



September 4, 2024

Mr. David Williams, Chair  
Zoning Board of Appeals  
9 Cordaville Road  
Southborough, MA 01772  
c/o Lara Davis, Principal Assistant

Re: Peer Review- Civil Engineering and Landscape Architecture  
Comprehensive Permit Application  
120 Turnpike Road  
Southborough, Massachusetts, 01772

Dear Mr. Williams and Members of the Board:

**Project Understanding**

Land Design Collaborative (LDC) has completed our Initial Review of an application for a Comprehensive Permit on a proposed project located at 120 Turnpike Road, Southborough, MA (the Property). The Applicant seeks to subdivide the existing property into three (3) parcels, referred on the site plans as Lot 4A, 4B and 4C. The primary focus of our review is on Lot 4B with an ancillary review of Lot 4A as to its association with Lot 4B. On lot 4B, the Applicant proposes to construct a five-story multifamily apartment style building containing 60 dwelling units with associated drive aisles, parking, two (2) garages servicing ten cars each, stormwater management systems, utility services, landscaping, dog park, playground, and an on-site sewage disposal system (the Project).

**Submittal Documents**

LDC reviewed the following Submittal Documents, provided by you via email and downloaded from the Town Website:

**Site Plans:**

*"Site Plan of Land At 120 Turnpike Road" in Southborough, Massachusetts prepared by Expedited Engineering, LLC dated August 22, 2024 (33 Pages);*

*"Sewage Disposal System Plan" prepared by Expedited Engineering, LLC dated August 22, 2024 (2 Sheets);*

**Stormwater Management Report & Plan:**

*"Drainage Report at 120 Turnpike Road, Southborough, MA" prepared Expedited Engineering, LLC dated July 24, 2024 (27 Pages);*

*"Pre and Post Development Drainage Area Plan" prepared by Expedited Engineering, LLC dated July 24, 2024 (2 Sheets);*

**Comprehensive Waiver List:**

*"List of Requested Waivers From Applicable Town of Southborough By-laws and Regulations" (18 Pages) received by LDC via email on 8/23/2024 from George T. Bahman, Esq, Assistant General Counsel, Ferris Development Group, LLC;*

**Associated Comprehensive Permit Documents Specific to Civil/Site/Stormwater/Environmental/Landscape Architecture:**

*Prior ZBA Decisions, Comprehensive Permit Application Submittal Materials, Related Special Permit Applications, Resident letters to the ZBA, Boards & Committees letters to the ZBA, and Applicant Response Letters;*

Additional Application Materials:

*“Site Plan of Land”*; dated October 25, 2023, revised July 24, 2024; prepared by James Tetreault of Expedited Engineering, LLC of Southborough, MA (4 Sheets);

*Letter Regarding the “Comprehensive Permit Application”*; dated July 29, 2024; prepared by Brian R. Charville, Esq., General Counsel, of Ferris Development Group (1 Page);

*“Emergency Vehicle Swept Path Plan”*; dated July 24, 2024; prepared by James Tetreault of Expedited Engineering, LLC; (1 Sheet).

**Findings**

LDC reviewed the Submittal Documents for consistency with the following documents from which the Applicant has requested waivers

- *Town of Southborough Zoning By-Laws (Responses #1-9);*
- *Town of Southborough Wetlands Regulations (Response #1);*
- *Town of Southborough Subdivision Regulations (Response #1-8);*
- *Town of Southborough Stormwater and Erosion Control Regulations (Response #1);*
- *Town of Southborough Comprehensive Permit Regulations and Guidelines (Response #1);*
- *Town of Southborough Charter, General By-Laws (Response #1);*

Our firm also reviewed the Submittal Documents for consistency with Site Plan Review standards, the MassDEP Stormwater Management Standards, and generally accepted engineering practices to which the Applicant has not requested waivers from or is a matter of general engineering practices inconsistent with the regulations stated below.

- *General Comments - Town of Southborough Zoning By-Laws (Responses #1-3)*
- *General Comments - MassDEP Stormwater Management Standards (Response #4)*
- *General Comments - Town of Southborough Stormwater and Erosion Control Regulations (Response #5)*
- *General Comments - Stormwater Design and Wetlands Protection (Response #6)*

It is understood the Town’s By-laws and Regulations do not strictly apply in the case of a Comprehensive Permit; however, it is customary for an Applicant to provide a list of waivers seeking relief to those specific sections of the local by-laws and regulations, providing justification to the Board for each waiver requested. The application includes the requisite list of waivers from the applicable by-laws and regulations, hence our review. Additionally, local regulations are a guide to accepted practices in a community, and it is beneficial for municipal officials and residents to understand how closely a Comprehensive Permit plan conforms to the local requirements and where it deviates. Unless cited below, we found the Submittal Documents to comply with the applicable By-laws or Regulations.

**Comprehensive Waiver List**

Based on our experience, it is incumbent upon the Applicant to cite the location(s) and provide an explanation as to why compliance is not feasible with a by-law or regulation. For your convenience, we’ve presented the referenced Sections of the By-law or Regulation in *“italics”* and the LDC comment in a conventional font.

*Town of Southborough Zoning By-laws*

1. *§174-6, Applicability - §174-6*

The location of the proposed multi-family development is situated adjacent to business uses and in proximity to single family uses, not uncommon for 40B housing communities.

2. *§174-8, Schedule of Use Regulations -  
§174-8(A)*

The location of the proposed multi-family development is situated adjacent to business uses and in proximity to single family uses, not uncommon for 40B housing communities.

*§174-8(B)*

Though a waiver has been requested, the necessity for the waiver is not defined, that is the location(s) and frequency of non-compliance have not been provided in the list of waivers. We suggest the Board ask the Applicant to cite or indicate the specific instances on the plans or in the supporting documents where the non-compliant conditions(s) are proposed so the Board can understand the scope and scale of the particular deviation(s) from the Town's local standards.

3. *§174-8.5, BH Highway Business District -  
§174-8.5(D)*

The location of the proposed multi-family development is situated adjacent to business uses and in proximity to single family uses, not uncommon for 40B housing communities.

*§174-8.5(E) Development Standards as follows:  
§174-8.5(E)(2)*

The proposed parcel (Lot 4B) on which the building is proposed contains no frontage. Pursuant to M.G.L, Title VII, Chapter 41, Section 81L – "Such frontage shall be of at least such distance as is then required by zoning or other ordinance or by-law, if any, of said city or town for erection of a building on such lot, and if no distance is so required, such frontage shall be of at least twenty feet."

*§174-8.5(E)(4)*

The maximum allowable height of a building in any district in town is 45-feet, three stories. The Fire Department should be consulted as to whether the proposed building height of 66 feet is acceptable and be accommodated with the apparatus in their fleet. If not already performed, LDC recommends a balloon test be conducted, representing the 66-foot-tall structure at the four main corners of the building. The elevation of each balloon should be calculated and adjusted accordingly based on existing ground grade at each location. The Board may want to also consider lines of sight profiles during winter conditions from abutting properties and public ways that may be visually impacted.

*§174-8.5(E)(6)*

The location of the proposed multi-family development is situated adjacent to business uses and in proximity to single family uses, not uncommon for 40B housing communities.

4. *§174-10, Site Plan Approval -  
§174-10(A)*

While relief from this requirement is requested, one element of the requirement that should be demonstrated is that of safety of the public. Though a waiver has been requested, the necessity for the waiver is not defined, that is the location(s) and frequency of non-compliance has not been provided in the list of waivers. We suggest the Board ask the Applicant to cite or indicate the specific instances on the plans or in the supporting documents where the non-compliant conditions(s) are proposed so the Board can understand the scope and scale of the particular deviation(s) from the Town's local standards.

*§174-10(D)(1)*

Though a waiver has been requested, the necessity for the waiver is not defined, that is the location(s) and frequency of non-compliance has not been provided in the list of waivers. We suggest the Board ask the Applicant to cite or indicate the specific instances on the plans or in the supporting documents where the non-compliant conditions(s) are proposed so the Board can understand the scope and scale of the particular deviation(s) from the Town's local standards.

5. *§174-11, Signs -*

*Regulation Reference: §174-11(C)(2)(d)*

LDC suggests that the Applicant discuss their justification for illuminated signage on Route 9 with the public safety officials to establish the period in which the sign will be illuminated and whether the Town and/or MassDOT requires lower intensity lighting between 10 PM and 6 AM.

*§174-11(D)*

The Applicant should identify on the site plans the location of the additional monument sign, or is the sign meant to be a two sided/bi-directional sign, as well as a detail of the sign for the Board's reference.

*§ 174-11(E)(1)*

The Waiver List incorrectly references *§174-11(C)(2)(d) for this waiver*. Though a waiver has been requested, the necessity for the waiver is not defined, that is the location(s) and frequency of non-compliance has not been provided in the list of waivers. We suggest the Board ask the Applicant to cite or indicate the specific instances on the plans or in the supporting documents where the non-compliant conditions(s) are proposed so the Board can understand the scope and scale of the particular deviation(s) from the Town's local standards.

6. *§174-12, Parking and Loading Regulations -*

*§ 174-12(C)(2)*

Lot 4A parking stall widths of 9 feet are common in many communities. The proposed site design seeks to convey existing spaces from proposed Lot 4A to proposed lot 4B to increase the total number of spaces for the 40B development. The Applicant should demonstrate that reducing the overall parking total from proposed Lot 4A will not adversely impact the parking requirements for the office uses on the lot.

*§ 174-12(E)(1)*

LDC suggest that the Applicant provide the board with a breakdown of parking distribution for 1- ,2- and 3-bedroom units and consult with the traffic peer review consultant to offer some perspective on the issue. The Board may consider a visit and monitor similar developments in the area, which may offer some assistance when considering this waiver. The Applicant should also discuss the impacts of the parking totals required for the office uses on proposed Lot 4A with some of those existing spaces now being designated as parking for the proposed 40B development.

7. *§174-13, Landscaping -*

*§174-13(B)(10)*

The Applicant states that they are in communication with the Board on the subject. Though a waiver has been requested, the necessity for the waiver is not defined, that is the location(s) and frequency of non-compliance has not been provided in the list of waivers. LDC requests the Applicant cite or indicate the specific instances on the plans or in the supporting documents where the non-compliant conditions(s) are proposed so the Board can understand the scope and scale of the particular deviation(s) from the Town's local standards.

*§174-13(E)(2)*

The Applicant states that they are in communication with the Board on the subject of landscaping. LDC suggests that the Applicant provide the Board with a concept plan depicting the impacts of landscaped islands on the site circulation and number of parking spaces.

8. *§174-13.2, Major Residential Development -*

*§174-13.2(A)(1)*

Though a waiver has been requested, the necessity for the waiver is not defined, that is the location(s) and frequency of non-compliance has not been provided in the list of waivers. We suggest the Board ask the Applicant to cite or indicate the specific instances on the plans or in the supporting documents where the non-compliant

conditions(s) are proposed so the Board can understand the scope and scale of the particular deviation(s) from the Town's local standards.

9. *§174-13.3, Lower Impact Development -*  
*§174-13.3(C)(1)*  
*§174-13.3(C)(2)*  
*§174-13.3(C)(3)*

Though a waiver has been requested, the necessity for the waiver is not defined, that is the location(s) and frequency of non-compliance has not been provided in the list of waivers. We suggest the Board ask the Applicant to cite or indicate the specific instances on the plans or in the supporting documents where the non-compliant conditions(s) are proposed so the Board can understand the scope and scale of the particular deviation(s) from the Town's local standards.

#### *Town of Southborough Wetlands Regulations*

1. *Chapter 170, Wetland Protection*  
*§170-2, Jurisdiction*

The Applicant states that compliance would incur significant hardship and expense. LDC suggests that Applicant revisit the layout to explore an option that would reduce the impacts with the 20-foot no disturb zone. The pond is a resource area being utilized as a stormwater management basin with collected stormwater directed to it as point source discharges, which is not allowed under the provisions of the Wetlands Protection Act and Wetland Protection Regulations without proper supporting calculations for water quality and erosion prevention. At a minimum, calculations for riprap sizing/stability and outlet velocities should be provided.

#### *Town of Southborough Subdivision Regulations*

##### *Chapter 244, Subdivision of Land*

1. *§244-4, Jurisdiction*

Pursuant to M.G.L, Part 1, Title VII, Chapter 41, Section 81L - Such frontage shall be of at least such distance as is then required by zoning or other ordinance or by-law, if any, of said city or town for erection of a building on such lot, and if no distance is so required, such frontage shall be of at least twenty feet. Conveyances or other instruments adding to, taking away from, or changing the size and shape of, lots in such a manner as not to leave any lot so affected without the frontage above set forth, or the division of a tract of land on which two or more buildings were standing when the subdivision control law went into effect in the city or town in which the land lies into separate lots on each of which one of such buildings remains standing, shall not constitute a subdivision.

The Subdivision Control Law was adopted by the Town of Southborough in August 1986. Based on historical aerial imagery research, only one building, Building #2, built in 1985 existed on the property. Building #1 was constructed in 1989.

2. *§244-6, Limit one dwelling on a lot*  
Refer to Comment 1 (*§244-4*).

3. *§244-8 Access Agency –*  
*§244-8(A)*  
Refer to Comments 2 & 1 (*§174-8 & §244-4 respectively*).

##### *§244-8(B)*

Based on the definition of Street in the Town of Southborough Subdivision Rules and Regulations, the access ways existing and proposed do not qualify as streets. It does not appear this waiver is required.

*§244-8(C)*

Refer to Comments 2 & 1 (*§174-8 & §244-4 respectively*).

4. *§244-9 Preliminary Plan –*

*§244-9(A)(1)*

Pursuant to M.G.L Part I, Title VII, Chapter 40B, Section 21 – The Zoning Board of Appeals “shall have the same power to issue permits or approvals as any local board or official who would otherwise act with respect to such application.” Pursuant to 310 CMR 15.211, Minimum Setback Distances (1), All systems must conform to the minimum setback distance for septic tanks, holding tanks, pump chambers, treatment units and soil absorption systems, including reserve area, measured in feet. Where more than one setback applies, all setback requirements shall be satisfied.

The proposed Recirculating Sand Filter is not in compliance as it is located within 100-feet of a bordering vegetated wetland tributary to a Surface Water Supply, the Sudbury Reservoir.

*§244-9(A)(2)*

Refer to Comment #1 [*§244-9(A)(1)*].

*§244-9(C)*

Refer to Comment #1 [*§244-9(A)(1)*].

5. *§244-10, Definitive Plan –*

*§244-10(A)*

Refer to Comment #1 [*§244-9(A)(1)*].

6. *§244-13, Streets*

The Applicant states in their waiver list that they do not seek a waiver from this section, therefore this request should be removed from the list.

7. *§244-14 Open Space –*

*§244-14(A)*

The Applicant is proposing a playground and dog park as amenities to the residents and should include the percentage of gross area of the entire property consumed by the dog park and playground for the Board's reference. The Board may want to consider requiring the Applicant, in the future, file a Modification to the Comprehensive Permit should there be changes to these amenities.

*§244-14(B)*

Though a waiver has been requested, the necessity for the waiver is not defined. We suggest the Board ask the Applicant to cite or indicate the specific instances on the plans where 10% of permanently protected open space can be achieved.

8. *§244-16, Drainage –*

*§244-16(A)*

The Applicant indicates that they will own and maintain Lot 4A and therefore grading and drainage interference with the lot is not of great concern. LDC suggests that easements be created and recorded in the event either lot is sold in the future. The Board should note the following:

- The presentation of the Drainage Report (an analysis solely based on Subcatchments) makes it difficult to determine the extent to which the Project would impact the new Lot 4A as the lots are analyzed as one area.
- Soil conditions in the area of proposed infiltration have not been confirmed by field testing, nor has an O & M plan been provided for the permeable pavers to ensure that the proposed permeable surface treatment remains functional.

We suggest the Applicant provide additional documentation, including routing of flows through the site to the outlet/discharge points, so the Board (and Conservation Commission) can better understand downstream impacts.

Southborough Stormwater and Erosion Control Regulations – Chapter 154

1. *§154-3, Applicability.*

Though a waiver has been requested, the necessity for the waiver is not defined, that is the location(s) and frequency of non-compliance has not been provided in the list of waivers. We suggest the Board ask the Applicant to cite or indicate the specific instances on the plans or in the supporting documents where the non-compliant condition(s) are proposed so the Board can understand the scope and scale of the particular deviation(s) from the Town's local standards. We cite a few specific deviations below.

Town of Southborough Comprehensive Permit Regulations and Guidelines

1. *§4.0 Filing, Time Limits and Notice –*

*§4.1.2*

LDC's review does not include this section.

*§4.1.3.13*

Deep test hole and percolation test data is shown on the sewage disposal system plan. LDC understands that this plan was included in this filing more for reference by the Board to better understand how the sewage disposal system is situated on the site. The plan will be subject to the approval of the Board of Health who may require additional soil testing due to the size of the primary and reserve disposal areas. Deep test pits should be observed in areas proposed for stormwater infiltration

*§4.1.3.16*

This waiver request should be further discussed between the Board and the Applicant as the situation warrants. We note the proposed use does not constitute an obvious threat to groundwater or source of hazardous or toxic materials.

Town of Southborough Charter, General By-Laws

1. *Charter and General By-laws.*

This waiver request is a broad and sweeping all-inclusive request and should be carefully discussed between the Board, town staff and town counsel.

**General Comments**

General Comments - Town of Southborough Zoning By-Laws

1. *§174-8.5 BH Highway Business District -*

*§174-8.5(C)(10)*

The proposed site plan depicts 2 private garages intended for 10 cars each. This would require a Special Permit within the BH district. No waiver has been requested from this section.

2. *§174-12 Parking and Loading Regulations -*

*§174-12(G)(1)*

The site access driveway is located on Route 9 where there is no existing or proposed acceleration or deceleration lane provided. Furthermore, Route 9 narrows from 3 lanes to 2 in front of the driveway. During a site visit, we had trouble exiting the site due to the speed of vehicles travelling eastbound in the decel lane. Based on subsequent site visits, it is apparent many drivers use the decel lane as a through lane and the short merge just past of the site driveway effectively means three lanes (decel lane, site driveway, and outer/southern travel lane) merge just east of the site driveway. We understand Route 9 is within MassDOT's jurisdiction, so this comment is simply meant to be informative for the Board.

3. *§174-13 Landscaping -*

*§174-13(B)(4)*

There is no note on the Landscape Plan stating that the shrubs to be planted on-site are to be 36" in height at the time of building occupancy. No waiver has been requested from this section.

*§174-13(B)(5)*

Staking is shown on the planting detail, but no note is provided stating removal of the staking after one full growing season. No waiver has been requested from this section.

*§174-13(B)(6)*

No note stating that "the Property owners are to ensure the survival and health of required trees. If any plant material life expires, the property owner must replace it within 180 days" is shown on the Landscape Plan. No waiver has been requested from this section.

*§174-13(B)(9)*

No permanent water supply system or method is provided for planting areas. No waiver has been requested from this section.

*§174-13 (D)*

Grading is proposed within the 10-foot buffer strip required to side and rear property lines located behind the private garages. No planting is proposed on the slope. No waiver has been requested from this section.

*§174-13(E)(1)*

Applicant should tabulate the required number of shade trees to be placed on-site at a rate of two shade trees or three ornamental trees for every 10 spaces or fraction thereof to demonstrate compliance. No waiver has been requested from this section.

**Stormwater Management Review**

The Applicant requests a waiver from Chapter 154-3 of the By-law (Stormwater and Erosion Control, section on Applicability) asking for relief "this section to the extent the proposed development shown on the Plans is not in compliance" with the Town's Stormwater and Erosion Control Rules & Regulations.

LDC reviewed the Submittal Documents for compliance with MassDEP Stormwater Management Standards as well as generally accepted engineering/design practices (the Guidance Documents). Unless noted below and excluding an extensive review of the design's compliance with the Town of Southborough's local Stormwater and Erosion Control Rules and Regulations, we found the Site Plans and Stormwater Management Report to satisfy the requirements of the Guidance Documents and Standards.

4. General Comments - MassDEP Stormwater Standards 310 CMR 10.05(6)(k)

The Applicant has not provided the MassDEP 'Checklist for Stormwater Report' as part of the submittal materials. At a minimum, a completed checklist should be provided. Should the Board decide not to grant waivers to the Stormwater By-laws, then the Applicant will be required to complete and submit the Town of Southborough's 'SMP Eligibility Worksheet' and 'Stormwater Management Application Checklist'.

The following are the 10 Stormwater Standards from the Massachusetts Stormwater Handbook and LDC's comments as to how the proposed plan addresses The Standards.

*Standard 1:* The Project proposes two new outfalls directing and discharging 'clean' rooftop and overland (woodland) runoff toward the existing pond directly north of the Project area, not requiring treatment. Stormwater is conveyed toward these outfalls via varying methods consisting of pipes,



French drains, or riprap drainage swales, with only a portion of the upland runoff conveyed to the pond, as the other portion is collected and diverted toward an existing drainage swale. This swale drains to an existing catch basin located north of wetland flags A-1 and A-33 and piped to a headwall discharging to an intermittent stream. To mitigate the increased impervious cover, porous pavers are proposed. It appears much of the stormwater management system in the existing parking lot will remain unchanged except for the relocation of a catch basin to a location beyond the proposed porous pavers. It is unclear in the Drainage Report if the stormwater conveyances will have the hydraulic capacity to adequately accommodate the stormwater flows.

*Standard 2:* The Stormwater Management Report documents that the post-development rates of runoff for the 2-,10-,25-, and 100-year storm events have been reduced. The Project complies with this Standard, to the extent the following assumptions are valid. The Applicant correctly classifies the various Hydrologic Soil Groups (HSG) providing the Pre- and Post- development drainage maps, and soil testing results for the proposed stormwater management system(s), except where permeable pavers are proposed. The soil conditions should be verified at this location to confirm a three-foot separation to estimated seasonal high groundwater or two feet to refusal. The Applicant uses pre- and post- Subcatchments as their means of analysis. This method does not quantify the impact the proposed porous pavers will have in mitigating the rates and volumes. The Applicant rationalizes the performance of the 22-inch-deep porous pavers by estimating a volumetric storage (40% void ratio). Should a waiver not be granted, the Applicant should perform the hydrologic calculations using the NOAA-14 rainfall data to comply with the local requirements for all analyzed storms to comply with the local requirements

In some instances, the Applicant uses Time of Concentrations (Tc's) of under three minutes. However, while using the TR-55 method, the minimum Tc that can be used is 0.1 hrs. (or 6 minutes) (210-VI-TR-55, Second Ed., June 1986; Pg. 3-5).

The Applicant proposes drainage swales and connections to an existing 24" RCP. To ensure these drainage features can handle the given flow rates and volumes received during the various storm events, the Applicant should model these drainage features and provide supporting documentation. This would also help determine if the proposed riprap and existing pipes will adequately accommodate the proposed flows.

*Standard 3:* The Project is a combination of redevelopment and new development; groundwater recharge is required for any increase in impervious surfaces from the pre- and post- site conditions. Although, it is likely the Applicant will more than meet this requirement with the proposed stormwater management system, the Applicant should provide the recharge volume calculations to quantify and demonstrate this Standard is met. The Applicant should also provide additional information to take credit for 80% TSS removal for the porous pavers with the bed retaining the 1-inch Water Quality Volume, while draining within 72-hours. The Applicant should provide the recharge and water quality calculations to confirm the system(s) will recharge the required water quality volume for the additional impervious area.

*Standard 4:* The Stormwater Management Report does not include documentation for TSS removal, specifically what level of TSS removal the proposed permeable pavers would provide. At best, permeable pavers provide 80% TSS removal, but only when certain criteria are met and maintained. As previously mentioned, permeable pavers need to be designed to hold the requisite water quality volume and drawdown within 72-hrs. The Applicant should provide a thorough and complete O & M plan to ensure that system is properly maintain and functions as designed.

*Standard 5:* This Standard is not applicable for the Project.

*Standard 6:* This Standard is not applicable for the Project.

*Standard 7:* A portion of the Project constitutes redevelopment and partially complies with this Standard meeting the requirements of Standard 2. The Applicant should provide the information referenced under Standards 3 & 4 in order that compliance with Standard 7 is demonstrated. Standards 5&6 are not applicable.

*Standard 8:* The Site Plans provide erosion control measures as shown on sheet ESC1-ESC4 and a Pollution Prevention Plan on sheet D4. The Project complies with this Standard. The plans should be revised to include inlet sediment traps for the catch basins located throughout the existing parking lot.

*Standard 9:* An O & M Plan and an LTPPP for the proposed components of the Stormwater Management system are not provided and should be added to the plans or stormwater management report.

*Standard 10:* An Illicit Discharge statement is not provided in the Stormwater Management Report and should be provided.

5. General Comments - Town of Southborough Stormwater and Erosion Control Rules & Regulations

The following are some key local regulations/requirements for which a specific waiver has not been requested by the Applicant.:

- a) Rainfall data from NOAA Atlas-14 should be used in the stormwater calculations.
- b) Provide flow velocities to ensure that conveyances are being protected to MassDEP's standards.
- c) At a minimum, removal rates of, Total Phosphorous (TP) (60%) and Nitrogen (N) (30%) loading. The proposed porous pavers do not receive any credit for removal of these pollutants.
- d) SMP Eligibility Worksheet and local Stormwater Checklist to help the Board better understand the Project.

6. General Comments on Stormwater Design and Wetlands Protection

V.2 C. 2: Structural BMP Specifications for the Massachusetts Stormwater Handbook


- a) (Pg. 121) cites an additional design consideration for permeable pavers, that is the installation of perforated pipes along the bed bottom to assist in the distribution of the collected stormwater throughout the system. The Applicant does not propose a piped underdrain.
- b) Page 97 of the V. 2 C. 2 document states that infiltration should occur a minimum of 150' (downslope) or 100' (upslope) of any water of the Commonwealth. The permeable pavers propose infiltration within roughly 25' of such waters.
- c) Page 97 of the V. 2 C. 2 document states that infiltration should not within 150' of a slope greater than 20%. We have seen this criteria applied to retaining walls. The design of the wall must account for the additional stormwater infiltration or some means of removing the water from behind the walls must be added.
- d) We suggest the Applicant inventory, clean and inspect the existing drainage structures for compliance with the Stormwater Standards to bring non-compliant components into compliance with current stormwater design. This would include replacing catch basin structures without sumps and adding hoods to catch basins that lack hoods.

Mr. David Williams, Chair  
Southborough Zoning Board of Appeals  
September 4, 2024

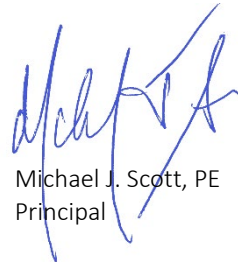
We appreciate the opportunity to provide this review to the Town of Southborough Zoning Board of Appeals and trust the information contained herein represents a fair and accurate assessment of the Submittal Documents. Please call LDC at 508-952-6300 should you have any questions regarding our comments/findings.

Sincerely,

LAND DESIGN COLLABORATIVE



Wayne M. Belec  
Principal



Michael J. Scott, PE  
Principal

cc: Mr. George T. Bahnan, Esq., Assistant General Counsel, Ferris Development Group, LLC  
Mr. James L. Tetreault, PE, Expedited Engineering, LLC

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