

Staff Report



Date: April 26, 2021
To: **Devens Enterprise Commission**
From: Peter Lowitt, Director and Neil Angus, Environmental Planner
RE: **16 Bulge Level 2 Unified Permit Amendment Request**

Owner/App.: Scannell Properties #460.
Location: 16 Bulge Road, Devens, MA
Zoning: Innovation & Technology Business District (ITB), Watershed and Aquifer Water Resources Protection Overlay Districts and Slope Resource Area.

Proposed Amendment Request:

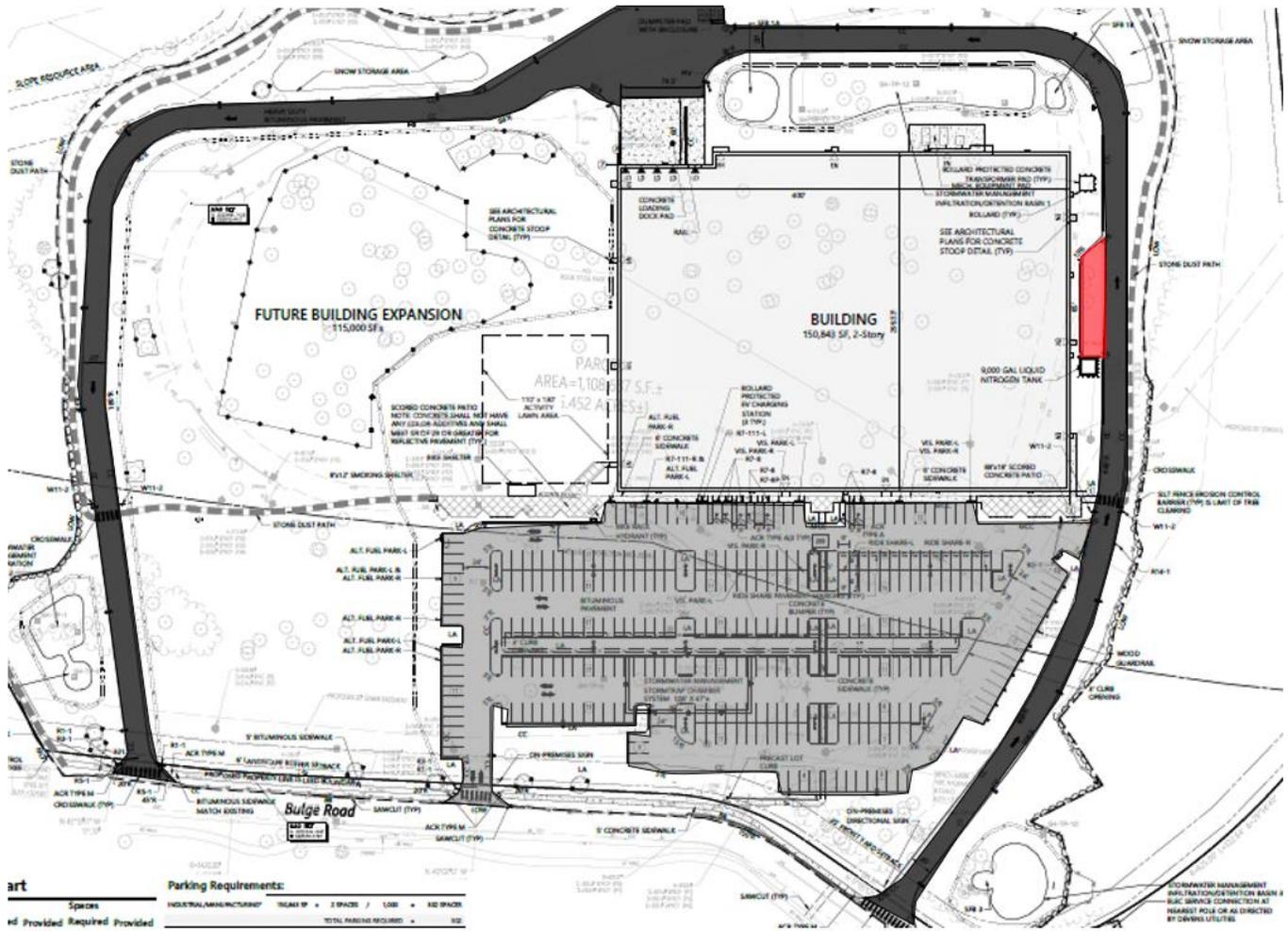
On May 5, 2021, Scannell Properties #460, LLC, was granted a Level 2 Unified Permit by the DEC for the redevelopment of the former Daveo Circle housing area off of Bulge Road for the construction of a +/-150,843 sf bio-tech manufacturing facility and associated site improvements. The approved plans included a heavy duty and light duty pavement detail that does not comply with the DEC pavement construction standards under 974 CMR 3.04(3)(a)2.:

DEC Requirements 974 CMR 3.04(3)(a)2.	Applicant's Proposal	Difference
Light Duty	Light Duty	
1.5" Bituminous top course	1.5" Bituminous top course	=
2" Bituminous binder	1.5" Bituminous binder	-0.5"
4" Compacted Gravel Base (MHD M.1.03.0 Type B)	None	-4.0"
8" Compacted Gravel Sub-Base (MHD M.1.03.0 Type A)	12" Compacted Gravel Sub-Base (MHD M.1.03.0 Type A)	+4.0"
Compacted subgrade, free of frost, roots, and debris	Compacted subgrade, free of frost, roots, and debris	=
Heavy Duty	Heavy Duty	
1.5" Bituminous top course	1.5" Bituminous top course	=
1.5" Bituminous binder	2.5" Bituminous binder	+1.0"
3" Bituminous base course	None	-3.0"
4" Compacted Gravel Base (MHD M.1.03.0 Type B)	None	-4.0"
8" Compacted Gravel Sub-Base (MHD M.1.03.0 Type A)	12" Compacted Gravel Sub-Base (MHD M.1.03.0 Type A)	+4.0"
Compacted subgrade, free of frost, roots, and debris	Compacted subgrade	=

974 CMR 3.04(3)(a)2.c. Allows for the Applicant to propose modifications to the pavement construction specification where anticipated traffic and usage justify a lesser standard. Because this proposed modification was not specifically reviewed and approved by the DEC, the Applicant is now requesting that the DEC allow them to use a lesser standard. In support of this request, the Applicant has submitted modified pavement design calculations from their geotechnical engineer and construction specifications for their proposed pavement designs as noted above. As the above table indicates, the biggest difference for the light duty pavement is the ½" less binder course. For the heavy duty pavement, the Applicant is proposing to eliminate the entire 3" bituminous base course on the heavy duty pavement, although they do propose an extra 1" on the binder course.

The report from the Applicant's geotechnical engineer analyses the durability of the proposed pavement design based on the anticipated truck and vehicle traffic volumes that this project is expected to generate. The report estimates the design life of the proposed standard and heavy-duty pavement design is approximately 20 years. Using the same assumptions as the Applicant, the design life of the Devens Standard Duty works out to be approximately 21.4 years and approximately 24.8 years for the Devens Heavy Duty. However, this depends on many varying factors such as sub-surface conditions, installation, compaction, quality of materials, and long-term maintenance. So proper preparation, installation, and maintenance are key.

The areas of light duty pavement apply to the parking lot in front of the building (gray shaded areas) and the heavy duty pavement areas apply to the main entrance drive and perimeter road around the building where larger trucks will be accessing the property (black shaded areas):



The red shaded area is a liquid nitrogen tank loading area that will be subject to truck traffic as well so the Applicant should ensure this area is either reinforced cement concrete or heavy duty pavement.

The DEC's Peer Review Engineers have reviewed the Applicant's proposed modifications and geotechnical report and do not disagree with the report or its assumptions. Given the comparison of the Applicant's proposed pavement design and the DEC Standard, a slightly lesser standard could be considered as long as there is proper oversight and review of the installation. The Applicant has indicated they have hired a third-party engineer to oversee the pavement preparations and installation. Should the DEC consider allowing such a modification in pavement design, Staff would recommend you include the following conditions:

1. The "Compacted subgrade" portion of each pavement detail shall be updated to include "Compacted subgrade, free of frost, roots, and debris".
2. The liquid nitrogen tank loading area shall be modified to reinforced cement concrete or heavy duty pavement.
3. The Applicant shall provide the DEC gravel sieve analyses, compaction tests, pavement slips, and copies of any third-party inspection reports for all site paving. The DEC peer review consultant will review this information to confirm compliance with the approved pavement modification. The Applicant shall pay for all consultant costs associated with construction inspections and monitoring.

4. The Applicant shall include ongoing pavement monitoring and maintenance in the facility Operations and Maintenance Plan to ensure maximum long-term durability of both the modified light duty and heavy duty pavement designs as approved under this amendment.

These conditions are important to ensure that the pavement subsurface is properly prepared and compacted – a key to durability and longer pavement life. As the location and situation and subsurface conditions vary from site to site, the DEC should ensure that this amendment would only apply to this project and site. Any additional amendments or modifications would require further analysis and be subject to DEC review and approval.

Process: Scannell Properties #460 LLC, submitted a Level II Unified Permit application package on February 28, 2022. The pre-permitting conference was held on February 22, 2022, and the Determination of Completeness was issued on February 28, 2022. Copies of the application and plans were received by the surrounding Towns on March 4, 2022. Legal notices were placed in Nashoba Publications on March 4 and 11, 2022. Certified Mail notice was sent to abutters on February 28, 2022. The 30-day public comment period expires on April 3, 2022. The 75 day review period expires May 14, 2022.

Recommended Action: The 30-day town comment period has not expired so once the Commission and public have had an opportunity to ask any questions or comments, the commission should continue the public hearing to the next regularly scheduled meeting on April 7, 2022 at 7:30 AM.