

Department of Planning and Zoning

149 Church Street
Burlington, VT 05401
Telephone: (802) 865-7188
(802) 865-7195 (FAX)
(802) 865-7142 (TTY)

David White, AICP, Director
Ken Lerner, Assistant Director
Sandrine Thibault, AICP, Comprehensive Planner
Jay Appleton, GIS Manager
Scott Gustin, AICP, Senior Planner
Mary O'Neil, AICP, Senior Planner
Nic Anderson, Zoning Clerk
Elsie Tillotson, Department Secretary



TO: Design Advisory Board
FROM: Scott Gustin 
DATE: September 23, 2014
RE: 15-0358CA, 82 University Place

Zone: I Ward: 1
Owner/Representative: University of Vermont

Request: Demolish Angell Hall and Cook Physical Science Building, construct new STEM building with connecting bridge to Votey Hall.

OVERVIEW:

The applicant is requesting approval for demolition of the Cook Physical Sciences building and the adjacent Angele Lecture Center. In their place, the applicant is seeking approval to construct a 193,650 sf Science, Technology, Engineering, & Math (STEM) complex. The project site is located within the University's Central Campus and within the Institutional Core Campus Overlay wherein intensified development is anticipated. The proposed building is comprised of two distinct components of up to 5 stories and is expected to take 4 years to construct.

The University of Vermont is an educational institution and, therefore, is subject to only limited zoning review per 24 VSA, Sec. 4413, *Limitations on municipal bylaws*. This application may be reviewed only with respect to location, size, height, building bulk, yards, courts, setbacks, density of buildings, off-street parking, loading facilities, traffic, noise, lighting, landscaping, and screening requirements.

ARTICLE 6: DEVELOPMENT REVIEW STANDARDS

Part 1, Land Division Design Standards

Not applicable.

Part 2, Site Plan Design Standards

Sec. 6.2.2, Review Standards

(a) Protection of important natural features

The project site contains no significant natural features. The project site consists of grassy lawn, hardscape courtyards and walkways, and buildings.

(b) Topographical alterations

Not applicable per 24 VSA, Sec. 4413.

(c) Protection of important public views

Not applicable per 24 VSA, Sec. 4413.

(d) Protection of important cultural resources

Not applicable per 24 VSA, Sec. 4413.

(e) Supporting the use of alternative energy

Not applicable per 24 VSA, Sec. 4413.

(f) Brownfield sites

Not applicable per 24 VSA, Sec. 4413.

(g) Provide for nature's events

Not applicable per 24 VSA, Sec. 4413. Chapter 26: Wastewater, Stormwater, and Pollution Control is a separate city ordinance that governs stormwater and erosion control standards. As a result, the project still must comply with the standards of Chapter 26. As required, an erosion prevention and sediment control plan has been provided as has information relative to post construction stormwater management. Review and approval by the Stormwater Administrator and Conservation Board will be required.

(h) Building location and orientation

The proposed building is located within the University's Central Campus and does not directly front on any public street. Within the Central Campus, the proposed building will have two primary facades, one facing east towards the Central Campus Quadrangle and the other one facing west towards Old Mill and Williams Hall. Both facades contain clearly defined entrances readily visible from the University's interior network of walkways.

(i) Vehicular access

Not applicable per 24 VSA, Sec. 4413.

(j) Pedestrian access

Not applicable per 24 VSA, Sec. 4413.

(k) Accessibility for the handicapped

Not applicable per 24 VSA, Sec. 4413. Applicable accessibility requirements under the City's building code continue to apply.

(l) Parking and circulation

No changes to parking and vehicular circulation are included in this proposal. The site plan depicts several locations for bicycle parking, sheltered and otherwise. Details as to the number of bike parking spaces provided, both short term and long term, will be required prior to Development Review Board review. Per the applicable standards of Article 8, the proposed building will require 10 long-term bicycle parking spaces (1 per 20,000 sf) and 116 short-term bicycle parking spaces (3 per 5,000 sf).

(m) Landscaping and fences

A comprehensive landscaping plan has been provided. Trees will line most of the proposed walkways. Foundation plantings will accent the eastern and western building facades.

Landscaping will also be planted to screen the service bay into the building. Proposed trees consist of a variety of deciduous and evergreen species. Ornamental grasses and shrubs are also proposed.

(n) Public plazas and open space

A south-facing plaza between the two building sections is proposed. It will be constructed of concrete and will afford ample space for pedestrian use. It is immediately adjacent to a terraced outdoor seating space. Both will have southern exposure for maximum solar gain.

(o) Outdoor lighting

Building entries, walkways, and the plaza will be illuminated. A photometric plan has been submitted that depicts acceptable lighting levels throughout. While the photometric plan notes four fixture types (all LEDs), no fixture cut sheets have been provided and are needed.

(p) Integrate infrastructure into the design

New utility lines serving the proposed construction must be buried. A partially below grade service area is proposed at the southeastern corner of the new building. This service area contains a loading dock, dumpster, and compactor. It connects to the campus' interior roadway network and is screened by new landscaping.

Part 3, Architectural Design Standards

Sec. 6.3.2, Review Standards

(a) Relate development to its environment

1. Massing, Height, and Scale

The proposed building is very large at almost 200,000 sf and 5 stories. The scale of this building is tempered by the proposed massing. It is split into two distinct sections set apart from one another with a central connection. Extensive glazing is proposed on the north and south elevations and above the main entries on the east and west elevations. Uniform fenestration and partially recessed roof forms also lessen the perceived scale. The building will be set within the interior of the Central Campus and has no direct frontage on any city street. It is set behind and downhill from the iconic Old Mill, Williams Hall, and Billings Library buildings. It is also set downhill and across the green from the even larger Fletcher Allen Health Care facility. It is set far back from Colchester Avenue, behind Votey and Fleming Museum. This interior campus location substantially reduces the building's perceived scale from any public street. The proposed 72' 9" height is acceptable. The eastern building section (the classroom) is located within the Central Campus Height Overlay which allows height up to 140'. The western building section (the lab) is not within the height overlay but is within the UVM Central Core Campus Overlay. Height within this overlay is limited to that of the tallest structure within the Core Campus existing as of January 1, 2008. In this case, the tallest structure is the Health Sciences Research Facility at 73.85' tall. Confirmation of compliance with the second part of this height provision is needed; specifically, that the height of the proposed building does not exceed the plane running parallel to sea level from the top of the Health Sciences Research Facility. In other words, the height above sea level of the proposed building cannot exceed the height above sea level of the Health Sciences Research Facility.

2. Roofs and Rooflines

Not applicable per 24 VSA, Sec. 4413.

3. Building Openings

Not applicable per 24 VSA, Sec. 4413.

(b) Protection of important architectural resources

Not applicable per 24 VSA, Sec. 4413.

(c) Protection of important public views

Not applicable per 24 VSA, Sec. 4413.

(d) Provide an active and inviting street edge

Not applicable per 24 VSA, Sec. 4413.

(e) Quality of materials

Not applicable per 24 VSA, Sec. 4413.

(f) Reduce energy utilization

Not applicable per 24 VSA, Sec. 4413.

(g) Make advertising features complimentary to the site

Signs are noted on the proposed site plans; however, they are not specifically included in this application. All outdoor signs are subject to separate zoning permit review.

(h) Integrate infrastructure into the building design

As noted previously, a dedicated service area is proposed for the loading bay, dumpster, and compactor. Building-mounted mechanical equipment will be fully enclosed within a rooftop penthouse.

(i) Make spaces safe and secure

All building and life safety code, as defined by the building inspector and fire marshal, shall be implemented in the construction of this building. Building entries will be illuminated as noted above.

RECOMMENDED MOTION:

Review and forward to the Development Review Board subject to the following conditions:

1. Bicycle parking details (numbers, types, and locations) per Article 8: Parking, Part 2: Bicycle Parking.
2. Outdoor lighting fixture cut sheets.
3. Confirmation that the height of the western section of the proposed building does not exceed that of the Health Sciences Research Facility as measured above sea level.



CAMPUS PLANNING SERVICES
<http://www.uvm.edu/~plan/>

September 9, 2014

Ken Lerner, Zoning Administrator
Burlington Planning & Zoning Department
149 Church Street
Burlington, Vermont

Re: Request for Zoning Permit COA Level II for University of Vermont New Science, Technology, Engineering and Mathematics (STEM) Laboratory and Classroom Building, 82 University Place

Dear Ken,

The University of Vermont has identified a Science Technology Engineering and Mathematics (STEM) Initiative as its highest priority facilities need in the Capital Plan for the institution. The existing facilities housing the programs of Chemistry, Physics, Engineering and Mathematics and Statistics require major changes to meet current needs.

The existing facilities at Cook Physical Science Building are outdated and do not meet current standards. The University's goal is a modern laboratory and classroom facility to accommodate the teaching and research needs of the STEM programs, to more fully meet the STEM program requirements.

The location of Cook Physical Science Building, Angell Hall, Votey and Perkins is the current location of many of the STEM facilities. The 2006 UVM Campus Master Plan specifies, as part of its general land use premises, that "each college/school should have an integrated identifiable location... (including) building complexes designed to meet programmatic needs (instruction, research and public service), integration and accessibility." (Page 5)

This Project proposes to create integrated, state of the art STEM facilities in the area of the main campus that currently houses many of the STEM study areas. This will contribute to the academic quality of the programs by concentrating resources in one physical area. It is also a best use of limited campus land, concentrating academic functions on the main campus in the area designated for high intensity academic use.

Significant initial efforts were made to renovate the buildings, however modernization to building codes and operational phasing requirements made renovation options unpractical. The proposed approach allows for continued operations throughout construction by completing the Lab wing of the building as Cook remains occupied.

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The Project consists of the following components, phased over a period of four (4) years to enable maximum functionality during construction:

1. Demolition of Angell Hall;
2. Construction of lab wing of the new facility in the area of Angell Hall;
3. Demolition of Cook Physical Science Building;
4. Construction of classroom wing of the new facility in the area of Cook;
5. Construction of a building bridge from the lab wing to Votey Hall, over the roadway leading from University Place to the Central Quad.

The area of the Cook Physical Science Building and Angell Hall, where the new facility will be located, is surrounded by Votey Hall and Kalkin to the north, the Central Campus Quadrangle to the east, the Royall Tyler Theater and the Central Heating and Chiller Plant to the south, and Lafayette, Old Mill and Williams to the west. For purposes of this application, the Project Site is located within the University's Central Campus District and within the City's Institutional Zoning District inclusive of the Institutional Campus Core Overlay (ICC-UVM) and partially within the ICC-UVM Central Campus Height Overlay.

The City's Planning & Zoning Department has advised the University that this Project will be reviewed under Certificate of Appropriateness (COA) Level II. This is a permitted use within the ICC-UVM District. This Project does not result in a change of use or increased parking demand because it is replacing existing facilities. The University believes this Project conforms to all the applicable sections of the Burlington Comprehensive Development Ordinance, including Section 4.5.2 Institutional Core Campus Overlay Districts.

The City's Planning & Zoning Department has advised the University that the University of Vermont is subject to limited zoning review per 24 VSA, §4413, *Limitations on Municipal Bylaws*, which specifies that this application may be reviewed only with respect to location, size, height, building bulk, yards, courts, setbacks, density of buildings, off street parking, loading facilities, traffic, noise, lighting, landscaping and screening requirements.

Location & Size: As noted above, this Project is located within the ICC which allows for an increased development scale and intensity.

Height: The classroom wing of the new facility is located within the Central Campus Height Overlay which allows for 140' in height. The proposed building is 70' 8" from entry grade to mid slope.

The lab wing is not within the height overlay; its height is 72' 9". According to §4.5.2(d)5, the maximum allowable height would be the actual height of the tallest existing structure as of January 1, 2008 and located within the core campus district. The Health Sciences Research Facility is 73.85' in height.

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Building Bulk: The architectural proportions, massing and materials have been carefully composed understanding the diverse and historic context of the surrounding campus, resulting in a true facilitation of both programmatic and physical environments.

The exterior facades of brick and cast stone are paired with a slate roof and appointed with high performance metal glazing systems and accents which harken to the historic and hint of the modern program within. See attached elevations.

Yards, courts, setbacks: A southerly facing outdoor tiered teaching/sitting area is designed within the landscape. This project conforms to the setback requirements within the ICC-UVM Overlay.

Density of Buildings: The ICC allows for an increased development scale and intensity. Lot coverage is well under what is permitted. See Project Description for more details.

Parking & Loading: Limited loading dock only. There are no new parking needs as this is a replacement facility. Existing parking campuswide will serve this facility, in the same manner that existing parking, including handicap parking, serves the current Cook building. There will be no changes in number of parking spaces on site.

Traffic: This Project is not expected to increase traffic, as it is an existing use.

Noise: It is expected that the decibel level of the proposed project will be lower than the decibel levels of the current exterior roof mounted system. This is due to a consolidated, more advanced system that will be mounted within the interior of the penthouse.

Lighting: This Project will include exterior LED lighting as per the University standard lighting specifications.

Landscaping: This Project will include extensive landscaping and tree planting. See Planting Plan.

Screening: The loading dock will be screened from the Central Quad with a retaining wall as well as plantings.

The phasing of construction is critical in order to enable continuous instruction during the entire construction period. Angell will be removed, starting May 2015, then the lab wing will be constructed. After the new lab is completed, Cook will be removed in January 2017, and the classroom wing will be constructed. The majority of the project will be completed and occupied by August 2018. The landscaping will be complete by spring 2019.

Therefore the University requests that this permit be extended until the spring of 2019, for a period of four years, in order to complete all construction and landscaping.

The University requests that this permit include Saturday construction. There are no residential areas directly facing the construction site and existing buildings block anyone on Colchester Avenue from seeing or hearing much from this area; The University will closely monitor any construction impacts and work with all neighbors.

The University is working with the Burlington Fire Department, the Burlington Electric Department and the Burlington Department of Public Works on completion of technical details.

Stormwater and Erosion Control:

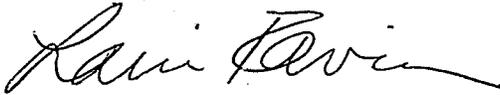
See attached Erosion Prevention & Sediment Control Narrative and permit application, as well as the Stormwater Discharge Narrative. The University will continue to work closely with Megan Moir and copy her on information given to and received from the state stormwater permitting authorities.

As consistent with past practices, the University has met with key community stakeholders including the NPAs to inform about this Project.

The total estimated hard construction cost of the project is \$80M.

Please contact me if you have any further questions or need more information.

Sincerely,



Lani Ravin, AICP, UVM Associate Planner
Campus Planning Services

cc: Linda Seavey, Director, Campus Planning Services
Robert Vaughan, Director, Capital Planning & Management
Todd Merchant, Project Manager, Facilities Design & Construction

ATTACHMENTS:

Zoning Permit Application
Check #1328074 for \$160,110 Application Fee
Attachment 1: Project Description
Attachment 2: Site Location Plan (orthophoto)
Attachment 3: Existing Conditions Photographs
Attachment 4: Stormwater Discharge Narrative

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Attachment 5: Erosion Prevention & Sediment Control Narrative

Attachment 6: Small Project Erosion Prevention & Sediment Control Application

Drawings: EX-1.0 Existing Conditions
 C-001 Overall Civil Grading Plan
 C-002 Overall Civil Erosion Control Plan
 LA-200 Landscape Layout Plan
 LA-400 Planting Plan
 LA-500 Lighting Plan
 A1.6 Roof Plan
 A3.1 Classroom Building Exterior Elevations
 A3.2 Lab Building Exterior Elevations
 A3.3 Perspective Views
 A3.4 Site & Detail Views
 A12.1 Solar Studies

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Project Description:
University of Vermont Science, Technology, Engineering and Mathematics (STEM) Facility

What:

Located in the heart of campus behind University Row, the STEM (Science, Technology, Engineering, and Math) Complex will include two wings: a classroom and office wing that will replace the existing Cook Physical Science Building, and the construction of a new lab facilities wing to the west. The building connects with the existing Votey building via an elevated enclosed pedestrian bridge between the second floor of the lab wing and the third floor of Votey. The design of this project will be visionary and forward looking – befitting a facility whose focus is on the future, yet it will honor the past and complement the important architecture that surrounds it.

Proposed Land Uses:

Academic: Science, Technology, Engineering and Mathematics labs, classrooms, offices and support spaces.

Size of Proposed Project:

Approximately 193,650 square feet (s.f.) facility; this includes four stories plus basement and mechanical penthouse within the roofline. The existing lot coverage will be 47.56% (after demolition of CBW and FAHC boundary adjustment.) This Project will include demolition and new construction, with a net new increase of approximately 13,500 s.f. impervious surface. This will be well within the 70% -- 75% permitted within the ICC. There will be approximately 65,650 net new gross s.f. (interior space).

Building Height:

The lab wing will be 72'9", a foot less than the height of the Health Sciences and Research Facility (HSRF building). The classroom wing is 70'8".

Parking:

Limited loading dock only. There are no new parking needs as this is a replacement facility. Existing parking campuswide will serve this facility, in the same manner that existing parking, including accessible parking, serves the current Cook building. There will be no changes to the number of parking spaces.

Construction Phasing:

Angell will be removed, starting May 2015, then the lab wing will be constructed. After the new lab is completed, Cook will be removed in January 2017, and the classroom wing will be constructed. The building project will be completed by August 2018. The landscaping will be completed by spring 2019.

Architecture and Structure:

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The architecture facilitates the confluence of science, technology, engineering and mathematics departments in the central campus east of Williams and Old Mill, south of Votey and north of the library. To accomplish the Project, the existing Cook and Angell buildings will be removed. Significant initial efforts were made to renovate the buildings, however modernization to building codes and operational phasing requirements made renovation options unpractical. The proposed approach allows for continued operations throughout construction by completing the Lab wing of the building as Cook remains occupied.

The building is sited to create new more intimate and functional green spaces complementing pedestrian walkways and activities with accessible walkways, plazas and an outdoor tiered teaching/ sitting area. Trees, plantings and lighting accompany the landscape in keeping with campus standards.

Programmatically an elevated pedestrian bridge links the state of the art new lab and classroom building with the Engineering & Math Programs in the existing Votey building.

The architectural proportions, massing and materials have been carefully composed understanding the diverse and historic context of the surrounding campus, resulting in a true facilitation of both programmatic and physical environments.

The exterior facades of brick and cast stone are paired with a slate roof and appointed with high performance metal glazing systems and accents which harken to the historic and hint of the modern program within. See attached elevations.

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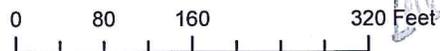
Site Location Map
 Cook Physical Science Building & Angell Hall
 University of Vermont

Attachment 2

Orthophoto: Spring 2011



Prepared by Campus Planning Services
 Date: 9/7/2014



Path: S:\cps\PLANNING\PROJECTS\PLANNING WORK\Lani master.mxd

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University of Vermont
Cook Physical Science Building
Angell Hall
Existing Conditions Photographs
September 2014



Cook, South and West Facades



Cook, East Façade

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Cook, South Façade



Cook, West Façade

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Cook, West Facade



Cook, Angell: North Façade

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Angell, North and West Façade



Angell, North Façade

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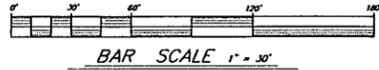
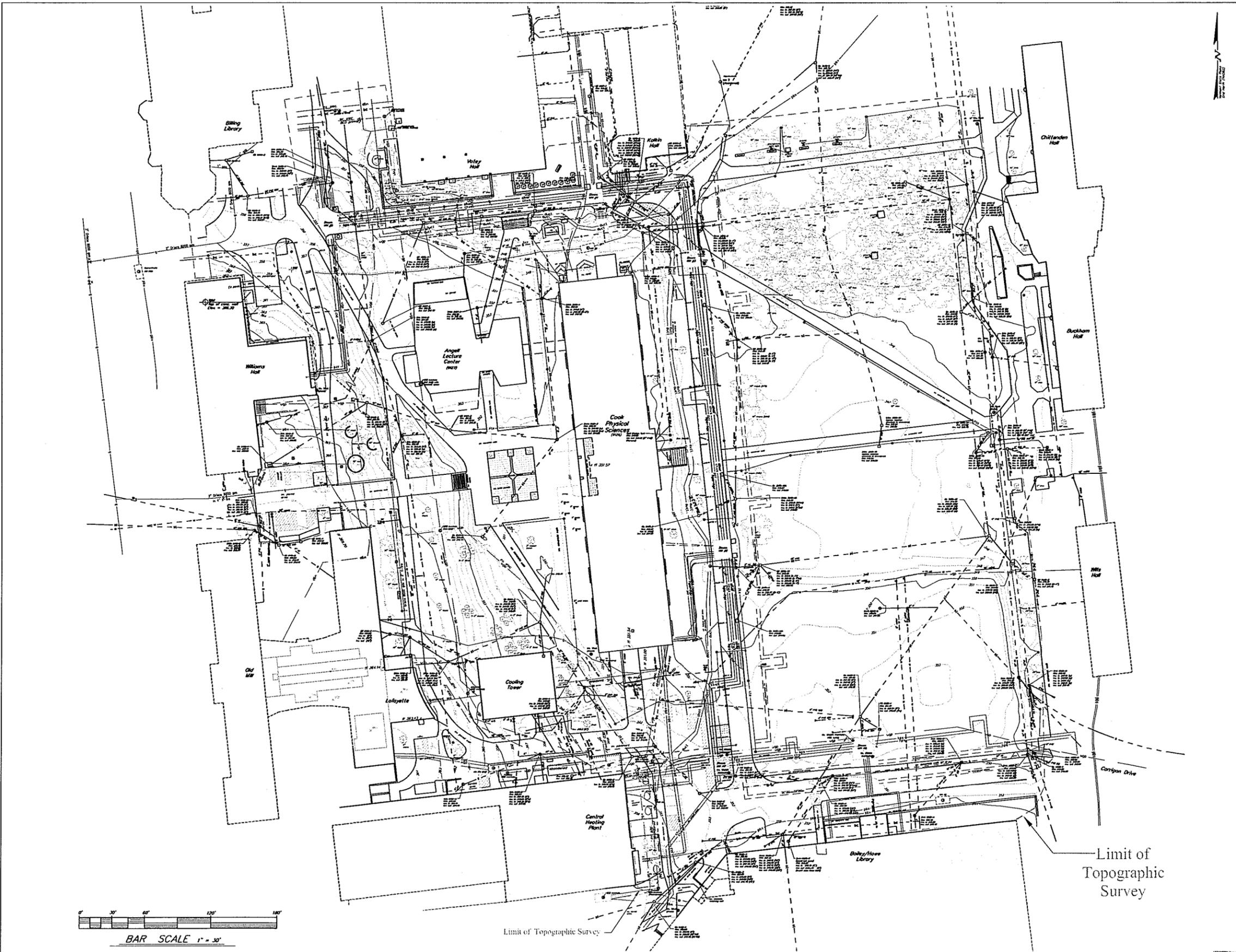
Angell, South Façade



Angell, West Facade

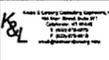
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freeman | french | freeman
 21 North Street, Suite 200, Burlington, VT 05401
 802.249.4444 • www.fff.com

ELENZWEIG
 1000 South Main Street, Burlington, VT 05401
 802.249.4444 • www.elez.com



K&L
 1000 South Main Street, Burlington, VT 05401
 802.249.4444 • www.kandl.com



STEM

82 University Place
 Burlington, VT

A1335

9/05/14 1" = 30'

TJB WHN

EXISTING
 CONDITIONS
 SITE PLAN

EX-1.0

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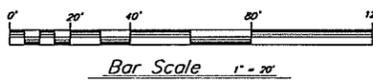
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Notes:

- The underground utilities shown on this plan are based on limited dig site markings and utility mapping provided by UVM. Utility locations are approximate and not warranted to be exact or complete. The Contractor shall contact Dig Safe prior to any site excavation.
- There are existing PBX conduits located in the vicinity of this project. The Contractor shall contact UVM Telecommunications and Network Services (855-3339) prior to any work in the vicinity of the PBX conduit. The Contractor shall carefully excavate around the PBX conduit to prevent damage to the PBX infrastructure. Contractor shall be responsible for placing Owner supplied locator bolts over exposed conduits prior to backfilling.
- Deviations are based on the NAVD 88 vertical datum.
- The Contractor shall be responsible for repairing all disturbed areas back to original condition, including but not limited to curbing, sidewalks, road parking areas, landscaping, site lighting, electrical, and etc. All asphalt shall be sawcut prior to paving.
- All stumps, rock, and other non-approved branch backfill material discovered during construction is the exclusive property of the Contractor and shall be removed from UVM property and disposed of in a State approved disposal location.
- All passing signs, proctor, and compaction testing expenses shall be paid by Owner. Testing coordination, all other required testing, and expenses for label tests shall be the Contractor's responsibility.
- The Contractor shall contact the Burlington Electric Department prior to any work in the vicinity of the existing electric conduits.
- The Contractor shall comply with the City of Burlington Small Project Erosion & Sediment Control Plan and the erosion prevention and sediment control permit requirements and the procedures outlined in the Low Risk Site Handbook for Erosion Prevention and Sediment Control. The Contractor shall be responsible for installing, maintaining and removing all erosion and sediment control devices shown on the plans or details and, to the maximum extent practical, to minimize potential contamination of stormwater runoff from the construction activities.
- Contractor shall be responsible for all "as-built" measurement and drafting requirements as outlined on the Detail Sheets. All trench excavations shall remain open until all as-built survey shots have been taken. Progress Record Drawings shall be submitted to the Engineer as indicated in the Record Drawing specifications.
- Contractor shall coordinate location of staging areas with Owner prior to bid.
- Contractor shall be responsible for all construction barrier/safety fencing required for the project.
- Definition of "Preconstruction Excavation" for these contract documents shall be:
The site contractor shall expose utilities and obtain all necessary information, including but not limited to, invert elevations, size, depth, pipe type, joint location, etc. Contractor shall transit survey the location and elevations of the utility. Contractor shall provide the engineer with sketches indicating horizontal and vertical information of pipe or conduit type and size, cross-section information, concrete encasement information (top and bottom elevations, width, etc.) joint location, etc. of each required existing underground utility. Accuracy of horizontal location is within 1 foot, and accuracy of vertical elevation is within 0.02 ft. (1/4"). Coordinate of excavation with City, Owner, and Engineer. Preconstruction excavations shall occur prior to ordering structures and prior to utility construction to facilitate redesign and/or design confirmation.
The location of the preconstruction excavation symbols does not necessarily indicate the location of the buried utility; it is the responsibility of the Contractor to find and expose the utility.
- Contractor shall be responsible for importing topsoil as required to complete the project. Contractor shall test topsoil for approval by the Owner and Engineer.
- The Contractor shall be responsible for all signage and fencing necessary to providing safe vehicular and pedestrian access through or around the site during construction.
- All storm pipes shall be PVC SDR 35 unless otherwise noted.
- All waterline pipe shall be Class 52 ductile iron. All bends and fittings shall have cast in place thrust blocks.

Legend

- Power pole
- Survey Control Point
- New hydrant
- Ex. blue phone
- Proposed blue phone
- Ex. light post
- Sign
- Inlet protection around catch basin
- Preconstruction Excavation (See Note 13)
- New Drainage Flow Direction
- Existing PBX/manhole
- Existing Water Line/Water valve
- New Water Line/Water valve
- Existing Gas Line/Gas valve
- New Gas Line/Gas valve
- Existing Sewer Line/manhole
- Existing Storm Line/Catch Basin/manhole
- New Storm Line/Catch Basin
- Existing Underground Power Line
- Existing concrete encased underground power line
- Existing Secondary Underground Power Line
- Existing Overhead Power Line
- Existing Building Control Line
- Existing Light Line
- Existing Blue Light Conduit
- Approximate property line
- Existing Tree/Vegetation Line
- Existing Contours
- New Contours
- New Concrete Curb
- New pavement
- New Structural concrete
- New Concrete walls
- Temporary SH Fence



fff
 Freeman | French | Freeman
 81 High Street, 4th Floor, Room 2104
 100 Water Street, 10th Floor
 Burlington, Vermont 05401
 ELLENZWEIG
 100 Water Street, 10th Floor
 Burlington, Vermont 05401

THE UNIVERSITY OF VERMONT
 SIEM

82 University Place
 Burlington, VT

PROJECT NO. A1335

DATE 9/08/14 SCALE 1" = 20'

DESIGNED BY TJB CHECKED BY WHN

OVERALL CIVIL GRADING PLAN

C-001

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Erosion Prevention and Sediment Control Notes

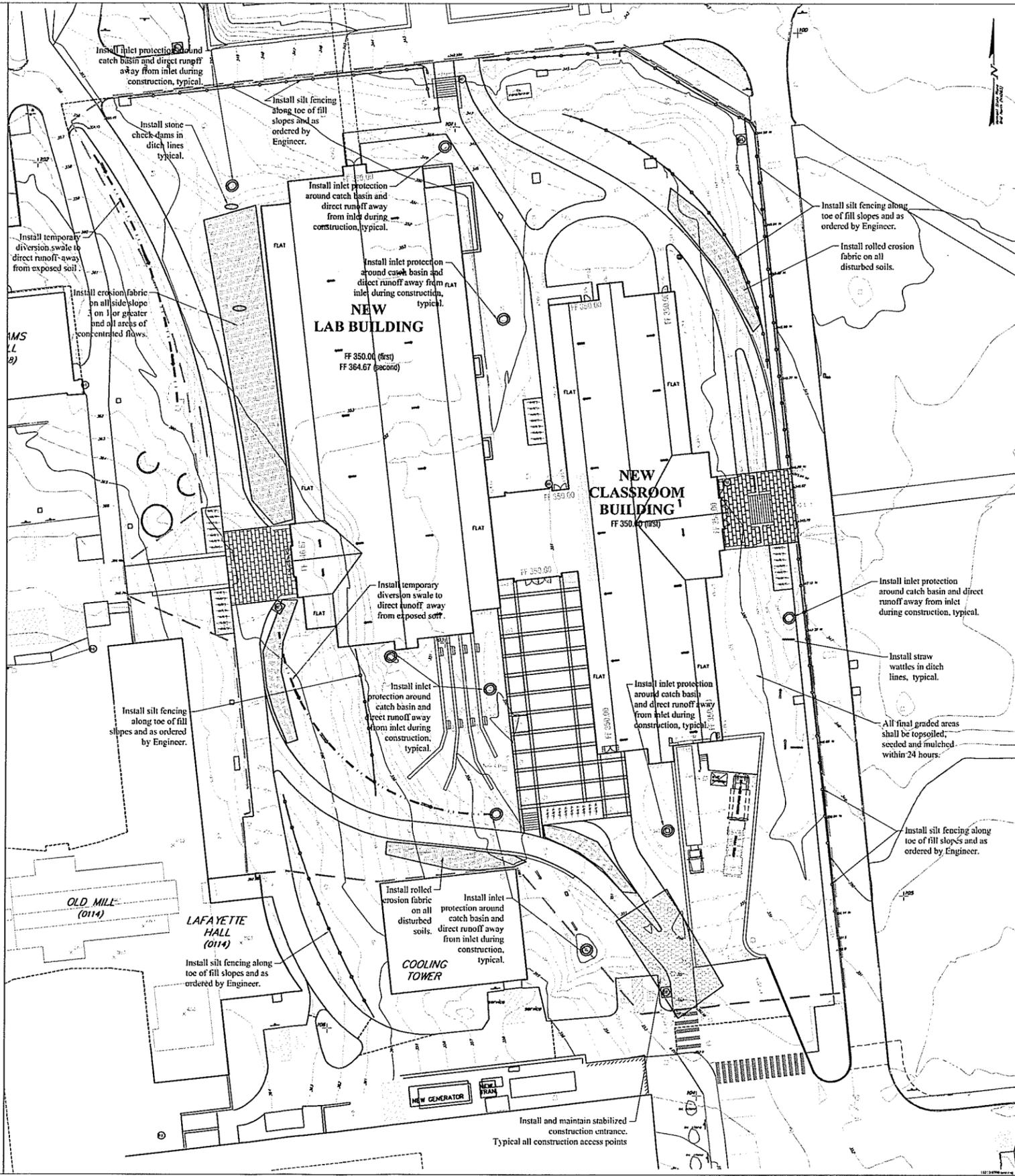
1. Contractor shall be responsible for complying with all State and Local erosion prevention and sediment control standards and permit requirements during construction.
2. The limit of disturbance shall be clearly defined by Contractor's surveyor prior to clearing. Erosion and sediment control devices shall be established to trap sediment on site.
3. Trees, shrubs, and phased disturbance areas shall be observed and grubbed after disturbance limits and sediment controls are in place. All roots, stumps and deleterious materials shall be removed from the site. The Contractor shall minimize the amount of disturbed land at any given time.
4. All erosion control shall be placed as shown on the drawings or as ordered by the Engineer. The Contractor shall maintain the erosion control measures until the Engineer is satisfied that permanent ground cover is established and that further measures are not required. It shall be the responsibility of the Contractor to employ appropriate erosion control as shown on these drawings and any other measures as necessary to trap sediment on site. Refer to permit maintenance and inspection requirements.
5. All areas of disturbance shall be permanently or temporarily stabilized as soon as possible and within 48 hours of final grading. All areas of disturbance shall be at least temporarily stabilized within 14 days of initial disturbance. Any disturbance after 14 consecutive days of exposed soil shall be stabilized daily unless the following exceptions apply:
 - a. Stabilization is not required if earthwork is to continue in the area in the next 24 hours and there is no precipitation forecast in the next 24 hours.
 - b. Stabilization is not required if the work is occurring in a self-contained excavation (i.e. no outlets) with a depth of 3 ft. or greater (e.g. house foundation excavation, utility trenches). Stabilization measures shall include mulch and netting, erosion control matting, crushed stone, gravel, or pavement.
6. Unless specifically indicated on the plans acceptable methods of stabilization shall include:
 - Mulching - 2 tons per acre. Approximately 1" uniform thickness. Only allowed on relatively flat areas with minimum slope water shed. Mulch must be properly anchored to prevent material from being blown away by wind (constrains).
 - Hydroseeding - Applied at the manufacturer's recommended application rate. Contractor shall provide evidence of proper application rate. Hydroseeding is not allowed in areas of concentrated flow.
 - Erosion control matting - 52% matting must be applied to all slopes 3:1 (or steeper) (unless otherwise indicated).
 - Crushed stone or crushed gravel - Typically used for temporary access roads and construction staging areas.
 - Paved surfaces (concrete, asphalt, etc.)
 - Weighted impermeable barriers and other materials as approved by the Engineer.
7. The Contractor shall use water for dust control.
8. The Contractor shall provide inlet protection around all catch basins (existing or new) that collect construction site stormwater runoff.
9. A stabilized construction entrance shall be installed and maintained at all construction access locations.
10. Any paved roads used by construction vehicles shall be swept daily, or at a greater frequency if dirt or gravel is tracked from the site. The sweep debris shall be immediately removed from face of curb if applicable.
11. During construction of underground utility lines the following standards must be met:
 - No more than 500 linear feet of trench may be open at one time.
 - Excavated material must be placed on the uphill side of the trench or immediately hauled to an approved and protected soil stockpile area.
12. All temporary erosion and sediment control measures shall be removed within 30 days after final stabilization or after the measures are no longer needed, unless otherwise authorized.
13. All sediment removed from sediment control practices shall be placed in an approved soil disposal area. Contractor shall be responsible for providing a permitted off-site soil disposal for the project.
14. All areas that do not have established vegetation by October 15th must be stabilized in accordance with the Minor Stabilization requirements outlined in the Low Risk Site Handbook.
15. After permanent seeding the Contractor shall be responsible for watering, if necessary, to ensure adequate vegetative growth.
16. To ensure disturbance is limited to a maximum of 5 acres of exposed soils, the Contractor shall complete each phase before commencing the following phase.

Erosion Control Legend

- Temporary straw wattle
- ⊙ Inlet protection around catch basin
- - - - - Temporary diversion swale
- Temporary Silt Fence
- ▨ Temporary erosion control matting
- ▩ Temporary stabilized construction entrance



Bar Scale 1" = 20'



fff
 freeman | french | freeman
 11 North Street, Lugo, Vermont 05450
 802.444.4444 or 772.222.2222
 800.555.5555 or 800.555.5555

ELLENZWEIG
 1000 Main Street, Burlington, VT 05401
 802.255.5555

THE UNIVERSITY OF VERMONT
 STEM

82 University Place
 Burlington, VT

| | |
|-------------|----------|
| PROJECT NO. | A1335 |
| ISSUE DATE | 9/08/14 |
| SCALE | 1" = 20' |
| DESIGNER | TJB |
| CHECKER | WHN |

OVERALL CIVIL EROSION CONTROL PLAN

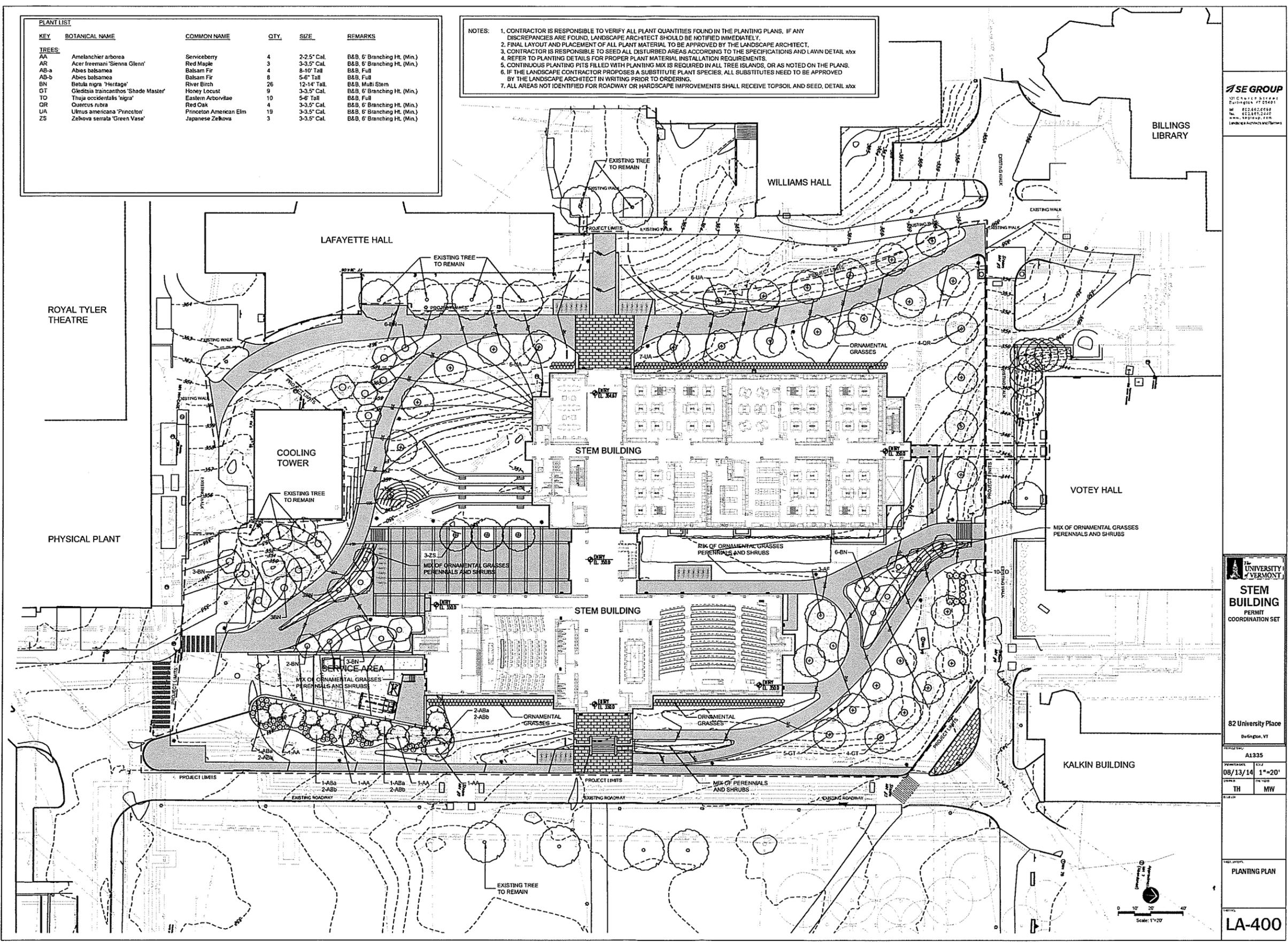
C-002

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DEPARTMENT OF PLANNING & ZONING

| PLANT LIST | | | | | |
|---------------|-------------------------------------|------------------------|------|-------------|------------------------------|
| KEY | BOTANICAL NAME | COMMON NAME | QTY. | SIZE | REMARKS |
| TREES: | | | | | |
| AA | Amelanchier arborea | Serviceberry | 4 | 2-2.5' Cal. | B&B, 6' Branching Ht. (Min.) |
| AR | Acer freemanii 'Sienna Glenn' | Red Maple | 3 | 3-3.5' Cal. | B&B, 6' Branching Ht. (Min.) |
| AB-a | Abies balsamea | Balsam Fir | 4 | 8-10' Tall | B&B, Full |
| AB-b | Abies balsamea | Balsam Fir | 8 | 5-6' Tall | B&B, Full |
| BN | Betula nigra 'Heritage' | River Birch | 26 | 12-14' Tall | B&B, Multi Stem |
| GT | Gleditsia tricanthos 'Shade Master' | Honey Locust | 9 | 3-3.5' Cal. | B&B, 6' Branching Ht. (Min.) |
| TO | Thuja occidentalis 'nigra' | Eastern Arborvitae | 10 | 5-6' Tall | B&B, Full |
| OR | Quercus rubra | Red Oak | 4 | 3-3.5' Cal. | B&B, 6' Branching Ht. (Min.) |
| UA | Ulmus americana 'Princeton' | Princeton American Elm | 13 | 3-3.5' Cal. | B&B, 6' Branching Ht. (Min.) |
| ZS | Zelkova serrata 'Green Vase' | Japanese Zelkova | 3 | 3-3.5' Cal. | B&B, 6' Branching Ht. (Min.) |

NOTES:
 1. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL PLANT QUANTITIES FOUND IN THE PLANTING PLANS. IF ANY DISCREPANCIES ARE FOUND, LANDSCAPE ARCHITECT SHOULD BE NOTIFIED IMMEDIATELY.
 2. FINAL LAYOUT AND PLACEMENT OF ALL PLANT MATERIAL TO BE APPROVED BY THE LANDSCAPE ARCHITECT.
 3. CONTRACTOR IS RESPONSIBLE TO SEED ALL DISTURBED AREAS ACCORDING TO THE SPECIFICATIONS AND LAWN DETAIL xxx
 4. REFER TO PLANTING DETAILS FOR PROPER PLANT MATERIAL INSTALLATION REQUIREMENTS.
 5. CONTINUOUS PLANTING PITS FILLED WITH PLANTING MIX IS REQUIRED IN ALL TREE ISLANDS, OR AS NOTED ON THE PLANS.
 6. IF THE LANDSCAPE CONTRACTOR PROPOSES A SUBSTITUTE PLANT SPECIES, ALL SUBSTITUTES NEED TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN WRITING PRIOR TO ORDERING.
 7. ALL AREAS NOT IDENTIFIED FOR ROADWAY OR HARDSCAPE IMPROVEMENTS SHALL RECEIVE TOPSOIL AND SEED, DETAIL xxx



SE GROUP
 201 Chandler Street
 Burlington, VT 05401
 Tel: 802.662.0000
 Fax: 802.662.2422
 www.segroup.com
 LANDSCAPE ARCHITECTS AND PLANNERS

THE UNIVERSITY OF VERMONT
STEM BUILDING
 PERMIT COORDINATION SET

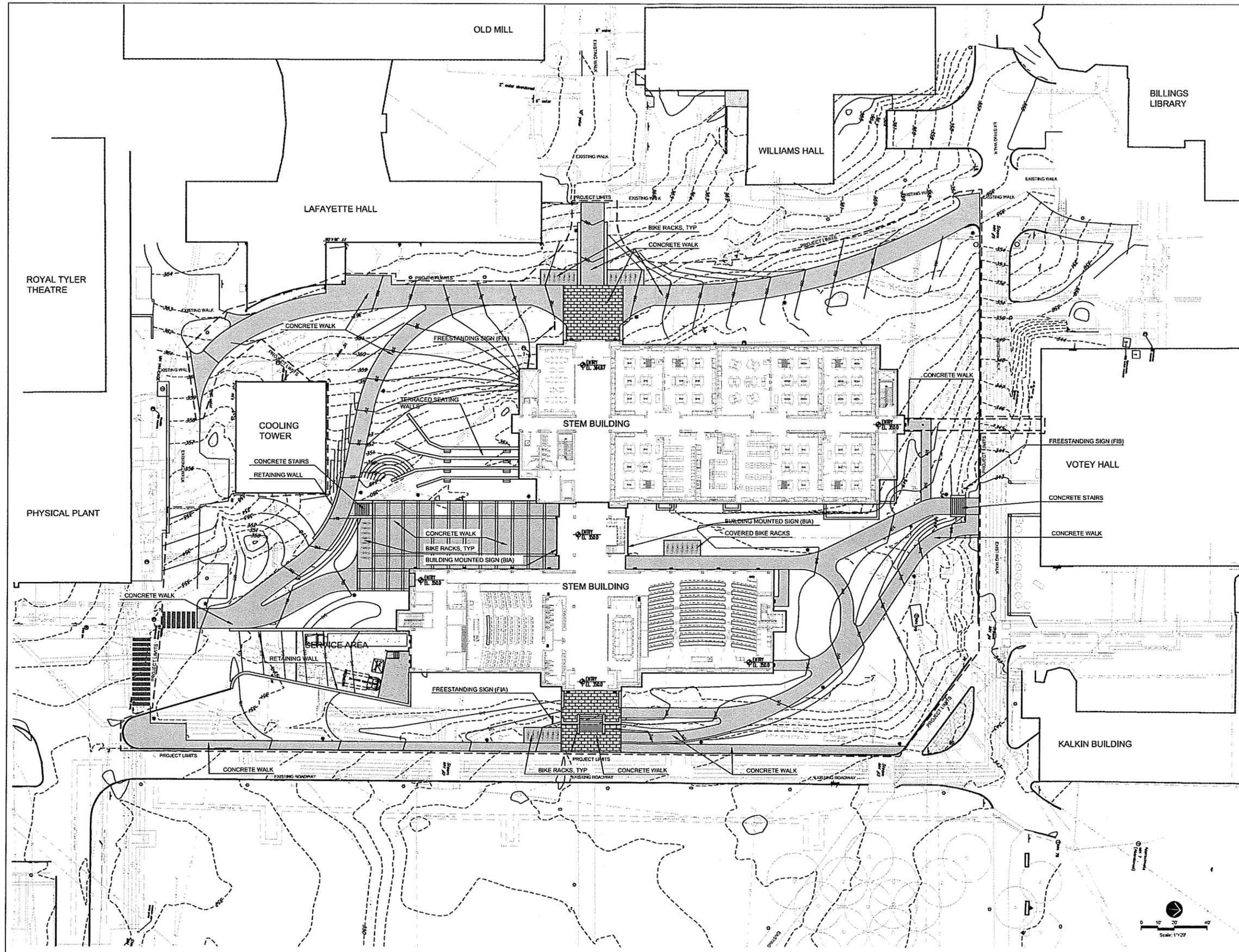
82 University Place
 Burlington, VT

PROJECT NO. A1335
 DATE: 08/13/14
 DRAWN BY: TH
 CHECKED BY: MW

PLANTING PLAN
 LA-400

DEPARTMENT OF
 PLANNING & ZONING

PROCESSED
 SEP 09 2014



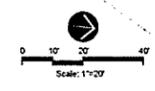
SE GROUP
 100 CHURCH STREET
 FULBRIGHT #703401
 SUITE 200
 WASHINGTON, DC 20002
 WWW.SEGROUP.COM
 LANDSCAPE ARCHITECTS AND PLANNERS

THE UNIVERSITY OF VERMONT
STEM BUILDING
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82 University Place
 Burlington, VT

PROJECT NO. A1335
 DATE 05/05/14
 DRAWN BY TH
 CHECKED BY MW

DEPARTMENT OF PLANNING & ZONING
 LANDSCAPE LAYOUT PLAN
 LA-200



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FIXTURE AND POLE SPECIFICATIONS

| | |
|---|--|
| <p>* Fixture A: Manufacturer: Lumec Fixture: L7D Configuration: 1 Optics: SE3 Lamp: 40watt LED 4,100K Lens: PC-FC Color: GN8TX Options: - Pole: AM6F-10 Adapter: SFO</p> | <p>* Fixture R: Manufacturer: Lumec Fixture: L70 Configuration: 1 Optics: Type III Lamp: 50watt LED Retrofit Lamp These are existing light fixtures being reused</p> <p>Fixture EX: Existing light fixtures</p> |
| <p>■ Fixture B: Manufacturer: Bega Fixture: Wall Light-2380 Configuration: 1 Lamp: 12watt LED</p> | <p>● Fixture C: Manufacturer: BK Lighting Fixture: Versa Start Configuration: Recessed Ceiling (18") Lamp: 8watt LED 3,100K</p> |

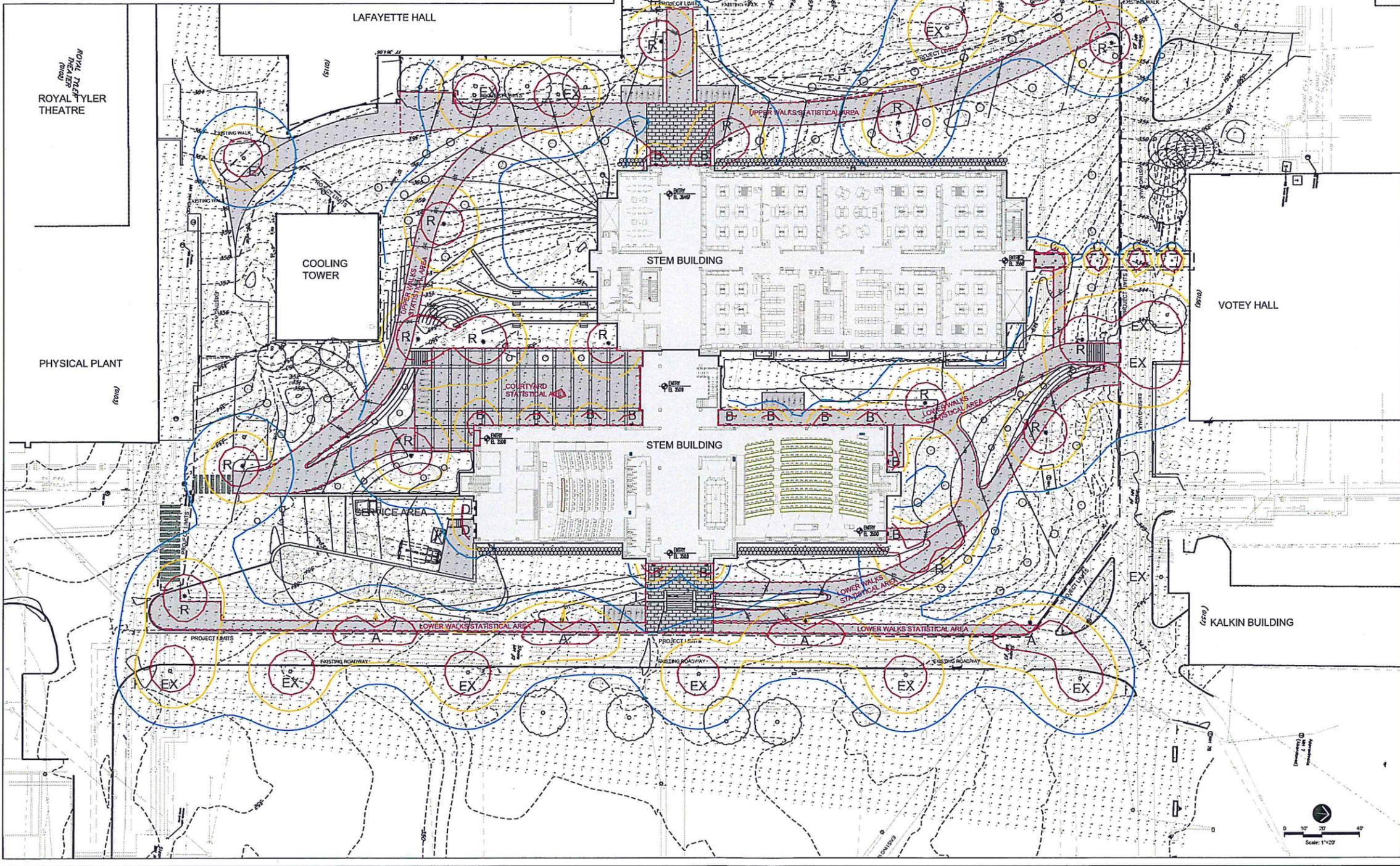
ISO-CONTOUR KEY

| ISO-CONTOUR | FOOTCANDLE VALUE |
|---------------|------------------|
| (Red line) | 1.00 |
| (Yellow line) | 0.50 |
| (Blue line) | 0.25 |

STATISTICAL AREA SUMMARY

Grid Type: Horizontal Illuminance
 Grid Units: Footcandles

| | Ave | Max | Min | Ave/Min | Max/Min |
|-------------|------|------|------|---------|---------|
| UPPER WALKS | 0.56 | 1.80 | 0.20 | 2.80 | 9.00 |
| COURTYARD | 0.60 | 1.90 | 0.20 | 3.00 | 9.50 |
| LOWER WALKS | 0.66 | 1.90 | 0.10 | 6.60 | 19.00 |



SE GROUP
 101 CHURCH STREET
 BURLINGTON, VT 05401
 TEL: 802.862.0000
 FAX: 802.862.2400
 WWW: SEGROUP.COM
 Landscape Architects and Planners

THE UNIVERSITY OF VERMONT
STEM BUILDING
 PERMIT COORDINATION SET

82 University Place
 Burlington, VT

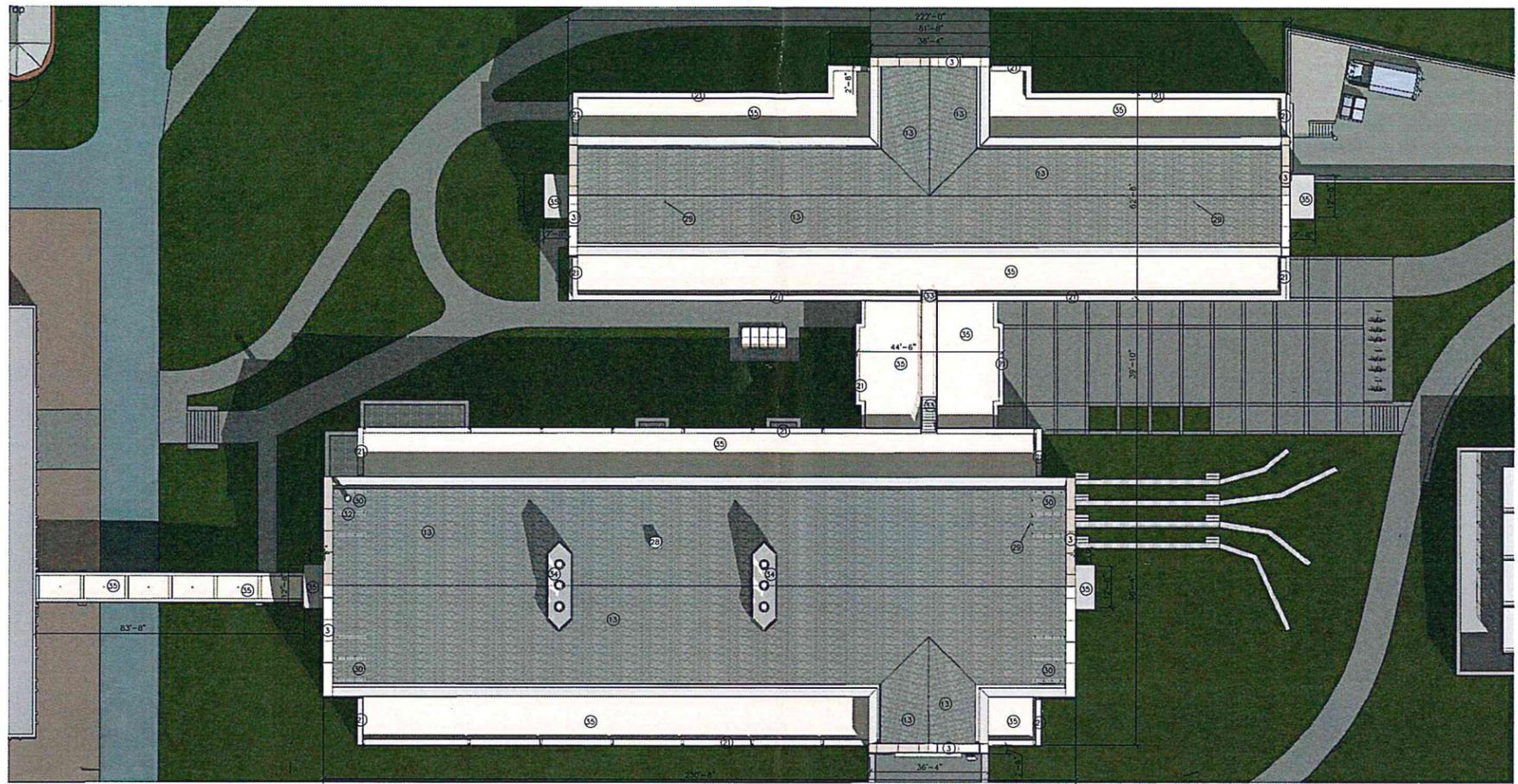
PROJECT: AL335
 DATE: 08/27/14
 SCALE: 1"=20'
 DRAWN BY: TH
 CHECKED BY: MW

LIGHTING PLAN

LA-500

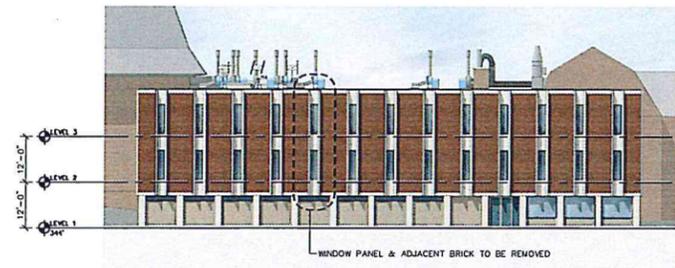
DEPARTMENT OF PLANNING & ZONING

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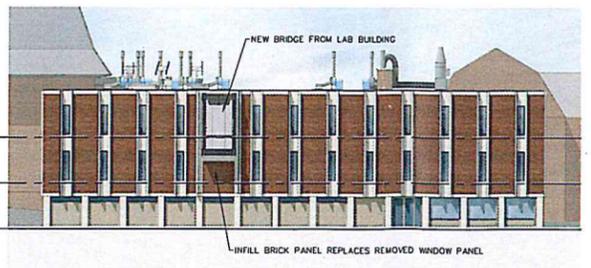


| KEY NOTES | | |
|---|--|---------------------------------|
| 1. VENEER BRICK, RUNNING BOND | 13. SLATE ROOFING SHINGLES | 25. FDC |
| 2. ALUMINUM COMPOSITE METAL | 14. 2" DEEP x WINDOW WIDTH BRICK VENEER RECESS | 26. HOSE BIB |
| 3. CAST STONE | 15. 2" DEEP x 8" WIDE BRICK VENEER RECESS, STACK BOND | 27. SCUPPER |
| 4. CAST STONE LINTEL | 16. 2" DEEP x 18" WIDE BRICK VENEER RECESS, STACK BOND | 28. ELEVATOR VENT |
| 5. CAST STONE SILL | 17. 8" WIDE SLOPED RECESS, SOLDIER COURSE | 29. PLUMBING VENT(S) |
| 6. GRANITE BASE | 18. ACM MEDALLION | 30. SNOW GUARD |
| 7. INSULATED METAL PANEL | 19. LOW-PROFILE ALUMINUM LOUVER | 31. BIKE LOCKERS |
| 8. PAINTED METAL LINTEL | 20. PERFORATED STAINLESS STEEL SCREEN | 32. EMERGENCY GENERATOR EXHAUST |
| 9. ALUMINUM WINDOW (W/INTERGRATED SILL) | 21. PAINTED ALUMINUM PARAPET | 33. ROOF TOP EGRESS STAIRWAY |
| 10. STOREFRONT SYSTEM | 22. CORRUGATED PANEL | 34. STACK ENCLOSURE |
| 11. CURTAIN WALL SYSTEM | 23. OMNI-BEGA 2350 LED WALL PACK | 35. MEMBRANE ROOF |
| 12. INSULATED METAL PANEL | 24. STROBE & HORN | 36. PAINTED METAL DOOR |
| | | 37. KNOX BOX |
| | | 38. GAS METER |

1 STEM COMPLEX ROOF PLAN
1"=16'-0"



2 VOTEY BEFORE BRIDGE ADDITION
1"=16'-0"



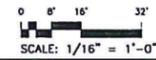
3 VOTEY AFTER BRIDGE ADDITION
1"=16'-0"



4 VOTEY BEFORE BRIDGE ADDITION
N/A



5 VOTEY AFTER BRIDGE ADDITION
N/A



freeman | french | freeman
100 North Main Street, Suite 200
Burlington, VT 05401



ELLENZWEIG
ARCHITECTURAL PLANNING



STEM

Burlington, VT

PROJECT NO: A1335

DATE: 09/08/14

DRAWN BY: PH

CHECKED BY: ELLENZWEIG

SCALE: 1/16" = 1'-0"

DATE: 09/08/14

PROJECT: ZONING SUBMISSION

SHEET NO: A1.6

DATE: 09/08/14

PROJECT: ZONING SUBMISSION

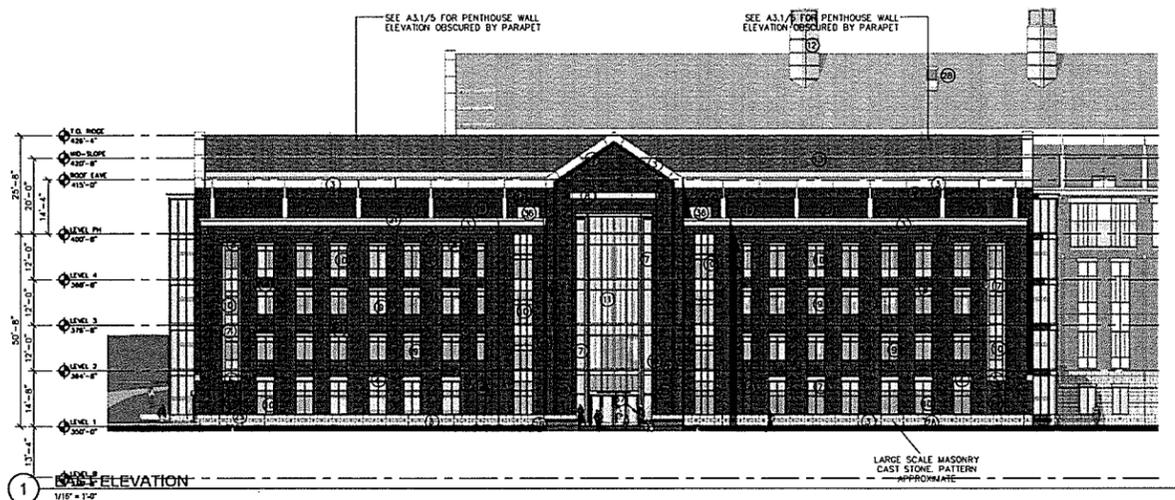
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DATE: 09/08/14

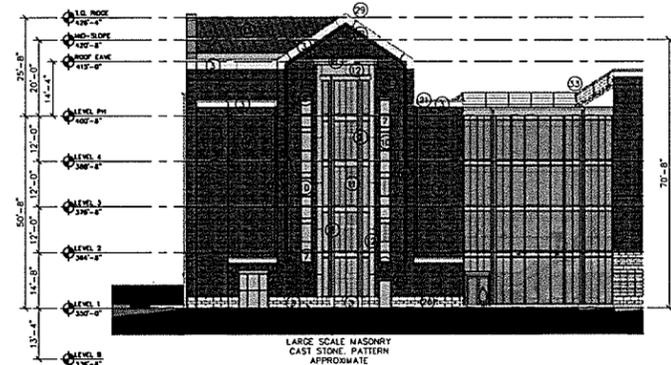
PROJECT: ZONING SUBMISSION

DEPARTMENT OF
PLANNING & ZONING

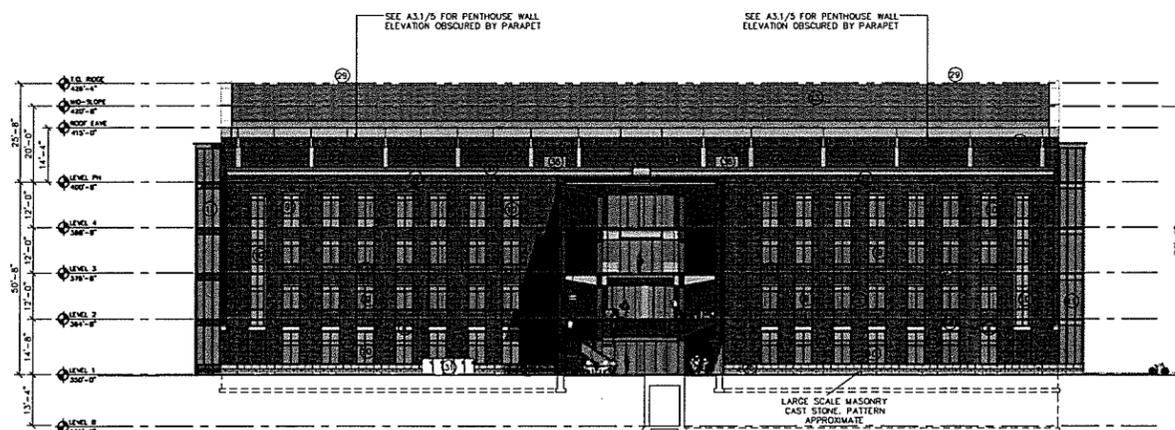
RECEIVED
SEP 09 2014



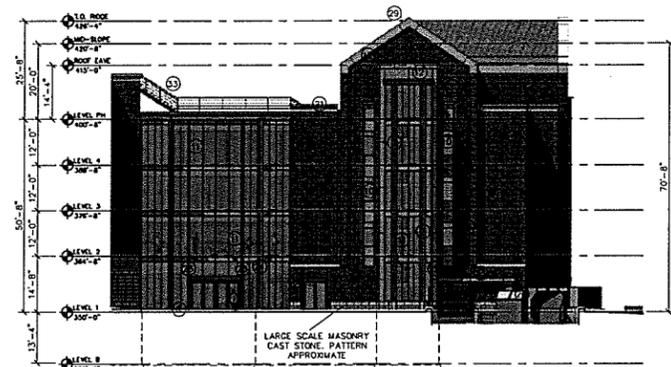
1 EAST ELEVATION
1/16" = 1'-0"



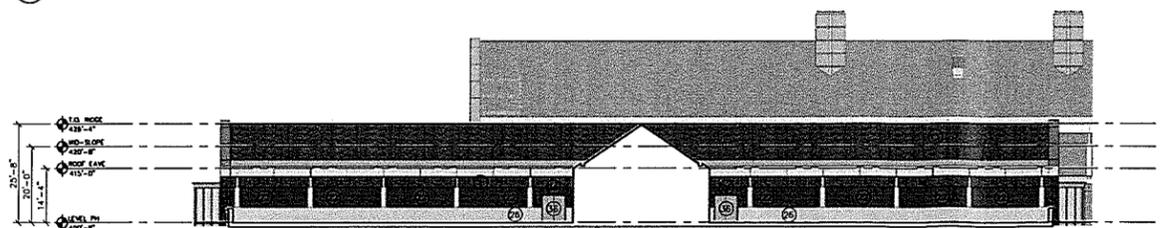
2 NORTH ELEVATION
1/16" = 1'-0"



3 WEST ELEVATION
1/16" = 1'-0"



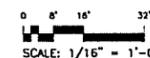
4 SOUTH ELEVATION
1/16" = 1'-0"



5 WEST ELEVATION - PENTHOUSE (EAST SIM.)
1/16" = 1'-0"

KEY NOTES

| | | |
|--|--|---------------------------------|
| 1. VENEER BRICK, RUNNING BOND | 13. SLATE ROOFING SHINGLES | 25. FDC |
| 2. ALUMINUM COMPOSITE METAL | 14. 2" DEEP x WINDOW WIDTH BRICK VENEER RECESS | 26. HOSE BIB |
| 3. CAST STONE | 15. 2" DEEP x 8" WIDE BRICK VENEER RECESS, STACK BOND | 27. SCUPPER |
| 4. CAST STONE LINTEL | 16. 2" DEEP x 16" WIDE BRICK VENEER RECESS, STACK BOND | 28. ELEVATOR VENT |
| 5. CAST STONE SILL | 17. 8" WIDE SLOPED RECESS, SOLDER COURSE | 29. PLUMBING VENT(S) |
| 6. GRANITE BASE | 18. 40M MEDALLION | 30. SNOW GUARD |
| 7. INSULATED METAL PANEL | 19. LOW-PROFILE ALUMINUM LOUVER | 31. BME LOCKERS |
| 8. PAINTED METAL LINTEL | 20. PERFORATED STAINLESS STEEL SCREEN | 32. EMERGENCY GENERATOR EXHAUST |
| 9. ALUMINUM WINDOW (W/INTERGRATED SLL) | 21. PAINTED ALUMINUM PARAPET | 33. ROOF TOP EGRESS STAIRWAY |
| 10. STOREFRONT SYSTEM | 22. CORRUGATED PANEL | 34. STACK ENCLOSURE |
| 11. CURTAIN WALL SYSTEM | 23. CHIM-BECA 2300 LED WALL PACK | 35. MEMBRANE ROOF |
| 12. INSULATED METAL PANEL | 24. STROBE & HORN | 36. PAINTED METAL DOOR |
| | | 37. KNOX BOX |
| | | 38. GAS METER |



82 University Place
Burlington, VT

FFF PROJECT NO.
A1935

DATE: 09/08/14 SCALE: 1/16"

DESIGNER: PH CHECKED BY: ELLENZWEIG

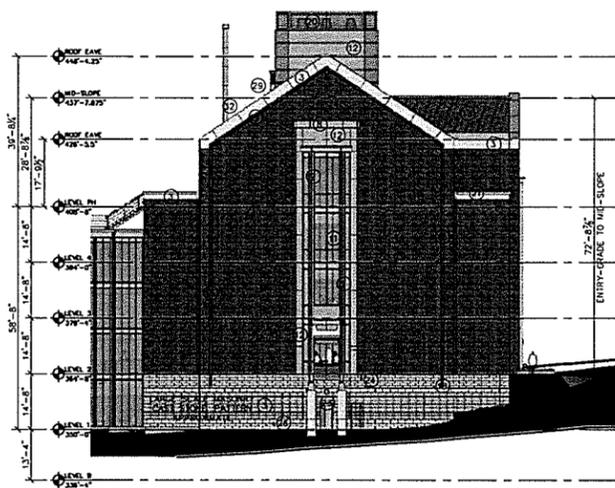
TASK: ZONING SUBMISSION

SHEET CONTENTS
CLASSROOM BLDG
EXTERIOR
ELEVATIONS

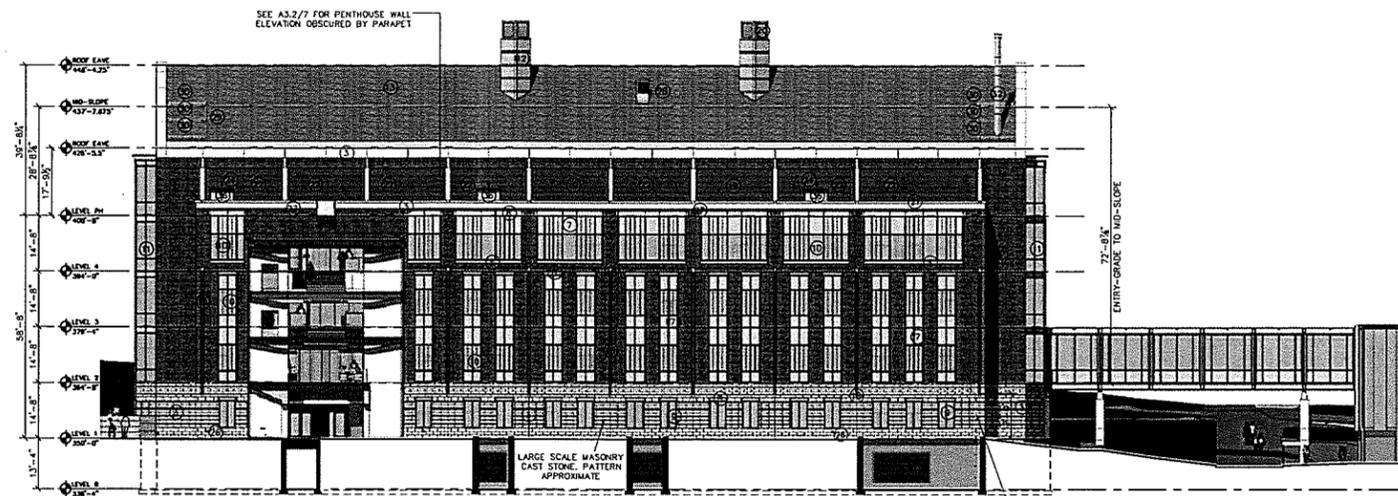
SHEET NO.
A3.1

DEPARTMENT OF
PLANNING & ZONING

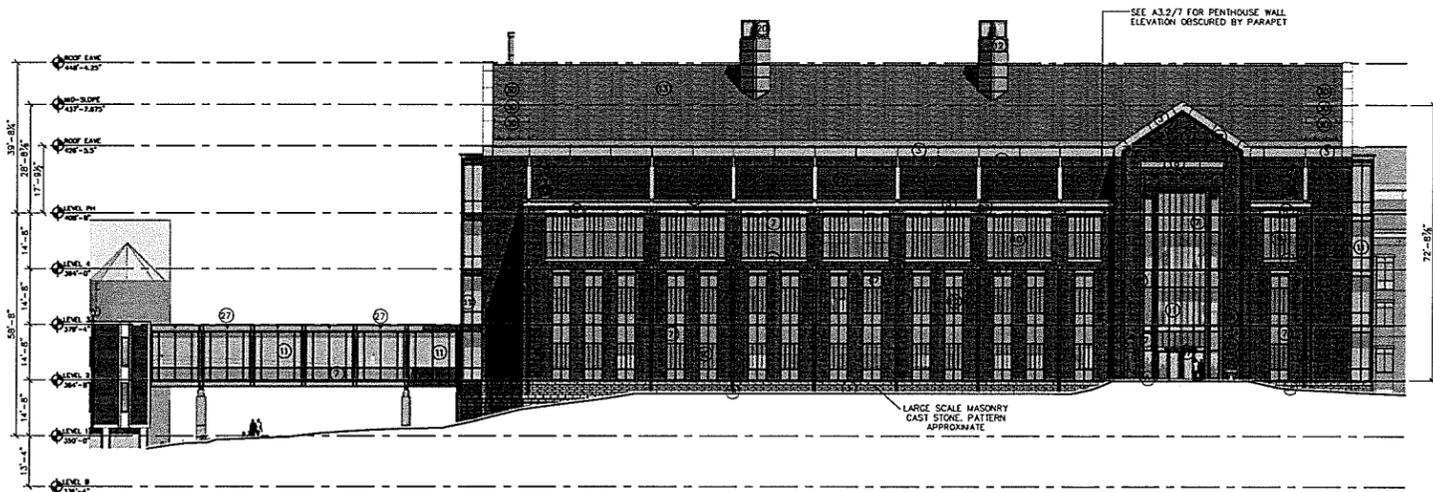
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SEP 09 2014



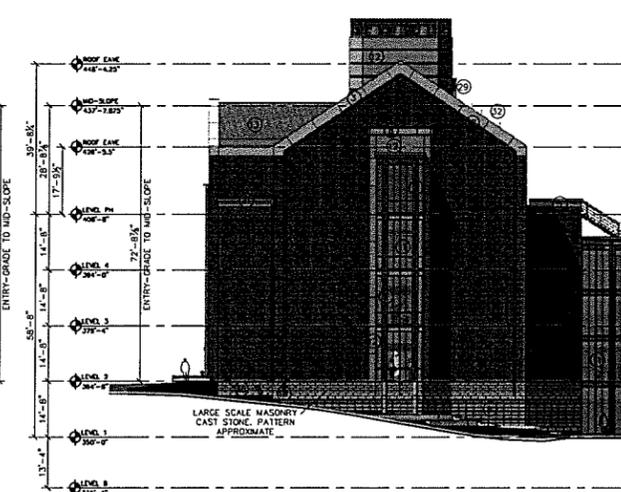
1 NORTH ELEVATION
1/16" = 1'-0"



2 EAST ELEVATION
1/16" = 1'-0"

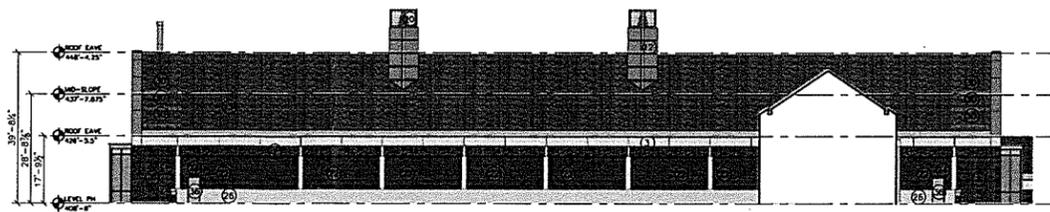


3 WEST ELEVATION
1/16" = 1'-0"



4 SOUTH ELEVATION
1/16" = 1'-0"

| KEY NOTES | | |
|---|--|---------------------------------|
| 1. VENEER BRICK, RUNNING BOND | 13. SLATE ROOFING SHINGLES | 25. FDC |
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| 4. CAST STONE LINTEL | 16. 2" DEEP x 18" WIDE BRICK VENEER RECESS, STACK BOND | 28. ELEVATOR VENT |
| 5. CAST STONE SILL | 17. 8" WIDE SLOPED RECESS, SQUADDER COURSE | 29. PLUMBING VENT(S) |
| 6. GRANITE BASE | 18. ACM MEDALLION | 30. SNOW GUARD |
| 7. INSULATED METAL PANEL | 19. LOW-PROFILE ALUMINUM LOUVER | 31. BIKE LOCKERS |
| 8. PAINTED METAL LINTEL | 20. PERFORATED STAINLESS STEEL SCREEN | 32. EMERGENCY GENERATOR EXHAUST |
| 9. ALUMINUM WINDOW (W/INTERGRATED SILL) | 21. PAINTED ALUMINUM PARAPET | 33. ROOF TOP EGRESS STAIRWAY |
| 10. STOREFRONT SYSTEM | 22. CORRUGATED PANEL | 34. STACK ENCLOSURE |
| 11. CURTAIN WALL SYSTEM | 23. OMNI-BEGA 2380 LED WALL PACK | 35. MEMBRANE ROOF |
| 12. INSULATED METAL PANEL | 24. STROBE & HORN | 36. PAINTED METAL DOOR |
| | | 37. KNIX BOX |
| | | 38. GAS METER |



5 WEST ELEVATION - PENTHOUSE (FAST SIM)
1/16" = 1'-0"

0 8' 16' 32'
SCALE: 1/16" = 1'-0"



82 University Place
Burlington, VT

PROJECT NO. A1335
ISSUANCE DATE: 09/09/14
SCALE: 1/16"
DRAWN BY: PH
CHECKED BY: ELLENZWEIG
DATE LOG: ZONING SUBMISSION

SHEET CONTENTS
LAB BLDG
EXTERIOR ELEVATIONS
SHEET NO. A3.2

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1 STEM COMPLEX - LOOKING SOUTHWEST
N15



2 STEM COMPLEX - LOOKING NORTH
N15



3 STEM COMPLEX - LOOKING NORTHEAST
N15



4 STEM COMPLEX - LOOKING EAST
N15



5 STEM COMPLEX - LOOKING SOUTHEAST
N15



6 STEM COMPLEX - THE BRIDGE
N15

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freeman | french | freeman
ARCHITECTS
ELLENZWEIG
ARCHITECTS

THE UNIVERSITY OF VERMONT
STEM

82 University Place
Burlington, VT

FFY PROJECT NO. A1335
DESIGNATION DATE: 05/05/14
SCALE: N15
DRAWN BY: PH
CHECKED BY: ELLENZWEIG
DATE LOG: ZONING SUBMISSION

SHEET CONTENTS
PERSPECTIVE VIEWS

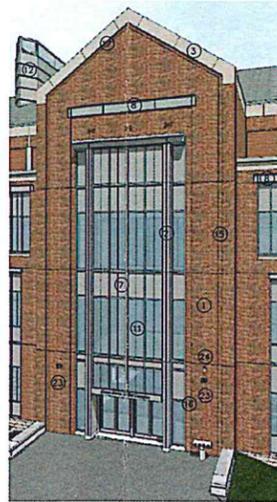
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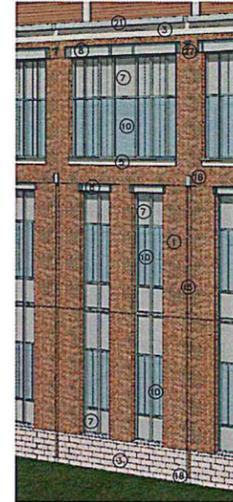
1 VIEW OF STEM COMPLEX FROM UNIVERSITY PLACE
N/A



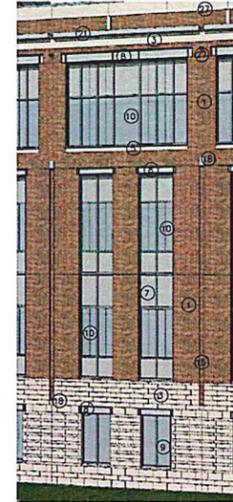
2 LAB BLDG ENTRY GABLE
N/A



3 LAB BLDG ENTRY
N/A



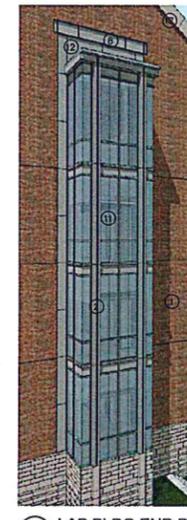
3 LAB BLDG WEST BAY
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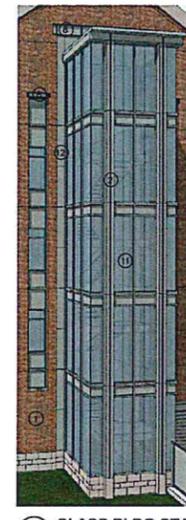
4 LAB BLDG EAST BAY
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5 SITE SECTION - LOOKING NORTH
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6 LAB BLDG END BAY
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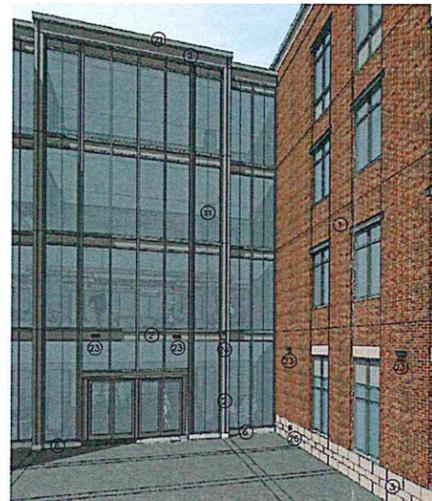
7 CLASS BLDG STAIR BAY
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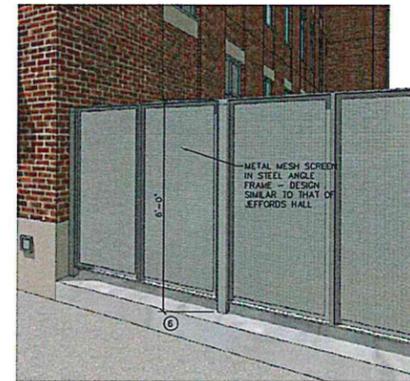
8 CLASS BLDG ENTRY GABLE
N/A



9 CLASS BLDG WINDOW BAYS
N/A



10 THE CONNECTOR
N/A



11 5 SECURE BIKE LOCKERS (10 BICYCLES)
N/A

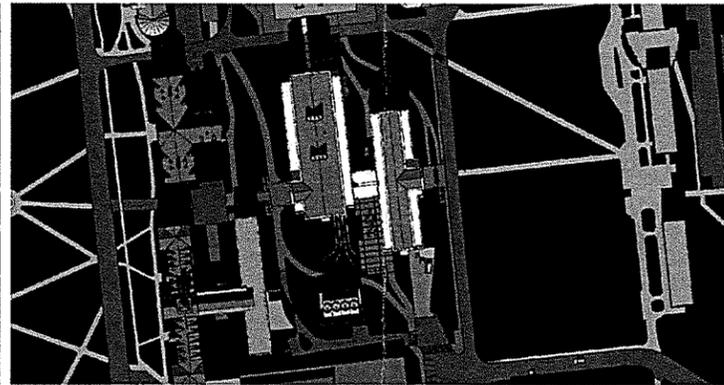


12 METAL PANEL SCREEN @ SERVICE AREA
N/A

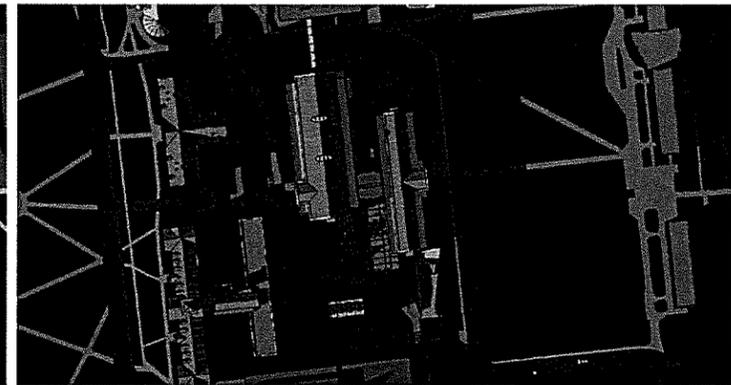
| KEY NOTES | | |
|---|---|---------------------------------|
| 1. VENER BRICK, RUNNING BOND | 13. SLATE ROOFING SHINGLES | 25. FDC |
| 2. ALUMINUM COMPOSITE METAL | 14. 2" DEEP x WINDOW WIDTH BRICK VENER RECESS | 26. HOSE BIB |
| 3. CAST STONE | 15. 2" DEEP x 8" WIDE BRICK VENER RECESS, STACK BOND | 27. SCUPPER |
| 4. CAST STONE LINTEL | 16. 2" DEEP x 16" WIDE BRICK VENER RECESS, STACK BOND | 28. ELEVATOR VENT |
| 5. CAST STONE SILL | 17. 8" WIDE SLOPED RECESS, SOLDIER COURSE | 29. PLUMBING VENT(S) |
| 6. GRANITE BASE | 18. ACM MEDALLION | 30. SNOW GUARD |
| 7. INSULATED METAL PANEL | 19. LOW-PROFILE ALUMINUM LOUVER | 31. BIKE LOCKERS |
| 8. PAINTED METAL LINTEL | 20. PERFORATED STAINLESS STEEL SCREEN | 32. EMERGENCY GENERATOR EXHAUST |
| 9. ALUMINUM WINDOW (W/INTERGRATED SILL) | 21. PAINTED ALUMINUM PARAPET | 33. ROOF TOP EGRESS STAIRWAY |
| 10. STOREFRONT SYSTEM | 22. CORRUGATED PANEL | 34. STACK ENCLOSURE |
| 11. CURTAIN WALL SYSTEM | 23. QWIK-BEGA 2360 LED WALL PACK | 35. METHANE ROOF |
| 12. INSULATED METAL PANEL | 24. STROBE & HORN | 36. PAINTED METAL DOOR |
| | | 37. HORN BOX |
| | | 38. GAS METER |



1 EXQUINOX - 9:00AM
N/A



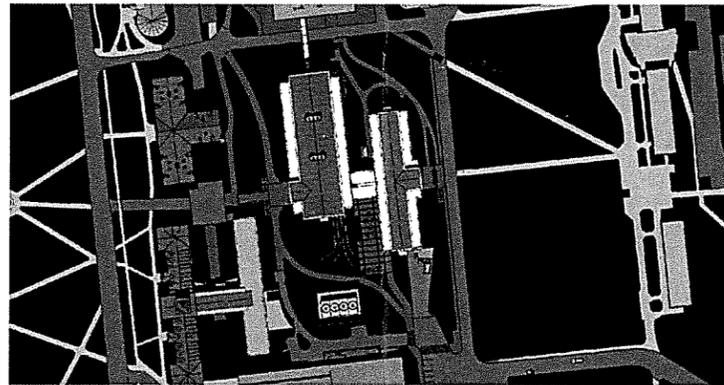
2 EXQUINOX - 12:00 PM
N/A



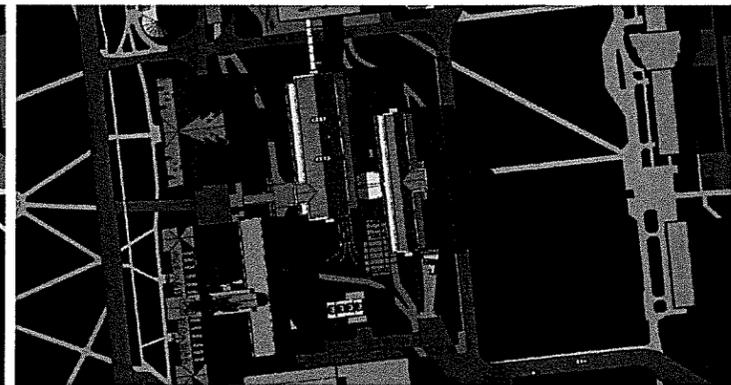
3 EXQUINOX - 4:00PM
N/A



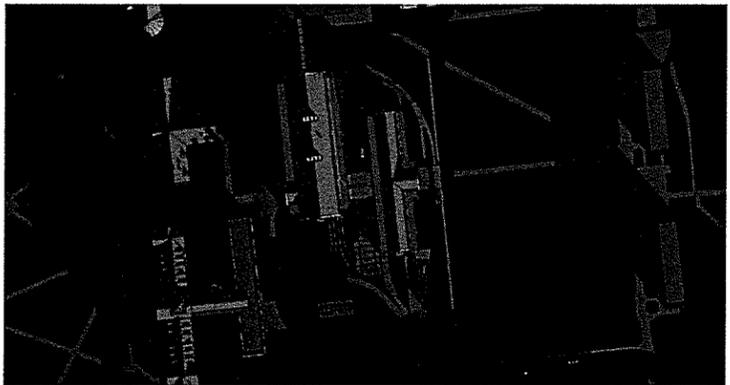
4 SUMMER SOLSTICE - 9:00AM
N/A



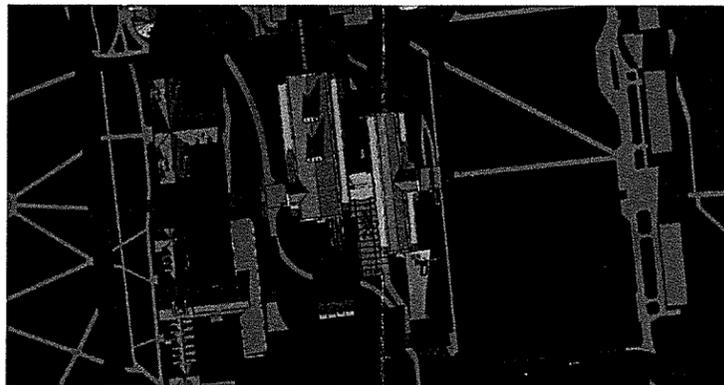
5 SUMMER SOLSTICE - 12:00 PM
N/A



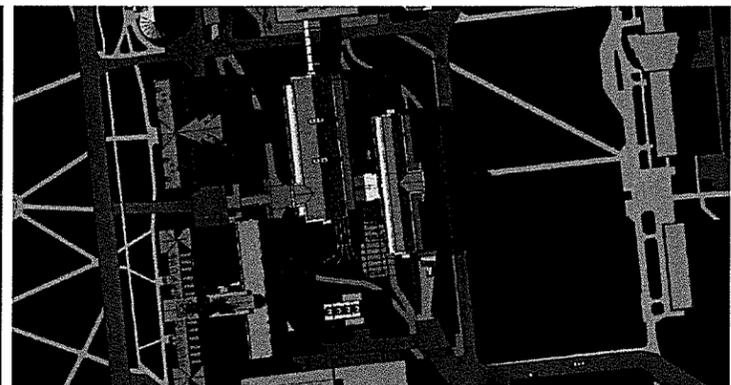
6 SUMMER SOLSTICE - 4:00PM
N/A



7 WINTER SOLSTICE - 9:00AM
N/A



8 WINTER SOLSTICE - 12:00 PM
N/A



9 WINTER SOLSTICE - 4:00PM
N/A



freeman | branch | brennan
30 South Street, Burlington Vermont 05401
802.255.4444
Architecture | Interiors | Planning



ELLEN ZWEIF
ARCHITECTURE



STEM

Burlington, VT

FFB PROJECT NO:
A1335

DATE: 09/08/14

DRAWN BY: PH

CHECKED BY: ELLEN ZWEIF

FILE USE:
ZONING SUBMISSION

SHEET CONTENTS:
SOLAR STUDIES

SHEET NO.:

A12.1

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