormwater systems. Finished grades in the vicinity of both proposed systems range between 422.2 feet and 421 feet, which would not provide enough cover for the proposed stormwater systems or separation from underlying groundwater.
24. A drainage report that describes the proposed stormwater systems' capacity to manage stormwater were not provided for review.
25. As the owner/applicant is to be responsible for maintenance of all drainage structures in the project, Aries recommend that the applicant prepare a plan that outlines the maintenance requirements and inspection schedule for the proposed stormwater systems. The inspection reports should be maintained at the site by the owner/applicant and available upon request for review by the Town.
26. Wetland impacts are not depicted on the site plans.
27. The proposed stream crossing type and details are not indicated on the plans. Sheet 20 depicts the location of a culvert beneath the propose assess road. Pipe diameter, invert elevations, headwall specification, ground surface contours, wetland impact areas, etc. should be provided on the final plan. These features and details will be required for a New Hampshire Department of Environmental Services (NHDES) Wetland Permit.
28. Plan approval will be subject to approval of a NHDES Wetland Permit and Alteration of Terrain (AoT) permit.
29. The Grading Plan (Sheet 6) indicates a retaining wall in the northeast corner of the proposed development with an approximate top of wall elevation of 440 feet, and an apparent base elevation at the parking areas of approximately 422 feet, which suggests a significant vertical wall height of approximately 18 feet. Available plan details (Sheet 9) depict a maximum wall height of 3 feet. Aries recommended that

retaining walls greater than three feet in height be designed and constructed under the supervision of a Professional Engineer (structural) who is licensed in the State of New Hampshire.

30. The Site Plan includes a lighting plan (Sheet 14) that depicts the locations of lighting poles along the margins of the parking areas. However, the plan does not indicate the type of fixture to be installed, nor does the plan depict the impact of lighting at the proposed development on abutting properties. Aries recommends requiring "dark sky" outdoor lighting that is designed to direct light to the ground. Submittal of additional light details and specification should be a condition of the Site Plan approval.
31. The lighting plans should also include exterior lighting fixtures that are proposed to be installed on the exterior of the site building, including entrance lighting and walkway lighting.
32. Areas for snow storage are not shown in the Site Plan. Aries recommends that the snow be located in areas that drain to the site closed drainage system so that road-salt-contaminated snow melt water and stormwater runoff can be captured and treated by the proposed stormwater system.

Please contact me at (603) 228-0008 if you have any questions regarding Aries' review comments.

Sincerely,
Aries Engineering, LLC

George C. Holt, P.G.
Principal Hydrogeologist

Jay P. Johonnett, P.E.
Senior Engineer

GCH:pj