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July 8, 2021

Mr. James Ventres, Land Use Administrator
East Haddam Planning and Zoning Commission
Town Office Building
1 Plains Road, P.O. Box 385
Moodus, Connecticut 06469

RE: The Lofts at Black Birch LLC
Planning and Zoning Application, Site Plan Approval
1 Banner Road, East Haddam
NLJA PN 958-0005

Dear Mr. Ventres:

Our office has conducted an engineering review of design drawings and reports submitted for The Lofts at Black Birch LLC proposed apartments, located at 1 Banner Road in East Haddam. Application materials were received at our office on June 24, 2021 and our office conducted a site inspection of the project area on July 8, 2021.

The project includes construction of 20 single bedroom apartment units in the former Banner Lodge Community Center building on the subject 405.6 acre property. Our office is familiar with the site, having previously reviewed zoning applications for the Banner Lodge Enterprises Phase II and Phase III development proposals. Our review was based on the following engineering information prepared by WMC Consulting Engineers of West Hartford, Connecticut, Hendren Associates Architects of Boston, Massachusetts and Fuss & O'Neill of Manchester, Connecticut.

Description	Drawing No.	Date	Revision
Cover Sheet	1 of 13	6/3/21	-
Boundary Survey	2 of 13	6/3/21	-
Existing Conditions Plan	3 of 13	6/3/21	-
Site Layout Plan	4 of 13	6/3/21	-
Site Landscaping Plan	5 of 13	6/3/21	-
Site Grading, Drainage & Utility Plan	6 of 13	6/3/21	-
Erosion & Sedimentation Control Plan	7 of 13	6/3/21	-
Drainage Details	8 of 13	6/3/21	-
Site Construction Details	9 of 13	6/3/21	-
Utility Details	10 of 13	6/3/21	-
Sidewalk Details	11 of 13	6/3/21	-
Erosion Control Details	12 of 13	6/3/21	-
Planting Details	12 of 13	6/3/21	-
Architectural Drawings	A-1.1, A-4.0	6/16/21	-
Application Package Report	-	6/24/21	-
Storm Drainage Analysis	-	6/20/21	-
Traffic Report	-	5/19/21	-

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The following engineering comments and recommendations are provided for the Commission's consideration.

A. Drainage

1. Based on our site inspection, the current privately owned portion of Banner Road and other site access drives beginning approximately 50 feet east of the Banner Road/Banner Lane traffic circle and extending to the west, appear to only have the binder course of pavement in place. This has resulted in catch basin tops and manhole frame tops extending above the pavement surface, resulting in roadway runoff flow bypassing the catch basins. The raised catch basin and manhole tops are also not provided with any winterization pavement, resulting in a number of damaged catch basin tops and manhole tops due to snow plowing operations. The stormwater drainage report calculations are based on the catch basins intercepting road gutter flow, with stormwater entering the storm drainage system. Currently this is not taking place in most locations. This situation will impact plans for the entrance drive and parking areas for the proposed apartment building because Banner Road slopes in a westerly direction towards the proposed building, drives and parking areas.

   The applicant's design engineer should address plans and a schedule for application of the top course of pavement and repairs to drainage structures.

2. The proposed easterly parking area and entrance drive in front of the apartment building include the installation of 4 new catch basins and 2 storm manholes for drainage of surface water runoff. The 12 ft. wide paved driveway proposed directly in front of the building is cross pitched to the west to drain towards the building entrance. This entrance location is also shown with ADA accessible sidewalks and a cross walk.

   It is recommended that additional detail on a smaller scale drawing with spot elevations be provided for this area, to demonstrate how driveway surface water will flow and not impact the entrance sidewalks and crosswalk.

3. On the existing conditions drawing and the site grading, drainage & utility plan drawing, it is unclear if existing catch basins in Banner Road located east of the traffic circle and around the traffic circle are connected to the proposed drainage system. It is requested that the design engineer clarify the existing storm drainage system in this area. Once clarified we can continue with review of the WMC storm drainage analysis report.

   Once review of the storm drainage analysis report is completed, additional related comments will be provided.

4. A management plan for operation and maintenance of the storm drainage system (catch basin sumps, road sweeping, etc.) and stormwater quality unit should be provided for review and approval.

5. The existing catch basin in the grass area located north of the building is noted as being buried. The catch basin is proposed to remain and should be uncovered and the surrounding area graded accordingly.

B. ADA Accessible Route

1. In order to verify that ADA maximum grade requirements are met for accessible routes, it is recommended that additional detail on a smaller scale drawing with spot elevations be provided for the ADA sidewalks and parking stalls from the proposed easterly and southerly parking areas to the building entrance.

2. Information should be provided by the design engineer on an accessible route from the front of the building/parking areas to the lower level rear of the building and pool area. Currently no accessible route from these locations is shown on the drawings.

3. On the site layout plan, detectable warning strips should be called out at the sidewalk ends at the southerly parking area and at the building entrance/crosswalk.

4. Is any lighting proposed for the 2 sidewalks from the parking areas to the building?

5. A new ramp with handrails is proposed in the front of the building to accommodate the elevation change between sidewalk elevation and the first floor elevation of the building.

6. ADA requires 1 handicapped accessible parking space per every 25 parking spaces. A total of 3 handicapped accessible parking spaces are proposed, which meets this requirement.

C. Parking

1. The proposed project includes 20 apartments. The proposed easterly parking area provides 21 parking spaces (including 3 HC accessible parking spaces) and the proposed southerly parking area provides 13 parking spaces (including 1 HC accessible parking space), for a total of 34 parking spaces. If residents of the 20 apartments have 2 cars per apartment, a total of 40 parking spaces would be required, plus additional parking spaces for guests.

   The existing parking area located immediately to the west of the proposed southerly parking area currently has a total of 21 parking spaces. Based on unit number pavement markings in the parking stalls, it appears that 15 of the 21 parking stalls in the westerly lot are reserved for existing residential units (Units No. 1, 5, 11, 12, 14, 16, 17 and 18), leaving 6 undesignated parking stalls. It is unknown if the 6 undesignated stalls are allocated for other existing uses such as guests or the pool area or can be used for the proposed apartments.

The existing conditions plan does not reflect the current parking stall arrangement in the existing westerly parking area (currently there is 1 additional space on the east side of the lower lot and 1 less space on the west side of the lower lot).

It is recommended that the design engineer provide additional information to the Commission to address the anticipated number of vehicles associated with the 20 apartments and guests and where the vehicles are proposed to park. Ample open area is available to the north of the proposed easterly parking area and perhaps this area could be provided with improvements for overflow parking.

D. Fire Protection Water Tank

1. It is recommended that the location proposed for the 20,000 gallon fire suppression water storage tank (immediately east of easterly parking area) be reviewed and commented on by the East Haddam Fire Marshall and East Haddam Volunteer Fire Department Fire Chief. Final details and submittals for the tank and water fill/withdrawal system will require review and approval by the Fire Marshall and Fire Chief.

E. Water Utilities

1. The location of the existing water service line and shutoff valve for the apartment building is not shown on the drawings and should be provided.

2. The Connecticut Water Company has indicated that a sufficient quantity of water is available to serve the proposed 20 residential apartments. With the change in use of the building from a function hall to 20 apartments, it is recommended that the design engineer determine the diameter of the existing water service line and evaluate if the line size is sufficient to accommodate peak flows for the proposed use.

F. Wastewater Utilities

1. The location of the connection point of the existing sanitary building sewer to the apartment building is not shown on the drawings and should be provided. A portion of the existing building sewer is shown directly below what is currently a large evergreen tree, and if so, consideration should be given to relocation of the sewer line or removal of the tree.

2. The drawings show installation of a grinder pump chamber to intercept the existing building sewer that serves the apartment building and redirecting sewage flow from the existing wastewater collection system to a new septic tank and subsurface sewage disposal system located to the southeast on the golf course. The proposed grinder pump chamber is shown approximately 6 ft. north of Pinehurst Lane. The location of the proposed grinder pump chamber will require modification to the plan because based on the drawings provided, it appears that this same sewer line serves

existing residential units No. 9, 10, 11, 12 and 14. The sewer line diameter changes from 6" diameter to 8" diameter at the junction point where the building sewer serving these units connects with the building sewer serving the apartment building. A review of record drawings for the sewerage system at this location should be provided for clarification and to give additional detail on the existing wastewater collection system. Presumably, the location of the proposed grinder pump chamber could be modified to a location upstream (to the north) of the junction point and at a sufficient distance away from the water main that runs through this location.

3. The utility details drawing shows a simplex Model GP 2010 grinder pump by EOne proposed to serve the 20 unit apartment building. This grinder pump model is suited to serve a single family residential unit and would not have sufficient volume or flow capacity to serve 20 residential apartment units. A duplex pump chamber will be required for the multi-family residential building with a larger wetwell storage volume.

4. The existing building sewer from the apartment building is 6 inch diameter, so the grinder pump detail will need to accommodate an inlet sewer of this diameter.

5. An exterior check valve and curb stop valve and curb box will be required on the discharge pressure sewer from the grinder pump chamber.

6. The proposed subsurface sewage disposal system for the design wastewater flow of 3,000 gallons per day will require approval by the Connecticut Department of Energy and Environmental Protection.

As noted above, additional comments will be provided following completion of our review of the storm drainage analysis report. Should you have any questions or require additional information at this time, please feel free to call.

Sincerely,

NATHAN L. JACOBSON & ASSOCIATES, INC.

Brian C. Curtis, P.E.

cc: Stephen McDonnell, P.E., WMC Consulting Engineers

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