



April 16, 2020

Michele R. Lipe, AICP
Director of Planning
Town of South Windsor
1540 Sullivan Avenue
South Windsor, CT 06074

Re: Mannarino Builders – Special Exception/Subdivision Application
Kilkenney Heights II – Open Space Subdivision
248 Maskel Road & R024 Abbe Road

Dear Michele,

In response to staff comments regarding the above referenced application, enclosed for your review are revised plans and drainage report dated 3/23/20. The plan revisions are in response to your memo dated 2/24/20 and Jeff Doolittle's memo dated 2/28/20. The following is a summary of how each comment was addressed:

Town Planner Memo 2/24/20

1. An open space improvement plan shall be submitted showing details for the access area off of the new road and the areas to be cleared. (See Section C.1.f.2). Staff recommend that the existing trail in the proposed open space trail should be extended all the way to the northern property boundary to tie into the trail system that currently exists.

Notations for a 10' wide mowable walking path with clearing 12' wide and 10' high were added to the Grading Plan (sheet 6) and Planting Plan (sheet 11). Project Narrative Note #16 on sheet 12 was also amended to reference the walking path. A 12' wide x 10' deep paved apron is provided as a curb cut for the access. The path will extend from the apron to the existing gravel access road within the Eversource easement on the open space parcel. The existing gravel access road extends north and south the entire length of the parcel and provides connectivity to the contiguous town open space.

2. The open space access is shown to be 20' wide. In accordance with Section C 1.c (3) b, public access is required to be 50' wide. However, under section "C.1.g Exceptions to the Standards", the applicant can request minor deviation from open space standards.

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The applicant is requesting a reduction of the 50' width to 20' because 50' is not required for pedestrian access and the contiguous open space to the south already has a 50' access point.

3. Monuments are required at all property corners of the open space. See Section C 1.c (3) regarding merging of properties when abutting up to existing open space land.

Monuments have been added at all property corners on the Resubdivision Plan (sheet 4). The Applicant consents to a condition of approval requiring the Applicant to provide the town with a deed merging the parcels prior to acceptance of the public improvements.

4. C.2 Landscaping Standard (C.2.g.(1)) requires that the landscape plan be prepared by a landscape architect. Tree line of trees to be clearly marked in the field.

The Planting Plan (sheet 11) is now stamped by a Landscape Architect. In our discussions with staff, the Landscape Architect is proposing a combination of large canopy trees and smaller flowering trees and columnar maples in keeping with the scale of the project. The applicant consents to a condition requiring street tree planting locations to be staked for inspection prior to installation.

5. Deeds will have to be prepared for the town to convey the cul de sac wings back to the property owners.

The Applicant consents to a condition requiring the Applicant to prepare deeds conveying cul-de-sac wings from the Town back to the property owners prior to acceptance of the roadway improvements.

Police Department Comments

1. Improvements will have to be made along Abbe Road to meet the 85th percentile speeds.

The Sight Line Plan (sheet 10) depicts grading within the eastern shoulder of Abbe Road to provide 417 feet of sight line to the north. There is ample sight line to the south. The 85th percentile speed is 40 mph. There are two AASHTO standards for sight distance, stopping sight distance and intersection sight distance. Stopping sight distance is the distance needed for vehicles traveling at a particular speed (in this case 40 mph) to stop for an obstruction in the road. The minimum stopping sight distance for vehicles at 40 mph is 305 feet. This is the minimum distance required to avoid collisions and thus is a required safety standard. The proposed intersection provides ample stopping sight distance sufficient for speeds close to 50 mph.

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The intersection sight distance is the distance needed for vehicles to pull out of an intersection without forcing passing traffic to break to avoid a collision. This is a convenience and efficiency standard, not a safety standard. The minimum intersection sight distance for vehicles at 40 mph is 445 feet. The current proposal provides 417 feet, sufficient for a 37.8 mph design speed. To meeting this standard the design speed could be reduced or the vertical alignment of Abbe Road could be adjusted to further increase the sight line. The applicant is proposing traffic calming measures in Abbe Road to reduce speeds. These measure are depicted on the Sight Line Plan (sheet 10) and include 1) solid white shoulder striping to give the appearance of a narrower road and 2) permanent speed detection signs to alert drivers who are driving too fast. After installing these measures, if the 85th percentile speed is not reduced below 37.8 mph, the applicant will prepare a vertical realignment plan for Abbe Road to meet the current design speed. These plans will be subject to approval by town staff. The applicant submits to a condition of approval to this effect.

Town Engineer Memo 2/28/20

1. There needs to be a 25 foot wide clear area on top of and around the proposed detention basin, and the 10- foot gravel access road needs to extend along the top around both sides and to the inlet and outlet structures. Both these need to be on Parcel A.

In discussions with the Town Engineer, we agreed to provide a 20-foot wide clear area on the east side of the basin and a 10-15 foot wide area on the west side. The basin was narrowed and made slightly less deep to provide within parcel A, a level 20' area on the east side and a 10' area on the west side with an additional 10' of existing and supplemented buffer plantings. The plantings have been changed from spruce to cedar to avoid encroachment into the access area.

The gravel/turf access road now extends on both sides of the basin to the inlet forebay and in front along Maskel Road around the outlet structure. These changes are reflected on the Grading, Utility and Planting Plans (sheets 6, 7 and 11).

2. Grading is not clear on the northern side of the proposed road and appears to extend into the tree line. Clarify grading here and clear trees, branches and brush back about 10 feet north of the proposed edge of curb.

The tree line shown on the north side of Maskel Road extension is approximately 12' from the edge of curb. The tree line is defined by the points of the scalloped arcs, not the crest. The crests depict a canopy overhang though not necessarily to scale. Notations have been added to the Grading and Planting Plans (sheet 6 and 11) requiring the clearing limits to be

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marked for town inspection prior to start of work. Additional clearing and trimming of branches may be required by town staff at time of inspection.

3. Put a radius on the northeast corner of the road where it bends, instead of a sharp angle where debris will get stuck and it will be difficult to clean.

A 20' radius was added to the outside corner of the roadway bend.

4. Realign the proposed driveway for the open space to point east toward the open space.

The open space curb cut and apron have been realigned with the new radius to point toward the open space entrance in a northeast direction, radial to the curve.

5. Move CB5 up hill a little, out of the sharp corner and run the pipe between this and CB6 on the south side of the road.

CB5 has been relocated as requested and the outlet pipe now connects to CB7 on the south side of the road as requested. The water main was consequently relocated to the north side of the street. These changes are depicted on the Utility Plan (sheet 7) and the revised Drainage Report.

6. Also move DMH2 to the south and run the pipe from here to CB10 on the south side of the road.

DMH2 was moved to the south edge of the road and the outlet pipe now continues down the south side of Maskel Road extension as requested. This change is depicted on the Utility Plan (sheet 7).

7. Show a grading plan for the intersection of Abbe Road and Maskel Road.

An Intersection Grading Plan (sheet 6A) was added to the plan set to clarify how the standard road cross section of Maskel Road will transition to meet Abbe Road. The grade of the sidewalk ramp and landing are also depicted.

8. Clean up the drainage by the intersection of Abbe Road to eliminate 1 or 2 CB and have the CB on the curb line. DMH3 should be eliminated or relocated to the curb as a CB.

In discussions with the Town Engineer, we agreed the CB's and DMH3 need to remain as proposed to prevent gutter runoff from crossing the entrance of the street. DMH3 is located over the existing 15" ACCMP and cannot be moved.

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9. The existing 15" ACCMP and RCP from the proposed Maskel Road to the outlet on the west side of Abbe Road need to be inspected to determine their condition and replaced or repaired as needed.

In discussions with the Town Engineer, the Applicant will consent to a condition of approval requiring the Applicant to provide a video inspection of the existing drainage system in Abbe Road and work with the town to mutually resolve any deficiencies in the existing system. It should be noted that the Drainage Report demonstrates that the development will not increase peak flow rates to the Abbe Road drainage system and any deficiencies are an existing condition which is not made any worse by the development, and should be addressed by the town in a similar manner whether or not this project moves forward.

10. The YD on lots 7,8,9,10,11 and 12 should be moved uphill slightly to the lots they mainly serve or be located on the property lines to serve multiple lots. This would eliminate the need for drainage easements and better drain these lots. Additional YD are needed in the back of lots 7,8,9,10 and 11 to catch surface runoff and adequately address and collect lot to lot surface water drainage. Show rights to drain between and over lots.

The YD's have been relocated to the property line. Easements on lots 8 & 9 have been eliminated. Easements on lots 10-12 remain because they are connected by pipes outside the town right-of-way. Spot grades were added between lots 7-12 to clarify that runoff will not cross lot to lot but will be directed to the YD's in the front. Therefore, rights to drain are not required. These changes are depicted on the Grading and Utility Plans (sheets 6 and 7).

11. Provide spot grades for each driveway at the street, back of sidewalk and in front of the garages.

Spot grades were added to the Grading Plan (sheet 6) at the back of each walk. The grade at each garage door is noted inside the building footprint (e.g., Lot 1, G=314.0). The street grade, per standard cross section is 0.86' below the back of walk. The walk and garage grades demonstrate that all driveways meet maximum slope requirements. Lot 6 was modified to move the house closer to the road. The driveway for lot 6 is now 10%. All other driveways are less than 5%.

12. Provide information from any soils borings or test pits that were dug on this property.

No soils borings or test pits have been dug for the site. A soils report was submitted with the Wetland application and the Web Soil Survey is included in the Drainage Report. The Applicant is familiar with the on-site soils having constructed Kilkenny Heights phase I.

13. Why is there so much fill under the proposed road?

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The north/south portion of Maskel Road extension is 12-24" above the existing grade to provide a balanced site and walkout basement on the west side. Cut material from the east side will be used for fill around the front and side of the houses on the west side. The east/west portion of Maskel Road extension is about 36" above the existing grade. This is to maintain cover over the drainage pipes in the road so they can discharge to the stormwater basin.

14. The vertical curves and short tangent piece between stations 17+59 and 21+67 do not meet Town standards. I suggest this section of road be graded at a constant slope between these two stations and eliminate the curves and hump shown here.

The hump is needed to capture as much of the runoff as possible from the roadway to direct it to the stormwater basin. The vertical curves were increased to provide a compound vertical curve with no tangent section. Therefore, the minimum tangent length no longer applies. These changes are depicted on the Profile (sheet 9) and the Grading Plan, Utility Plan and Drainage Report were updated accordingly. The angle point at station 21+50 has an algebraic difference less than 3% and therefore does not require a vertical curve. An optional small curve is provided for a smoother transition.

15. I would think the water main should be brought down [to] Abbe Road to complete a loop.

The configuration of the water main will be determined by CT Water Company prior to installation. The final road as-built will reflect the final utility requirements.

16. Show a plan to regrade Abbe Road and shoulder area to meet required sight line for 85% speed measured on Abbe Road.

As noted in response to similar Police Comments, traffic calming is proposed to reduce the design speed of Abbe Road. Shoulder grading is depicted on the Sight Line Plan (sheet 10). If the traffic calming measures do not reduce the design speed, a vertical realignment plan for Abbe Road will be prepared in a manner acceptable to town staff.

17. Street light type, number and locations will have to be determined based on discussions with Planning, Police and Eversource electric.

The Applicant consents to a condition of approval that final street light design will be coordinated with the town and utility company prior to installation.

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18. The Drainage Report does not appear to address the capacity and condition of the existing system on Abbe Road where the new storm drainage will be connected, or the new drainage downstream of the detention basin. Show a complete drainage analysis of these areas downstream of the detention basin and along Abbe Road to at least the outfall. The review of the stormwater report is still in progress and we may have additional drainage comments.

The proposed drainage system downstream from the stormwater basin was analyzed on the previous Drainage Report (CB9 & 10 and DMH2 & 3 in the HydroCAD report). However, the Pipe Sizing Chart stopped at the pond because the Rational Method used does not account for reduced flow rates from detention time. To provide a complete pipe run analysis in the chart, I added the additional pipe runs from CB8 (pond outlet) to CB10 and assumed a T_c leaving CB8 which produces a similar peak flow rate to the SCS methodology in the HydroCAD analysis. The revised Pipe Sizing Chart supports the previous HydroCAD report demonstrating adequate pipe capacity for the 10-year design storm for all proposed pipes.

The Applicant consents to a condition of approval requiring the Applicant to provide an analysis of the existing drainage system in Abbe Road prior to start of construction. As previously noted, the Drainage Report demonstrates that the proposed development will not increase peak flow rates to the town's drainage system in Abbe Road. If the analysis indicates a deficiency of capacity, the town's decision to improve the drainage system should be the same whether or not this project moves forward.

19. Underdrains should be shown in the new road, based on the soils report.

Underdrains are not required for the majority of the roadway since the pavement section will be above or within 24" of existing grade, which is unlikely to intercept the water table. A 180' section of underdrain is proposed along the north side of Maskel Road to CB9 where the road is in a cut. A detail was added to the standard town road section on sheet 13. A notation on the detail allows the Town Engineer to direct underdrain installation in other areas deemed appropriate during construction.

20. Manholes and catch basins in the roadway need to be set at binder grade until final paving is scheduled. Catch basin tops should then be reset. Manhole rings would be allowed for adjustment (1 ring maximum).

In discussion with the Town Engineer, a Binder Pavement Around Catch Basin detail was added to sheet 14. Rather than lowering the structures, the detail calls for a monolithic binder course paved to the finished grade around the structure. This monolithic shim will be milled away prior to paving the top course.

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The manhole details on sheet 14 were also revised to note that manholes shall be set initially at binder grade and that grade rings shall be used to bring the frame up to finished grade prior to paving of the top course.

21. Make sure all foundation drain inverts are shown and labeled.

All foundation drains now include a flowline (invert) elevation at the connecting structure or daylight location. Daylighting drains also note a rodent screen is required. These notations are found on the Utility Plan (sheet 7). The invert at the foundation is typically 12" below the basement elevation.

22. Make sure new street trees are at least 10' from storm water drain pipes and structures, edges of driveways and other house utility services.

The revised Planting Plan (sheet 11) attempts to maintain 10' separation where feasible. Smaller ornamental trees are also proposed in tighter areas. The applicant consents to a condition of approval allowing town staff to direct final location of plantings prior to start of planting work. Utility locations will be marked in the field for comparative reference.

23. Label the stop signs and street name signs and include at least 2 speed limit signs.

Stop signs, street name signs and speed limit signs have been added and labeled on the Overall Site Plan (sheet 5). Stop signs are provided at the bend in the road and at the Abbe Road intersection. Two speed limit signs are proposed. A street sign is proposed at the NE corner of Abbe Road and Maskel Road.

24. Signs should be included on Abbe Road to alert motorists of a new intersection.

An intersection caution sign location has been added and labeled on the Overall Site Plan (sheet 5).

25. All details need to conform to the Town of South Windsor standard details as applicable.

The Applicant consents to a condition of approval that all details shall conform to the Town of South Windsor standard details.

We trust these changes have satisfactorily address all staff comments but if you have any questions or require additional information, please email or call.

Sincerely,

Re: Mannarino Builders – Special Exception/Subdivision Application
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A handwritten signature in black ink, appearing to read "Dana Steele". The signature is fluid and cursive, with the first name "Dana" and last name "Steele" clearly distinguishable.

Dana Steele, P.E.
J.R. Russo & Associates, LLC