



Planning & Development
208 Sanford Road, Wells, Maine 04090

Phone: (207) 646-5187, Fax: (207) 646-7046

Website: www.wellstown.org

<i>Michael G. Livingston, Town Engineer/Planner</i>	mlivingston@wellstown.org
<i>Shannon M. L. Belanger, Assistant Planner</i>	sbelanger@wellstown.org

Memo

Date: January 9, 2019

Updated 2-21-19

To: Planning Board

From: Michael G. Livingston, Town Engineer/Planner

Re: Four Seasons Farm Subdivision – Tax Map 77, Lot 17-3
Design Review

Background:

An existing parcel (Lot 17-3, 12.54 acres) with an existing house is proposed to be subdivided which involves the construction of a 600 foot private street and four new dwelling units with associated driveways and utilities.

Materials Submitted for Four Seasons Farm Subdivision: [Revised](#)

- Sheet 2: Grading and utility plan
- Sheet 3: Roadway Plan and Profile
- Sheet 4: Shared driveway Plan & Profile
- Sheet 5: Site Details – Erosion Control, Drainage
- Sheet 6: Site Details – Drainage, Road, Utilities

Stormwater Management Plan dated Dec. 4, 2018 by Lewis Chamberlain, PE of ATTAR Engineering, Inc. [Revised 2-5-19](#)

Design Review – Road & Utilities:

Sheet 2 Comments:

- Side slopes of 3 to 1 are required, 2 to 1 are depicted [Side slopes revised to 3 to 1 at Branch Road. 2 to 1 slopes remain at wetland crossing to minimize impact, OK due to only 3 foot elevation change. Erosion control matting/blanket required.](#)
- Road is proposed as gravel. Due to proposed grade of 10%, pavement is recommended. [Revised to 2" paved roadway.](#)
- Wetland impacts to be revised for 3 to 1 slopes and area not yet included (#4 at Route 9A and culvert aprons) [Wetland impacts updated](#)
- Detention Pond #1 requires grading revisions and berm depiction [Done](#)
- Detention Pond #2 requires grading revisions and berm depiction [Done](#)
- Legend to be updated [Done](#)
- [Label trees to be retained/preserved](#)

Sheet 3 Comments:

- Side slopes of 3 to 1 are required, 2 to 1 slopes are mostly depicted **Done, see above, a few additional labels needed. Note requiring matting needed.**
- Proposed pole and underground utilities to be added **Done**
- Wetland fill limits to be revised **Done**
- Stop/ Street sign to be labelled **Done**
- Road width and cul-de-sac radii to be labelled **Done**
- Curve radii to be labelled **Done**
- DMH symbol to be used vs. CB grate symbol **Done**
- Sight distances to be labelled **Done**
- 3% slope maintained for approximately 20 feet from Route 9A shoulder, one vehicle length only **OK**
- Limited cover over culvert at DMH #2, 1.3' +/- **Revised, cover over 2 ft.**
- Cover of out-letting culvert DMH #2 and #3 reduced to approximately 0.5'. Road elevations to be raised? **Done**
- DMH rim elevations to be added **Done**

Design Review – Stormwater

Sheet 2 Comments:

- Clarify if structures are DMH's or CB's. Not in legend and appear as CB grates. Notes as CB's in HydroCAD report. **Done**
- Detention Ponds to be identified and details referenced **Done**
- Inverts of existing culverts at 9A needed **Done**
- Detention Pond #1 grading does not coincide with detail on Sheet 6: **Done**
 - Contour 144 should connect (spillway at 144.5) **Done**
 - A 6 foot separation (minimum) is required between contours 144 (2 foot wide berm?) **Done**
 - Berm needs to be depicted on plan view **OK, detail, Sht. 6**
- **One culvert labelled CMP vs HDPE**

Sheet 3 Comments:

- DMH rim elevations needed **Done**
- Clarify structures as DMH's **Done**
- Label culvert pipes with slopes and inverts as on Sheet 2 **Partially done**
- Wetland fill limits to be revised **Done**
- **Add rip rap apron symbol at one culvert**

Sheet 4 Comments:

- Clarify structures as DMH's **Done**
- DMH rim elevations needed **Done**
- Label culvert pipes with slopes and inverts as on Sheet 2 **Not Done**
- Detention Pond #2 to be labelled and references to Sheet 6 **Done**
- Detention Pond #2 to be revised to address 2nd (emergency) outlet/overflow **Done**
- Will rip rap aprons be installed at brook crossings? **Done, detail sht. 5**
- 2 to 1 slopes depicted, is slope to be rip rap? **Done, detail sht. 5**
- Is the contour 150 to be connected at the level spreader? **Grading and stone clarification needed to coincide with Detail, Sht. 6**
- Vertical scale not correct **Done**
- Culvert from DMH #3 to Detention Pond #2 not drafted at correct elevations **Done**

- Cover over the culvert from DMH#3 is not sufficient Done
- DMH #3 symbol to be revised and rim elevations added Done
- Road widths to be added Done, detail to be revised
- Is a guard rail proposed? Yes, done
- Appears 2 to 1 slopes proposed at brook crossings Detail provided
- Are rip rap slopes (2:1) proposed? Appears so per Sheet 2 but no shown on both sides on Sheet 4 Done
- Detention Pond #2 grading/berm revisions needed Done
- Level spreader length and continuous berm and rip rap needed Grading and stone clarification needed to coincide with Detail, Sht. 6
- Unit numbers to be added Done
- Underground utility locations to be added Done
- Rip rap symbol to be added at one culvert
- Recommend to add note referring to embedment inverts
- Unknown linework between Pond #2 and driveway
- Profile proposed elevations not correct
- Profile culvert information to be added

Sheet 5 Comments:

- Level spreader detail to add elevations and possibly move to Sheet 6 Done
- If 2 to 1 slopes are allowed at wetland crossings, an erosion control blanket detail should be added. [Detail for blanket needed](#)

Sheet 6 Comments:

- Pond berms require a top width to be specified, 2 foot minimum is typical Done
- Detention Pond #2 requires the top of berm elevation to be raised and an overflow spillway added. Or the pond could be enlarged to reduce the peak pond elevation. Done
- DMH detail needed Done, Sht. 5
- Guard rail detail needed if proposed/required Done
- Typical road cross section does not match the proposed conditions 3" label?
- A cul-de-sac cross section is needed Not done, needed to depict cross slope and pavement/shoulders.
- 24 ft. driveway width to be from guardrail to guardrail
- Level Spreader C detail needs additional information and/or note. Contours based on Lidar will vary from field conditions.

Other Review Comments:

Road Construction- the road is recommended to be paved due to the following:

- A gravel surface slope of 10% is not sustainable due to erosion impacts from stormwater and vehicle use Addressed
- Only one vehicle has space to stop at Route 9A therefore another will have to start on the steep gravel slope. Addressed
- Gravel road degradation will affect service by emergency vehicles Addressed
- §201-10.G allows the Planning Board to determine road standards for Condominium projects Addressed

Cul-de-sac – the cul-de-sac is recommended to be paved due to the following:

[Addressed](#)