PGC Engineering PLLC
10 Chase Street, West Newbury, MA 01985
978-994-4550 philchristiansen.pe@gmail.com

March 24, 2020

Review of

Open Space
Residential Development
Plan Set
The Stables at Bashaw Farm
2/26/20

General Comment for all sheets in plan set.

If this submittal is considered to be a subdivision the appropriate signature blocks for the clerk and the planning board as well as Board of Health approval dates should be added to all of the sheets in the plan set and registry blocks added to all sheets.

What is the purpose of the Proposed Plot Plan 57 Railroad Avenue Salisbury Massachusetts, February 18, 2020?

Cover Sheet - Sheet 1 of 9

Benchmark Missing
While in Note 4 reference is made to work in Colby Farm Lane as contained in the plans prepared for The Reserve at Bashaw Farm OSRD that information should be included in this plan set

Existing Condition - Sheet 2 of 9

Topography in street needs to be added as well as limits of pavement and width of pavement
Permanent benchmark not shown. Need information about benchmark from which the temporary benchmark was developed.
Need to show existing lot lines

Yield Plan - Sheet 3 of 9
Not reviewed

Plan of Land - Sheet 4 of 9

Bearings must be added to the lot lines
Existing and Proposed Monuments not shown on plan and work not tied into existing known monuments.
Lot areas for Lots 1 and 2 not shown in acres

PGC Engineering PLLC
10 Chase Street, West Newbury, MA 01985
978-994-4550 philchristiansen.pe@gmail.com

Playground easement not shown
Easement not shown for access to sewer on 6 Colby Farm Lane.
Lot Widths not shown
Calculations not provided
Existing lot lines not shown

Layout & Landscaping Plan - Sheet 5 of 9

Minimal landscaping shown.
Areas to be lawn should be specified
What is ground cover in Playground?
Is the entire area to be playground or only the curvilinear area containing the words "prop. playground"?
Types of trees and shrubs not specified
Plan not stamped by landscape architect.

Grading and Utility Plan - Sheet 6 of 9

Grading through the playground directs drainage to street. While contours are not provided in the street in the submitted plans the plan recently approved for the Reserve at Bashaw Farms shows that the roadway from u-pole #233/4 appears to be superelevated from the north side of the street to the south side directing water to the southwest and not to the wetland that is on the property.
The drainage analysis assumes all of the water flows to the wetland to the west of the site
There are potential sewer and water cross-over problems for the single-family dwelling and the five units in the rear of the property. There must be an 18-inch vertical separation from the bottom of the water pipe to the top of the sewer pipe. If the separation can't be accomplished the cross-over must be encased in concrete for 10 feet either side of the sewer.
The cover required over the water line is 5 feet. The sewer should be designed with a minimum of 7 feet of cover to allow for the required 18 inches of separation.
Since the sewer flows to a pump station and the excavation from the existing grade over much of the sewer length only 2 to 3 feet it would be easy to lower the sewer and avoid the conflict the present design creates.
A fire hydrant is not proposed in the project. The fire department and water Department should comment on whether one is needed or not. If a hydrant is not needed a blowoff should be provided.
Thrust blocks should be located at the 8x8 tee and at all bends at the hydrant in the street.
Left and right existing grades need to be added to the profile
The CB has a rim elevation of 46.6. Assuming an 8" frame and grate, two courses of brick as specified on the detail sheets and a 10" flat top the bottom of the flat slab would be at elevation 44.68. The invert of the pipe is specified at 44.1. The pipe is 12 inches, therefore the obvert of the pipe is at elevation 45.1 which is higher than the bottom of the top slab. An additional problem is that the hood specified in the detail will not fit. The elevations provided in the plan or the details in the plan set should be modified to correct this problem
The grading shown does not correspond to the limits shown for the drainage analysis. The contours show that the water will drain from the area behind the playground to the street. From

elevation above 48 to 42 at the drive entrance and if the street topography from The Reserve at Bashaw Farms is added to the plan it will show the water will continue to flow across the street. Stormwater southeast of the trench drain will flow into the street. There is a swale between the single-family house and the drive that directs water to the street and water from the driveway serving the single-family house will flow to the street. The lawn in front of the single family is graded in such a way that part of the flow will be into the street. The design needs to be modified to match the stormwater analysis or the analysis modified to match the plan.
The detail for the 1500-gallon Separator specifies an 8-inch inlet but the plan shows the use of a 12" pipe
Show risers to grade for Separators. Specify risers in the details.
Snow storage locations should be shown on the plan
Are handicapped access ramps required for the sidewalks?
TH-1 at unit#2 shows an estimated ground water table at Elev. 41.3. Board of health rules require the basement be two feet higher than the ground water level. Thus, the basement floor should be at elevation 43.3 and with an eight-foot foundation the top of foundation would be at approximately 51.3. The elevation shown on the plan is 49.2 which is two feet too low. The site grading should be adjusted to accommodate the higher house. A note should be added to the plan that test holes to determine ground water elevations need to be done at each building location prior to construction.
The rim on separator 1 is specified as 45 in plan view but appears to be 44 in the profile.

Restoration and Erosion Control Plan - Sheet 7 of 9

The erosion control line should be extended along the existing street
A construction entrance for sedimentation control should be provided
A note should be added that all drainage and stormwater facilities should be protected with the use of silt sacks or diversion of water until final paving is in place.

Emergency Vehicle Sweep Path Analysis - Sheet 8 of 9

Is the outside turning radius of the truck shown 47 feet as required by foot notes 1 and 2 in Tables A and B in section 6.8 of the subdivision rules?
The length of the paved area from the guardrail at the end of the turnaround to the curb is 51 feet and the truck shown is approximately 43 feet in length. Is the figure showing that the truck can reverse direction without backing up more than once as required by notes 1 and 2?

Details - Sheet 9 of 9

The following details need to be added to the plan

- Driveway Cross-section
- Water main, tees, hydrant, shut offs, trench section and a blowoff detail if needed.
- Drain trench detail
- Sewer trench detail
- Thrust block details

PGC Engineering PLLC
10 Chase Street, West Newbury, MA 01985
978-994-4550 philchristiansen.pe@gmail.com

- Retaining wall details
- Construction entrance for sedimentation control
- Silt sacks
- Sedimentation control (wattles, haybales or silt fence)
- Check with the Sewer division on preferred force main to manhole detail. The force main usually discharges vertically downward and not horizontally.
- Handicapped access ramps
- Dewatering pump and sump details

Review of

Stormwater Report
8,10,12, & 18 Colby Farm Lane
February 14, 2020

Subcatchment 1S in the predevelopment analysis is the entire upland area of the site. It occupies 63,340 square feet of which 28,830square feet are woods grass combination with gravel roads and paved parking and roofs. The time of concentration is calculated to be 10.5 min flowing over 220 feet.
Subcatchment 10S in the post development analysis has an area of 35,765 square feet with 24,595 grass cover but was modeled with the exact same time of concentration over the same distance as predevelopment 1S. (See attached PDFs from the report)
The descriptions of flow are identical in both cases even though a quick glance would show the drainage areas to be substantially different.
As mentioned in the plan review area 10S does not in its entirety flow to the on-site wetlands as modeled but the easterly portion of 10S probably flows across the street.
The analysis needs to be redone to reflect the proper time of concentration and the proper direction of flow.