



January 14, 2021

Mr. Richard S. Novak, Chairman
Sherborn Zoning Board of Appeals
Town Hall
19 Washington Street
Sherborn, MA 01770

**Re: Coolidge Crossing
Comprehensive Permit Peer Review
84-86 Coolidge Street
Sherborn, Massachusetts**

Dear Mr. Novak:

Tetra Tech (TT) has reviewed specific submittal materials for the above-referenced Project to assist the Sherborn Zoning Board of Appeals (Board) in its Comprehensive Permit review of the proposed Coolidge Crossing residential development. The following letter provides comments generated during our initial review of Applicant submittals which appear to be highly conceptual. The review generally focuses on substantive concerns that speak to issues whose eventual resolution may substantially impact Project design or could otherwise result in potentially unsafe conditions or unanticipated impacts. These initial comments are likely to inform design changes.

Our review is based on materials received from the Board comprising the following pertinent documents:

- A Comprehensive Permit Application titled "Coolidge Crossing, Comprehensive Permit Application", dated October, 2020, prepared by Baystone Development (Baystone).
- A plan (Plans) set titled "Coolidge Crossing, 84 Coolidge Street, Sherborn, Massachusetts", dated March 26, 2020, revised July 13, 2020, prepared by Civil Design Group, LLC (CDG).
- An Landscape plan set titled "Coolidge Crossing, 84 & 86 Coolidge Street, Sherborn, Massachusetts" dated September 25, 2020, prepared by Hawk Design, Inc (HDI).
- A Traffic Impact and Access Study (TIAS) titled "Traffic Impact and Access Study, Proposed Villages at Sherborn 40B Development, 84-86 Coolidge Street, Sherborn, Massachusetts" dated September 2020, prepared by MDM Transportation Consultants, Inc. (MDM).

The Plans and accompanying materials were reviewed for good engineering practice, overall site plan efficiency, stormwater, erosion and sedimentation control, utilities, traffic and public safety. In general, the plans and supporting materials were well prepared and we appreciate the clarity and completeness of documents provided. Our initial comments are provided below.

SITE DESIGN

The Site Plans provide a good introduction to the Project and its various components and shows the Project is placed in what appears to be an appropriate location but notably occupies nearly all available upland area. Our principal concern is that we found no test pit or similar information indicating underlying soils and groundwater depths. Additionally, the plans do not appear to provide adequate accommodation for the true extent of stormwater mitigation that will be required to meet Massachusetts Stormwater Management Standards, particularly design requirements for separation from groundwater. As such, we expect the program shown may need to change substantially to meet stormwater management performance criteria. Setting that concern aside we reviewed the submittal materials and offer the following specific comments

identifying areas where additional information is required, or changes are requested to address questions or support further review.

Site Plan

1. Emergency access to the rear of the buildings has not been proposed. We recommend the Applicant confirm access is acceptable to the Sherborn Fire Department.
2. Secondary emergency access at the rear of the site is predicated on a connection to a proposed road that is part of another development and is not within the control of the Project. We recommend that Project Plans show construction of the emergency access to the public right-of-way unless other documentation can be provided that ensures the off-site work will be complete prior to any request for building permits.
3. Parking and dumpster storage are proposed within the electric easement on the southern side of the site. Please provide confirmation that this is consistent with easement terms.
4. The plans show 200 parking spaces for 120 units (1.67 spaces/unit which exceeds the 1.5 spaces/unit required for Multidwelling Projects). However, some of these spaces are shown within the electric utility easement and we request confirmation that parking is allowed within the easement.
5. The parking stalls are proposed at 20-foot length which is 2 feet longer than standard parking spaces. We understand the additional length provides mitigation for bumper overhang on the adjacent sidewalk. However, reduction in parking space length would decrease overall impervious coverage, locate the development further away from the wetland resource areas and would allow for additional pervious surface to remain at the site.
6. We recommend a sidewalk connection from the Coolidge Crossing development to the abutting Pulte development if sidewalk is proposed on that Project.

Utility Plan

7. The plans should show specific connection locations for water and sewer services.
8. The plans do not provide invert information to confirm adequate cover and check for potential conflicts with other utilities. We recommend future plans include a simple roadway/utility profile.
9. We recommend the plans show proposed stormwater infrastructure (screened) on the Utility Plan to coordinate all subsurface installations to ensure there are no conflicts.
10. The Plans should show electrical connections to proposed garages if power will be provided in those units.

Stormwater Plan

11. The proposed Stormwater Plan is lacking detail typically provided to confirm viability of the proposed layout. We request additional engineering design detail be provided demonstrating how the project will meet applicable stormwater performance standards.

Site Planting Plan (L1.0)

12. There is no irrigation well proposed for the site. The applicant shall confirm how proposed landscaping will be irrigated as we anticipate limits on using domestic water for irrigation at the site.
13. Screening of the project is minimal along the eastern property line and the limit of clearing is not defined. We recommend the Applicant coordinate screening along this property line with the abutting

project and show all proposed landscaping that will be constructed as part of this Project on the plans.

Site Lighting Plan (L1.1)

14. The Plan appears to depict light trespass on the multiple properties abutting the project. Additionally, photometrics should be provided to determine light values at the property limits and to confirm proposed lighting will not spill over onto adjacent property.
15. No proposed lighting is shown on the buildings, particularly the rear of each building where we anticipate lighting may be placed at access/egress points. The Plan should be comprehensive and include all proposed lighting for the site.

Amenity Area Layout and Materials Plan (L2.0)

16. Proposed trees are shown in areas that may conflict with subsurface stormwater management features. Landscaping should be placed only in areas where root intrusion will not cause issues with the proposed stormwater systems.

Typical Building Planting Plan (L3.0)

17. Proposed landscaping is only provided on the front facing portion of the buildings. Additional landscaping may be required at the rear of buildings to mitigate view impacts.

STORMWATER

The Site Plans depict nearly all the available upland area of the site will be rendered impervious by the proposed Project. Additionally, wetland resource areas encompass the eastern and western sides of the proposed development and soil maps show ledge outcrops on portions of the site. Please provide a Stormwater Management Report demonstrating how the Project intends to comply with applicable performance standards. The current layout and grading information provided does not appear to meet applicable performance standards. The following comments were generated from information provided and we expect additional comments when requested documentation is provided per guidance included in the Massachusetts Department of Environmental Protection's (MA DEP) Stormwater Standards (Standards) and Stormwater Handbook (Handbook).

18. The Applicant is proposing five subsurface stormwater basins for stormwater mitigation. The basins may not be viable options for mitigation due to expected height of groundwater at the site and possible presence of ledge. Test pit information has not been provided to confirm viability of these structures.
19. It appears a significant amount of off-site area is flowing to the Project site from the east. These areas should be included in the stormwater analysis for the project, particularly if these areas will flow to the proposed basins.
20. Several of the subsurface stormwater basins are located within 50 feet of a wetland resource area. The Handbook recommends infiltration basins be located outside of the 50-foot buffer to limit impacts to the resource area as well as ensure proper functionality of the proposed basins.
21. A subsurface stormwater basin is proposed within the electric easement. Please confirm this is consistent with easement terms.

22. It does not appear there will be adequate snow storage at the site and we anticipate the need for snow to be removed and disposed of off-site. Snow removal and disposal should be documented in the site Operation and Maintenance Plan (O&M Plan) required under the Standards and Handbook.

EROSION AND SEDIMENTATION CONTROL

The Applicant has not supplied any Plans related to managing the site during construction. We expect, given the proximity of the development to the surrounding wetland resource areas, that construction impacts may be extensive if not conducted properly. The following comments are offered specific to the Project and its potential for off-site erosion during construction.

23. The Project will disturb more than an acre of area and likely require coverage under the United States Environmental protection Agency (US EPA) National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Construction Activities (CGP). We recommend a copy of the permit be provided prior to the start of any construction on site.
24. The Project will also require an Order of Conditions from the Sherborn Conservation Commission or MA DEP for work within areas subject to jurisdiction under the Massachusetts Wetlands Protection Act. We recommend a copy of the Order of Conditions be provided prior to the start of any construction.

WATER

As discussed in the Comprehensive Permit Application, the Applicant is in discussions with the City of Framingham to provide water service for the Project. The following comments are offered specific to the Project water system and related analysis or lack thereof.

25. Please provide a "will serve" letter or similar documentation proving potable water will be provided in the quantity and pressure needed to serve the development's potable and fire protection demands. Without the proposed connection we do not anticipate this project will be viable.
26. Any offsite water system infrastructure improvements needed to supply the site should be shown on the plans and documentation provided showing rights of access over lands not under the Project's control.

SEWER

As discussed in the Comprehensive Permit Application, the Applicant is in discussions with the Town of Natick to provide sanitary sewer service for the Project. If the sewer service is allowed, the Project will discharge to the system via a proposed sanitary sewer force main from a pump station located on-site. The following comments are offered specific to the Project sewer system and related analysis or lack thereof.

27. Please provide a "will serve" letter or similar documentation proving adequate sewer service will be provided to the site. Without the proposed connection to public sewer we do not anticipate this project will be viable.
28. Please provide pump station and force main design and sizing information and confirm that all pumping equipment is served by emergency power systems.
29. Any offsite sewer system infrastructure improvements needed to serve the site should be shown on the plans and documentation provided showing rights of access over lands not under the Project's control.

TRAFFIC

TT has conducted a review of the September 2020 TIAS prepared by MDM for the proposed development. The TIAS evaluates the potential traffic impacts associated with the currently proposed project which includes 120 multifamily units. One of the two existing single-family homes on-site will be removed to support the proposed development, while the other single-family home at 86 Coolidge Street will remain.

Access to the site will be provided by a full-access driveway along Coolidge Street located just to the south of the existing driveway for the residence at 86 Coolidge Street. A separate gated, emergency access only driveway will be provided to the adjacent development driveway at 104 Coolidge Street, at the northern end of the site. On-site parking will include 170 surface parking spaces and 30 garage parking spaces.

The September 2020 TIAS generally conforms with standard professional practices in the Commonwealth of Massachusetts for the preparation of traffic impact studies for projects of the size and nature of the proposed residential development. However, TT recommends that the Applicant provide additional information identified below to provide a comprehensive review of the project's traffic-related impacts.

30. The TIAS presents Stopping Sight Distance (SSD) for both the posted speed limit (35 mph) and the observed 85th percentile speed (44 mph); however, Intersection Sight Distance (ISD) is only noted for the posted speed limit. Since the observed 85th percentile travel speeds are higher than the posted speed limit, TT recommends the Applicant include a discussion of the available ISD compared to the desired ISD using the observed travel speed. TT also recommends the Applicant confirm the SSD is listed in the appropriate directions in Table 4, as the available SSD eastbound and westbound appear to be reversed.
31. As currently shown on the Plan View in Figure 4, the Ideal ISD line is drawn through a wooded area on the site (looking left from the site driveway). There appears to be a number of large trees within that wooded area that may hinder the line of sight. The TIAS notes that the recommended sight lines will be satisfied "with selective clearing and grading as part of the installation of the Site driveway." If any of the trees within the wooded area are to be removed, they should be noted on the plan. The sight triangles and area of clearing for the 44-mph observed speed should be shown on the plan.
32. The crash analysis has generally been prepared in accordance with industry standards and includes an evaluation of data from the MassDOT crash database for the study intersections for the five-year period between 2015 and 2019. However, the volumes included on the crash rate worksheets are inconsistent with the volumes presented in Figure 3. The results of the crash rate calculation with the volumes presented in Figure 3 do not change significantly, however, so no further action is required.
33. Vehicle trip generation estimates for the project were developed based on trip rates published in ITE's *Trip Generation* for Land Use Code (LUC) 221 – Multifamily Housing (Mid-Rise) applied to 120 units. The site program evaluated in the TIAS is expected to generate approximately 652 daily trips on a weekday (43 vph during the morning peak hour and 53 vph during the evening peak hour). TT agrees with the trip generation and trip distributed methodology used in the TIAS.
34. The TIAS utilized Highway Capacity Manual (HCM) 6th edition methodology for the unsignalized intersections using Synchro software. TT generally agrees with the methodology used in the TIAS but notes some discrepancies with some of the data inputs used in the analysis (i.e., lane use assumption for the Coolidge Street approach to North Main Street is inconsistent with the text). The TIAS notes that the Coolidge Street eastbound approach is a single lane, while the capacity analysis shows separate left- and right-turn lanes on the approach. If analyzed with a single approach lane, the Coolidge Street eastbound approach is likely to exceed capacity and operate at LOS F during both peak hours under baseline conditions and will worsen under future conditions with and without the proposed project. While the delay for the approach will be higher than reported in the TIAS, the end result is still the same for the eastbound

approach (LOS F) under Build conditions. The project is expected to add no more than 24 peak hour trips to the intersection.

35. The Applicant shows a proposed bus shelter and pull-out just south of the site driveway. The shelter is to be located outside of the sight triangle. Since the ideal sight distance shown on Figure 4 was based on the posted speed limit and not the observed 85th percentile speed, this bus shelter may need to be relocated further back from the edge of the roadway to provide an adequate line of sight looking left from the site driveway. Additionally, the need for a bus pull-out is unclear at this location. There was no discussion of any transit in the TIAS. A school bus would be safer stopping directly in the roadway as the bus stops traffic in both directions with the use of the flashing red lights and STOP sign. TT recommends the Applicant clarify the need for this bus pull-out and the relocation of the bus shelter to be outside of the ideal ISD line based on the 85th percentile speed.
36. The Applicant shows an entry sign on the Site Planting Plan. It should be confirmed that this entry sign will not interfere with the line of sight looking left from the site driveway or the sign should be relocated.

These comments are offered as guides for use during the Town's review and additional comments are likely to be generated during the course of review. The Applicant shall be advised that any absence of comment shall not relieve him/her of the responsibility to comply with all applicable local, state and federal regulations for the Project. If you have any questions or comments, please feel free to contact us at (508) 786-2200.

Very truly yours,



Sean P. Reardon, P.E.
Vice President



Steven M. Bouley, P.E.
Project Manager

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