



June 24, 2021

Doug Hartnett, P.E.
Highpoint Engineering Inc.
Canton Corporate Place
45 Dan Road, Suite 140
Canton, MA 02021

Re: King Devens, LLC – 39 Jackson Road Level II Unified Permit Application (#D21-057)

Dear Mr. Hartnett,

We have completed our second review of the above referenced application and your response to comments dated 6/11/21. Below are the comments from the DEC and MassDevelopment. Review comments on the site plan, stormwater, landscaping, and traffic study from our peer review engineers are being provided in separate letters.

Please Note: The applicant is encouraged to submit a response to comments using this electronic file. Responses should be added after each comment as individual paragraphs with italicized colored text. Responding in this manner will improve clarity and context of responses and will expedite review time.

Devens Engineering Comments:

Stormwater:

1. Now that the entire project is “connected” to the municipal system which the discharges to the Nashua River, the stormwater design/report will need to address impairments in the Nashua River. The report should identify any proposed restrictions on type or amount of fertilizer to be used and provide details about how their portion of the system will eliminate all phosphorous prior to discharge to the municipal system. This needs to be addressed for all three projects since they have all now been connected to the municipal system

Additional comments may be provided following continued review, response to comments or provision of additional material. Failure to identify any items during this review which do not conform to applicable MassDevelopment Engineering standards does not relieve the owner, engineer or contractor from such requirements.

DEC Staff Comments:

DOC Comments not previously addressed:

1. Have you looked at phasing the proposed surface parking depending on final gross square footage of building?
2. 974 CMR 3.04(8)(i)5. requires details for the vegetative roof and walls, for any building walls facing the viewshed that are visible to be vegetated. Viewshed analysis indicates this building will be partially visible.
3. Need to show use of non-reflective finishes, materials, and rooftop mechanicals per viewshed regulations (add note to SD-1) and get a design review letter from MassDevelopment.
4. Provide reference to NGVD 1929 on final plans.
5. Add space for the DEC's endorsement to sheets G200, L201, ES1.01, ES1.02, and SD-1.

6. Change Lot #'s to Building #'s and include street addresses on plans and in all Zoning tables for clarity.
7. Impervious surface coverage is still inconsistent on Campus Master Plan and Materials and Layout plans.
8. Provide details for concrete pad (loading docks), all walks, walls, fences, plazas, etc..
9. Provide utility size and class on sheets C500 and C600.
10. Provide FIRM panel #
11. For the remaining Traffic Report comments, we have addressed this in a note to the file and consider it complete but would request that you update the final plans for clarity (see comment #6).

Please provide any responses and supporting information by **June 29, 2021**. In the meantime, feel free to contact me with any questions.

Sincerely,



Neil Angus, AICP CEP, LEED AP
Environmental Planner
Devens Enterprise Commission



DEVENS ENTERPRISE COMMISSION
33 Andrews Parkway • Devens, MA 01434 • Phone: (978) 772-8831 • Fax: (978) 772.8831



IBI GROUP
 21 Custom House Street, 3rd Floor
 Boston, MA 02110 USA
 tel +1 617 896 2500
IBIplacemaking.com

June 23, 2021

Mr. Neil Angus
 Devens Enterprise Commission
 33 Andrews Parkway
 Devens, MA 01434

Re: 39 Jackson Rd
 Nitsch Project #9419 Task 40

Dear Neil,

IBI Placemaking has reviewed the revised landscape and lighting plans and the waiver request for the 39 Jackson Road Unified Permit Application. The following comments are offered.

WAIVER REQUESTS

974 CMR 3.04(3)(b) – Viewshed Overlay District

The Applicant seeks a waiver to increase maximum allowable percentage of parking spaces to be constructed between the principal building and street that provides frontage from 10% to 30%.... The parking is not visible from the Prospect Hill/Fruitland’s Museum sensitive receptor site due to the presence of mature tree canopy and the Johnson Pharma Life Science facility located within the site line, resulting in no visual impacts to the viewshed. The setback provided between the parking and the frontage allows for the creation of earthen berms and a robust landscape buffer that provides a natural screen between the parking area and Jackson Road. This natural screen buffer provides sufficient mitigation so the majority of the parking will not be visible when viewed from the Jackson Road frontage, meeting the objectives of the regulations to minimize visual impacts from parking in front of the building as viewed from the street and sensitive receptor.

The waiver is recommended for acceptance provided that the required year-round visually impermeable screening within 3 years’ time is provided for the length of the frontage. Changes to the planting plan have been made; however, some items have not been completely addressed by this revised submission:

The proposed screening is comprised of the berms, evergreen shrubs at the south end, and Eastern red cedars. Most of the ground plane is planted with deciduous shrubs, perennials and grasses, that do not contribute to year-round screening. The proposed grading calls for two feet of cut at the two existing pines requiring the construction of a tree well in order for them to survive and contribute to the screening (see item #3 under 3.04 below). The Eastern red cedars do not provide the screening suggested on the plan—three years of growth for a 10’ Eastern red cedar will produce, at best, a 16’ tall tree that is 2.5’ in width; the proposed 15’ average spacing for the trees will not achieve the required screening at the middle portion of the frontage between the two berms. Yews have been added to flank the south entry drive to help screen the front and south parking areas, but views into the front parking area from Jackson Road at the north entry drive remains unobstructed.

3.0: SITE PLAN

3.02: REQUIREMENTS

1. **3.02 (3) (b) 6 (a) states that “All existing landscape features, especially existing trees and woodland to remain, shall be shown on ALL site plan sheets.**
 - Both the 24” and the 18” existing pines at the front of the site are now identified for protection on the planting plan but remain unaddressed on the other plans. However, the proposed grading trees calls for two feet of cut at the trees. Their survival requires the construction of a tree well (see item #3 under 3.04 below).
 - The planting plan calls for tree protection for the three existing trees as well as the trees to be installed as part of the 45-75 Jackson Road project along the south edge of the site; however, this protection is not indicated on the other plans. Note this protection on all plans.
2. **3.02 (3) (b) 6 (b) requires planting plans to indicate the locations of all proposed lighting and the dimension, materials and finishes of all walks, walls and fences.**
 - Provide information regarding the proposed metal louvered fencing, including dimensions, materials, and finishes.
 - Revise the spacing between bike racks to 3’ on the detail.
 - The four accessible spaces in the front parking area remain in a location that is not closest to the building entry.
 - A concern for pedestrian safety at the loading dock remains. Provisions to alert users of the loading dock of possible pedestrian crossings seems advisable.
3. **3.02 (3) (b) 6 (d) requires that the complete layout of a proposed irrigation system be provided.**
 - The irrigation plan only includes the building’s perimeter. The frontage along Jackson Road, the south edge of the site, and the divider island at the west parking area are not included. The Applicant’s response to the initial review is that “the Owner has engaged a third party landscape maintenance company to ensure strong establishment of all proposed plantings immediately following commencement of construction.” Given that plant establishment generally requires two years of consistent watering and given the quantity of planting in the frontage along Jackson Road, we question the success of this approach.
 - The irrigation notes require watering only for 12 months following substantial completion, rather than the two years generally required.
 - The minor extension of the southern berm along Jackson Road resulted in a slight reduction in the quantity of manicured lawn. Given the quantity of water required for lawn areas, we recommend a further reduction of manicured lawn on the site.

3.04: DESIGN STANDARDS

1. **3.04 (3) describes the requirements for site lighting levels and fixtures.**

There is a good consistency of light levels across site, except at front door where very bright lights are adjacent to light levels on the adjacent walkway that fall below the required .5 fc. Light levels below the required .5 fc are also noted in key areas such as the bike parking, the ADA parking spaces, and at the line of parking spaces along the front face of the building. Adjust the fixtures or their location to eliminate the under illuminated areas and the high contrast at the front door.

2. 3.04 (8) (c) 2 calls for native plants.

Numerous cultivars are called for and further selections may be considered if substitutions are required. Given the genetic diversity and associated resilience that the straight species bring to the species and ecosystem, along with the uncertain ecological contributions made by cultivars, use of straight native species remains the preferred choice unless a native cultivar is necessary for safety in areas such as parking lots.

3. 3.04 (8) (d) 4-7 describes in depth the care to be taken to ensure the survival of existing trees.

- The planting plans call for tree protection for the two pines within the front setback; this is not noted on the other plans. Note this protection on all plans.
- The proposed grading negates the protection for the two pines, calling for two feet of cut at the trees. A tree well will need to be constructed. A dry laid fieldstone wall is encouraged. Adjust the grading to minimize the impact on the trees and incorporate a tree well.
- The planting plans call for tree protection for the three evergreen trees and the trees installed under the 45-75 Jackson Road project on the south edge of the property; this is not noted on the other plans. Note this protection on all plans.

4. 3.04 (8) (g) describes screening requirements.

- The addition of yews to flank the southern entry to screen both parking areas is noted. Confirm that the yews will be 3' in height at installation as required.
- Confirm that the 'Manhattan Blue' Eastern red cedar at the utility structures will be the required 6' in height at installation.
- The view of the front parking area is not screened from the north entry drive. Provide the required screening as done in this resubmission for the south entry.
- The middle portion of the frontage between the two berms lacks the required screening. The proposed screening is comprised of the berms and the proposed Eastern red cedars—the ground plane is planted with deciduous shrubs, perennials and grasses, that do not contribute to year-round screening, and the proposed grading calls for two feet of cut at the two existing pines requiring the construction of a tree well in order for them to survive and contribute to the screening. Three years of growth for a 10' Eastern red cedar will produce, at best, a 16' tall tree that is 2.5' in width; the proposed 15' average spacing for the trees will not achieve the required screening. Provide the required screening through the addition of evergreen shrubs installed at a height of 3' or the addition of Eastern red cedars to tighten the spacing.

5. 3.04 (8) (h) 3 calls for trees to be set back at least 5' minimum from the face of the curb.

Trees in the two intermediate islands in the rear parking area are located in 6' wide planting beds bringing the tree closer than the required 5' distance. The Applicant cites that a break-out zone is specified (this is not noted on the drawings) to help address the small planting bed for the tree's viability, but this does not address the proximity of tree to vehicle and pedestrian.

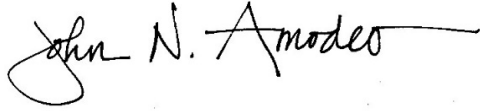
6. 3.04 (8) (h) 4 requires parking islands to contain no more than 25% impervious surfaces with proposed shrubs not to exceed 4' in height.

The intermediate parking islands in the parking areas have more than 25% impervious surfaces. The Applicant cites that a break-out zone is specified (this is not noted on the drawings) to help address the small planting bed for the tree's viability.

7. 3.04 (8) (n) 2 Maintenance

A single snow storage area is indicated for the site. Call for coordination of snow storage plan with planting plan to ensure compatibility of the weight of the snow with the proposed planting.

Sincerely,

A handwritten signature in black ink that reads "John N. Amodeo". The signature is fluid and cursive, with a long horizontal stroke extending to the right from the end of the name.

John N. Amodeo, ASLA, LEED AP B+C

June 23, 2021

Devens Enterprise Commission
c/o Mr. Neil Angus, AICP CEP, LEED AP
Environmental Planner
33 Andrews Parkway
Devens, MA 01434

RE: Nitsch Project #9419
39 Jackson Road – 2nd Review
Site Plan and Stormwater Review
Devens, MA

Dear Mr. Angus:

Nitsch Engineering received and reviewed the following updated information for 39 Jackson Road, Devens, Massachusetts:

1. Plans entitled, "39 Jackson Road – Site Development Plan, Level 2 – Unified Permit Set, Devens, Massachusetts", prepared by Highpoint Engineering, Inc. (HEI), revised 06/11/2021; and
2. Stormwater Management Report, 39 Jackson Road, Lot 2, Site Development, prepared by HEI, dated revised 06/11/2021.

Nitsch Engineering is providing comments with respect to Site Plan and Stormwater Management in this letter. Please note that traffic and landscape review are being provided in separate letters.

For clarity, we have provided our initial comments from May 27, 2021 in normal font, the responses from HEI on June 11, 2021 are in **red** font, and Nitsch Engineering's updated responses are provided in **bold** font.

PROJECT UNDERSTANDING

King Devens LLC (Proponent/King Street) is seeking approval from the Devens Enterprise Commission (DEC) of a Level 2 – Unified Permit for development of 39 Jackson Road. This is the third project to be developed at Devens under King Street's biomanufacturing platform, Pathway KSP. The project includes the construction of a +/- 140,000-gross square foot biomanufacturing building and associated site improvements, parking, and utility/stormwater infrastructure for a +/- 6.4-acre portion of the ~24-acre parcel of land. This lot would be accessible both from Jackson Road, as well as Lake George Street.

This project site is part of a larger watershed area that was detailed in a report entitled *Roadway, Utility and Drainage Improvements – Jackson Road – Route 2 Gate to Hospital Road* by MassDevelopment, dated February 2000. A detention pond was constructed as part of this master plan and is located to the northwest of this site. This detention pond was designed with the intention of mitigating runoff from the entire larger watershed area. Therefore, the stormwater management plan for Lot 3 is only required to meet or decrease peak rates of runoff up to the 25-year storm event. Stormwater discharges exceeding the 25-year storm up to and including the 100-year storm can be released to the offsite regional detention pond. The Applicant also noted that the stormwater analysis references "TP-40 – Rainfall Frequency Atlas of the United States" for rainfall data to match the rainfall data assumptions for the design of the Jackson Road watershed areas.

Based on Nitsch Engineering's review of the submitted documents and the above-referenced regulations, we offer the following comments for consideration:

1. **Exhibit C of the Zoning By-Laws** requires two (2) spaces per 1000 square feet of gross floor area for Manufacturing and Industrial uses. The Applicant has provided 1.1 space per 1000 square feet and justifies that the industry standard is closer to 1.5 space per 1000 square feet. The Applicant also

mentions the potential for a parking garage to be added to the campus to provide additional parking capacity. The ratio provided is acceptable as it is below the maximum requirement.

Applicant Response (06/11/21): Applicant concurs.

Nitsch Response (06/22/2021): Comment closed.

2. **974 CMR 3.04(3)(a)1.a** requires that parking allowed in the front of the building shall be limited to 10% of the required parking spaces in accordance with 974 CMR 3.04(3)(a)1.f. The remainder of the parking serving the project shall not be located in front of the building facade. There are currently 46 spaces proposed at the front of the building. This is greater than 10% of the provided and/or required total parking spaces. The Applicant has requested a waiver from this requirement. We note that there is very limited space to move the spaces elsewhere onsite so the Applicant would need to remove these spaces from the front lot (further reducing parking onsite) to comply. Nitsch Engineering defers to DEC for acceptance of the waiver.

Applicant Response (06/11/21): Applicant acknowledges peer reviewer's recommendation and will review with the DEC.

Nitsch Response (06/22/2021): Comment closed pending review with the DEC.

3. **974 CMR 3.04(3)(a)1.h** requires bicycle storage facilities for all developments. The bicycle storage area appears to be located on the northeast corner of the proposed building. A detail is also provided, however the detail indicates that that surface below the bike racks is permeable pavers which is not indicated on the plans. The Applicant should review for consistency.

Applicant Response (06/11/21): The detail is standardized to depict two bicycle rack mounting options, for either pervious paver or concrete pavement surface conditions.

Nitsch Response (06/22/2021): Comment closed.

4. **974 CMR 3.04(4)(g)** requires standard "STOP" at the intersection of driveways with streets and roads. The Applicant should evaluate the intersections of the internal driveways, especially at the intersections along the perimeter of Lot 3 and provide adequate signage for traffic safety.

Applicant Response (06/11/21): The Applicant has reviewed traffic control signage with the Traffic Consultant and added signage as required to maintain safety.

Nitsch Response (06/22/2021): It is unclear where the signage was added. Comment closed pending the incorporation of this information on the final Plans.

5. **974 CMR 3.04(5)** requires that the Applicant shall obtain a letter from Fire Chief stating there is adequate access for fire equipment. This should be provided to the DEC. Additionally, Fire Truck Turning Movements should be provided.

Applicant Response (06/11/21): The Fire Apparatus Maneuvering Study Plan, that is included as an appendix in the Project narrative, has been submitted to the Fire Department for review.

Nitsch Response (06/22/2021): The revised narrative with the fire turning movements was not provided to Nitsch Engineering for review. Nitsch recommends that any Fire Department response on the turning movements be provided to DEC for the record. Comment closed.

6. **974 CMR 3.04(5)** requires that all proposed developments shall demonstrate they have made reasonable efforts to consider and, where feasible, include Transportation Demand Management (TDM) initiatives early on in the site design and layout process. TDM initiatives can justify a smaller amount of parking than is normally required. Refer to **974 CMR 3.04(5)a.-j.** for TDM initiatives that may affect the site design and layout. Because the proposed parking ratio is less than required and less than suggested for the Manufacturing industry, the project site may benefit from some of the TDM strategies. The Application for Level 2 – Unified Permit Narrative indicates that parking areas will include preferred spaces dedicated to electric vehicle charging stations, rideshare, and low-emitting hybrid or electric vehicles but the locations are not indicated on the Plans. The Applicant should review and address this requirement. A Parking Summary Table is also requested to compare the required and provided spaces (total, accessible, compact, electric vehicle, and rideshare spaces) to demonstrate compliance with the regulations.

Applicant Response (06/11/21): The Applicant has included designated accessible, compact, electric vehicle, and rideshare spaces on the Plans. A Parking Summary Table has been added to the Plans.

Nitsch Response (06/22/2021): Comment closed.

SITE PLAN DESIGN AND CALCULATIONS

7. The required parking count in the Table 1: Summary of Parking Requirements in the Application for Level 2 – Unified Permit Narrative appears to be miscalculated. The table states that there are 440 required spaces however $140,000 \text{ square feet} * (\text{two } [2] \text{ spaces}/1000 \text{ square feet}) = 280 \text{ spaces}$. The Applicant should review this calculation.

Applicant Response (06/11/21): The Applicant has revised the parking summary in the Project narrative and will submit separately to the DEC for record.

Nitsch Response (06/22/2021): Comment closed.

8. The Applicant should clarify if the Typical Concrete Pad detail is intended for the loading dock.

Applicant Response (06/11/21): The detail has been removed from the Plans.

Nitsch Response (06/22/2021): Comment closed.

9. The Applicant should provide a detail for the concrete sidewalks.

Applicant Response (06/11/21): A detail for the concrete sidewalk is added to the Plans.

Nitsch Response (06/22/2021): The requested detail was added to the Plans. Comment closed.

10. The Limit of Work on Sheet C400 should be labeled.

Applicant Response (06/11/21): The limit of work is added to the Plans.

Nitsch Response (06/22/2021): Comment closed.

11. A Cape Cod Berm Detail is provided but it is unclear where it is located on the Plans.

Applicant Response (06/11/21): Cape Cod Berm is not proposed on the project. The detail has been removed from the Plans.

Nitsch Response (06/22/2021): The Cape Cod Berm detail is still shown on Sheet C702, though is clouded. We recommend it be removed from the final plan set for clarity. Comment closed.

12. The crosswalks on the road at the west side of the building do not appear to line up with the sidewalks/curb ramps.

Applicant Response (06/11/21): The crosswalk locations have been revised to align with the curb ramps.

Nitsch Response (06/22/2021): Comment closed.

13. The soils onsite are noted as loamy sand/sand soils and therefore it will be critical to provide adequate slope stabilization at the east portion of the site during and immediately following construction. The Applicant should provide additional detail on how the proposed slopes will be stabilized/protected until the slope is fully vegetated (final stabilization).

Applicant Response (06/11/21): The landscape design proposes an erosion control blanket or similar slope treatment for grades steeper than 3:1 slope. Erosion control surface treatment will be included on the revised Plans to demonstrate adequate slope stabilization.

Nitsch Response (06/22/2021): We recommend that a note be added to the Erosion Control Plan (Sheet C300) to indicate the areas of steep slopes and the requirement for erosion control blankets. Comment closed.

DEC STORMWATER DESIGN STANDARDS

14. **974 CMR 3.04(4)(b)(4)** requires that catch basins or other drainage features in loading/unloading and/or fueling areas shall be equipped with post-indicator valves on the outlets for containment in the event of any spills. The PIV is indicated on the Plans. At the 45 Jackson Site (Lot 1), it was agreed upon that it is acceptable for the post-indicator valve to be left in the open position with signage that directs the operator to close the valve in the event of a spill. The Applicant should provide a detail for the post indicator valve.

Applicant Response (06/11/21): A detail for the post indicator valve (PIV) has been provided on the Plans.

Nitsch Response (06/22/2021): The PIV was not added to the plan set. Comment closed pending the inclusion of the PIV, appropriate signage, and details in the final plan set. Comment closed.

15. **974 CMR 4.08(2)(c)(ii)** requires irrigation water shall be derived from detained treated stormwater (stormwater harvesting) or roof drainage to the maximum extent feasible. Onsite cisterns may be installed to store water for irrigation. It appears that irrigation is intended. The Applicant should review and address this requirement.

Applicant Response (06/11/21): Irrigation is intended for the Project consisting of short-term, temporary irrigation to provide watering during the initial 2-3 year growing period. A permanent irrigation system will be installed for turf grass areas and select landscape zones around the building.

The master planned development includes three buildings which presently anticipates a centralized irrigation system for the development. The Applicant intends to install an irrigation well for irrigation water sources for the development, to be approved by Devens Utilities.

Nitsch Response (06/22/2021): The irrigation well should be reviewed and permitted with the Board of Health and approval provided to DEC for record. Comment closed.

16. **974 CMR 4.08(2)(c)(vi)** requires that all projects incorporate low impact development (LID) techniques for stormwater management to the maximum extent feasible. It appears that two (2) rain gardens are proposed at the east of the site. The rain gardens are not labelled on the Plan, but a detail is provided. The Applicant should address this for clarity. Additionally, we ask that the Applicant review other opportunities to increase LID, such as porous pavement on sidewalks or in parking stalls.

Applicant Response (06/11/21): The rain gardens have been labeled on Plans. Pervious pavers or asphalt are not feasible along east and south/north of the building due to potential groundwater considerations. Based upon the other LID measures provided through the campus plan, the Applicant believes the provided Rain Gardens are adequate.

Nitsch Response (06/22/2021): The intent of our comment is to reduce reliance on the water quality structures for treatment. Porous pavement allows the integration of treatment with infiltration/detention within it's section. The use of pervious pavement for the western parking lot appears feasible and may replace/reduce SWM-06, which is proposed to infiltrate.

17. **974 CMR 4.08(3)(a)2.** requires that biorientation cells abutting pavement are designed to capture sheet flow, the edge of pavement shall be reinforced to ensure the integrity of pavement is maintained. The Applicant should review and address this requirement. Additionally, the Plans do not indicate curb cuts to allow the water to exit the parking lot into the rain gardens at the east of the site. The Applicant should indicate the curb cuts on the Plans and provide a detail.

Applicant Response (06/11/21): Edge pavement stabilization has been added to the plan. Curb cuts have also been added to allow sheet flow from the east parking fields to drain into the rain gardens. Refer to revised site plans.

Nitsch Response (06/22/2021): Comment closed pending the inclusion of a detail for the curb cuts in the final Plans.

18. **974 CMR 4.08(3)(g)** recommends that post-construction erosion control methods include geotextile and/or biodegradable erosion control fabrics staked or anchored to the slope, with loose weave to allow vegetative cover to be established. The east portion of the site has steep slopes that may have trouble establishing without additional support. The Applicant should review and address this recommendation.

Applicant Response (06/11/21): Slopes exceeding 3:1 for the landscape berms along Jackson Road will be covered with jute mesh erosion control blankets prior to seeding similar to proposed erosion control for 33 Jackson Road.

Nitsch Response (06/22/2021): We recommend that a note be added to the Erosion Control Plan (Sheet C300) to indicate the areas of steep slopes and the requirement for erosion control blankets. Comment closed.

STORMWATER DESIGN AND CALCULATIONS

19. The rain gardens are included in the TSS removal calculations but is not described in the watershed descriptions or referenced on the Plans. The Applicant should review for consistency.

Applicant Response (06/11/21): The Plans have been revised to identify two (2) rain gardens. The rain gardens are also referenced in the hydrologic analysis watershed summary. Refer to the revised Plans and Stormwater Management Report.

Nitsch Response (06/22/2021): This information was updated as requested. Comment closed.

20. The HydroCAD modeled outlet at Pond 6P indicates there are four (4) 6-inch orifices. It is unclear how this function based on the Plans. The Applicant should provide a detail or additional information on the Plan to depict this condition.

Applicant Response (06/11/21): The outlet manifold for SWM-06 has been identified on the Plans.

Nitsch Response (06/22/2021): The requested information was provided in the revised Plans. Comment closed.

21. Pipe sizes are not labeled on Sheet C500. The Applicant should review and address this.

Applicant Response (06/11/21): The pipe sizes have been identified on the Plans.

Nitsch Response (06/22/2021): Pipes are labelled in the Drain Schedule. Comment closed.

22. On the "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices" Sheets, it appears an old reference to WQU#1 remains at the bottom of each page. The Applicant should update the naming to the appropriate Water Quality Unit.

Applicant Response (06/11/21): The reference to WQU#1 has been removed. Refer to revised Stormwater Management Report.

Nitsch Response (06/22/2021): Comment closed.

23. The front pages of the Construction Phase Stormwater Operation and Maintenance Plan and Long-Term Stormwater Operation and Maintenance Plan should be updated to "Bldg #3." Additionally, Underground Infiltration/Detention System sections should be updated to clarify that one (1) system is infiltration and one (1) system is detention. The section also references four (4) systems. The Applicant should review for consistency.

Applicant Response (06/11/21): The 39 Jackson Road building is referred to as "Building #2", even though it is the third building to be submitted for Level 2 Unified Permit under Pathway Campus master plan. For future reference 45 Jackson Road is referred to as "Building #1", and 33 Jackson Road is referred to as "Building #3".

The Long-Term O & M has been revised to reflect the correct number of underground stormwater management systems.

Nitsch Response (06/22/2021): The narrative still references four (4) systems and system differences are not noted in the narrative. For consistency in the record, the Applicant should make these updates in the final Stormwater Report.

24. The Applicant has provided the required water quality flow rates in the Supplemental Stormwater Management Report. The Applicant should provide documentation that the proposed Contech CDS1515-3-C Water Quality Inlets can treat the required water quality flow.

Applicant Response (06/11/21): Documentation that the proposed CDS1515-3 units will treat the required water quality flow rate has been provided. Refer to revised Stormwater Management Report.

Nitsch Response (06/22/2021): The requested information was provided in the revised Stormwater Report. Comment closed.

CONFORMANCE WITH THE MASSDEP STORMWATER STANDARDS

In accordance with **974 CMR 4.08(2)(a)**, Nitsch Engineering reviewed the stormwater design and calculations for general conformance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Standards. Based on this review, Nitsch Engineering offers the following comments:

25. **Standard 2** requires stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. The post-development rates are greater than the pre-development rates for the 50- and 100-year storm. However, we understand that the Applicant is only required to mitigate up to the 25-year design storm prior to discharge to the regional basin.

Applicant Response (06/11/21): The Applicant concurs.

Nitsch Response (06/22/2021): Comment closed.

26. **Standard 3** requires infiltration structures must be able to drain fully within 72 hours. The HydroCAD export for Pond 17P indicates that there is still 3 cubic feet of storage in the system greater than 72-hours. This may be a HydroCAD glitch because the export does indicate that the elevation is at the bottom of the system. The Applicant should review for consistency.

Applicant Response (06/11/21): The Applicant has reviewed the hydrologic model and concurs with the Peer Reviewer and concurs that even though the outlet invert is set at bottom of system, a deminimus amount of water remains in the system after 72 hours. To test the model, a theoretical drop of - 0.00001' below system bottom was introduced to the outlet condition, and the model reanalyzed. The results demonstrate that zero water storage results. While this test works in theory, the system cannot be constructed to this tolerance. Understanding that hydrologic modeling is an approximation subject to minor deviations based upon published climate data, design assumptions, and final performance based upon as-built conditions, we request the Peer Reviewer accept the model as proposed.

Nitsch Response (06/22/2021): We have reviewed the HydroCAD and Applicant's response and concur with the Applicant's assessment regarding the system sizing and dewatering. Comment closed.

27. **Standard 8** is covered by a National Pollutant Discharge Elimination System (NPDES) Construction General Permit, but no Stormwater Pollution Prevention Plan (SWPPP) has been submitted. A SWPPP should be submitted to the DEC before land disturbance begins. Additional detail and phasing information should be provided on the Plans including slope protection, diversion swales, and infiltration system footprint protection. Additionally, consideration should be given at the interface between the adjacent lot project boundaries.

Applicant Response (06/11/21): A SWPPP will be provided to DEC prior to the start of construction.

Nitsch Response (06/22/2021): Nitsch recommends that the Applicant provide the SWPPP for review at least 30-days prior to the start of construction. Comment closed pending the submittal of the SWPPP to the DEC.

28. **Standard 10** prohibits illicit discharges to the stormwater management systems. The Illicit Discharge Statement should be provided and signed and stamped by the engineer of record before construction.

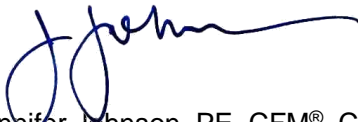
Applicant Response (06/11/21): The Illicit discharge statement has been provided. Refer to revised Stormwater Management Report.

Nitsch Response (06/22/2021): The requested Illicit Discharge Statement was included in the revised Stormwater Report. Comment closed.

If the Commission has any questions, please call.

Very truly yours,

Nitsch Engineering, Inc.



Jennifer Johnson, PE, CFM®, CPSWQ, LEED AP
Project Manager

SV/JLJ