

July 30, 2020  
File No. 2020-034A

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

Re: Site Plan Comments  
Proposed Comet, LLC Commercial Development  
Tax Map 34, Lots 4-1 & 4-2  
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 the following review of an application for site plan for a commercial development proposed by Comet, LLC of Wilmington, Massachusetts (Applicant).

Aries understands that the applicant proposes the new construction of a one-story retail building and a one-story drive-through building with common utilities on two separate parcels identified as Lots 4-1 and 4-2 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**

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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**

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Aries' review comments and opinions are based on our review of the information listed below:

- A Site Plan Review Application prepared by Ranger Engineering Group, Inc. (Ranger) of Methuen, Massachusetts, dated May 8, 2020;
- A May 28, 2020 correspondence to the Planning Board prepared by the Warner River Local Advisory Committee (LAC);
- Site Plan drawings prepared by Ranger, dated May 6, 2020 and revised July 10, 2020;
- Comment Responses prepared by Ranger, dated July 7, 2020;
- A July 21, 2020 Alteration of Terrain Application prepared by Ranger; and
- Warner Planning Board approved meeting minutes dated June 1, 2020.

Aries comments follow:

### **Alteration of Terrain (AoT) Permit Application**

1. Calculations for water quality volume (WQV) in the permit application narrative show 5,321 cubic feet (cf), but calculation using listed values equals 5,032.8 cf.
2. Calculations for Underground Structure 3 show 34 hrs in the permit application narrative, but calculation using listed values equals 32.6 hrs.
3. Consistent with the New Hampshire Department of Environmental Services (NHDES) AoT Rules, Part Env-Wq 1503.09, a submittal of a 100-Year Floodplain Report is required as the 100-year floodplain extends onto both site properties. Aries did not receive a copy of the above-referenced report for review.
4. Aries notes that Ranger's 100-year floodplain extent does not match the 100-year floodplain extent depicted in Federal Emergency Management Agency (FEMA) *Digital Flood Insurance Rate Map (DFIRM) Database for Merrimack County, NH, USA*, dated April 19, 2010. Attached Figure 1 depicts the 100-year Flood Zone AE, which extends into the proposed development area. Available GIS data

provided with the DFIRM indicate that a base flood elevation contour of 421 feet is present approximately 1,200 feet downriver of the proposed site development area extent. As such, Aries infers that a base flood elevation (BFE) at the site is greater than the BFE contour of 421 feet used by Ranger, but less than an elevation of 422 feet. Ranger's ground surface contours indicate that a significant portion of the proposed site development area on Lot 4-2 is below the 422-foot elevation contour. Aries recommends that Ranger demonstrate that placement of approximately seven feet of fill on the site parcels will not impact floodwater storage.

5. Ranger did not use the NHDES-specified precipitation frequency tables. However, the values used in their analyses were greater than the values generated using the NHDES-specified Northeast Regional Climate Center Extreme Precipitation Tables. Therefore, their predicted runoff velocities should provide for a conservative design for stormwater control infrastructure. For example, the 50-yr 24-hr rainfall model used provides a total storm precipitation value of 6.32 in. The NHDES-specified precipitation frequency value is 5.86 in.
6. The Flow Rates Tables in the AoT Application indicate slightly higher values than those provided in the accompanying HydroCAD model files. For example, the 50-year post-development rate is reported as 2.44 cubic feet per second (cfs), but the model output provides a value of 2.32 cfs. The pre-development values in the table are consistent with the model output values. In any event, the post-development stormwater flow rates are less than the modeled pre-development rates and indicated that peak stormwater flow rates will be adequately attenuated.

### Site Development Planning

7. During our prior discussions with Ranger, Aries recommended that they remove the western single lane access driveway. Additionally, Aries recommended interconnection of the site driveway with the abutting gasoline station to the west and the undeveloped parcel to the east. These recommended changes are not incorporated into the updated Site Plan.
8. The use of shared driveways and shared access points between adjacent parcels is intended to minimize the potential for conflict between turning and through traffic. *Shared driveways have a tendency to reduce accidents associated with turning traffic and have a tendency of improving the efficiency of the main road.*<sup>1</sup>
9. Aries recommends that the site be accessed by a double-lane driveway between the two lots that are shown on the site plan. A more westerly driveway location will leave Route 103 at a lower elevation, which will reduce the grade of the access

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<sup>1</sup> Innovative Land Use Planning Techniques; Chapter 3.3: Access Management, October 2008, compiled by: New Hampshire Department of Environmental Services; New Hampshire Association of Regional Planning Commissions; New Hampshire Office of Energy and Planning; New Hampshire Local Government Center.

driveway. Aries recommends installing the driveway at the intersection of the two properties.

10. Areas for snow storage are shown in landscaped areas upslope from the site parking areas. Aries recommends that the depicted snow storage areas 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 infiltration system.
11. The drive-through lane associated with the western proposed site building on Lot 4-1 appears to have a drive-through lane that is narrow (8 feet in width) and has a difficult 90-degree turn at the southeast building corner. Aries recommends a similar turning radius as planned for the eastern proposed site building.
12. Nuisance noise related to loud speakers at the proposed exterior drive-through windows on both building should be addressed. Aries did not see any discussion in the site plan regarding noise attenuation for the drive-through window ordering system.

### **Stormwater, Sediment and Erosion Control**

13. The Site Plan does not specify the construction materials for the check dam between the forebay and Detention Pond 1 (DP1). Aries assumes that it is consistent with the temporary check dam details provided on Ranger's Erosion Control Plan.
14. Based on the site plan proposed ground surface contours, the freeboard on DP1 appears to be shown on the plan as approximately 426.5 ft, which is the same elevation as the inlet grate elevation on the drain structure. The drainage model and site plan details indicate rim elevation of DP1 to be 427 ft and predict a peak elevation of 426.75 ft during a 50-yr storm event. A 100-yr storm event model output was not provided on the AoT Application. Aries recommends that the ground surface around DP1 be raised above 427 ft to accommodate a 100-yr storm event and that the DP1 rim elevation be shown on the construction plans.
15. Two options for DP1 filter media are provided. The order of installation of the filter media needs to be defined. Option A appears to be the inverse of Option B.
16. Side slopes located around the perimeter of the developed area range between a grade of 3 horizontal to 1 vertical (3h:1v) to 2h:1v. The Site Plan specifies that all slopes greater than 3h:1v are to be stabilized. Aries recommends that all slope on the periphery of the site project be stabilized following NHDES Best Management Practices (BMPs), as described in the New Hampshire Stormwater Manual, dated December 2008, including practices for surface roughening and erosion control blankets. Perimeter erosion controls should also be employed as secondary controls downslope from all slope stabilization measures.

17. Excluding comment 16 above, the provided erosion control plan appears otherwise sufficient. However, Aries recommends that periodic inspections be conducted during and following construction to identify site conditions that do not meet the proposed plan requirements or that need additional sediment and erosion control.

**Threatened or Endangered Species**

18. As required under NHDES AoT Rules, Part Env-Wq 1503.19(h), please be advised that, effective June 2, 2020, NHDES requires all AoT Permit Applications be submitted with an ecological risk assessment by a qualified wildlife biologist for all proposed project sites, regardless of whether there was a “hit” on the Natural Heritage Bureau (NHB) Datacheck tool. Aries recommends contacting the NHDES AoT Bureau for more information regarding this new requirement before submitting the site AoT Permit Application.

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

Sincerely,  
Aries Engineering, LLC



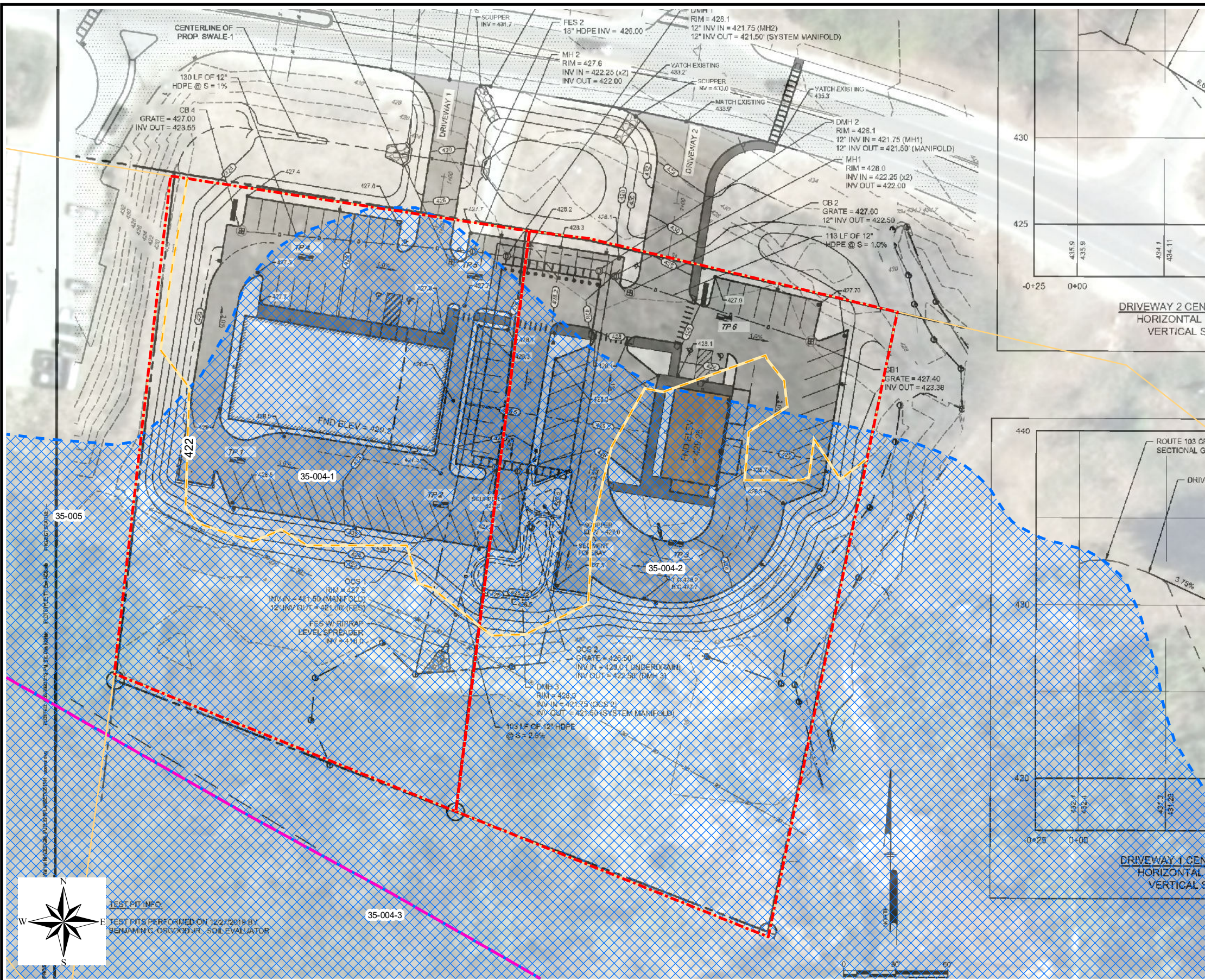
George C. Holt, P.G.  
Principal Hydrogeologist



Kathryn A. Ward, P.E.  
Principal Engineer

GCH:pj

Attachments: Figure 1 – Site Plan



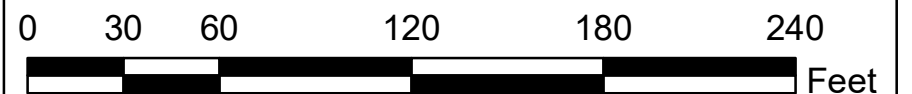
**NOTES**

1. Plan prepared from: Site Plan drawings prepared by Ranger Engineering Group, Inc. (Ranger) of Methuen, Massachusetts, dated May 6, 2020 and revised July 10, 2020; and information provided by New Hampshire Geographically Referenced Analysis and Information Transfer System (NH GRANIT) maintained by University of New Hampshire and the NH Office of Strategic Initiatives.
2. Basemap from a 2015 aerial photograph provided by NH GRANIT.
3. Site feature locations are approximate.

**Legend:**

- 422-Foot Existing Ground Surface Contour
- Site Properties
- Property Lines
- Floodway Margin
- FLOOD ZONE**
- 500-Year Flood Zone
- 100-Year Flood Zone AE

35-004-1 Town of Warner Property ID



Aries Project # 2020-034A  
File # 2020-034A(1)7.20.MDX



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SITE PLAN REVIEW  
PROPOSED COMET LLC COMMERCIAL DEVELOPMENT  
9 ROUTE 103 WEST  
WARNER, NEW HAMPSHIRE

SITE PLAN

JULY 2020

FIGURE 1