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November 15, 2013

ATTACHMENT #4

Ms. Kelly Dearborn-Luce – Building, Planning, and Zoning Administrator
Town of Dunbarton
1011 School Street
Dunbarton, NH 03046

Reference: **Giovagnoli Agricultural Site Plan – Technical Design Review**
Dunbarton, New Hampshire
Northpoint # 13042

Dear Ms. Dearborn-Luce:

At your request, Northpoint Engineering has completed a review of the above-mentioned Agricultural Site Plan package. As discussed, our review concentrated on the technical design components of the site plan. We did not review the site plan for conformance with local zoning regulations as we understand that Central Regional Planning Commission is doing this on behalf of the Town. As you are aware we were provided with numerous materials from the project file, which were helpful to gain background information about the application history. However the bulk of our review concentrated on the review of the following documents:

- "Agricultural Site Plan – Tax Map D6, Block 4, Lot 2 – 57 Twist Hill Road, Dunbarton, NH", prepared by McCourt Engineering Associates, PLLC, last revised: October 31, 2013, sheets 1-5.
- Letters from McCourt Engineering Associates, PLLC dated November 1st, September 6th, and August 27th of 2013.
- Building Plans (4 sheets) prepared by Zeiset Equipment, LLC
- Status Report for October 16, 2013 hearing prepared by your office
- Turning Truck Radius Exhibit & Overview Aerial Plan prepared by McCourt Engineering Associates, PLLC
- Stormwater Management Report prepared by McCourt Engineering Associates, PLLC, dated August 26, 2013

We have performed a site visit to observe the conditions at Twist Hill Road, but did not walk into the property.

General Comments

1. We recommend that the applicant and Planning Board come to a common understanding as to what can and cannot happen to the natural buffers between the proposed building and the property lines. Forestry is identified as an existing use on the property and depending on how this is managed could affect the natural buffers. These buffers could affect the view, noise and/or smells from the site.

2. Is a dumpster expected to be needed for the proposed use? If so where is it proposed to be located? If not, how will refuse collection be handled?

3. The proposed site plan provides 12-foot wide access roads along the face of the east and west sides of the building. The correspondence from McCourt Engineering implies that these access lanes are suitable for use in fighting a fire at the building. The town should inquire with the local Fire Chief and/or State Fire Marshall to confirm that the provided access to the building is adequate for Fire Fighting Apparatus. Furthermore it may be appropriate to widen the 11-foot gravel access road that loops around the wetlands to the east to accommodate access to the south end of the building.

   Based on our reading of Chapter 18 - Fire Department Access and Water Supply in the 2012 NFPA1 Fire Code, access shall consist of an unobstructed width of not less than 20-feet. This access "shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150-feet from fire department access roads as measured by an approved route around the exterior of the building or facility."

4. The building plans submitted depict the building footprint and layout, but do not speak to the exterior materials, colors, and elevations. Section VII - B. of the Site Plan Regulations contains fairly detailed Architectural Design Standards, which should be met by the applicant.

5. The design team has reported that the barn will be hosed down and that this water will be collected in the manure storage area. What will prevent this water from running out of the building, across the parking lot and into the wetlands?

6. It appears that this project will disturb more than an acre of land and therefore will need to obtain coverage under the EPA's Construction General Permit prior to construction commencing. We recommend that a note be added to the plans to this effect.

7. We recommend that the plans specify the proposed area of disturbance. This area should include any areas needed for temporary material stockpiles and construction staging. We understand that the design engineer has reported that the proposed improvements falls below the 100,000 SF threshold for a NHDES Alteration of Terrain Permit. Given the fact that the improvements are reportedly near the 100,000 SF threshold, and for clarity, it would be desirable for the plans to specify the limits of disturbance, including temporary material stockpiles and construction staging areas.

Specific Plan Comments

Cover Sheet

8. The cover sheet identifies a 60-foot vegetated buffer around the perimeter of the proposed building envelop. We recommend that the plans clearly define the limits of this buffer and define what is prohibited within the buffer.

Sheet 2

9. Note 16h states that the chickens will be inside except for the hours of 12PM and Dusk to attenuate noise. This implies that the chickens will be outside during these hours. We don't think that this is the intent, but recommend that the note be modified to reflect the actual proposal. This may have been covered in the presentation of the project, but it is not clear from the project plans.

10. It may be desirable for the site plan to clearly explain the onsite processing that will occur of the collected eggs so that it is clear what is being approved.

11. We recommend that the proposed height of the building be identified on the plans.

12. Note 11 states that the building will be serviced by overhead utilities. The Site Plan regulations state that the location of proposed utility poles should be depicted.

13. For clarity it may be helpful if the site plan identified the location of all proposed building doors. We noticed that the Building Plans specify a number of man doors as well as overhead doors. In several of these locations concrete pads are specified on the building plans, but do not show up on the site plan.

14. On the northwest corner of the building a generator and propane tank are proposed adjacent to the gravel access road. We recommend that bollards or other barrier be proposed to protect these improvements from vehicles.

15. The plans state that the generator will be sound attenuated. This could be subject to interpretation so we recommend that a maximum decibel level be specified so that the intent is clear and measurable.

16. The plans do not specify the size of the propane tank and whether or not it will be buried. This information may be desirable for the Fire Department.

17. In accordance with the Site Plan regulations, exterior lighting is required to be specified on the plans.

18. The site is designed with stone drip edges adjacent to the building, 2-feet wide on the east side and 3-feet wide on the west side. Based on our review of the building plans there will be a roof overhang on both sides of the building. At this time the distance of

the overhang is unspecified. We are concerned that the width of the stone drip edges may not be wide enough to effectively collect roof runoff.

19. The grading of the proposed access road in the southwest corner of the building has been omitted. We recommend supplementing the plans with the appropriate grading.

20. The 528 & 530 contours have been omitted from the gravel area on the south side of the building.

21. Two treatment swales have been proposed (11R & 12R), but no grading has been provided of these improvements. To assure that these improvements are built correctly, we recommend that the proposed grading is added to the plans.

22. We recommend that the elevations of the proposed emergency outlet weirs be specified on the plans for clarity during construction and to ensure it functions as intended.

23. We recommend that end sections be proposed at all new drainage culverts and details be provided accordingly.

24. We recommend that the plans clearly specify that the new 12-inch culvert is intended to have a riprap outlet protection apron. The apron is drawn, but not labeled.

Sheet 3

25. The plans do not reference any signage at the intersection with Twist Hill Road. Is any proposed?

26. The access to the chicken barn passes through the looped driveway of the existing house. Upon our site visit cars were parked in front of the existing garage, which would appear to conflict with trucks trying to access the chicken barn out back. The Planning Board may want the applicant to designate appropriate parking at the farmhouse to avoid conflicts with the business operation proposed out back.

27. Given the anticipated truck traffic we recommend a paved driveway apron be maintained at Twist Hill Road to minimize the abuse the existing edge of roadway encounters. The existing driveway is paved, but is in disrepair. It might be advisable for a new paved apron to be constructed.

28. We recommend that sight distance profiles be provided to depict the sight lines from the proposed exit. As depicted on the current plan the sight line to the south runs outside the roadway footprint and could be impacted by trees, brush, and/or snow. Based on a visual inspection there may be evergreens that obstruct the sight distance to the north. We recommend that these trees be located and added to the submitted plans.

29. The provided intersection exhibit only shows movements northbound. It seems appropriate that accommodations be made for north and south bound departures.

30. No grading detail has been provided for the driveway widening improvements. It is unclear if the widening will be detrimental to side slopes or existing swales along the driveway.

Sheet 4 – We did not review the septic plan as it was reviewed by NHDES.

Sheet 5

31. We recommend that the design engineer provide a typical section for the proposed gravel loading areas and new access roads.

Stormwater Management Report Comments

32. In general, the Report appropriately documents the design intent shown on the plans. The proposed improvements have been designed with adequate stormwater management controls to ensure that the project does not increase the rate of stormwater runoff from the site in the post-developed condition. A combination of infiltration practices and treatment swales are proposed to provide treatment of the stormwater runoff from the proposed impervious surface areas.

33. The HydroCAD calculations identify that Detention Pond 15P has an emergency outlet at elevation 527.75. A spot elevation should be added to the plans indicating the same to ensure that the pond is constructed as intended.

34. The HydroCAD calculations indicate that Detention Pond 15P backs up into Treatment Swale 12R through the 12" culvert, in all four storm events analyzed. Based on the grading design it appears that the detention pond will overflow the sides of the treatment swale prior to overflowing the emergency outlet. The grading plan should be revised to extend the detention pond berm (elevation 528) around the limits of the treatment swale to ensure that the pond does not overflow the sides of the treatment swale. Similarly, the existing gravel road will need to be elevated to at least elevation 528 in the vicinity of the pond and berm. Additional proposed spot grades should be added to the plan in this area to ensure that the detention pond functions as intended.

35. As required by the Site Plan Regulations a maintenance plan should be provided for the proposed infiltration facilities.

Please feel free to call if you have any questions and/or you wish to discuss any of these items in more detail.

Sincerely,

K M L

Kevin M. Leonard, P.E.
Principal Engineer
Northpoint Engineering, LLC