



## MEMORANDUM

To: Burlington Development Review Board  
Mary O’Neil, Principal Planner  
Scott Gustin, Principal Planner & Asst. Administrative Officer

From: Joe Weith, Senior Project Manager

Date: October 3, 2022

Re: BHS | BTC Reconstruction – Project Narrative

Burlington School District (“BSD”) is proposing to reconstruct the Burlington High School/Burlington Technical Center (“BHS/BTC”) property at 52 Institute Road. The reconstruction project will consist of remediation and demolition of all but one of the existing buildings and construction of a new BHS/BTC building. This narrative provides a description of the project and addresses several key design aspects and regulatory requirements as outlined in the Burlington Comprehensive Development Ordinance (“CDO”).

### **Project Description**

The BHS/BTC reconstruction project will consist of two (2) primary overlapping phases. Phase 1 will involve remediation and demolition of buildings A through G of the existing campus. The northerly most building, the former wood chip plant, will remain and be repurposed. Phase 2 will involve construction of a new high school/technical center building and a green house.

The proposed BHS/BTC will total approximately 253,865 square feet which includes a new 250,000 square foot high school/tech center building, a 600 square foot greenhouse and the existing 3,265 square foot former wood chip plant. The new BHS/BTC building will be oriented to Institute Road and all access to the property will be from Institute Road. Two

main entrances will serve the building – a south entrance and a north entrance. The south entrance will face Institute Road and serve as the primary entrance for visitors, bus drop off/pick up and users of the existing parking area on the south side of Institute Road. The north entrance will serve users of the new north parking lot, additional bus drop off/pick up and student drop off/pick up. Both entrances will provide direct access to the 2-story student commons, gymnasium and auditorium.

Program highlights include:

- **Two-level Student Commons** for dining, gathering, collaboration.
- **Three Small Learning Communities for BHS** each with a variety of classroom sizes, science labs, extended learning areas, teacher planning, and student support spaces.
- **Significant Student Support resources** including Counseling & Special Needs.
- **Five Tech Center Program spaces** with dedicated BTC entrance.
- **Large Group Multi-Purpose Presentation space.**
- **750 seat Auditorium** with robust lighting, rigging, & sound systems.
- **12,000 sf Gym plus 5,500 sf Community Gym** with dedicated after-hours entrance.
- **Strong connection to the outdoors** including two (2) outdoor learning areas, a secure courtyard, and enhanced connections to the Arms Forest.

### **Existing vs Proposed**

The proposed BHS/BTC campus will have less gross square footage and fewer classrooms than the existing BHS/BTC campus. The existing BHS/BTC contains approximately 255,600 gross square feet of building area and 89 classrooms/instructional spaces. The proposed BHS/BTC will contain approximately 253,900 gross square feet of building area and 77 classrooms/instructional spaces.

Using a recommended standard of maximum number of students per classroom/instructional space and appropriate utilization rates, we estimate the student capacity of the existing BHS/BTC to be 1,802 students. Using these same standards, we estimate student capacity of the proposed BHS/BTC to be 1,594 students. Therefore, the proposed reconstruction project will result in a lower student capacity compared to existing.

### **Demo/Remediation and Construction Timeline**

BSD's target open date for the new BHS/BTC is August 2025. Below is the preliminary project timeline:

- Building demolition and remediation: January 2023 – September 2023
- Foundation and site construction: May 2023 – August 2025
- Building construction: August 2023 – August 2025
- Target building occupancy: August 2025

**Due to the complexity and size of this reconstruction project, we request approval for a permit life of four (4) years.**

**Environmental**

Extensive testing of building materials and soils for hazardous materials has been conducted on the property. Hazardous materials have been detected on site including asbestos, lead, PCBs, and polyaromatic hydrocarbons (PAHs) in the soils that exceed EPA and VTDEC standards. Testing and analysis determined that the most cost-effective approach to remediating hazardous materials is to fully demolish the buildings and dispose of all material as PCB bulk product waste. Therefore, demolition and removal of the buildings is a necessary component of the overall remediation plan. BSD has been working closely with the Vermont Department of Environmental Conservation (“VTDEC”) and EPA and is currently preparing a corrective action plan (CAP) that will require approval of both VTDEC and EPA.

Remediation of hazardous materials will consist of the following:

- Accessible asbestos containing materials (ACM) will be removed prior to demolition of the buildings.
- The interiors of Buildings A – G will be abated prior to demolition activities.
- There will likely be select remediation of PCB building materials on the exterior of the building including joint and door caulking.
- The entire buildings will be demolished and disposed of as PCB bulk product waste.
- Soil remediation will include select soil excavation and disposal to satisfy VTDEC and EPA regulations.

The abatement, remediation, and demolition will require the following regulatory agency permits and approvals to facilitate completion of the project:

- Site Investigation Report for hazardous building materials (PCBs) to be approved by VTDEC Sites Management Section (SMS).
- Site Investigation Report for soil materials to be approved by VTDEC SMS.
- Compliance with Vermont Department of Health lead and ACM regulations.

- Corrective Action Plan (CAP) for hazardous building materials (PCBs) and soil remediation to be approved by VTDEC SMS. This includes public notice and final decision.
- Corrective Action Construction Completion Report to be prepared for completed hazardous building materials (PCBs) and soil remediation.
- Performance based disposal of PCBs in accordance with the EPA 40 CFR section 761.61(b). This includes proper EPA notification and closure requirements.

### **Dimensional Standards and Density**

***Building Setbacks:*** The building setbacks are approximately 304 feet from North Avenue (20 foot minimum required), 123 feet from Institute Road (20 foot minimum required), 52 feet (greenhouse) and 235 feet (school building) from the west property line (10 foot minimum required), and 290 feet (maintenance building) and 500+ feet (school building) from the north property line (10 foot minimum required).

***Lot Coverage:*** The proposed lot coverage for both parcels combined (north and south sides of Institute Road) is 27% (Maximum lot coverage of 60% allowed).

***Building Height:*** As shown on Sheet A200 of the Architectural Drawings set, the building height along the North Avenue elevation (i.e., east elevation) ranges from 40 feet to 54 feet (80 foot maximum allowed). The building height along the Institute Road elevation (i.e., south elevation) ranges from 44 feet to 70 feet (80 foot maximum allowed). The maximum building height along both elevations is well below the maximum allowed height of 80 feet.

### **Parking**

***Vehicle Parking:*** As shown in the Vehicle and Bicycle Parking Table, the CDO allows a maximum of 385 vehicle parking spaces for this secondary school use. A potential maximum of 1,275 vehicle parking spaces could be allowed if other uses are considered such as a performing arts center and indoor and outdoor recreation. The BHS/BTC project is proposing to provide a total of 362 vehicle parking spaces with 218 spaces located north of Institute Road and 144 spaces located in the existing parking lot south of Institute Road.

As recommended in Section 4.5.2(b)(6) of the CDO, a majority of the parking will be located behind or to the side of the new BHS/BTC building. Also, as was discussed during the sketch plan review meeting, visitor parking is proposed to be located near the south entrance for efficiency and security reasons.

***Bicycle Parking:*** As indicated in the Vehicle and Bicycle Parking Table, the CDO requires a minimum of 480 bicycle parking spaces. We believe this to be excessive for a school of this size based on actual parking counts conducted at the Downtown BHS and other published guidelines for bicycle parking. The bicycle parking demand study conducted by VHB in Fall, 2022 determined a peak parking demand of 0.03 spaces per enrolled student. Applying this standard to the estimated student capacity of the new school indicates that 48 bicycle parking spaces would be sufficient for the proposed BHS/BTC. We also considered the LEED guidelines for bicycle parking since we are pursuing a LEED certification for the new building. Based on LEED guidelines, a total of 134 bicycle parking spaces would adequately serve the proposed project.

The BHS/BTC project is proposing to provide 136 bicycle parking spaces, with 80 of those to be long term (enclosed) spaces and 56 to be short term spaces. **Based on the above, we request approval to provide 136 bicycle parking spaces for the project.**

### **Traffic/Transportation**

Traffic operations on the proposed campus, Institute Road and on adjacent North Avenue have been reviewed by our traffic/transportation consultant. During design, the consultant provided input on the circulation at the site as well as improvements to the operation of the signalized intersection to better accommodate all users (e.g., motorists, bus transit users, pedestrians, and cyclists).

As indicated in the Burlington High School Traffic Impact Study dated September 2022, the proposed BHS/BTC reconstruction project is not expected to generate unreasonable congestion or unsafe conditions on the site or on the City of Burlington's transportation system. The intersection of North Avenue and Institute Road has sufficient capacity to handle the high school/tech center trips without falling below Level of Service C for any movement. The following improvements will be implemented as part of the reconstruction project to improve traffic flow and access for pedestrians, cyclists, and transit users:

- Addition of a right turn lane (turn to southbound) on the Institute Road approach;
- Relocate the southbound transit stop on North Avenue to the north side of the intersection;
- Add pedestrian crosswalks, accessible ramps, pedestrian push buttons and pedestrian signal heads across the north leg and east leg of the intersection;
- Add a traffic signal head to control the Institute Road approach;
- Repaint existing bicycle lanes northbound along North Avenue at the signalized intersection and add a bicycle turn box;
- Buffer southbound bicycle lane to the south of the intersection for first 200 feet (using paved area from moved transit stop);
- Restripe all pavement markings within 200' of the intersection
- Remove on-street parking along Institute Road and add bike lanes on both sides of Institute Road.

- Add new sidewalks along the north side of Institute Road and on the BHS/BTC property.
- Provide safe and efficient bus drop off/pick up at both the south and north entrances to the building.

### **Stormwater**

The proposed stormwater management system will use a Regenerative Conveyance System (RCS) to provide centralized stormwater treatment and detention for the new school facilities. This system consists of a series of stepped pools and stone grade change structures with underlying filter and infiltration materials to provide improved water quality treatment. The system will handle stormwater flows from Institute Road, the lands to the north and a small portion of the athletic field impervious surfaces. The RCS system will be located south of Institute Road and west of the sports stadium. It will also correct the current state of disrepair of the existing stormwater outfall which is severely undermined and has partially collapsed.

Details of the stormwater modeling, drainage maps, testing, operation and maintenance, and erosion control are provided in the Stormwater – EPSC Package and are shown on the Civil plans (sheets C2.1 – C2.5, C4.0 and C4.1).

To provide the most efficient treatment of the runoff from the school property, a system has been developed where the clean stormwater runoff from the Arms Forest area to the north will be intercepted and conveyed separately around the treatment facility.

The stormwater facilities have been designed to address the “3-Acre Rule” requirements recently adopted by the State for all of the redeveloped portion of the property.

### **Landscaping and Lighting**

Proposed landscaping and lighting for the project is depicted in the Landscape-Lighting Permit Set. As shown on the landscape plans, a variety of deciduous and evergreen trees and shrubs will be planted. The loading dock and dumpster area on the west end of the building will be screened by evergreen trees. A plant schedule showing the types, quantities and sizes of landscaping is included on Sheet L-300.

The lighting plan will consist of downcasting cutoff fixtures. The light fixture and pole specifications and statistical area summary (e.g., foot candles) is included on Sheet L-400 Overall Landscape Lighting Plan.

## **Tree Removal/Natural Resources Protection Overlay District**

Areas of tree removal are depicted on plan WS2 Overlay District Natural Resource Protection. Trees will be removed within an area of 2,835 square feet of the Natural Resources Protection zone and within 1,320 square feet of the Natural Resources Protection Buffer zone.

Potential impacts to the Natural Resources Protection Overlay District were assessed by Gilman & Briggs Environmental. As indicated in their assessment memorandum dated 9/30/22, Gilman & Briggs concluded that, overall, the project will not have significant effect on the forested community.

## **Steep Slopes**

Areas where the project potentially impacts existing slopes of 30% or more are depicted on Sheet WS2 Slope Analysis Proposed.

The project has been designed in a manner where steep slopes greater than 40% are proposed to be employed as a means of minimizing earth disturbance. Slopes greater than 30% have been avoided except where subsurface groundwater conditions are favorable for the long-term stability of the unconsolidated soils. Specifically, some areas have been graded at 3:1 and will be temporarily stabilized with the use of erosion control matting until vegetation with a suitable root mass has been established. For excavation into bedrock, the side slopes shall be no steeper than 6 vertical to 1 horizontal to reduce cyclical dislodgement of rock from the exposed face. In some areas 2H:1V slopes may be employed with the use of angular stone substrate as a means of minimizing sloughing of saturated soil surfaces.

## **Energy Efficiency/Sustainability**

The new BHS/BTC building will use a renewable primary heating system as required by Burlington Ordinance Chapter 8 Article 5. The building's heating, cooling, and domestic hot water will be provided by electric heat pumps connected via heat exchanger to an open-loop ground source (i.e., geothermal) heat pump loop. This system is designed to provide all anticipated heating and cooling needs for the project. This proposed system is based upon the confirmation of substantial water flows on site from a test well and design phase energy modeling of the building. The building enclosure performance will exceed VT CBES 2020 standards, with a particular focus on air tightness. Building and equipment performance values have been optimized through the energy modeling process.

The roof is arranged and structured to support solar photovoltaic arrays and infrastructure will be put in place to support BSD's plan to arrange for installation of solar PV by a third-party on the building's roof through a power purchase agreement. The BHS/BTC project is registered as a LEED project and the intent is to obtain LEED Certification. We

will continue to refine and optimize energy and materials performance throughout the design and construction process.