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MEMORANDUM

To: The Design Advisory Board
From: Ken Lerner
RE: ZP 12-0053CA/CU 371 Maple Street
Date: August 9, 2011

File: 12-0053CA/CU
Location: 371 Maple Street
Zone: I Champlain College Core Campus (ICC-CC) overlay **Ward**: 6
Date application accepted: July 15, 2011
Staff site visit: November 2, 2010.
Applicant/ Owner: Colin Lindberg Architects / Champlain College
Request: Addition to Hauke Hall; approx. 38,320 sf new construction providing classrooms, transit lounge, coffee shop, bike storage & offices

Background:

- 11-0393SP; Sketch plan review at DRB for subject proposal on November 9, 2010.
- Zoning Permit 11-1114CA; Replace asphalt roof with new slate roof (**Foster** Hall.) Approved July, 2010. (Technically 109 Summit St. parcel.)
- Zoning Permit 09-709CA; roof alteration at **Freeman** Hall to divert snow (back entrance to building.) Approved April 2009. (Technically 109 Summit St. parcel.)
- Zoning Permit 10-0484CA; install emergency generator for the college disaster recovery plan. Approved November, 2009.
- Zoning Permit 07-052CA; replace existing asphalt shingle roof with Vt. Slate roof, copper on valleys, drip edge, dormer accents (**Wick** Hall.) Approved July 2006. (Technically 109 Summit St. parcel.)
- Zoning Permit 06-830CA; Add exterior metal door to **Foster** Hall mechanical room. Approved June 2006. (Technically 109 Summit St. parcel.)
- Zoning Permit 03-603; Relocating Bank North Group ATM machine. Approved June 2003. (375 Maple.)
- Zoning Permit 02-355/COA 02-047; relocate Bank North ATM to west end of **Hauke** Center auditorium. Approved March 2002.
- Zoning Permit 98-508; installation of nonilluminated freestanding sign to match other Champlain College signs, and to say "Hauke Family Campus Center." Approved May 1998. (Listed as 375 Maple Street.)

- Zoning Permit 98-360; Construction of a mechanical room addition to the existing **Joyce** Hall on Champlain College campus. Approved March 1998.
- Zoning Permit 98-295; Construction of an entry canopy with stone facing, including a stone faced planter along the front of **Joyce** Learning Center. Approved January 1998.
- Zoning Permit 98-296; externally illuminated parallel sign over the entry to **Joyce** Learning Center. Approved January 1998.
- Zoning Permit 96-443; Construction of a balcony with railing linkage between the Hauke Building and the auditorium. Enclosing a portion of the loading dock as storage for stage props. Approved April 1996. (Listed as 375 Maple Street.)
- Zoning Permit 87-679/COA 86-186A; Revised parking plan approved with initial application for construction of student center. Approved January 1988. (375 Maple St.)
- Zoning Permit 87-846 / COA 86-186B/C, modifications to prior permit; includes demolition of Smith House at 375 Maple Street.
- Zoning Permit 87-025 / COA 86-186; Relocation of Smith House, construction of new 32,000 sf campus center with parking structure and lot. Approved January 1987. (375 Maple Street.)

Overview: The proposed development is within the Champlain College (ICC-CC) overlay district. Specific district provisions state:

Sec. 4.5.2 Institutional Core Campus Overlay Districts
(g)
1. Lot Coverage
Lot coverage within the ICC-CC shall not exceed 60% inclusive of any applicable bonus provisions.
The percent of lot coverage, in aggregate, of all Champlain College owned parcels within the ICC-CC academic overlay district with the project is 56.9%; 60% is the maximum allowed.

PART 2: SITE PLAN DESIGN STANDARDS

Sec. 6.2.2 Review Standards

(a) Protection of Important Natural Features:
There are no significant or natural features at the development site, or any features specifically noted in the *Open Space Protection Plan.*

(b) Topographical Alterations:
The project is proposed to be built at the site of an existing parking lot. The lot currently slopes to the west, with the parking lot at the lower (westerly) edge. The building will be set into the hillside, making use of the existing grade change while attached and connecting two existing buildings.

(c) Protection of Important Public Views:
Distant terminal views of Lake Champlain and the mountains to the east and west, and important public and cultural landmarks, framed by public rights-of-way or viewed from public spaces shall be maintained through sensitive siting and design to the extent practicable. It is anticipated that

unparalleled westerly views will be afforded to building occupants with the construction of this addition.

(d) Protection of Important Cultural Resources:
The student center was built 1987-88, and is not historic.

(e) Supporting the Use of Renewable Energy Resources:
No part of this application prohibits the harnessing or use of direct sunlight, wind, or running water. Proposed site features include extensive installation of landscaping which will assist in addressing stormwater and creating shade and windbreak.

(f) Brownfield Sites:
None identified.

(g) Provide for nature's events:
All provisions of Art 5, Sec 5.5.3 and Chapter 26 shall apply in the review of the project.
The project includes extensive use of vestibules, canopies, and balconies that will afford occupants measures to enjoy (and escape from) the varied weather conditions.

(h) Building Location and Orientation:
The proposal for this building addition continues the massing and style of the existing student center and other more recently constructed buildings within the Champlain College Academic Institutional Overlay zone. There is similarity in the use of terraces, pavilions, window placement, and rooflines. The north elevation of the proposed addition is proposed to continue the building street-front of Hauke Hall along Maple Street. The westerly elevation is internal to the site, and does not directly front South Willard Street although will have a presence along the proposed interior pedestrian path.

(i) Vehicular Access:
At present there is a curb cut on Maple Street for access to the existing 16 space parking lot. The submitted site plan has wide pedestrian pathways accessing the addition and campus. As noted this access also will provide for emergency vehicular use.

(j) Pedestrian Access:
See above. The walkway connects to other paths directed to the west traveling between Bader and Cushing Halls. This walkway has a small "plaza" area surrounded by landscaping.

(k) Accessibility for the Handicapped:
The western entrance is at grade, with close proximity to an internal elevator. Two h/c parking spaces are within the 26 parking spaces slated for removal. The proposal only includes a single accessible parking space in close proximity to the complex. Additional hc core campus parking needs to be considered.

(l) Parking and Circulation:
The proposed addition is planned for an area that includes an existing 26 car parking lot. The adjacent IDX lot does include eight spaces of which one is hc accessible. The loss of the specific spaces is not noted in the current Joint Institution Parking Management Plan (2011 Update). However, this document indicates that the on-campus parking is not fully utilized with 62% occupancy, or 183 empty spaces for peak demand counts (Table 1, p. CC:1). The overall parking

plan for the college is to move from on-campus parking to off-site locations such as the recently constructed 266 spaces at the Lakeside Avenue facility.
The existing curb cut is re-defined as a pedestrian access point, leading by way of a wide pedestrian walkway through the site and connecting to other campus facilities.

(m) Landscaping and Fences:
There are existing trees in the project location that are proposed for removal. Site plan LA-100 illustrates significant plantings; species and sizes. This confirms the intent for significant landscaping.

(n) Public Plazas and Open Space:
The proposed pedestrian walkway will include a small "plaza" to the west of the addition between Cushing and Bader Halls. This will provide an interesting and welcome meeting place and an enhancing public amenity; one that could also potentially include art, sculpture, or other site feature.

(o) Outdoor Lighting:
Where exterior lighting is proposed the applicant shall meet the lighting performance standards as per Sec 5.5.2.
Lighting details and levels are illustrated on photometric plans SE-101 and 102. Details that indicate compatibility with light level standards in ordinance Sec. 5.5.2 for walkways is not provided on the plan or in the project summary.
Lighting levels for the terrace is provided and noted as being computed with IES recommendations. While the zoning regulations do not address such terrace lighting, the average at 0.5 footcandles appears acceptable although the maximum level at 7.9 footcandles is bright. The ordinance maximum for walkways is 2 footcandles.
Lighting fixture detail sheet also is provided. The fixtures are LED down lights of low wattage and will match campus standards.

(p) Integrate infrastructure into the design:
The variety of typical institutional internal uses and the inclusion of significant service areas including loading thoughtfully have been considered as accessory and ancillary attributes of use. Also solutions are in place to address trash, recycling, composting and the like.

Engineered utility plans have been submitted. Building elevations will however need to illustrate any exterior connections, mechanical equipment, meters, or other supportive equipment. The proposal is to place all elements within the structure and hide them with architectural louvers.

PART 3: ARCHITECTURAL DESIGN STANDARDS

Sec. 6.3.2 Review Standards

(a) Relate development to its environment:
Proposed buildings and additions shall be appropriately scaled and proportioned for their function and with respect to their context. They shall integrate harmoniously into the topography, and to the use, scale, and architectural details of existing buildings in the vicinity.
The following shall be considered:

1. Massing, Height and Scale:

The proposed development maintains an overall scale similar to that of surrounding buildings, the addition providing almost a seamless design continuance to the existing Hauke Center. The height and massing of the proposed addition continues the existing pattern, with a variation in planes and building floor heights, providing a complex yet consistent exercise in building articulation. The zoning ordinance encourages "increased development scale and intensity" for projects within the Institutional district and the addition responds to that challenge.
A segment of the addition will functionally be four stories: Consequently design elements transition the height disparity to adjacent structures. And, as this component is within a group of varying structural masses, it may be seen as one element of a whole development rather than a visual disparity. Additionally, if this building segment is central to the visual viewshed between Bader and Cushing Hall, it will become a focal point, anchoring the building mass and transitioning the new addition into the overall campus core.

2. Roofs and Rooflines.

The new building addition utilizes predominant roof forms and pitches existing in the Hauke complex and prevalent to the campus core buildings. The roofs vary in articulation; from terraces to turrets, the addition rooflines are appropriate to the context. The inclusion of rooftop balustrades, arched window lights and modern architectural rooftop "lanterns" provide interest and complexity to the building mass.

3. Building Openings

Two major entrances are proposed: At the entrance to the commuter lounge at the northwest corner underneath a covered arcade, and at the promenade / vestibule area on the west. A significant amount of attractive fenestration is provided on each side of the addition, continuing on each floor level around the structure. In both arrangement and articulation, building openings remain consistent with existing structures, while referencing historic models.

(b) Protection of Important Architectural Resources:

Hauke Hall, built in the late 1980's, is not a historic building; therefore this standard is not applicable.

(c) Protection of Important Public Views:

The proposed addition will present views from the existing Hauke Hall, as an observation tower and a flat-roof terrace are proposed on the addition. The remainder of the addition will continue to provide substantial westerly views that will be affordable to all building occupants. No public views or viewsheds will be diminished by this addition.

(d) Provide an active and inviting street edge:

While no new direct access points are proposed from the Maple Street elevation, the articulation of the building, with varied and interesting materials, varied fenestration arrangement and masonry voissoir (that curved brick arch over the window!) provide streetscape interest.
The substantial glass for windows and at entry locations opens the building visually; inviting liberal interaction between the streetscape and inner building activity. The result will be a dynamic and vibrant co-existence.

(e) Quality of materials:

The building is proposed to be constructed of brick and stone. The roof material is copper with natural finish to patina. Windows are aluminum curtain wall or storefront with green finish.

(f) Reduce energy utilization:

New structures should incorporate the best available technologies and materials in order to maximize energy efficient design. All new construction shall meet the Guidelines for Energy Efficient Construction pursuant to the requirements of Article VI. Energy Conservation, Section 8 of the City of Burlington Code of Ordinances.

The extensive window banding on the west will provide notable passive solar gain. All development will be required to meet energy efficiency standards as defined by Burlington Electric.

(g) Make advertising features complementary to the site:

No signs have been included within this review. Any signage will require a separate sign permit.

(h) Integrate infrastructure into the building design:

See Sec. 6.2.2. (p) above.

(i) Make spaces secure and safe:

New development shall meet all required ingress and egress standards as defined by the building inspector and the fire marshal. Additionally, verification of stand pipe locations and adequacy of existing fire protection must be completed by the fire marshal's office.

Memorandum

To: Mary O'Neil

CC: Michel George

From: Colin Lindberg

Date: July 13, 2011

Re: CCM at Champlain College (Expansion to Hauke Family Campus Center)
Zoning Permit Application

Attached are the materials for our application for Zoning Permit approval for the new CCM building at Champlain College. This project has previously been reviewed by staff and the DAB through a sketch plan submission. The design has been refined and improved based on that input.

The following is a summary of the submitted materials. Please feel contact me or Michel immediately if you have any questions about the design or application.

Application Overview

Zone: Institutional – Champlain College Core Campus (ICC –CC)
Base Zoning – 4.4.4
Overlay – 4.5.2(g)

Use: School – Post-Secondary (Appendix A), no change to existing use

Master Plan – Design in alignment with approved Champlain College Master Plan

Dimensional Standards – Per Appendix B

Density/Intensity	Max: FAR 1.1 per 4.5.2(g)4	Proposed: 0.77
Lot Coverage	Max: 60%	Proposed: 56.9%
Building Height	Height of existing buildings per 5.2.6(b)1	Proposed: Match existing
Front Setback	Existing building line on South Willard Street	Proposed: Unchanged
Side Setbacks	Min: 5 feet, Max: 20 feet, or per 4.5.2(g)2	Proposed: Match existing
Rear Setback	Min: 20 feet, Max: 75 feet, or per 4.5.2(g)2	Proposed: Unchanged

5.2.6(b) Exceptions to Height Limits
1. Additions and new construction on parcels that contain an existing structure exceeding thirty-five (35) feet in height as of January 1, 2008 may exceed thirty-five (35) feet subject to the design review provisions of Art. 3 and 6, but in no event shall exceed the height of the existing structure.

Lot Coverage & FAR Calculation

Total Site Area	**361,548 SF**
Current Impervious Area	198,916 SF
Current Lot Coverage	55.0%
Current Floor Area	242,602 GSF
Current FAR	0.67 FAR
Net Added Lot Impervious Area	7,065 SF
New Lot Impervious Area	205,981 SF
New Lot Coverage	**56.9 %**
Added Floor Area	38,290 GSF
New Floor Area	280,892 GSF
New FAR	**0.77 FAR**

Site Photographs

Attached are photographs of the following:

- Cushing Hall and IDX parking lot drive viewed from Willard.
- Cushing Hall viewed from Willard.
- Bader Hall viewed from Willard.
- Side of Bader Hall.
- Rear of Bader Hall (facing new construction).
- Rear of Cushing Hall (facing new construction).
- Corner of Auditorium (attaching to new construction).
- Auditorium.
- Hauke (expanding with new construction).
- East (Campus) side of Hauke.
- Existing Hauke lot, partially covered by new construction.
- Existing Maple Street bus shelter.
- View from intersection of Willard and Maple.
- SD Ireland Center, building adjacent to the east.
- IDX and Pearl buildings adjacent to the south.

Elevations and Materials

Attached are the west and north elevations of the new building. The building connects into the existing Hauke and Auditorium and so does not have major east or south elevations. The materials for the building will match the existing Hauke and Auditorium construction palette.

- Brick is Glen-Gery 250-M Modular with WR-12C colored mortar in grapevine struck joints
- Stone is Rainbow Split Ashlar quartzite with WR-19A colored mortar
- Copper roof with natural finish to patina
- Aluminum curtain wall or storefront with green finish (see cut sheet for sample system)
- Concrete for paving walks and drives with brick paver and stone accents and focal points
- Stainless steel for external handrails and bicycle racks
- Light fixtures to match campus standards (see cut sheets)

Wall Cross Sections

The project is designed to achieve a high level of energy efficiency, including detailing to avoid thermal bridging and extensive energy modeling to optimize performance of the envelope and systems. The building envelope is designed with a continuous air/vapor barrier and all insulation external of the supporting structure. A sample wall section is attached.

Perspective

Two sheets of photographs of the study massing model for the project are attached. The model will also be available for review at presentations and hearings about the project. Note that as a study model, some minor details are updated in the elevations and building plans, which should be considered current. Specifically, the design for the north elevation windows facing Maple Street and the tower element at the northwest corner of the terrace is more current in the drawings.

Landscape Plan

Attached is a landscape plan with plant materials schedule prepared by SE Group. A rendered version is also provided and recommended for understanding the overall site plan design.

Site Plan, Erosion Control Plan and Stormwater Plan

Attached are site plans addressing these requirements as prepared by Engineering Ventures along with a draft copy of the Small Project Erosion Prevention & Sediment Control Plan to be submitted to Burlington DPW.

Site Lighting Plan

Attached are a site lighting plans and photometric plans prepared by LN Consulting.

Cut Sheets for Lighting, Windows, Equipment

Cut sheets for these elements are attached. Fixture D on the lighting photometric plan (below) will be a custom sconce fixture to mark the building entries and so does not have a cut sheet. The project intent is to provide cooling and a portion of heating with a geothermal system. Thus all building mechanical elements would be within the structure hidden by architectural louvers. In the event that a cooling tower is required it will be accommodated by replacing the existing cooling tower at the pit location hidden by screen wall from Maple Street.

Additional Materials and Information

Colored building plans are also attached to provide clarity on the intended range of uses and connection between interior and exterior spaces of the project. Due to the size, cost and complexity of the project it may be phased to align to constructability and funding. The initial phase would be anticipated to include all new construction and site work. Portions of renovations to existing Hauke and the Auditorium may be done as a later phase.

Based on our addition size of 40,000 square feet we are planning to provide 26 bike parking spaces. Per code, 2 spaces (1 per 20,000 sf) are required to be inside, and the remaining 24 (3 per 5,000 sf) could be exterior. The project proposes to have locations for 16 bikes outside (with 8 of those under roof) and racks for 10 bikes within the building in the public portion of the basement level and easily accessible by elevator.

We have not attached the staff comments from the sketch plan review of the project, but make concurring reference to it as addressing many of the review standards. In addition to the more detailed materials listed above and attached, we clarify that the circulation element through the center of the project is intended as a primarily pedestrian zone with service vehicular access only during early morning or evening hours. It will also function as a fire lane, and we have confirmed its suitability for this capacity with Terry Francis.

A Memorandum from Beth Isler of RSG, Inc. is also attached addressing the transportation review for the project including review of site access and campus parking impacts and concluding that the project has adequate and appropriate elements to support pedestrian, bicycle, transit and vehicle modes.

RSG INC.
TRANSPORTATION

MEMORANDUM

To: Michel George, Champlain College
From: Beth Isler, PE/PTP
Subject: Transportation Overview of Hauke Center Addition/Multimodal Transportation Center/Center for Creative Media (CCM)
Date: 11 July 2011

Resource Systems Group is pleased to submit this memorandum summarizing the transportation aspects of Champlain College's proposed Hauke Center Addition/Multimodal Transportation Center/Center for Creative Media (CCM).

The CCM will be on the southeast corner of the South Willard Street/US 7 – Maple Street intersection in Burlington, Vermont and will consist of a 40,000 square foot addition that will include a transit lounge, coffee shop, bicycle storage, classrooms, and offices. The project is anticipated to open in 2012 and is to be built on the existing surface parking lot between Hauke and Bader as described in the 2009-2014 CATMA Joint Institution Parking Management Plan (JIPMP). This project is critical to the implementation of Champlain College's Campus Master Plan and to the achievement of the vision to develop a car-free core campus.

This memorandum assesses transportation aspects of the site design and internal circulation. The memorandum includes the following items:

- Project description
- Transportation review of site design and internal circulation
  - Pedestrian facilities
  - Bicycle parking
  - Delivery vehicle, emergency vehicle, and shuttle access
- Review of campus parking impacts
- Sight Distances
- Recommendations

This study relies upon design standards and analysis procedures documented in the 2000 *Highway Capacity Manual*,[1] *A Policy on Geometric Design of Highways and Streets*,[2] *Manual on Uniform Traffic*

[1] Transportation Research Board, National Research Council, *Highway Capacity Manual* (Washington, DC: National Academy of Sciences, 2000).

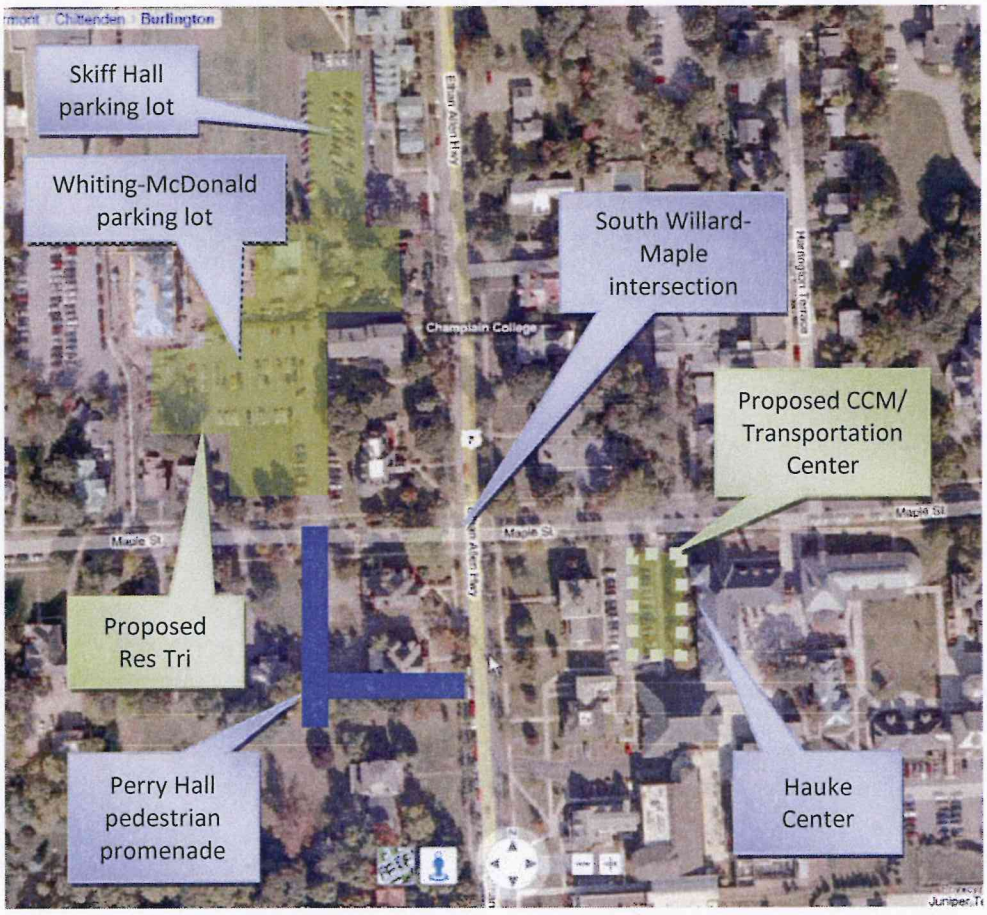
[2] American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 4th Edition (Washington DC: AASHTO, 2004).

Control Devices (MUTCD),[1] *Traffic Impact Evaluation: Study and Review Guide*,[2] and the Vermont State Design Standards.[3]

1.0 PROJECT DESCRIPTION

The location of the proposed Hauke Center Addition/Transportation Center/CCM and relevant landmarks are shown in Figure 1.

Figure 1: Study area (source: Bing Maps)



The CCM will be on the southeast corner of the South Willard Street – Maple Street intersection and will consist of a 40,000 square foot addition that will include a transit lounge, coffee shop, bicycle storage, classrooms, and offices. The project is planned to provide a multimodal transportation center for the campus, providing a comfortable place to wait for a shuttle or CCTA bus. The site includes a pedestrian-oriented promenade (similar in design to the Perry Hall promenade) that will also serve as emergency and delivery vehicle access from Maple Street to South Willard Street. The CCM was identified in the Campus Master Plan and the JIPMP. It is anticipated to open in 2012 and will be built on the existing parking lot between the Hauke Family Campus Center and Bader and Cushing Halls.

[1] American Traffic Safety Services Association (ATSSA), ITE, and AASHTO, *Manual on Uniform Traffic Control Devices*, 2003 Edition (Washington DC: FHWA, 2003).

[2] Vermont Agency of Transportation, Development Review Section, *Traffic Impact Evaluation Study and Review Guide* (January 2003).

[3] State of Vermont Agency of Transportation, *Vermont State Standards* (Montpelier: VTrans, 1 July 1997).

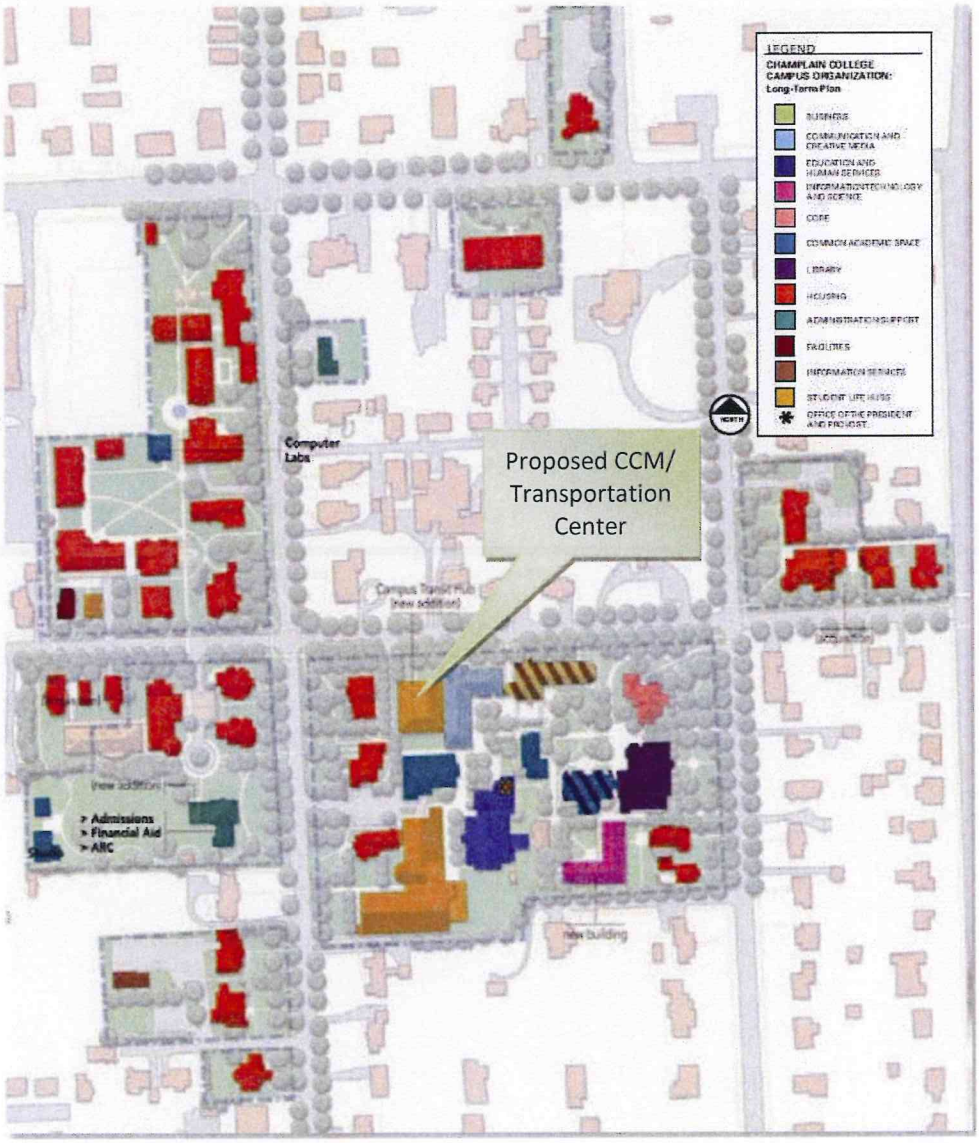
2.0 SITE DESIGN AND INTERNAL CIRCULATION

This section reviews the transportation aspects of the site's design and internal circulation.

2.1 Pedestrian Facilities

Figure 2 shows that the CCM is in the campus core. Shuttle buses currently connect the core campus (departing from the Hauke Center) to off-site facilities (Lakeside Avenue/Gilbane parking and student housing at Quarry Hill and at Spinner Place). Connecting shuttles directly to the campus core on the southeast corner of the South Willard – Maple intersection (where the greatest diversity of campus uses is) will connect shuttle passengers directly to their destinations and minimize pedestrian crossings of South Willard and Maple Street.

Figure 2: Proposed building use, Champlain College Master Plan (page 60)

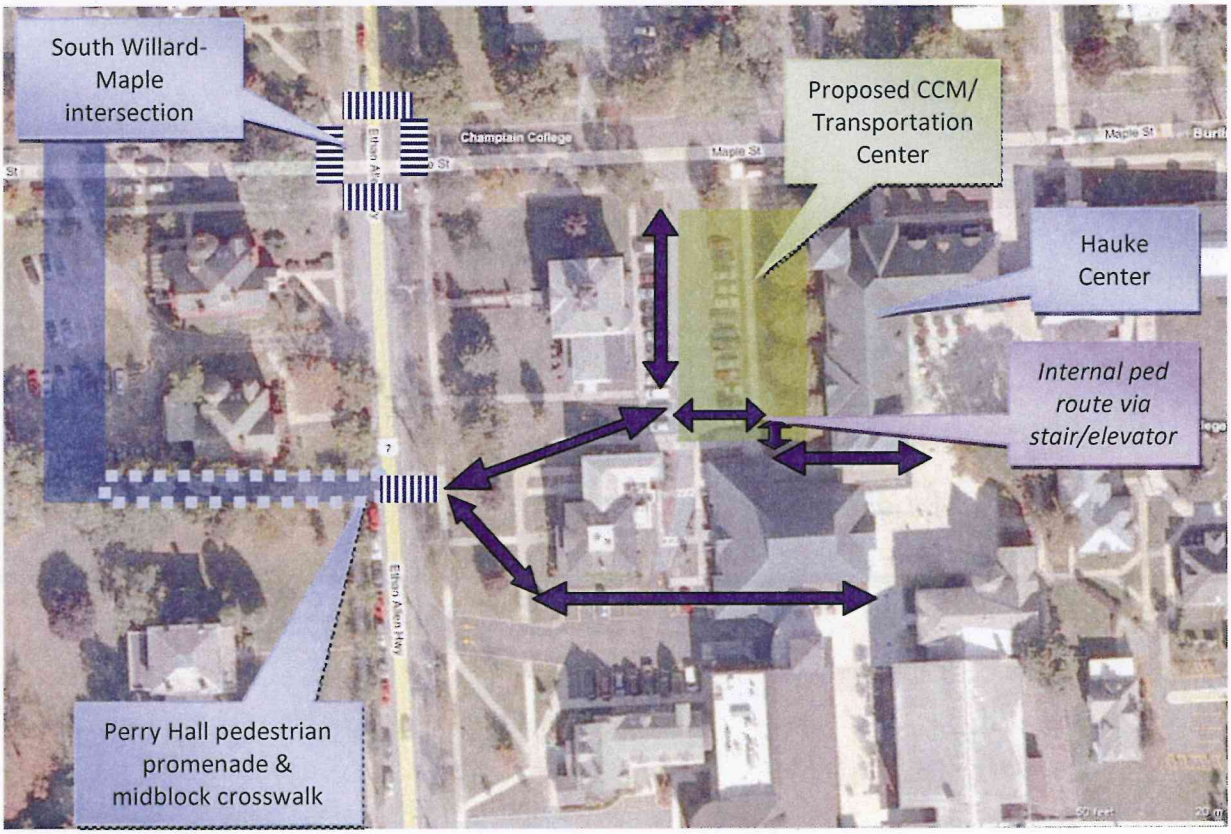


As shown in Figure 3, pedestrian flow through the CCM will be provided east-west through an internal stairway and elevator on the south end of the building, in the vicinity of the existing external east-west

stairway. One of the building's main entrances/exits will be aligned with a new walk connecting the Hauke Center to South Willard Street between Bader and Cushing Halls.

North-south circulation will continue to be outside, along approximately the same alignment as is currently used by pedestrians through the parking lot. This north-south alignment is proposed to resemble the north-south promenade at Perry Hall in terms of materials and pedestrian friendliness, and will serve as emergency/delivery vehicle access. In order to reinforce the pedestrian environment, the promenade will be 12' wide to deter unauthorized vehicles. Removable bollards will also be placed at the end of the promenade. The 12' width is narrower than the promenade at Perry Hall in order to preserve the pedestrian orientation. Placing a bus bay on Maple Street at the end of the promenade will communicate that vehicles are to remain outside of the site. This design will be an improvement over the current state in which pedestrians walk through the parking lot.

Figure 3: Pedestrian circulation from and through the site



2.2 Bicycle Facilities

Article 8 of the Burlington Comprehensive Development Ordinance (CDO) provides bicycle parking requirements for a College (not including dormitories). The number of spaces needed for the CCM are shown in Table 1. Bicyclists will be able to store bicycles inside the Hauke Addition on a hanging rack that will accommodate 10 bicycles. Showers and changing rooms are available at the nearby IDX Student Life Center. Short-term bicycle parking will be provided in the form of two arrays of inverted U-racks which will hold 8 bicycles each. There will therefore be a total of 26 bicycle parking spaces.

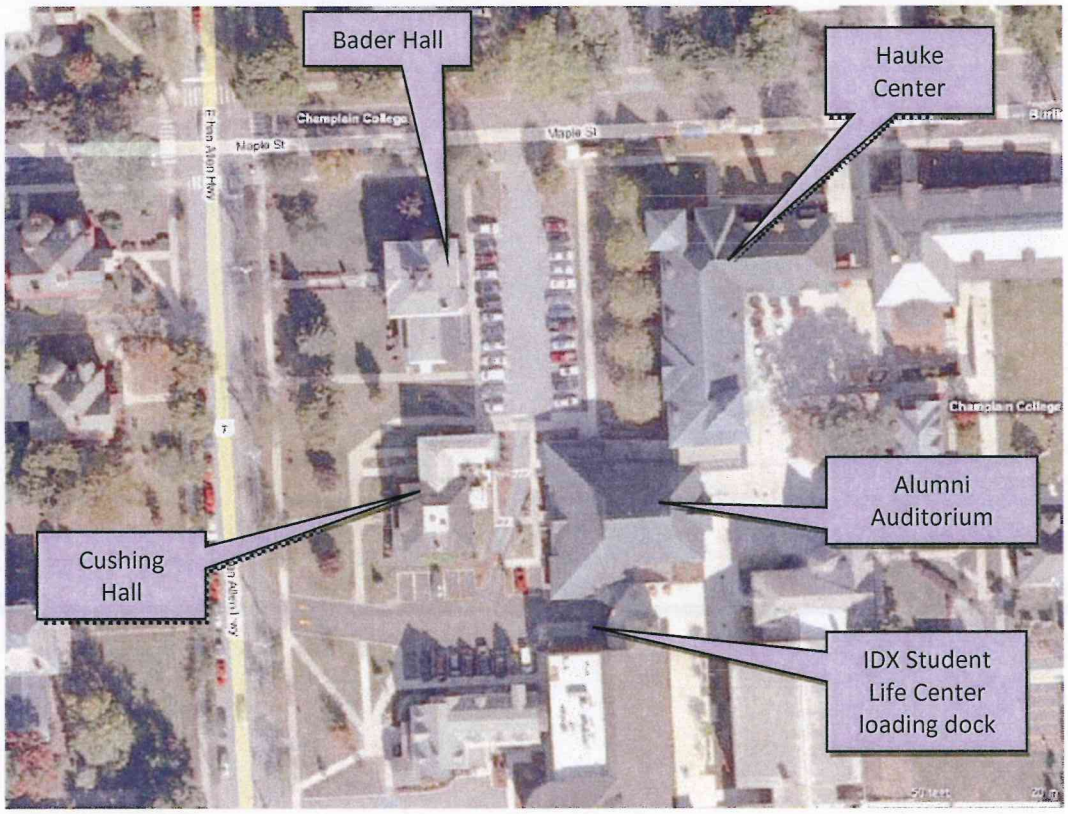
Table 1: Bicycle parking requirements for the Multimodal Transportation Center per Section 8.2.5 of the CDO

	Long-Term Bicycle Parking	Short-Term Bicycle Parking
CDO Requirements for College (not including dormitories)	1 space per 20,000 sq.ft.	3 spaces per 5,000 sq.ft.
Hauke Center Addition (40,000 sq.ft.)	2 spaces	24 spaces

2.3 Delivery Vehicles

Large trucks (~43' trailers/50' wheelbase) make weekly deliveries to the IDX Student Life Center and will continue to maneuver as they do currently through the existing parking lot/proposed promenade as shown in Figure 4. Deliveries will be coordinated to occur during times of low pedestrian traffic.

Figure 4: Delivery and emergency vehicle access



2.4 Shuttle Buses

Under existing conditions, campus shuttle buses provide access from the core campus (specifically, the Hauke Center parking lot) to Spinner Place, Quarry Hill, and Gilbane/Lakeside. The Quarry Hill and Gilbane/Lakeside shuttles (small school buses) access the Hauke Center from Maple Street and exit onto South Willard. The Spinner Place shuttle (a conventional size school bus) pulls up to the curb on Maple Street.

Over the next few years as the Res Tri student housing is completed, Spinner Place and Quarry Hill will be phased out, eliminating the need for those shuttle routes. Shuttle service to/from the Eagles and Ethan Allen Clubs may be added as those sites are developed, although they are both located within a 10-minute walk (1/2 mile) of the core campus. Therefore, the Gilbane/Lakeside shuttle and possibly an Eagles/Ethan Allen shuttle will be the only ones accessing the campus. The Champlain College Transportation Plan (currently in development) will assess future campus shuttle system operations and

needs. One of the considerations will be for smaller vehicles (than are currently used) on frequent schedules.

A bus bay on the south (eastbound) side of Maple Street is being proposed with this project to provide shuttle access to the campus transit hub. The bus bay would serve Champlain shuttle vehicles only and would not be used by CCTA buses, which currently pause in the travel lane to pick up and drop off passengers. The existing CCTA shelters would remain in place. Champlain shuttle routes will be planned such that shuttle vehicles travel eastbound on Maple Street so that passengers will not have to cross Maple Street. Given the high frequency routes that are planned, the dwell times of the shuttles are expected to be short enough to avoid conflicts between multiple shuttles arriving at once. However, the dimensions of the bus bay are proposed to be large enough to accommodate two shuttles.

The grade on Maple Street should not be a problem for the vehicles to start up the hill from a stop, as the large school bus for Spinner Place currently makes this maneuver.

The bus bay should include pavement markings to indicate that it is for campus shuttles only and to discourage private vehicle loading/unloading. Champlain College will maintain/repaint the pavement markings on a regular basis.

The bus bay will help to accommodate the turning radii of emergency and delivery vehicles when they access the site.

Using the bus bay minimizes shuttle trips through the S. Willard-Maple St. intersection since buses will continue on their route eastbound on Maple Street rather than looping through the site, exiting northbound on S. Willard Street and passing through the intersection a second time as they currently do.

2.5 Emergency Vehicles

Emergency vehicles will access the site via the bus loop in the same manner that the delivery vehicles will. The cross-section has been designed specifically to accommodate fire trucks and the Burlington Fire Department has been consulted to ensure that their needs will be met.

3.0 Campus Parking Impacts

In fulfillment of the CDO's parking requirements, Champlain College has completed an institutional parking management plan which is included as part of the Campus Area Transportation Management Association (CATMA) 2009-2014 Joint Institutional Parking Management Plan (JIPMP), which was approved by the Development Review Board (DRB) in 2009. Champlain College's section of the JIPMP describes the existing campus parking inventory, estimated demand, management strategies, and planned impacts from projects within a five-year timeframe (2009-2014). The CCM and its impacts to the campus parking inventory are accounted for in the JIPMP.

At the time of the JIPMP's development, the Hauke Addition's parking impact was estimated as an increase of 14 spaces. The most recent project site plans indicate a loss of 26 spaces from the Hauke/Bader parking lot, which will be replaced by the pedestrian promenade, and eight spaces from the IDX lot. Seven spaces, including one accessible space will remain in the IDX lot. The bus bay on Maple Street will result in the loss of two on-street parking spaces on Maple Street to the west of the existing Hauke Center driveway. Since the development of the JIPMP, Champlain has secured additional parking (266 spaces) on Lakeside Avenue, which will absorb the loss of parking from the Hauke lot. These changes are consistent with the college's goal to develop a car-free core campus by moving parking off-site and improving alternative transportation options, particularly transit.

4.0 Sight Distances

Vehicles making a left from westbound Maple Street into the Hauke Center have an unrestricted sight line all the way to the stop-controlled intersection, a distance of 140'. The Hauke Center access on Maple Street is planned to be entrance only, so sight distances for exiting vehicles do not need to be measured.

The South Willard Street access will serve as an entrance and exit. The required stopping sight distance for vehicles on a level 30 mph road is 200 feet and the intersection sight distance is 335'. The sight distance looking north to the Maple Street intersection is 250', all the way to the intersection. The sight distance looking south is over 335'.

5.0 Summary

Champlain College is proposing to build the CCM adjacent to the South Willard Street/US 7 – Maple Street intersection. The site plans reviewed for this memorandum show adequate and appropriate elements to support the pedestrian, bicycle, transit, and vehicle modes.