Ithaca Landmarks Preservation Commission (ILPC)

NOTICE OF MEETING & AGENDA

The regular monthly meeting of the ITHACA LANDMARKS PRESERVATION COMMISSION will be held at 5:30 p.m., Tuesday, January 8, 2019, in Common Council Chambers, Third Floor, City Hall, 108 E. Green Street, Ithaca, NY.

I. PUBLIC HEARINGS
   A. 161 Ho Plaza, Olin Library, Cornell Arts Quad Historic District — Proposal to Replace Roofing on the One-Story Portion of the Building and Install Metal Railings Along the Perimeter of the North Terrace.

II. PUBLIC COMMENT ON MATTERS OF INTEREST

III. OLD BUSINESS
   • 701 West Seneca Street, Former Delaware, Lackawanna & Western Railroad Station – Common Council Action on Local Landmark Designation

IV. NEW BUSINESS
   • [if any]

V. APPROVAL OF MINUTES
   • 12/11/18

VI. ADMINISTRATIVE MATTERS
   • Election of Officers – Chair and Vice Chair
   • Assignment of Historic Districts
   • Historic Ithaca 2019 Preservation Award Nominations – deadline March 29, 2019
   • 2018 Staff-Level Approvals - Review

VII. ADJOURNMENT

ACCESSING ONLINE MEETING MATERIALS:
Online meeting materials, like applications for a Certificate of Appropriateness and supporting materials, are available electronically via the “Document Center” on the City web site (www.cityofithaca.org/DocumentCenter), under "Ithaca Landmarks Preservation Commission" > "Applications for Certificates of Appropriateness" and in the relevant year/month folder. Please do not hesitate to contact our office if you have any questions or you need any assistance accessing the meeting materials. You are also always welcome to visit the Planning Division at any time during regular office hours (8:30-4:30, Mond.-Frid.) to view original hardcopy materials.

Out of consideration for the health of other individuals, please try to refrain from using perfume/cologne and other scented personal care products at City of Ithaca meetings. Thank you for your cooperation and understanding.

If you have a disability and would like specific accommodation in order to participate, please contact the City Clerk’s Office at 274-6570 by 12:00 p.m., no later than 2 days (not including weekends and holidays) before the meeting.
RESOLUTION: Moved by XXX, seconded by XXX.

WHEREAS, Olin Library, 161 Ho Plaza, is located within the Cornell Arts Quad Historic District, as designated under Section 228-3 of the City of Ithaca Municipal Code in 1990, and

WHEREAS, as set forth in Section 228-4 of the Municipal Code, an Application for a Certificate of Appropriateness, dated January 8, 2019, was submitted for review to the Ithaca Landmarks Preservation Commission (ILPC) by Jason Cragle on behalf of property owner Cornell University, including the following: (1) two narratives respectively titled Description of Proposed Change(s) and Reasons for Changes(s); (2) a report titled “Ithaca Landmarks Preservation Commission Submission,” authored by Mr. Douglas Arena, AIA RRC at Bell & Spina Architects and dated December 26, 2018; (3) ten sheets of architectural drawings prepared by Bell & Spina, dated December 26, 2018 and titled “Terrace Roof and Raised Podium Removal Plan and Notes” (AD -101), “Proposed Roof Plan” (A-101), “Elevations” (A-201), “Elevations” (A-202), “Elevations” (A-203), “Existing Stair Plan and Sections” (A-301), “Proposed Stair Plan and Section” (A-302), “Existing Raised Podium Plan and Section” (A-303), and “Proposed Raised Podium” (A-304), and

WHEREAS, the ILPC has reviewed the New York State Building-Structure Inventory Form for Olin Library, 161 Ho Plaza, and the City of Ithaca’s Cornell Arts Quad Historic District Summary Statement, and

WHEREAS, as stated in the narrative Description of Proposed Change(s), the project involves: the replacement of the terrace level roof, including removing the loose stone ballast and underlying roof membrane, and installing a modified bitumen roof membrane with a flood coat and gravel surface; the replacement of the west stairs from the terrace level to Ho Plaza, with changes in structural systems and visual properties; the replacement of hand and guard rails at all stairs with changes in design; installation of guardrails along the pedestrian path of travel on the terrace level roof; and installation of an ADA accessible on the east side of the terrace-level podium, and

WHEREAS, the issuance of a Certificate of Appropriateness is a Type II Action under the New York State Environmental Quality Review Act and the City Environmental Quality Review Ordinance for which no further environmental review is required, and

WHEREAS, the applicant has/has not provided sufficient documentation and information to evaluate impacts of the proposal on the subject property and surrounding properties, and
WHEREAS, a public hearing for the purpose of considering approval of the Application for a Certificate of Appropriateness was conducted at the regularly scheduled ILPC meeting on January 8, 2019, now therefore be it

RESOLVED, that the ILPC has made the following findings of fact concerning the property and the proposal:

The period of significance for the area now known as the Cornell Arts Quad is identified in the City of Ithaca's Cornell Arts Quad Historic District Summary Significance Statement as 1868-1919.

As indicated in the New York State Building Structure Inventory Form, Olin Library, 161 Ho Plaza, was constructed to replace Boardman Hall in 1960 and is considered a non-contributing resource within the Cornell Arts Quad Historic District.

Although it was constructed outside of the period of significance and is considered a non-contributing resource, the architect-designed Olin Library is now over fifty years old and is likely eligible for individual listing on the State and National Registers of Historic Places. Designed by the architecture firm of Warner, Burns, Toan, and Lunde, the building reflects the high visual and material quality of the contributing buildings within the Cornell Arts Quad Historic District. The rusticated, random ashlar base replicates the wall treatment of Boardman Hall (demolished, 1958) and complements the stonework of Stimson Hall and Uris Library; the design of the lead-coated copper, mansard roof echoes the roof cladding of McGraw Tower; and the regularized and vertically oriented fenestration reflects the traditional configuration and proportions of windows in the surrounding historic buildings.

In consideration of this and all approvals of proposals for alterations, new construction, or demolition in historic districts, the ILPC must determine that the proposed exterior work will not have a substantial adverse effect on the aesthetic, historical, or architectural significance and value of either the landmark or, if the improvement is within a district, of the neighboring improvements in such district. In considering architectural and cultural value, the Commission shall consider whether the proposed change is consistent with the historic value and the spirit of the architectural style of the landmark or district in accordance with Section 228-6 of the Municipal Code. In making this determination, the Commission is guided by the principles set forth in Section 228-6B of the Municipal Code, as further elaborated in Section 228-6C, and by the Secretary of the Interior's Standards for Rehabilitation, and in this case specifically the following principles and Standards:

Standard #9 New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be
compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

As a non-contributing structure, Olin Library, 161 Ho Plaza, by definition, does not possess historic materials or features that are subject to protection under the Principles enumerated in Section 228-5 of the Municipal Code or the Secretary of the Interior's Standards. The ILPC's evaluation of the proposed work is therefore limited to the assessment of the impact of the proposed work on adjacent historic structures in the district and on the Cornell Arts Quad Historic District as a whole, with the guiding principle being that the proposed work must not further reduce the compatibility of the non-contributing structure with its historic environment.

With respect to Standard #9, the proposed roof and stair replacements, and new hand and guard rails [are/are not] compatible with the massing, size, scale and architectural features of their historic environment.

RESOLVED, that, based on the findings set forth above, the proposal [will/will not] have a substantial adverse effect on the aesthetic, historical, or architectural significance of the Cornell Arts Quad Historic District, as set forth in Section 228-6, and be it further,

RESOLVED, that the Ithaca Landmarks Preservation Commission determines that the proposal [meets/does not meet] criteria for approval under Section 228-6 of the Municipal Code, and be it further

RESOLVED, that the ILPC [approves/denies] the Application for a Certificate of Appropriateness with the following conditions:

RECORD OF VOTE:
Moved by: 0
Seconded by: 0
In Favor: 0
Against: 0
Abstain: 0
Absent: 0
Vacancies: 0

Notice: Failure on the part of the owner or the owner's representative to bring to the attention of the ILPC staff any deviation from the approved plans, including but not limited to changes required by other involved agencies or that result from unforeseen circumstances as construction progresses, may result in the issuance by the Building Department of a stop work order or revocation of the building permit.
APPLICATION FOR CERTIFICATE OF APPROPRIATENESS
Ithaca Landmarks Preservation Commission (ILPC)
Planning & Economic Development Division
City of Ithaca, 108 E. Green St., 3rd Floor, Ithaca, NY 14850
Bryan McCracken | Ph: 607-274-6555 | bmccracken@cityofithaca.org
www.cityofithaca.org/boardscommittees/ilpc/index.cfm

PLEASE PRINT OR TYPE

Date: January 8, 2019

Applicant’s Name: Jason Cragle
Phone: (607) 255-5571

Applicant’s E-Mail address (REQUIRED): jpc349@cornell.edu

Property Address: Olin Library, 161 Ho Plaza
Cornell University

Owner’s Name (if different from Applicant): 2B07 Uris Library Loading Dock, Central Ave., Ithaca, NY 14853

Proposed Work Includes (check all that apply):

- [ ] New Construction
- [ ] Addition
- [ ] Accessory Structure
- [ ] ALTERATION: Primary Structure
- [ ] Site Changes (paving, fencing, patios, etc.)
- [ ] Signage
- [ ] Demolition
- [ ] ALTERATION: Accessory Structure

Submittal Requirements
All documents are to be sent to the attention of Bryan McCracken at the above address.

STAFF-LEVEL REVIEW:
Submit one (1) hardcopy and one (1) electronic copy of application and attachments. See City of Ithaca Historic District & Landmark Design Guidelines for a description of work that is eligible for this expedited review process.

ILPC REVIEW:
Submit eleven (11) hardcopies and (1) one electronic copy of application form and all attachments. Complete applications must be received by 4:00 p.m. on the last Tuesday of the month, 14 days prior to the regular ILPC meeting at which the application will be reviewed. ILPC meetings are held the second Tuesday of each month.

Applications must be accompanied by thorough documentation of existing conditions and proposed changes, including (as applicable): photographs of existing conditions; site plans showing location and dimensions of proposed change; drawings or sketches showing proposed changes on each affected elevation; description of design details and materials to be used (manufacturer’s data sheets may be used); samples of proposed materials; scale drawings of any proposed signs including colors, typeface, and illumination details; historic photographs, if the intention of the project is to return a property to a documented prior condition; and a statement from a qualified contractor or design professional attesting to the physical condition of any element that is proposed for replacement due to deterioration.
ELECTRONIC SUBMISSIONS: You must provide electronic versions of ALL submitted documents. LARGE FILES: Incoming e-mails to the City must be under 10 MB in size (incl. message envelope), so either provide CD-ROM, flash/thumb drive, use a free file-sharing web site, like: www.hightail.com, www.dropbox.com, www.google.com/drive, etc., or split documents into smaller parts and send multiple e-mails/files to: cpyott@cityofithaca.org and/or bmccracken@cityofithaca.org

Description of Proposed Changes (use additional sheets if necessary):

- Replacement of the Olin Library Terrace Level roof
- Replacement of the stairs from the Terrace Level roof to Ho Plaza
- Installation of guardrails along the pedestrian path of travel on the Terrace Level roof
- Installation of an ADA accessible ramp to the existing Terrace Level podium

Reasons for Proposed Changes (use additional sheets if necessary):

- The roof has exceeded it's useful life and often requires repair
- It has been determined that the existing stairs from the Terrace Level roof to Ho Plaza are structurally deficient and are currently temporarily reinforced to keep them in use
- It has been determined that code compliant rails are required along the pedestrian path of travel and temporary barricades have been installed to keep Terrace Level roof and podium in use
- An ADA compliant ramp to the podium would allow for accessibility to the podium
—REQUIRED PUBLIC NOTIFICATION—

Upon application for a Certificate of Appropriateness, a public notice of the proposal must be posted by the owner or owner’s representative on the property for a minimum of 10 days. This notice must remain in place until a decision to approve or deny the Certificate of Appropriateness has been made. The notice must be placed at or near the property line in the front yard, so it is plainly visible from the street, and, in cases where a property has frontage on more than one street, an additional sign must be placed at or near the property line on any additional street frontage.

Standard signs for this purpose are available for purchase from the City of Ithaca, Division of Planning and Economic Development, at a cost of $10.50 each. Alternatively, an applicant may create their own signs, as long as the following required content is included and the signs have dimensions of at least 18"x23":

PROPOSED EXTERIOR OR SITE ALTERATIONS TO THIS PROPERTY WILL BE REVIEWED BY THE ITHACA LANDMARKS PRESERVATION COMMISSION ON [INSERT DATE], BEGINNING AT 5:30 p.m. IN [INSERT LOCATION OF MEETING]. PUBLIC COMMENT MAY BE SUBMITTED IN ADVANCE OF, OR DURING, THE ABOVE-REFERENCED PUBLIC HEARING. FOR MORE INFORMATION CONTACT: BMcCRACKEN@CITYOFITHACA.ORG, 607-274-6555.

Applicant’s Statement:

I understand incomplete applications cannot be processed and will result in delay. This application is complete to the best of my knowledge and includes the following attachments (check all that apply):

- photographs of existing conditions
- site plans showing location and dimensions of proposed change
- drawings or sketches showing proposed changes on each affected elevation
- description of design details and materials to be used
- samples of proposed materials
- scale drawings of any proposed signs, including colors, typeface, and illumination details
- historic photographs, if the intention of the project is to return a property to a documented prior condition
- statement from a qualified contractor or design professional attesting to the physical condition of any element proposed for replacement due to deterioration
- other (specify):

Applicant’s Signature (REQUIRED): ____________________________ Date: 12/27/18

STAFF USE ONLY:

Date Received: ____________________________
Staff Review: □ yes □ no Approved: □ yes □ no Referred to ILPC: □ yes □ no
ILPC Review: □ yes □ no
Date of Public Hearing: ________________
Ithaca Landmarks Preservation Commission SUBMISSION

For: Cornell University
201 Humphreys Service Building
Ithaca, New York 14853-3701

Attention: Mr. Jason Cragle
Project Manager

Date: 26 December 2018

Author: Mr. Douglas Arena, AIA RRC
Partner/Project Manager

Building: Olin Library
Cornell University

CU Project No.: 10902
B&S Project No.: 319-18-010

This report is furnished for use by the addressee. Release of this report to any other company, concern or individual is solely the prerogative and responsibility of the addressee.
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1. PROJECT INTENT AND SCOPE

1.1. The intended goal of this project is to replace the 1st floor terrace roofs of Olin Library, including replacement of deteriorated concrete on the western stairway, raised podium roof and non-code compliant railings. The project also includes accessibility enhancements, circulation and access control improvements throughout the terrace. This investigation and summary were conducted as a portion of the Basic Services as required by the Schematic Design Phase to ascertain the requirements of the Project. Hazardous material sampling of roof materials was previously performed by Cornell University, results are included in the appendix for reference.

1.2. This submission includes a general assessment of the existing roof, recommendations, options and basis of design data. Attached separately to this Schematic Design Submission are drawings depicting the work.

2. BACKGROUND INFORMATION

2.1. Olin Library was constructed in 1961 as a replacement for Boardman hall in the same general location on the south side of the Arts Quad on the campus of Cornell University situated between Stimson Hall and Uris Library. It is a cast-in-place concrete frame and waffle-slab structure with 3 subterranean reading room and reading stack levels, a main reading room at grade and a seven-story tower setback from the main level that houses the book stacks and study areas. The main reading level and 2nd floor feature large glazed window openings that visually connect to the arts quad. A monumental exterior staircase connects the main entrances between Olin and Uris Libraries to the east sides of the arts quad by means of a walkway and raised podium level on the roof of the main reading level.

Olin Library retains its original roof and raised podium configuration on the terrace level with the exception that planter boxes and brass railings have been either removed or modified. Crowd control type ballasted guard rails have been placed on the terrace edges to keep the public away from the roof edge. The campus has expressed concern with the public encroaching close to the terrace windows, the throwing/kicking of stone ballast and general condition of the monumental stairs. There is currently no ADA access to the terrace and raised podium from the surrounding grades.

2.2. Olin Library has been designated as a “non-contributing” structure in the Cornell University Arts Quad historic district designated by the Ithaca Landmarks Preservation Commission (ILPC). The proposed alterations and changes to Olin Library are intended to be consistent with the original design with code required changes and functional improvements made to the stair and terrace roofing system. The project scope will need to be reviewed and approved by ILPC.
2.3. The upper roofs denoted as areas A & B were replaced 2015 and are not the subject of this report. The total roof area on the terrace levels of Olin Library is 30,050 sf have been identified as areas C, D, & E for the purposes of this project [see the roof key plan], as follows:

2.3.1. Terrace Roof Area C – Loose laid PVC single-ply roof membrane.

2.3.2. Raised Podium Roof Area C1 – Raised podium with a concrete paver surface on a loose laid PVC single-ply roof membrane.

2.3.3. Mid-Level Landing Roof Area D – The mid-level stair landing is an inverted roof membrane assembly with similar materials as Roof C.

2.3.4. Lower- Landing Roof Area D – The lower-level stair landing roof is a concrete paver on a built-up asphaltic roof.

Figure 1 - Olin Library Key Plan – Existing Configuration
3. FIELD INVESTIGATION, OBSERVATIONS & FINDINGS

3.1. A visual survey of the roof, walls and flashing was performed. Cornell University performed the roof cuts under direction from Bell & Spina staff. Hazardous material sampling and testing was performed by Delta Engineers under separate contract with Cornell University. Field investigations of Olin Library took place on the following dates:

3.1.1. September 28th, 2018 8:00am-3:00pm, 60°F sunny
3.1.2. October 11th, 2018, 1:00pm-2:00pm, 50°F rain

3.2. Field Investigations were attended by the following personnel:
   Douglas Arena, Bell & Spina Architects
   Layla Hartman, Bell & Spina Architects
   Dominick DeLucia, Taitem Engineers
   Yossi Bronsnick, Taitem Engineers
   Jason Cragle, Cornell Facilities
**Roof C – Terrace Level Low Slope Roof [26,121 sf]**

3.3. The existing loose laid ballasted thermoplastic PVC (Polyvinyl Chloride) roof membrane was installed in the 1993 roof replacement project designed by Haskell Conner Frost and Foor Architects. It consists of the following, from the top down:

- Loose laid #2 & #3 rounded stones and filter fabric, over,
- 0.060" PVC (Polyvinyl Chloride) single ply roof membrane, over,
- 2-1/2" of expanded polystyrene insulation (60 psi), over
- 2-ply asphaltic vapor retarder mopped to a sloped lightweight concrete fill.

3.4. Walking areas on the terrace consists of a 2x2’ concrete paver on plastic bases. All other areas are loose stone ballast.

3.5. The perimeter edge is a PVC coated steel gravel stop hooked clipped to the limestone fascia. The membrane is taunt and pulling away from the edge in some or the perimeter edges and below the window termination bars. We also noted that the expansion anchors used to attach the edge metal have spalled the limestone.
3.6. The membrane flashing height at the existing windows of Olin Library is approximately 4” tall and cannot accommodate additional roof thickness without raising the existing window sills.

3.7. The bases of the lead coated copper column covers are hollow voids. The original drawings indicate that the voids are duct chases and supports our observations of significant warm air movement driving out of the building.

3.8. There are 15 cast iron roof drains cast into the concrete deck on the terrace level. The drains are in good condition. Two drains are retro-fit type drains and it is not clear why they were installed. Jon Ladley (Olin Library Facility Planner) indicated that the ceiling texture on the main
level below the roof drain locations is asbestos containing and it would be difficult to access them from the interior without significant disruption from abatement activities.

3.9. There are two large stone masonry cheek walls on the west side of the library. Along the walkway between Olin Library and Stimson Hall is a 2'-0" tall stone wall.

3.9.1. The base flashing heights and counter flashings on the western masonry cheek walls are low and will need to be replaced and raised. The mortar joints are deteriorated and there is evidence of water infiltration in the stone walls from inadequate flashing. Restoration and flashing repairs to the masonry is discussed later in this report.

3.9.2. During our investigation we removed a small section of the short stone masonry wall on the east side and the expansion joint cover along the walkway. The PVC roof membrane termination is buried behind the stone veneer wall. The stone and capstone will need to be reconstructed to access and replace the membrane [Photo 9].

3.10. Presently, the only barrier rail system is an original short height brass railing system. The campus has placed temporary crowd-control type railings to limit access to the roof edge [Photo 9].

3.11. The eastern edge of the terrace steps down onto a sidewalk between Olin and Stimson. The edge consists of a diamond cover plate over the building expansion joint. The PVC membrane turns up on a curb formed in the concrete walkway between the two buildings. We noted multiple fastener holes from the metal cover plate in the membrane.
**Figure 5 – Short Stone Wall Detail (1958 Drawings)**

**Photo 8 - Expansion Joint Cover**

**Photo 9 - Overall Terrace Roof C Photo, north side.**
3.12. This roof was installed at the same time as roof C.

- 2x2’ concrete pavers supported on plastic bases, shims and a filter fabric, over,
- 0.060” PVC single-ply membrane, over,
- 3” extruded polystyrene insulation (60psi), over,
- 2-ply vapor retarder on a sloped lightweight concrete fill.

3.13. The podium level features granite stair treads and brass railing. There is no guard rail system around the raised podium level and it is not ADA accessible.
Roof D – Mid-Level Landing Roof [538 sf]

3.14. This inverted roof membrane (IRMA) was installed as part of the 1993 roof replacement project. Presumably the IRMA roof system was installed to eliminate the need to raise the counterflashing heights. It consists of the following, from the top down:

- Stone ballast and filter fabric, over,
- 2-1/2" of extruded polystyrene insulation, over,
- PVC single-ply membrane and slip-sheet fabric, over,
- An unreinforced asphaltic membrane on a tapered lightweight concrete fill.

3.15. The roof edge is a similar detail to Roof C. The roof drains into a soldered copper drain trough and side inlet drains on the back side of the roof.

3.16. The stair and walkway is set onto the roof assembly. Below the concrete stair and landing is an exhaust fan unit. The inverted roof membrane (IRMA) was installed as part of the 1993 roof replacement project. Presumably the IRMA roof system was installed to eliminate the need to raise the counterflashing heights. It consists of the following, from the top down:
Roof E – Lower Landing Roofs [516 sf]

3.17. The low slope membrane roofs consist of:

- 2x2’ concrete pavers supported on plastic bases, shims and a filter fabric, over,
- 2-ply asphaltic built-up roof membrane, over,
- Concrete slab.

Photo 13 - Raised Podium Stair & Railing
**Monumental Stairs**

3.18. The west side of Olin Library features a monumental granite stair case connecting grade to the terrace level. The stair is constructed of cast-in place concrete landings, stringers and landings with granite treads and brass railings. The concrete stair stringers, steel tread pans and connections are in poor condition with numerous spalled sections, water infiltration and reinforcing corrosion.

![Figure 7 - Raised Podium Stair & Railing](image)

3.19. The west monumental stair treads are supported by existing 12”x15” concrete stringers that span between the landing platform and a concrete beam above the exterior glass façade. It appears from the existing drawings that on the high side, the existing concrete stringers could be sawcut 1’-7” to the east of existing Grid 5 (at the face of the existing concrete beam), and this dimension also appears to be outside of the building envelope. At the low side where the stringers frame to the existing landing platform, the existing stringers were cast into a 2” depression in the 8” landing slab. After the existing stringers are sawcut, the existing stringer geometry would be chipped out of the landing platform slab.

**Mechanical & Electrical Equipment**

3.20. There is very little mechanical and electrical equipment located on the roof. We noted the following:

3.21. The current café area is served by two exhaust fans (numbers 4 and 5 on the existing plans). These exhaust fans are located below the western monumental stair, at the level of the second floor. The fans are ducted to exhaust grills located at the face of the roof step between the current Starbucks and the Café area. The fans exhaust out the side of the stair. These fans are shown “M05 SECOND FLOOR PLAN” dated November 15, 1958 and can also be seen below. The facility has reported that the unit is inadequate to exhaust the interior spaces and has requested additional options to replace it.
3.21.1. The unit is in very poor physical condition and is supported on a pad on the roof membrane. It will need to be removed to reconstruct the stair and replace the roof membrane. The space is compact and very difficult to access and install the roofing flashings.

3.22. The original 1958 drawings depict mechanical ductwork fed inside and below the stairs of the raised podium level. The duct work is concealed by the structural framing and its location could not be verified. The center of the Reference Reading Room, below the elevated terrace, is supplied by duct work that runs on the interior perimeter of the elevated terrace structure as seen below. The supply duct work is routed up through the structural slab, below the east and west stairs leading to the elevated terrace and then through openings of the 14" concrete terrace wall. See plans and sections below.
Figure 9 - Raised Podium Duct Layout

Figure 10 - Raised Podium Plan Section

Figure 11 - Raised Podium Section at a Duct
3.23. The original terrace lighting fixtures consist of pole mounted luminaires and four sidewalk lights. None of the existing lights are known to function [Photo 14].

Stone Masonry

3.24. Olin Library features rusticated ashlar stone walls and limestone fascia around the terrace level. The cheek wall on the northwest side of the library features head busts integrated into the stone wall. The extent of this review was limited to the masonry cheek walls around the stairs, limestone banding below the roof line and the stone piers on the first floor [Photo 15, 16].

3.25. The stone masonry and mortar joints are generally in fair condition. We noted numerous locations of mortar erosion of the mortar joints and staining of the stone face. The stone caps do not have a drip edge or through-wall flashing which is the cause of the mortar erosion and staining. The existing mortar was not tested but appears to be an unnecessarily hard portland based mortar.

3.26. The stone ledge below the monumental stairs is in poor condition from years of perched snow and water infiltration Photo 15].

3.27. The limestone banding below the roof line is in good condition except for spalling of expansion anchors used for the perimeter edge metals [Photo 5].
Hazardous Materials


3.29. The report indicates that asbestos containing caulks are present on the lead-coated copper column covers and door sills on terrace level.

3.30. Asbestos containing materials shall be abated and disposed of in accordance with Federal Regulations and NYSDOL ICR56 and any applicable Cornell University EH&S requirements. Lead containing materials should be handled by the contractor in accordance with OSHA regulations and disposed of in accordance with Federal and State regulations.
4. CODE COMPLIANCE

4.1. Olin Library is a 7-story building with two basement floors, constructed of cast-in-place concrete frame and waffle slab floor plates. The exterior is clad in rusticated stone panels on the base and limestone on the tower floors.

4.2. Based on the anticipated 2019 construction period, the roofing work will need to comply with the 2015 International Building Code, 2015 Energy Conversation Code and the 2017 NYS Code Supplements. Structural provision of Minimum Design Loads for Buildings ASCE 7-10 will also need to be complied with.

4.3. **2017 Building Code Summary Data**

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<th>Construction Type</th>
<th>IBC 601: TYPE IIA – Protected Non-Combustible Construction</th>
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<td>Occupancy Classification</td>
<td>IBC 301 Group B-Offices, A-3 Assembly</td>
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4.4. **Structural Design Information**

4.4.1. Risk Category: II

4.4.2. Live Loads:

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<th>Occupied Roof Areas</th>
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<tr>
<td>Unoccupied Roof Areas</td>
<td>20 PSF</td>
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</tbody>
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4.4.3. Roof Snow Load (ASCE 7-10):

| Ground Snow Load | Pg: 40 PSF |
| Flat Roof Snow Load | Pf: 28 PSF |
| Unbalanced, Sliding, Drifting Snow: | Varies |
| Snow Exposure Factor | Ce: 1.0 |
| Snow Load Importance Factor | Is: 1.0 |
| Thermal Factor | Ct: 1.0 |

4.4.4. Wind Load: (ASCE 7-10)

| Basic Wind Speed | V3s: 90 MPH (ASD) 115 MPH (ULT) |
| Wind Importance Factor | lw: 1.00 |
| Wind Exposure Category | C |
| Internal Pressure Coefficient | 0.18(+/-) |
| Topographic Factor | Kzt: 1.0 |
| Exposure Classification | Enclosed |

4.4.5. Seismic Load (ASCE 7-10)

| Site Class | D (Default) |
4.5. Handrail & Guard Rail Design Information
4.5.1. ASCE 7-10: All code required handrail and guardrail systems shall be designed to resist a single concentrated load of 200 lbs applied in any direction at any point on the rail. All handrail and guardrail shall be designed to resist a load of 50lbs/ft applied in any direction along the handrail or top rail.

4.6. 2017 Energy Conservation Construction Code Summary Data
4.6.1. Envelope Scope of Work IECC 502: "Historic Buildings – No provisions of this code related to the construction repair, alteration, restoration and movement of structures and change of occupancy shall be mandatory for historic buildings provided a report has been submitted to the code official and signed by a registered design professional, or a representative of the State Historic Preservation Office, demonstrating that compliance with that provision would threaten, degrade or destroy the historic form, fabric or function of the building."

4.6.2. Climate Zone: Thompkins County Zone 6A

4.6.3. Code Required Roof Insulation: R-30 continuous insulation (approximately 6” of insulation thickness).

4.6.4. Proposed Roof Insulation: R-15 continuous insulation (approximately 3” of insulation thickness). Relief from the code required insulation has been reviewed and granted by the City of Ithaca Building Department, provided that the insulation value is not less than the 3” of polystyrene insulation that currently exists.

4.7. Roof Fire Classification
4.7.1. The design of roof replacement shall provide for a "Class-A" fire rated assembly.

4.8. Roof Drainage Analysis
4.8.1. Roof Area C & C1 drains into 15 existing 4” roof drains around the roof.

Rainfall Rate IPC 1106.1 : Thompson County – 2.5 inches (100 yr, 1- Hour Rainfall rate)
Minimum Roof Drain Capacity Required per Tributary Area: 50 GPM
Existing Roof Drain Capacity IPC 1106.3:
4” Roof Drain = 180 GPM
4” Roof Drain Horizontal Piping (assuming 1/8” Slope) = 81 GPM
5. FINDINGS AND DISCUSSION

Roof System

5.1. The existing PVC single ply roof is approximately 25 years old and is nearing the end of its useful life. Test cuts did not reveal wet insulation but there are reports of roof leaks. We observed sections of the membrane pulling away from the edges and the membrane is reportedly brittle in cold weather. Warm air movement below the window flashing was observed and many of the pavers are weathered and deteriorated, unlevel and mismatched from years of service.

Therefore, this roof assembly should be completely removed and replaced down to the asphaltic vapor retarder on the terrace level and landing levels.

5.1.1. Cornell University has requested that the new roof assembly does not include loose laid stone ballast. The university roofing standard also states that stone ballasted roofs and IRMA roofs are prohibited.

5.1.2. The flashing heights at the raised podium and along the building below the windows will be less than 4” in many places if a traditional roof assembly with code compliance is installed, based on the current energy code requirements. Relief from the energy code requirements has been requested and granted based on conversations with the City of Ithaca Building Department. Without relief, it will be necessary to raise the window sills on Olin Library.

5.2. Restricting public access to the non-occupied areas of Olin Library terrace roof is a primary goal expressed by the library staff. The existing short barrier railings and temporary metal guardrails are unattractive and ineffective in preventing the public from getting close to the roof edge and the windows.

New pedestrian barriers and code compliant guard railing, barrier railing and stair handrails should be incorporated into the redesign of this entire roof to prevent access adjacent to the office windows and roof edges.

Raised Podium

5.3. Similar to the terrace roof level, the raised podium PVC single-ply roof is nearing the end of its useful life. The raised podium is a unique feature on Olin Library and offers a place to congregate and overlook the Arts Quad view. However, the podium lacks ADA accessibility, adequate handrailing, lighting and welcoming seating space.

Therefore, the raised podium roof system, stairs & handrails should be completed removed and replaced with a new reconfigured podium incorporating ADA accessibility and lighting.

Western Stair

5.4. The western monumental stair is a prominent architectural feature of Olin Library and serves an important ceremonial purpose during commencement. The concrete stringers and landings are in very poor condition from years of water infiltration and de-icing salts and cannot be feasibly repaired. The granite treads are cracked and fractured at the railing posts.
5.5. The existing concrete stringers are in poor condition and are not feasible to repair. De-icing salts have and will continue to deteriorate the concrete, reinforcing bars and flashings.

5.6. The lower-level stair landing platform consists of an 8” concrete slab supported by 10” wide concrete walls on four sides. The existing concrete walls are shown to extend 1'-0" into existing bedrock. The stair landing platform is to remain. Minor cutting and patching is anticipated to restore the landing platform.

We recommended that the western stair concrete stringers, landings, treads, railings and underlying roofing should be removed and replaced.

- Based on a visual inspection, the lower-landing concrete footers and walls, and the mid-level concrete stair structure are believed to be intact and repairable and do not need to be replaced. Localized concrete repairs are needed.
- The concrete stringers between grade and the lower-level landing and the stringers between the lower-level and mid-level landing is deteriorated beyond repair and should be replaced. In lieu of concrete stair stringers, concrete cheek walls are recommended from grade to the lower-level landing given the proximity to grade. Steel stringers are a viable option to replace the existing 12" wide by 15" deep concrete stringers between the lower-level and mid-level landing. The minimum steel replacement size would be approximately equal to an HSS16x12x3/8, and the steel stringers would be hot dip galvanized and painted for protection against corrosion. The new stringer geometry would closely match the existing stringer geometry. This member sizing assumes that the stair width remains approximately equal to the current stair width and allows for 40 pounds per square foot of dead load.

Stone Masonry

5.7. The large stone cheek-walls along the western mid-level landing shows deterioration, efflorescence, and water infiltration into the mortar joints as a result of the lack of a drip edge and flashing at the stone cap. The capstone should be removed and reset on proper through-wall flashing and the stone repointed and cleaned as part of this project.

5.8. The limestone fascia panels along the roof line have numerous spalls from the roof edge attachment. These areas should be repaired as part of the roofing project.

5.9. The short stone masonry wall along the east side if the building cannot be salvaged because the existing PVC membrane is terminated under the stone. The stone wall, flashing and coping will need to be removed and reconstructed.

Roof Structural Analysis

5.10. A structural analysis of the roof live, snow and dead loads on the roof, podium and stair areas as a result of the proposed scope of work was undertaken to confirm that there are no overstressed conditions as a result of the live and new dead loads. The results indicate that the original construction on the roof terrace was designed for 100psf (pounds per square foot) live loads, without accommodation for snow drifting loads. However, the proposed roof assembly is lighter than the current assembly.

5.10.1. The areas below the location of the proposed ramp to the raised podium introduce additional dead loads that will require localized tensile overstress in the concrete around the concrete column caps. Reinforcement of the concrete roof deck in these areas will be
necessary and can be achieved by introducing fully concealed carbon fiber tensile strips applied to concrete before the roof assembly is installed. This is in lieu of reinforcement from the building interior.

Lightning Protection System

5.10.2. Currently there are existing lightning protection terminals along the north perimeter of roof C that will need to be removed and reinstalled as part of this project.
6. OUTLINE OF RECOMMENDED SCOPE OF WORK

Roof Replacement - Roof Areas C, D & E:

6.1. Various roof system options and scenarios have been evaluated:

- Install a traditional modified bitumen or single-ply roof membrane over an insulated roof assembly. This system has not been pursued because the required insulation thickness creates problematic low flashing heights at the windows and roof edge and the risk of roof leaks.
- Raise the window sills. This option was not explored further given initial feedback that it would require costly window replacements and will affect the appearance of the building.
- Add additional roof drains to lower the roof thickness at the windows. This option was not explored further given the costs and operational impacts of installing the piping from the inside and the ceiling abatement costs.
- **Install a tradition modified bitumen roof assembly with reduced insulation.** We recommend removing and replacing the roof assembly with this assembly to maximize the available flashing height at the windows and the perimeter gravel stop. The proposed roof assembly consists of the following (from the top down):
  - **Flood Coat & Gravel Surfacing, fully adhered (Unoccupied roof areas only)**
  - **Architectural Pavers and Adjustable Pedestals (Granite or Concrete; Occupied terrace areas only).** A protection mat and drainage mat is necessary between the pedestals and the roof membrane for long term durability.
  - **2-Ply Smooth modified bitumen roof membrane, fully torched.** Wall flashings will be detailed with 1-ply of modified bitumen flashing and reinforced liquid flashing, on,
    - **½” Coverboard, over**
    - **(1) Layer of 3” Polyisocyanurate Insulation (25psi), fully adhered over**
    - **Asphalt vapor retarder, torched to,**
    - **Existing 2-ply asphalt vapor retarder, mopped to,**
    - **Existing tapered lightweight concrete fill on the structural concrete deck.**
6.1.1. This type of assembly is designed for positive drainage and non-hydrostatic water pressures on the roof membrane. The membrane is fully adhered to the substrate to reduce the potential for membrane movement. Available roof manufacturers who have successfully manufactured, installed and marketed this type of roof assembly include Soprema, Siplast and Tremco. The roof assembly is eligible for a 20yr NDL warranty.

6.1.2. Granite pavers provide an attractive appearance that matches the existing granite tread materials. It is proposed to match the granite pavers recently installed around the entrance to Olin Library (“Jet Mist” with a flame finish by Granite Importers). Granite is durable, time tested and provides long term performance over concrete pavers. However, their cost is over 4x that over concrete pavers. We recommend that granite pavers are the basis of design paver and matching concrete pavers are considered an alternate paver option for bidding purposes.

6.2. Install a Kynar coated aluminum gravel stop around the perimeter with a minimal sightline drip edge (1-1/2” face), similar to the existing. The finish will be selected to match the existing limestone fascia.

6.3. Install new zinc-tin coated copper 2-piece counter flashings below the existing windows, on watertables and at other flashings. Remove the lead-coated copper column covers and insulate and air seal the voids.

**Western Stair:**

6.4. Between grade and lower-level landing remove and replace the granite treads and concrete stair stringers. Replace the cast-in-place stringers with new concrete cheek walls and footers.

6.5. Remove the concrete pavers, flashings and waterproofing on the lower-level landing. Replace with a modified bitumen roof membrane and granite paver system similar to the main terrace except without insulation.

6.6. Between the lower-level and mid-level landings, remove and replace the monumental stair granite treads, stair stringers and waterproofing. Options for the stringer replacement have been evaluated:

- Replace the concrete stringer and zinc-tin coated flashings in kind, or
- **Replace the stringer with a hot-dipped galvanized steel stringer with a high-performance paint coating.** We recommend this option for its increased durability,
strength and potential for accelerating the construction fabrication installation. We recommend that the granite tread supporting rails are constructed of stainless-steel bent plates and painted to match the stair stringers.

6.7. Remove the granite treads and waterproofing system between the mid-level landing and the upper terrace roof. Repair the concrete stair and landing structure. Below the landing, install new end walls with louver openings for the mechanical exhaust fan to better protect the equipment and improve the roof flashing termination details.

6.7.1. Exhaust Fans: It is recommended that the existing exterior exhaust fan and associated duct work below the stair be removed and replaced during reconstruction of the stairs. The exhaust fan is at the end of its useful life. The construction of the new stair will have to be coordinated with the new exhaust fans and it recommended that the stairs be enclosed from the side with controlled access to the fans. The enclosure can contain louvers for the exhaust fans.

Raised Podium:

6.8. Remove and replace the roof assembly and pavers with the same system proposed on the terrace roof.

6.9. Remove the eastern set of stairs and install an ADA accessible ramp. The proposed ramp construction consists of:

- Architectural Pavers and Adjustable Pedestals (Granite or Concrete) A protection mat and drainage mat is necessary between the pedestals and the roof membrane for long term durability.
- 2-Ply Smooth modified bitumen roof membrane, fully torched, on
- 2" Metal Edge Concrete Plank Deck, sitting on new concrete block walls bearing on the concrete deck.

6.10. The supply duct work below the elevated terrace is not expected to interfere with the proposed work and it should all remain in place. The plan and construction of the stairs to the elevated terrace will have to be coordinated with the east and west duct work that is located below the existing stair. This duct work will need to be protected during construction. It is recommended that this duct work be insulated and air sealed while it is exposed.

6.11. Remove and replace all the guard rails and handrails. Refer to the options later in this report.

6.12. It is recommended that pathway lighting is added up the stairs and proposed ramp on the podium level and on the terrace. It is also recommended to add power at the terrace for use both on a daily basis but also possibly for use during an event.

Railings:

6.13. Remove and replace all the guard railings using flat bar stock railing shapes similar to the original Olin Library design. The original rails and guards are believed to be bronze and the design intent is to match the material and finish, similar to the new Bronze Finish on the main entrance to Olin Library. The current rails on the terrace do not comply with the current code required guardrail and handrail requirements.

6.14. For pedestrian barriers on the terrace roof and raised podium, install a 42" tall barrier system with top and bottom rails only. The design intent is for this barrier system to prevent access to
the roof areas all while remaining unobtrusive and as transparent as possible. Code required stainless steel handrails will be provided along the ramp and stairs to the raised podium. These areas are not required to have guardrails in accordance with the building code given their proximity to the roof edge and the low height of the raised podium.

6.15. The railing design along the wester stair is required to have code compliant 42” guardrails and separate handrails. The design intent for the guard rail design is to mimic the original flat bar shapes with ¾” wide thin bar posts, top railings and 4” pickets. 1.9” OD stainless steel handrails with integrated lighting will be installed along all sides the western staircase steps and landings.

6.16. As an alternate to bronze shapes and the costs, we would recommend hot-dip galvanized steel railings with a power-coat finish to match the weathered bronze finish.

Lighting:

6.17. Incorporate general pathway lighting and code required lighting. Remove and replace the existing pole light fixtures on the terrace level and incorporate additional poles to achieve 1-5 fc of pathway lighting. On the east side, incorporate recessed pathway downlights into the masonry walls.

6.18. Incorporate code required pathway lighting integrated into all of the handrails along the western stair and landings.

Masonry:

6.19. Install new copper through-wall flashing on the large stone walls adjacent to the monumental stair, repoint and clean the stone. Raise the roof flashing and replace counter flashings in reglet joints with 3-piece zinc-tin coated copper flashings.

6.20. Repair spalls in the limestone fascia below the roof line with a matching limestone repair material.

6.21. Remove the short stone wall on the east side of Olin Library to access the roofing termination. Modify the wall location and properly install the new expansion joint and roof terminations.
7. DESIGN

7.1. The following design objectives have been identified for the redesign of the terrace and raised podium:

- Remove and replace the roof assembly.
- Reconstruct the deteriorating western stairway and landings.
- Upgrade guard railing and handrail on the stairways and limit public access to the unoccupied roof areas.
- Provide ADA accessibility and equitable access for all users around the podium and onto the podium level.
- Redesign and integrate the handrails and guardrails into the raised podium while staying consistent with the original design intent. Reduce the amount of railing where possible.
- Incorporate walkway lighting and safety lighting.

7.2. The western stair (monumental stair) is proposed to be reconstructed with new architectural pavers, code compliant guardrails and handrailing.

7.3. The proposed raised podium design maintains the current raised podium except for an ADA 1:12 sloped ramp positioned on the east side.

7.4. The existing short stone wall on the east side of Olin Library is reconstructed to match the original stone wall but reconfigured to better accommodate the circulation on the terrace and provide a flush grade transition from the walkway onto the terrace.

Design Alternatives & Options

7.5. Basis of Design Pavers: 16”x48” running bond paver pattern of 1.75” thick granite pavers

7.5.1. Alternate Option: 2” thick concrete pavers.

7.6. Basis of Design Guard Rails: Bronze bar shapes and profiles; 2” deep x ¾” wide to match the existing railings.

7.6.1. Alternate Option: Hot-dipped galvanized steel bar shapes and profiles, painted to weathered bronze finish.


7.7.1. Alternate Tread Option: Salvage, trim and reuse the existing granite treads. New granite treads will be supplemented and incorporated on the raised podium.

7.8. Western Stair Stringers: Reconstruct from hot-dipped galvanized and painted structural tube steel.
Figure 12 - Existing Plan of Olin Library Roof Terrace

Figure 13 - Proposed Plan of Olin Library Roof Terrace
Figure 14 - Architectural Rendering of the Raised Podium (Note that this depicts additional paver areas around the raised podium that were ultimately not included in the proposed design).

Figure 15 - Architectural rendering looking from Simson Hall toward Olin.
8. SPECIAL CONSIDERATIONS

8.1. Factory Mutual (FM Global) Requirements:
   8.1.1. At this time, we have not contact Factory Mutual directly to review their requirements. We recommend that this be done early. FM insurance requirements could be in conflict with ILPC historic goals.

   8.1.2. Typically, FM Global requires that roof systems are selected from their database of approved roof systems (Roof Nav). Additional research of FM Global approved assembles will be necessary to specify a ballasted roof assembly that meets their wind uplift requirements.

8.2. Disruption of interior spaces:
   8.2.1. If the 4th floor is occupied during the summer 2017, notice should be given that noise and dust will occur. Repairs and restoration of the windows and dormers will take window AC units off line and window sashes will need to be removed and weather tightened.

8.3. Access to building during construction:
   8.3.1. Access to the building can be maintained during the construction period with proper safety measures. We recommend the following:

      8.3.1.1. Overhead scaffolding protection over all entry/exit doors and walkways within 15’ of the edge of the roof. Fencing or other barriers should be placed around the work area to keep pedestrians from entering.

      8.3.2. Contractor access shall be limited to exterior scaffolding stairs. Only on limited occasions should the roofing contractor need to be inside the building.
9. APPENDIX A - PHOTOS

Photo 1 – Overall Monumental Stair

Photo 2 – Olin Main Entrance Photo
Photo 3 – Updated winter photo

Note the snow accumulation and drifting snow on the terrace.

Photo 4 – Roof C

Note the original barrier railing in the foreground.
Photo 4 - Roof C Window and wall Condition

Photo 5 – Roof C Egress Doors
Photo 6 – Roof C Expansion Joint at Stimson Hall

Photo 7 – Roof C Masonry Wall Expansion Joint
Photo 8 – Roof C Pavers

Photo 9 – Typical Roof Cut at Roof C1 Raised Podium
Photo10 – Roof Cut at Roof C Sculpture Court Infill

Photo11 – Typical Flashing Height at the Window Sills Roof C Infill
Photo12 – Masonry Wall at the EJ at Stimson Hall.

Note that the membrane is installed under the stone.

Photo13 – Masonry Wall at the EJ at Stimson Hall.

Note that the membrane is installed under the stone.
Photo14 – Roof Cut at Roof E – Lower Landing

Photo15 – Lower Landing Stair. Note that the concrete stringer has deteriorated and is currently shored up from below.
Photo15 – Limestone Fascia. Note the spalling.

Photo16 – Limestone Fascia. Note the spalling.
APPENDIX B
Jet Mist
MIST

MATERIAL: Mist
FINISH: Flame
ARCHITECT: Streete Associates
PROJECT: Delin

SUBJECT

In submitting samples, we ask that it be kept in mind that stone, being a natural product, will always vary somewhat in both color and texture. It is impossible to furnish all the stone for any building operation to match exactly the same small samples submitted as typical of the particular grade. Or match exiting previously installed stone material.

GRANITE IMPORTERS, INC.
An architectural project requires the highest level of performance from the paver manufacturer involved. In order to guarantee the integrity of the design from start to finish, the producer needs to have a long standing reputation of product consistency, performance and service. Hanover® Architectural Products continually strives to provide the highest quality concrete pavers in the industry.

For over 40 years, Hanover® has participated in the development of pavers, as they became an integral part of architectural design. Custom color and aggregate blending has become Hanover’s trademark, as well as, the ability to adapt to the special paver needs of each individual project. Hanover® manufactures pavers for various types of applications ranging from on-grade entranceways to rooftop plazas and pool decks. Hanover® Prest® Pavers are the perfect addition to any architectural project.
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ARCHITECTURAL CONCRETE
PREST® PAVERS
Hanover’s Architectural Prest® Pavers are the perfect alternative to natural stone. High compressive strength and density give the product durability and low water absorption comparable to stone.

Hanover® Architectural Products offers a large selections of dimensionally compatible sizes as well as range of other custom sizes. Hanover® will strive to provide any size paver required by the project’s design specifications. A wide range of colors and textures is also available. With almost limitless design options, Hanover® Prest® Pavers are the superior choice for any project from corporate entranceways to pedestrian plaza areas.
SECTION 2: ROOF & PLAZA PREST® PAVERS

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The application of an elevated paver system provides the designer with new possibilities and advantages. Hanover® Pavers are offered in both a standard color range (see pages 44 and 45) and custom aggregate blends. Striping, banding and paving patterns are just a few of the design capabilities made possible by mixing various paver colors, sizes and finishes. A textured Tudor® finish provides slip resistant properties. Safer than gravel ballast, Hanover® Pavers make roofs and plazas safe for pedestrians and simplify repairs.

By elevating the pavers, water is channeled away from the surface. Roof Pavers allow easy access to the roof and waterproofing system for repairs or standard maintenance procedures. Whether your project is a roof, deck, plaza or terrace, Hanover® Roof Pavers are serviceable, functional and attractive.
HANOVER® ROCKCURB® FOR ROOF APPLICATIONS

Hanover® RockCurb® is an integral part of green building projects, helping to earn SS Credits and achieve LEED points. Working with green roof assemblies to provide environmental benefits and aesthetically appealing rooftop gardens, RockCurb® can be used to separate green areas from hardscaped areas.

Above Photo: Tampa Bay Times Forum, Tampa, FL; Architect of Record: BDO Architects; Design Architect: Generator Studio; Owner: TBSE; Size & Color: 23 1/2” x 23 1/2”, Cream, Quarry Red; Finish: Tudor®


Below Photo: Robert Moses Plaza at Lincoln Center; Architect: Pei Cobb Freed & Partners Architects LLP; Size & Color: 29 3/4” x 29 3/4”, Glacier White; Finish: Tudor®

DRAINAGE PAVERS

Hanover® Drainage Pavers, are available upon request. They can be manufactured with holes or slots depending on the project requirements.
Green roofs provide shade and remove heat from the air, reducing temperatures of the roof surface and the surrounding air. On hot days, the surface temperature of a green roof can be cooler than the air temperature. The surface of a conventional rooftop can be up to 90°F warmer. Because green roofs absorb heat and act as insulators for buildings, energy consumption is decreased and the heat island effect is reduced.

Green roofs can be installed on a wide range of buildings. They can be as simple as groundcover or as complex as a plaza area complete with trees. The popularity of green roofs is increasing as its value is appreciated.

Hanover® Prest® Pavers work hand in hand with Green Roof assemblies to provide environmental benefits and aesthetically appealing rooftops or plaza gardens. From planted areas which incorporate topsoil and mulch to grassy areas over a layer of soil or lightweight gravel fill, Hanover® Pavers are an integral part of these energy-efficient roofs. Pavers can be used to create walkways, terraces or seating areas while providing positive drainage.

HANOVER® PAVERS ARE AN INTEGRAL PART OF ENERGY-EFFICIENT GREEN ROOF DESIGN.
SOLAR REFLECTANCE AND HEAT EMMITTANCE
Hanover® can provide pavers with reflectance and emittance values. Solar Reflectance is the ratio of the amount of solar radiation reflected from a surface to the total amount reaching that surface. Emittance refers to a material's ability to release absorbed heat. The Solar Reflectance Index (SRI) is a value that incorporates solar reflectance and emittance in a single value to represent a material's temperature in the sun. Hanover's Glacier White with Tudor® finish, shown below, has a reflectance value of 0.69 and an emittance value of 0.94. Glacier White's SRI value is 85. These values are a critical element in the roof's ability to reduce heat consumption.

GLACIER WHITE TUDOR® FINISH
Reflectance Value : 0.69
Emittance Value : 0.94
S R I Value : 85

HANOVER® & LEED POINTS
The U.S. Green Building Council (USGBC) provides standards for green building design and construction based on LEED Green Building Rating System. Building projects earn points for compliance with Sustainable Sites (SS) Credits. The total points earned result in an overall rating for the building from Certified to Platinum. Hanover® Prest® Pavers are an integral part of green building projects, helping to earn SS Credits and achieve LEED points.

Right Photo: Jacob K. Javitz Convention Center, New York, NY; Owner: Empire State Development Corporation; Architect: FXFOWLE Epstein; Landscape Architect: Ken Smith Landscape Architects; Size & Color: 23 7/8” x 23 7/8”, 23 7/8” x 35 7/8”, Charcoal, Limestone Gray; Finish: Tudor®

The Pinnacle at Symphony Place, Nashville, TN; Architect of Record: Pickard Chilton; Architect: EOA Architects; Landscape Architect: Hawkins Partners, Inc.; Size & Color: 11 3/4” x 23 1/2”, 23 1/2” x 33 1/2”, 23 1/2” x 33 1/2”, RockCurb®, Tan; Charcoal, Finish: Tudor®

Wounded Warrior Sanctuary Hall, Bethesda, MD; Owner: Naval Support Activity Bethesda; Architect: Clark Nexsen; Size & Color: 11 3/4” x 23 1/2”, 23 1/2” x 33 1/2”, 23 1/2” x 35 3/8”, RockCurb®, Tan; Charcoal, Finish: Tudor®

Right Photo: Jacob K. Javitz Convention Center, New York, NY; Owner: Empire State Development Corporation; Architect: FXFOWLE Epstein; Landscape Architect: Ken Smith Landscape Architects; Size & Color: 23 7/8” x 23 7/8”, 23 7/8” x 35 7/8”, Charcoal, Limestone Gray; Finish: Tudor®
When the project requires an economical roof ballast paver, Hanover® offers a standard paver, stocked in a Natural color and a non-slip Diamond finish. A wide range of sizes are available at a 1 13/16” thickness and a weight of 23 lbs/sf. Unlike river gravel which has been known to be hazardous, pavers used as ballast or walkways provide a durable, safe method of protecting the roof system.

Hanover® Roof Ballast Pavers reduce roof life cycle costs (vs. stone ballast) with lower installation and maintenance expenses. By creating a limited pedestrian walkway, Roof Ballast Pavers make roof inspections safer and easier compared to stone ballast. When installed to completely cover the protected membrane, they shield the membrane from punctures, cuts and ultraviolet ray damage.

**PAVERS FOR LIGHTWEIGHT BALLAST**

When the roof design will not accommodate the load of a standard paver, Hanover® offers Pavers for Lightweight Ballast, weighing 15 lbs/sf. Sized at 113/4” x 231/2” x 1 1/4” and 231/2” x 231/2” x 1 1/4”, Lightweight Ballast Pavers are manufactured in a Natural color and Diamond finish. These may be installed on a protected membrane system for ballasting and limited pedestrian use. However, Hanover® Pavers for Lightweight Ballast are not normally recommended for pedestal applications, particularly if pedestrian access is anticipated.
For use as an alternative to the polyethylene pedestal systems, Hanover® Pedestal® Pavers are produced with an integrated concrete foot. The foot elevates the paver providing 1/2" elevation clearance for water drainage. The need for polyethylene pedestals is eliminated. The waterproofing assembly is protected from weather and UV light and pedestrian access is permitted.

With a weight of 22 lbs/sf, Pedestal® Pavers are available in economical ballast finishes. When aesthetics are important, the Tudor® finish should be used.

**HANOVER® SPACER TABS**

In order to keep joints consistent when installing Hanover® Pedestal® Pavers, Spacer Tabs are available with each order. Not visible from the surface after installation is complete, these flexible rubber-like spacers are placed between each paver to maintain an even 1/8" joint and provide water access to below surface drainage. Spacer Tabs are available in an “X” or “T” shape to accommodate various paving designs.

**HANOVER® PEDESTAL® PAVERS**

- **SIZE:** 23 1/2” x 23 1/2” x 2 1/4”
- **WEIGHT:** 22 lbs/sf
- **ELEVATION CLEARANCE:** 1/2”
- **FINISH:** Tudor® for aesthetic and visual applications; Diamond for walkway and ballast applications
- **COLORS:** 8 standard colors - Quarry Red, Charcoal, Natural, Red 15, Tan, Brown, Cream, Limestone Gray

Custom colors and aggregate blending are available on special order when quantities permit.

Refer to pages 44 and 45 for paver colors.
Effectively draining water from a roof or plaza is a critical issue for every building. By using an elevated paver system, water is channeled away from the roof surface, reclaiming lost space. Hanover® has developed several pedestal systems to achieve level plaza deck surfaces – even those with unusual slope-to-drain configurations. Hanover® Pedestal Systems are created to work together to accommodate a variety of roof slopes.

- High-Tab® Pedestal
- Flexible Leveling Shims
- EPDM Pedestals and Shims
- Elevator® Pedestal System
- Compensator® Leveling System

When leveling shims are needed, Hanover’s High-Tab® Pedestal provides a spacer tab with increased height, greatly improving installations. Other pedestals lose spacer tab height as pedestals are stacked, allowing pavers to shift. The added spacer tab height of Hanover’s High-Tab® will secure each paver in its proper location.

High-Tab® Pedestals can also be stacked without losing the performance of a higher spacer tab. High Tabs can be turned and engaged – one into the other – in such a way that the integrity of the added tab height is still available from the top pedestal.

- Creates a more solid feel
- Increased spacer tab height
- Prevents paver misalignment
- Can be used with other Hanover® Pedestal Systems

All Photos: W Scottsdale Hotel & Residences, Scottsdale, AZ; Architect of Record: Hornberger + Wartell, San Francisco, CA; Landscape Architect: EDAW Inc., Phoenix, AZ; Size & Color: 17 5/8” x 17 5/8”, 23 1/2” x 23 1/2”, #M1929, #M2302; Finish: #13

HIGH-TAB® PEDESTAL
7” across flats
5/8” thick
1/8” spacers

U.S. Patent 7,386,966 B1

PREST® PAVER ON HIGH-TAB® PEDESTALS
shown on two High-Tab® Pedestals

The illustration above shows a cross section of a roof deck installation. It is important to note the use of an insulation board with a minimum of 60 psi and also a protection layer placed between the insulation and the Pedestals.
Final leveling adjustments can be made with Hanover’s flexible Leveling Shims. These shims are rubber-like, preventing paver movement and providing a more solid feel. They will not slide as they eliminate “rigid on rigid” placement. Thicknesses are available in 1/8” (white) or 1/16” (black). Leveling Shims may be separated into halves or quarters for individual paver adjustments. They can be used with Hanover’s High-Tab® Pedestal and Hanover’s Elevator® Pedestal System.

Hanover’s EPDM Rubber Pedestal is a flexible paver support pedestal, allowing the pavers to follow the contour of the roof. The EPDM Pedestal is suitable for both Architectural and Ballast applications where water drainage is required. When used in ballast applications, roof membranes are protected from the pavers. This 3/8” fixed height pedestal incorporates 1/8” spacer tabs and leveling shims to make installation easy. The EPDM rubber provides sound deadening qualities, is resistant to the ozone and severe weather conditions and creates a soft feel for walking. This pedestal is not stackable and must be considered only for low elevation support requirements.

Final adjustments can be made with Hanover’s EPDM Leveling Shims. These shims prevent paver movement and provide a more solid feel. Thicknesses are available in 1/8” or 1/16”.
The Elevator® Pedestal System is an adjustable height pedestal system designed for elevated paver applications. Consisting of a Base, Top Plate, Coupler and StayBar®, the Elevator® System can accommodate paver heights above 2” up to 24”. Components can be interchanged to achieve the desired height with precise adjustments being made with a simple turn.

**TOP PLATE**

Unlike any other pedestal, the Top Plate is equipped with pads that will quiet and secure the paver to the pedestal. Rigid-to-rigid (pedestal-to-paver) hard surfaces can create noise and paver movement when pedestrians walk across. The pads will help eliminate both conditions. The Top Plate incorporates spacer tabs which set a uniform 1/8” space between pavers and aid with alignment. Three and four tab designs are available to accommodate stacked or running bond designs. The Top Plate provides over 42 square inches of bearing area.

**COUPLER**

As part of the Elevator® Pedestal System, Hanover® provides a Coupler to increase paver height by 2 1/2” - 4”. Hanover’s Coupler includes a circular flange with multiple holes, or eyelets, for ease of tie bracing. The ring of eyelets around the entire coupler, as well as the holes in the base, enables the installer to securely fasten wires quickly and easily when bracing is required.

**HANOVER® PEDESTAL HEIGHTS**

**PLEASE NOTE:** Heights shown are pedestal heights only. For final paver installation height, add the thickness of the paver to the pedestal height.

Leveling Shims can be added to EPDM or High-Tab® Pedestals for final leveling adjustments.

Hanover® EPDM Pedestals are not stackable.
STAYBAR®

Bracing is required for elevations above 16” and up to 24”. Hanover® offers the StayBar® which fits firmly between Elevator® bases to prevent movement of the assembly. StayBar® provides adequate stabilization for higher elevated paver installations when used in conjunction with wire cross ties. Bracing should be achieved using a stainless steel 18 gauge wire, available through the MSC Catalog, part #31980188. Request installation guidelines for horizontal and cross bracing.

Hanover’s Elevator® Pedestal System meets:
• LA City Building Codes for Seismic Stability
• Flame Spread Requirements (CC1) (ASTM D-1929 and D-635 for plastic materials)
• Research Report: RR 25823 (CSI #10270)

CAUTION: It is critical that Top units and Couplers have a minimum insertion of three threads of the unit to completely secure the pedestal and ensure stability. Additional couplers can be added for elevations up to 24”. Bracing is recommended for taller elevations of 16” to 24” maximum.

StayBars are required for applications 16” and above. The ratio of StayBars to elevators is approximately 2 StayBars to every Elevator®. Quantities of StayBars may be more or less depending on the project. Make sure you have enough StayBars to secure all connections.

All specific configurations of cross tying should be reviewed with a Hanover® Sales Representative.

HANOVER® ELEVATOR® PEDESTAL SYSTEM HEIGHTS

PLEASE NOTE: It is critical that Top units and Couplers have a minimum insertion of three threads of the unit to completely secure the pedestal and ensure stability. Additional couplers can be added for elevations up to 24”. Bracing is recommended for taller elevations of 16” to 24”.

Heights shown are pedestal heights only. For final paver installation height, add the thickness of the paver to the pedestal height.

Do not over-extend threaded pieces. Settling may occur when pedestals are placed on-grade.

Elevator® Pedestals are for use with pedestrian traffic only; do not use with motorized, wheeled or equipment traffic. Elevator® Pedestals have a maximum 1000 lb/pedestal load bearing capacity with a Factor of Safety of 2 (FS:2), exceeding most requirements.

Leveling Shims can be added for final leveling adjustments.

*The use of additional couplers will attain heights up to 24”. Heights of 16” to 24” require special bracing installation details.
Designers and installers of roof and deck applications are concerned with how to level the surface when installing pavers on a sloped installation. Recognizing this difficulty, Hanover® has developed the Compensator® Paver Leveling System. It permits fast and easy installation and precise alignment of raised pavers.

The Compensator® is a specially designed tapered circular base made of high density plastic making them impervious to water. This patented unit will "compensate" for the roof slope and when used with Hanover’s Paver Support Pedestals will allow the installer to easily achieve a level surface for paver installations. Their unique twist-to-adjust design allows for easy adjustment.
The system is designed to accommodate a variety of roof slopes. A roof slope of 1/8” will be leveled by using one Compensator®. By using two or more and aligning the units in the correct manner, roof slopes from 5/32” to 1/2” can also be leveled.

For elevation adjustments, Hanover® can provide a Support Pedestal and Leveling Shims for use with the Compensator®.
High wind and special site conditions require an outstanding paver system. Severe site conditions and high winds have often ruled out the use of pavers on pedestals. Hanover's Guardian® Paver System was developed especially for the most severe conditions which require an elevated roof paver pedestal system. This system creates a monolithic paver surface providing high wind uplift resistance. The Guardian® Paver System consists of a shaped paver and a unique three-piece pedestal designed to “lock down” the entire roof surface and prevent horizontal and vertical movement of the roof paver.

In order to create the monolithic system, the Guardian® Pedestal is combined with a specially shaped paver. The Guardian® Paver is available in several standard sizes and a variety of colors and textures. The Guardian® Paver meets or exceeds all ASTM requirements for concrete unit paving.

The Guardian® Pedestal has a square top which allows its bolt to pass through to a base beneath, fitting into a recessed grooved portion of the Guardian® Paver. The Guardian® Paver is specifically shaped to solidly secure itself into the pedestal base. The Guardian® Pedestal System maintains a 1/8" joint for the roof paver system.
• Specially designed for wind uplift resistance
• Paver movement is prevented creating a monolithic roof paver surface
• Compatible with other Hanover® Pedestals including the Elevator®
• Available in a variety of colors

GUARDIAN® TECHNICAL DATA

HIGH DENSITY POLYETHYLENE PROPERTIES

TENSILE STRENGTH: 8,600 psi -ASTM D638
TENSILE ELONGATION: 3 -ASTM D638
FLEXURAL STRENGTH: 11,200 -ASTM D790
FLEXURAL MODULUS: 1,200,000 -ASTM D790
COLOR SHIFT: less than 1%

University of Alabama School of Nursing, Birmingham, AL; Owner: University of Alabama at Birmingham; Architect: Sherlock, Smith & Adams-Case; Size & Color: 23" x 23" with Guardian® Paver System, Anteitam; Finish: Heavy Tudor®
When tightening the screw in the top plate of the Guardian® System, only secure to a snug position. DO NOT OVERTIGHTEN. Paver movement is contained and locked into place. The inner workings of the roof assembly are protected and hidden from view, while allowing easy access to the roof/waterproofing system for making repairs or performing maintenance procedures. The Guardian® Paver System is compatible with Hanover’s Elevator® Pedestal System permitting a variety of combinations and providing many solutions for roof paver installations.

THE GUARDIAN® PAVER SYSTEM IS AVAILABLE IN ALL OF HANOVER’S STANDARD PREST® PAVER COLORS.
The standard color for the assembly is black which can be used for the most extreme UV conditions. As shown to the left, the Guardian® top plate, pedestal and bolt are also available in all of Hanover’s standard Prest® Paver colors, as well as Glacier White. (For paver colors, please refer to pages 44 and 45.) These colors will blend with or contrast the paver installation. The Guardian® System can be special ordered in other colors when quantities permit.

### SIZES

| TOP PLATE | 6” Square |
| BOLT | 3/4” Diameter (Length varies with thickness of paver) |
| BASE | 7 1/2” Diameter / 5/8” Height |

### PACKAGING

| TOP PLATE, BOLT AND BASE | 25 Pcs/Carton |

### COLORS

| Black | Glacier White |
| Quarry Red | Charcoal |
| Natural | Red 15 |
| Tan | Brown |
| Cream | Limestone Gray |

Custom color and aggregate blending are available on special order when quantities permit.

### SOLAR REFLECTANCE

When reflectivity properties are important (LEED installations), Glacier White has the highest values. For maximum reflectance values, the Glacier White Guardian® System should be used with Glacier White pavers. See pages 28 - 29 for more information on green roofs.

### GLACIER WHITE
One advantage of using concrete unit pavers is the variety of shapes and sizes available. The choice of paver size, color and texture can dramatically impact a project’s appearance. The correct paver thickness, setting bed, base and edge restraint are equally important. Each project is unique and provides different challenges.

Section 3 consists of information such as Prest® Paver colors and textures, installation guidelines and relative strengths. This information is provided to make the ordering process easier.

Whether the project at hand is a commercial walkway or green roof garden, Hanover® stands ready to assist. A Hanover® representative will listen to your project ideas and explain the endless possibilities Hanover® has to offer.
SECTION 3:
PREST® PAVER
PRODUCT DATA

44 Prest® Paver Colors & Textures
46 Prest® Paver Sizes & Thicknesses
47 Prest® Paver Relative Strengths
47 Installation Guidelines
48 Pedestrian vs. Vehicular Use Size Comparison
Texture is as important to the appearance of the installation as color and pattern. Hanover’s Ground Finish provides a smooth surface revealing the aggregates beneath. Custom color and aggregate blending is available when quantities permit.

The SlateFace® Paver has been designed to reproduce the texture, color and appearance of natural slate. Stocked in Hanover’s BlueStone and Tennessee Flagstone colors, its irregular top surface was developed from actual sections of stone.

The eight standard colors shown are available in a wide range of paver sizes and thicknesses. Custom color blending can be accommodated, as well as, custom aggregate blending. Hanover’s Tudor® Finish is an architectural texture which gives the surface a granite-like appearance. It is a surface equally suited to urban and municipal projects.

Natural color Prest® Pavers have a tendency to vary in color within any given shipment. It may vary in shade from gray/buff to light gray, and even to a darker gray. This variance should be expected and considered normal for the Natural color Prest® Pavers.

PLEASE NOTE: For stability of color, sealing is recommended. Two types of sealers are suggested – Hanover® Intensifying Sealer or Hanover® Natural Sealer.

Hanover® Pavers are also produced in a Tudor® #13 finish which gives a delicate sandstone texture. A few available colors are shown below. Other custom colors can be ordered when quantities permit.

**PLEASE NOTE:** The color photos shown to the left are a representation of possible color blend and texture. The actual product may vary. Hanover’s blended colors consist of several shades and will include some solid and some blended pieces.
The blends shown below were developed by Hanover’s efforts to respond to particular project requirements. Additional custom blending is available on special order when quantities permit. Hanover’s Tudor® finish is a specialized texture designed to reveal the aggregates naturally. It gives the surface a granite-like appearance which adds slip resistant qualities to the paver.

Colors shown are custom colors. Please contact a Hanover® Sales Representative for pricing.

* Colors are available with a Heavy Tudor®, Ground or Ground Tudor® finish only.

PLEASE NOTE: Additional custom blending is available on special order when quantities permit. The color photos shown in this catalog were prepared with great concern for accuracy. However, it is suggested that actual samples be requested before specifying. Due to the natural variance of the raw materials used, pavers can be expected to differ slightly from sample to actual product. It is recommended that the pavers be cleaned after the installation is finished. Please contact our representatives for product suggestions.
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<th>Dimensionally Compatible Prest® Paver Sizes</th>
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<td>Special Size Paver for Pedestrian Urban Application : 32 Lbs/SF</td>
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= Standard Thickness  = SlateFace® Paver Thickness (22 lbs/st)  = Natural Diamond Roof Paver Thickness (23 lbs/st)

**Please Note:** Paver weight at a 2" thickness is 25 lbs/st.

Standard manufactured thickness for pedestrian applications is 2". However, when utilized in urban pedestrian applications, a 2 1/2" thickness is recommended. The additional strength will help to accommodate the unpredictable circumstances and stressful situations that exist in the urban city environment. Contact Hanover® for a full list of paver sizes and their available thicknesses appropriate for the intended use.
Hanover® Prest® Pavers are manufactured by unique methods which duplicate the qualities of natural stone. Hanover® applies over a million pounds of pressure to each unit, fusing the aggregates and stones together. This unique process ensures a paver which is stronger and more durable than a cast or lightweight product. Hanover’s test results show high compressive strength, density, and low water absorption qualities comparable to natural stone.

Unique manufacturing methods provide relative strengths comparative to natural stone. Some mix designs may test lower than shown above due to softer aggregates used for custom blending.

**PREST® PAVER PRODUCT DATA | INSTALLATION GUIDELINES**

Due to limited catalog space, installation specifications have been reduced to brief guidelines. Contact a Hanover® representative for installation recommendations. When reviewing these guidelines, please take the conditions and situations unique to the location and individual project into consideration. Also take into consideration the purpose for which the application was intended.

Commercial applications will require examination of the project requirements and the appropriate Prest® Paver size and thickness. Base preparation, edge restraint and their specifications are also important and must be given consideration. An architect, landscape architect and/or structural engineer should be consulted to develop a specification for the individual project.

**SUGGESTED SETTING BED METHODS FOR PAVER APPLICATIONS (SETTING BED ONLY)**

**ON-GRADE :**
- Bituminous Setting Bed, 3/4” not rolled, maintain 1/8” joint, sand sweep (Gauging of pavers is recommended.)
- Latex Modified Mortar Bed with latex modified grout over concrete slab

**ROOF BALLAST :**
Loose Laid over waterproofing and protection layer

**DECKS AND TERRACES :**
Pavers on Pedestal System over waterproofing and protection layer

Please see back for PEDESTRIAN VS. VEHICULAR USAGE COMPARISON CHART.

For moderate vehicular use, refer to the ARCHITECTURAL PREST® CONCRETE BRICK and/or HANOVER® ASPHALT BLOCK brochures.

**PREST® PAVER PRODUCT DATA | RELATIVE STRENGTHS AT 2” THICKNESS**

- Compressive: 8,500 psi
- Absorption: less than 5%
- Density: 155 lbs./cu. ft.
- Flexural: 1,100 psi
<table>
<thead>
<tr>
<th>PEDESTRIAN VS. VEHICULAR USAGE COMPARISON</th>
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<td><strong>PEDESTRIAN USE</strong></td>
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<td>HANOVER® PRODUCT</td>
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</tr>
<tr>
<td>Olde Hanover®</td>
</tr>
<tr>
<td>Serengeti® 6&quot; x 6&quot; &amp; 6&quot; x 9&quot;</td>
</tr>
<tr>
<td>Serengeti® Mixed</td>
</tr>
<tr>
<td>Serengeti 14&quot; x 14&quot;</td>
</tr>
<tr>
<td>Halifax® Flagstone</td>
</tr>
<tr>
<td>Appian®</td>
</tr>
<tr>
<td>PlankStone®</td>
</tr>
<tr>
<td>Traditional®</td>
</tr>
<tr>
<td>Multisided</td>
</tr>
<tr>
<td>11 3/4&quot; x 11 3/4&quot;</td>
</tr>
</tbody>
</table>

All Prest® Paver sizes are applicable for pedestrian use at a 2" or greater thickness.

<table>
<thead>
<tr>
<th>ASPHALT BLOCK</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot; x 6&quot;, 6&quot; x 6&quot;, 5&quot; x 12&quot;, 6&quot; x 12&quot;, 8&quot; x 8&quot;, 8&quot; Hexagonal</td>
</tr>
<tr>
<td>3D Diamond</td>
</tr>
</tbody>
</table>

* The 11 3/4" x 11 3/4" x 3" Prest® Paver is applicable only in limited vehicular conditions. Please consult the Hanover® Technical Sales Staff for more information.

For vehicular applications, base materials must be engineered with the intended vehicular loading conditions in mind. Please contact our sales team for more information. Hanover® suggests, Prest® Pavers for urban environments have a thickness of 2 1/2". Please Note: Not all sizes/colors are stocked materials. Some are only available through special order and when quantities permit. Not all product styles are available in the full range of thicknesses. Please refer to Hanover’s specific product literature for availability.

PRODUCT INSTALLATION: Each project and site conditions are unique. It is important to contact a Hanover® representative for product details and installation guidelines. An architect, landscape architect, and/or structural engineer should be consulted to develop a specification suited for the individual project. Neither this catalog, nor any of the individual product catalogs from Hanover® Architectural Products, is intended to be a design manual. The projects pictured and the installation suggestions presented in this catalog are only illustrations of Hanover® products. Each application and specification for installation should have the attention of an architect, landscape architect, and/or structural engineer. As product use and site conditions are not within our control, Hanover® does not guarantee results from use of such products or other information herein: no warranty, express or implied is given. As government regulations and use conditions may change, it is the Buyer’s responsibility to determine the appropriateness of these products for the specific end uses.

PLEASE NOTE: The color photos shown in this catalog were prepared with great concern for accuracy. However, it is suggested that actual samples be requested before specifying. Due to the natural variance of the raw materials used, products can be expected to differ slightly from sample to actual product. It is recommended that the products be cleaned after the installation is finished. Please contact our representatives for product suggestions.

Hanover® Architectural Products reserves the right to modify, alter or discontinue the texture, color, content, shape or size of its products or any product line at any time for any reason.

CONTACT US for product details and information. We invite you to call us at 800-426-4242 to discuss your project, visit our web site www.hanoverpavers.com to download current catalogs and more detailed product information, or request our complete product brochures and samples.

©1971-2016 Hanover® Architectural Products

Cover Photo: Estuary at Lincoln Harbor, Weehawken, NJ; Developer: Roseland Property; Landscape Architect: Marchetto Higgins Stevie; Size & Color: 23 7/8" x 23 7/8", Cream, #M1929, #M1704, Finish: Tudor®

Inside Cover Photos
Large Photo: Charter Square, Raleigh, NC; Architect: JDavis Architects; Developer: Dominion Realty Partners; Size & Color: 23 1/2" x 35 3/8", Limestone Gray; Finish: Tudor®
TopRight Photo: The Avenue, Washington, DC; Executive Architect: Hickok Cole Architects; Landscape Architect: Sasaki Associates; Design Architect: Pelli Clark Pelli Architects; Size & Color: Various Sizes, #M2296, #M115, Limestone Gray; Finish: Tudor®

AMERICAN OWNED
AMERICAN MADE

Hanover® Architectural Products
5000 Hanover Road, Hanover, PA 17331
717.637.0500 • fax 717.637.7145
www.hanoverpavers.com

ARCH-2016
The application of an elevated paver system provides the designer with new possibilities and advantages. Hanover® Pavers are offered in both a standard color range (see pages 44 and 45) and custom aggregate blends. Striping, banding and paving patterns are just a few of the design capabilities made possible by mixing various paver colors, sizes and finishes. A textured Tudor® finish provides slip resistant properties. Safer than gravel ballast, Hanover® Pavers make roofs and plazas safe for pedestrians and simplify repairs.

By elevating the pavers, water is channeled away from the surface. Roof Pavers allow easy access to the roof and waterproofing system for repairs or standard maintenance procedures. Whether your project is a roof, deck, plaza or terrace, Hanover® Roof Pavers are serviceable, functional and attractive.
HANOVER® ROCKCURB® FOR ROOF APPLICATIONS

Hanover® RockCurb® is an integral part of green building projects, helping to earn SS Credits and achieve LEED points. Working with green roof assemblies to provide environmental benefits and aesthetically appealing rooftop gardens, RockCurb® can be used to separate green areas from hardscaped areas.

DRainage PAVERS

Hanover® Drainage Pavers are available upon request. They can be manufactured with holes or slots depending on the project requirements.
For years, designers have been searching for an ADA compliant handrail that delivers ANSI compliant illuminance levels.

luxrail™
luxrail™ is an LED-based illuminated handrail. This energy efficient, sustainable solution finally addresses the building industry’s need for an ADA compliant handrail that produces ANSI required illumination levels for both interior and exterior stairs, ramps and pedestrian walkways.
**luxrail**

**Application**
ANSI and ADA compliant. luxrail is an outdoor/indoor LED-based handrail that delivers functional illumination. Two intensities may be specified: standard output and high output. The standard light output version delivers luminance levels appropriate for exterior applications (2 footcandles at 65˚ as well as for dark interior environments with low ambient illumination levels (e.g., themed environments, theatres and residential areas). The high output version delivers luminance levels applicable to interior environments – providing in excess of 10 footcandles along the path of egress (ANSI) required for stair treads. Independent photometric test reports and IES Format data are available from www.iolighting.com.

luxrail’s standard handrail gripping surfaces are circular in cross section and meet 2004 ADAAG (Americans with Disability Act Accessibility Guidelines). Patented optical assemblies deliver 10˚, 45˚ and 65˚ beam spreads. The 45˚ and 65˚ beam patterns are most suitable for illuminating pathways, while the 10˚ beam spread offers accent lighting for optional glass or stainless steel cable railing infill. Reference page 44 of this catalog for information regarding infill options. IES ensures that each LED is provided thermal and electrical management properties in accordance with the LED manufacturers recommendations. Projected average rated life is 50,000 hours at 70% of lamp lumen output. Contact factory for IES LM-60 compliance. To ensure proper performance, architectural details should allow for ventilation and air flow around the fixture. Ambient temperature surrounding the fixture shall not exceed 120˚F (48.9˚C).

**Light Output**
Two luminous intensities are available for white light. All values below are initial lumens per foot. IES LM-79 format files may be obtained from the factory or downloaded from www.iolighting.com.

<table>
<thead>
<tr>
<th>Beam Spread</th>
<th>Standard Output</th>
<th>High Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>10˚</td>
<td>40 lms/ft</td>
<td>180 lms/ft</td>
</tr>
<tr>
<td>45˚</td>
<td>36 lms/ft</td>
<td>180 lms/ft</td>
</tr>
<tr>
<td>65˚</td>
<td>24 lms/ft</td>
<td>100 lms/ft</td>
</tr>
</tbody>
</table>

**Construction**
luxrail may be post mounted or wall mounted. Mounting hardware (post or wall) is typically required up to 5’ O.C., depending on the handrail alloy. Post final and wall bracket spacing must be determined by a licensed architect or structural engineer. IES can provide engineering upon request. luxrail is available in stainless steel and aluminium. Grab bars are available in aluminium only. The lighting fixture component of the luxrail is a stand alone unit and is available in incremental nominal lengths that range from 6” to 60”. Vandal resistant access chamber allows units to be removed for maintenance purposes.

All handrail component parts are engineered for quick installation. Field welding or cutting is typically not required. All parts are prefabricated to field dimensions and are assembled in the field with mechanical connection or epoxy. Contact IES Lighting for recommended handrail installers.

The light fixture’s housing is made of a light weight, yet durable aluminum, providing the recommended heat sink requirements for the LEDs. Housing, patented optical assembly and stainless steel end caps are bonded to prevent water infiltration.

**Electrical**
luxrail houses a low voltage LED-based light fixture that is integrated into the underside of the handrail. 24 volt 96 watt power supplies are provided as a standard. For detailed information regarding dasi chain limitations, remote distance limitations, power supply options, and dimming options consult the IES website, the IES catalog (pages 98-100) or an IES representative.

Dimming modules must be specified separately. For detailed information, see page 8 of this brochure or download the power supply specification sheet from www.iolighting.com.

**Power Consumption**
Standard Output: 1.44 w/ft        High Output: 7.02 w/ft

Power consumption does not include power supply losses.

**Wall Mount Details**
22 AWG, 300v power cord

**LED Product Lighting Facts**

<table>
<thead>
<tr>
<th>Light Output / Distributions</th>
<th>Mounting / Infill Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Output: 1.44 w/ft</td>
<td>PM (post mounted)</td>
</tr>
<tr>
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<td>WM (wall or guard rail mounted)</td>
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**Light Color**

<table>
<thead>
<tr>
<th>Light Color</th>
<th>Nominal CCT</th>
<th>Target CCT &amp; Tolerance (K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cool White</td>
<td>5000K</td>
<td>5028 ± 283</td>
</tr>
<tr>
<td>Warm White</td>
<td>3000K</td>
<td>3045 ± 175</td>
</tr>
<tr>
<td>Warm White</td>
<td>2700K</td>
<td>2725 ± 145</td>
</tr>
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</table>

**LEDs**

<table>
<thead>
<tr>
<th>LED Type</th>
<th>Color</th>
<th>CCT</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luxrail</td>
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**Power Supply**

- Each handrail application will be custom to accommodate existing field conditions and design requirements. Dimensions will be per request to manage performance to specific handrail section.
- While light output between LEDs with a single fixture will not exceed ANSI LM-79 Standards.
- Magnetic ballast may be used.
- 3000K for typical applications.
- 2700K for warm applications.
- Power supply must be selected to provide proper lumen output and color temperature.

**Mounting**

- PM (post mounted) 22 AWG, 300v power cord
- WM (wall or guard rail mounted) Power cord for secondary feed.

**Wall Output**

- 753 Whs / 360 Lumens / 10 Degree
- 360 Lumens / 45 Degree
- 450 Lumens / 65 Degree

**Lighting Facts for additional beam spreads**

- Beam spread in fixture with a 65˚ fixture with a 65˚ beam spread.

**Label references**

- Glass infill with a 65˚ beam spread in high output fixture for additional beam spreads.

**High Output 3000K**

Lighting Facts for additional beam spreads

- 30” fixture with a 65˚ beam spread.

- LED Product Lighting Facts

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- While light output between LEDs with a single fixture will not exceed ANSI LM-79 Standards.
- Magnetic ballast may be used.
- 3000K for typical applications.
- 2700K for warm applications.
- Power supply must be selected to provide proper lumen output and color temperature.

**Mounting**

- PM (post mounted) 22 AWG, 300v power cord
- WM (wall or guard rail mounted) Power cord for secondary feed.
Wall Mount Handrail Options

STAIRS
Stair handrail wall returns may be specified with a 12” extension. ie requires field verified “horizontal” and “diagonal” stair dimensions in order to generate shop drawings. Additional field dimensions may be required depending on the complexity of the handrail design.

Ramps
Ramp handrail wall returns may be specified with a 12” extension. ie requires field verified “horizontal” and “diagonal” ramp dimensions in order to generate shop drawings. Additional field dimensions may be required depending on the complexity of the handrail design.

Post Mount Options
Posts are chosen to match or complement your handrail selection. Posts are spaced between 4’ and 5’ on-center depending on specified size and alloy. Posts may be surface mounted or embedded below concrete surface and set with quick-setting grout by contractor. Base plates are optional.

ADA Compliant Return Options
Return to Walking Surface

Return to Post
Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1 1/4” (32mm) minimum and 2” (51mm) maximum.

The following references are taken from the 2004 Americans with Disabilities Act Accessibility Guidelines.

**Length Options**

Standard grab bar lengths may be ordered available in nominal lengths of 2’, 3’, 4’, and 5’.

**Custom luxrail grab bar lengths can be specified to accommodate all ADA Compliant applications**

**Handrail Dimensions**

The following references are taken from the 2004 Americans with Disabilities Act Accessibility Guidelines.

**505.7.1 CIRCULAR CROSS SECTION**

Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1 1/4” (32mm) minimum and 2” (51mm) maximum.
Electrical

luxrail integrates a low voltage LED-based linear light fixture within the handrail. luxrail requires a power supply to transform and regulate the voltage. This power supply is called a “driver.”

The luxrail requires that the 24v driver be remotely located. The driver must be housed in an enclosure that is rated for use in both interior and exterior applications. luxrail utilizes a compact electronic driver which is protected against open circuit, short circuit, overload and overheating conditions. It is UL recognized and FCC compliant.

Secondary Feed
Routed through
Wall Bracket
22 AWG, 300 Volt
Power Cord
Driver with Enclosure
Wall Mount Bracket
Infill Options
io Luxrail
LED Fixture
22 AWG, 300 Volt Power Cord

Key Features
- Recommended for long continuous runs
- Suitable for dry, damp and wet locations
- Built in wiring compartments for easy installation
- Built-in EMI Filter for low noise

Specifications
Location: Wet IP65
Output Voltage: 24v DC
Output Power: 200w
Input Voltage: 90 to 264 VAC
Frequency: 47 to 63 Hz
Ambient Temp: -20°C to +50°C
Weight: 6.61 lbs
Dimming: Yes w/ 250IOXFDIM.
Requires one dimming module for each channel.

Infill Options

When a handrail is installed on ramps, stairs or landings 50” above finished floor – it is referred to as a “guardrail.” Guardrails provide guidance, while guardrails prevent accidental falls. Guardrails have opening limitations. The most common requirement is that no opening be large enough to allow a 4” sphere to pass. luxrail has two infill options to address this requirement: stainless steel cable and glass. Stainless steel cable and glass are supplied by others, and all required hardware are supplied with system. For glass infill option, panel clips are supplied with system; glass is supplied by others.

Stainless Steel Cable Infill
Stainless steel cable railing system integrates all cable hardware inside the end posts, making it virtually invisible. The cable railing system may only be used with the stainless steel railing frame. Stainless steel railing hardware can be factory swaged or field swaged by the installer. Cable infill is only available for flat surfaces.

Glass Infill
Panel clips are used to support 1/4” or 1/2” tempered glass infill panels. Glass is supplied by others.

200-Watt Driver
Io PART#: DR200AM

Key Features
- Integrated dimming available
- Suitable for dry, damp and wet locations
- Locations with an adequate end plate and connectors
- Built in wiring compartments for easy installation

Specifications
Location: Wet IP65
Output Voltage: 24v DC
Output Power: 200w
Input Voltage: 90 to 264 VAC
Frequency: 47 to 63 Hz
Ambient Temp: -30°C to +70°C
Dimming: Integrated Available

20-Watt Driver
Io PART#: DR200S

Key Features
- Small enclosure size
- Light weight, low profile
- Short circuit and overload protection
- Low power supply losses

Specifications
Location: Dry
Output Voltage: 24v DC
Output Power: 20w
Input Voltage: 120 to 240 VAC
Frequency: 50 to 60 Hz
Ambient Temp: -20°C to +50°C
Weight: .21 lbs
Dimming: Yes w/ 250IOXFDIM

96-Watt Driver
Without Dimming Option
Io PART#: DR96MGD

Specifications
Location: Wet IP66
Output Voltage: 24v DC
Output Power: 96w
Input Voltage: 100 to 277 VAC
Frequency: 47 to 63 Hz
Ambient Temp: -30°C to +70°C
Dimming: Integrated Available

60-Watt Driver
Without Dimming Option
Io PART#: DR60MGD

Specifications
Location: Wet IP66
Output Voltage: 24v DC
Output Power: 60w
Input Voltage: 90 to 264 VAC
Frequency: 47 to 63 Hz
Ambient Temp: -30°C to +70°C
Dimming: Integrated Available

io Lighting 1100 Busch Pkwy Buffalo Grove, IL 60089 847.777.3900 847.777.3901 info@iolighting.com
**Accessibility Code References**

- ICC: International Code Council
- BOCA: Building Officials Code Administration
- ICBO: International Conference of Building Officials
- SBCCI: Southern Building Code Congress
- IBC: International Building Code
- IRC: International Residential Code

Prior to 2000, BOCA, SBCCI and ICBO each prepared their own model codes that were regionally applied. In 1999, these three organizations merged to form the International Code Council (ICC).

In 2000, the ICC published the National Building Code (IBC) and the International Residential Code (IRC). The IRC and the IBC model codes have since been adopted by states throughout the U.S.

**ILLUMINANCE LEVEL REQUIREMENTS**

- **IBC:** 1 footcandle for means of egress for emergency lighting.
- **IRC:** Light level not specified.
- **ANSI A117:** Stairways shall have 10 footcandles measured at the center of the tread surface and on landing surfaces within 24" of step nosing.

**ACCESSIBILITY GUIDELINES**

- **Two references:**
  1. ICC/ANSI A117: Accessible And Usable Buildings & Facilities
  2. The Americans with Disabilities Act Accessibility Guidelines (ADAAG)

  Note: ADA is a civil rights law – it is not a building code. However, the ADAAG has been incorporated into many state and local building codes.

---

**Sustainability**

**io Recommends Aluminum**

**GREEN**

Aluminum is one of the most sustainable materials on earth. Making up 8% of the Earth’s crust, Aluminum is one of the most plentiful elements and most preferred building material because it can be indefinitely recycled without loss of properties or quality.

**DURABLE**

Aluminum generates a protective oxide coating which makes it naturally corrosion resistant, weather proof and immune to harmful effects of UV rays. Requiring little to no maintenance, Aluminum does not absorb moisture and is saltwater resistant. It will not rust, rot, swell, warp, twist, split or crack.

**ROBUST**

Aluminum is about one-third the weight of steel yet its tensile strength is perfect for handrails, curtain walls, window frames, wall framing systems and solar shading.

**LEED**

Although recycled material percentages constantly change, approximately 25% of io’s aluminum handrail comes from recycled pre-consumer aluminum.

**FINISH**

Aluminum can be anodized or painted in any color. Some surface finishes can offer increased durability and corrosion resistance. Consult io Lighting for details.

---

**ANSI Compliant Illumination Levels**

- **Bo HANDRAILS PROVIDE GUIDANCE**
  - Handrails are located between 34" and 38" above stair nosings or ramp surfaces and have dimensional limitations for graspability. In areas where children are the principal users (e.g., elementary schools), the ADAAG recommends a second set of handrails be located at 28" above stair nosings or ramp surfaces.

- **Reference:** IBC 2000, ANSI A117.1, ADAAG

- **GUARDRAILS PREVENT ACCIDENTAL FALLS**
  - Guardrails are generally required for ramps, stairs or landings above 36". The height will vary depending on local codes. The IRC requires guardrails to be 42" in height. If a 42" guardrail is called for on a stair or ramp, it will require a handrail at a height of between 34" and 38".
  - The IRC requires 36" high guardrails for porches, balconies, and raised floor surfaces. A guard’s top rail does not have to meet the requirements for graspability if a handrail is in place.
The Specification Process

**luxrail** crosses into two separate sections of the architectural specification – both as railings which is listed in the “Miscellaneous Metals” section and as lighting which is listed in the “Electrical” section. As such, it requires two different trades for installation: an experienced handrail installer and a licensed electrician. It is important that contractors understand that **luxrail** must be bid on and installed by two separate trades to ensure accurate labor estimates. On some projects, architects have created an entirely new and separate section of the specification package for **luxrail**, spelling out exactly how the bidding and installation need to be handled.

When requesting a quote for **luxrail**, fully dimensioned plan and elevation drawings of each individual railing section are required. Stair and ramp elevations can be found in the Architectural details. Exterior railing locations and elevations are usually shown in the Landscape plans and details. The elevations illustrate the required style, size and features of each railing. The plan views show the location, length and quantity of rails needed. The lighting fixture schedule should also be provided as it lists the desired light output, color and distribution. From these project specific details a customized quotation is created.

After an order is placed, detailed submittal drawings are prepared and sent to the customer for approval. The submittals must be reviewed for compliance with site conditions, conformance with lighting specification and fulfillment of the electrical power requirements. This may require review by several parties.

The lead-time on **luxrail** fixtures begins once the signed approval drawings have been returned. Once approved, **luxrail** is custom fabricated to the exact project details and specifications as illustrated in the approvals.

Submittals should be reviewed with three objectives in mind:

1. The handrail drawings must be reviewed for compliance to site conditions. Finished stair and ramp dimensions usually vary from the architectural plans. For this reason, actual field dimensions must be used when reviewing the submittals. This portion of the review is typically done by the handrail installer. Contact io Lighting for approved luxrail installers.

2. The LED fixture counts and run lengths must be reviewed to verify that adequate power is provided to each railing and that all remote driver restrictions have been met. This portion of the review is typically done by the electrical contractor.

3. The **luxrail** catalog code must be reviewed for compliance to the lighting specifications. The light output, beam spread and distribution should be verified. This portion of the review is typically done by the lighting designer.

io has a dedicated team for luxrail projects. Let us help you from design through installation.
May 17, 2018

Mr. Dale Houseknecht  
Asbestos Project Coordinator  
Project Services Group  
Cornell University  
119A Humphreys Service Building  
Ithaca, New York 14853

RE: Olin Library – Facility Code 2047  
Terrace Renewal Project  
Work Order 10780025  
Targeted Asbestos Testing Letter Report

Dear Mr. Houseknecht:

Watts Architecture & Engineering (Watts) was retained by Cornell University Facilities Management to perform testing for asbestos-containing materials (ACM) that may be disturbed as part of the Olin Library Terrace Renewal project at Olin Library and the stairs to Ho Plaza located at 161 Ho Plaza on the Cornell University campus in Ithaca, New York. The project will include replacement of the low roof on the Olin Library terrace; repairs to the stairs to Ho Plaza; and renovations to guard rails; possible repairs to retaining walls; and light posts on the terrace.

This letter report contains Watts’ observations and the results of analytical testing of bulk samples collected by Watts’ personnel. The field work was conducted on May 11, 2018. The field work included the following:

- A visual site inspection to identify suspect ACM within project limits.
- Collection and laboratory analysis for asbestos content of samples from identified suspect materials.
- Documentation of sample locations on a sample location drawing and a chain-of-custody form; and
- Photographs.

**ASBESTOS-CONTAINING MATERIALS**

The inspection included the collection of thirty-seven (37) bulk samples to represent homogeneous materials identified as suspect asbestos-containing material (ACM). ACM is defined as any material containing more than one percent (1%) of asbestos.

Based on the laboratory analysis and visual observations, the following ACM has been identified that will be disturbed by the Olin Library Terrace Renewal project:

- **Exterior door frame caulk, Olin Library second floor northwest elevation.** The caulk was observed at the perimeter of the northwest door leading to the plaza as a bead approximately 1/8” wide. The door frame was approximately seven feet long, with a perimeter approximately 168” with 0.15 square foot of caulk. The caulk was considered to be non-friable and observed to be in fair condition.
• **Exterior caulk along the perimeter of exterior metal panels on the Olin Library second floor.** The caulk was observed around the perimeter of each metal panel above the gravel terrace level. The caulk was a bead approximately 1/8” wide. Each panel was approximately seven feet long with the caulk on the edges with approximately 168” (0.15 square foot) of caulk per panel. There are approximately 30 panels on the second floor level (11 panels on the north and south elevations and four panels on the west and east elevations) with a total of approximately 4.5 square feet of caulk on the exterior. The exterior caulk around the second floor panels was considered to be non-friable and was observed to be in fair condition.

### NON-ASBESTOS CONTAINING MATERIALS

The following materials that may be disturbed by the Olin Library Terrace Renewal project, steps to Ho Plaza and observed on the Olin Library exterior were sampled by Watts’ personnel and were determined to be non-ACM:

- Plaza level white membrane beneath gravel ballast and on 2.5” of foam insulation.
- Geotextile fabric on the plaza level white membrane and beneath gravel ballast and pavers.
- Black tar and fabric vapor barrier on the plaza concrete deck and beneath foam insulation.
- Caulk at the base of guard rails on the plaza and raised terrace north of Olin Library.
- Caulk at the base of light poles on the plaza and by the raised terrace north of Olin Library.
- White caulk on the stairs to the raised terrace north of Olin Library.
- Black coating on the concrete base to the raised terrace north of Olin Library.
- White caulk on the concrete base to the raised terrace north of Olin Library.
- Black membrane on the sides of the raised terrace north of Olin Library.
- Soft gray caulk on metal panels adjacent to the Olin Library second floor northwest door to plaza.
- Soft white caulk on the top of metal counterflashings at the base of stairs west of the raised terrace on the plaza north of Olin Library.
- Black tar at the base of the stair bottom treads west side stairs to Ho Plaza.
- Black tar and fabric waterproofing on the Olin Library foundation beneath stairs to Ho Plaza.
- Light gray capstone caulk on retaining walls plaza level by the north raised terrace.
- Soft black caulk along the base of copper flashing at the base of the Olin Library second floor level at the plaza level.
- White caulk on copper flashing along the base of the Olin Library second floor level abutting pavers on the plaza level.
This section includes information on all suspect ACM sampled including the following: the homogeneous materials identified, their corresponding sample numbers, analytical results and whether or not they are ACM.

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Sample Location</th>
<th>Type</th>
<th>Sample Number</th>
<th>Results (% Asbestos)</th>
<th>ACM</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Membrane Beneath Gravel Ballast and On 2.5” Foam Insulation</td>
<td>Core 1 Northeast Gravel Area East of North Raised Terrace</td>
<td></td>
<td>1801417-01</td>
<td>ND</td>
<td>N</td>
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<tr>
<td></td>
<td>Core 2 Northeast Gravel Area Southeast of North Raised Terrace</td>
<td></td>
<td>1801417-02</td>
<td>ND</td>
<td>N</td>
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<tr>
<td>Geotextile Fabric on White Membrane</td>
<td>Core 1 Northeast Gravel Area East of North Raised Terrace Beneath Gravel Ballast</td>
<td></td>
<td>1801417-03</td>
<td>ND</td>
<td>N</td>
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<td></td>
<td>Core 3 Beneath Concrete Pavers East Sidewalk to Raised Terrace North of Library</td>
<td></td>
<td>1801417-04</td>
<td>ND</td>
<td>N</td>
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<tr>
<td>Black Tar and Fabric Vapor Barrier on Concrete Deck and Beneath Foam Insulation</td>
<td>Core 1 Northeast Gravel Area East of North Raised Terrace</td>
<td></td>
<td>1801417-05</td>
<td>ND</td>
<td>N</td>
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<tr>
<td></td>
<td>Core 2 Northeast Gravel Area Southeast of North Raised Terrace</td>
<td></td>
<td>1801417-06</td>
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<td></td>
<td>Core 3 Beneath Concrete Pavers East Sidewalk to Raised Terrace North of Library</td>
<td></td>
<td>1801417-07</td>
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<tr>
<td>Gray Caulk at Base of Guard Rails</td>
<td>North Guard Rail East of the North Raised Terrace</td>
<td></td>
<td>1801417-08</td>
<td>ND</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>South Guard Rail East of the North Raised Terrace</td>
<td></td>
<td>1801417-09</td>
<td>ND</td>
<td>N</td>
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<tr>
<td>Caulk at the Base of Light Poles</td>
<td>Light Pole Northeast of East Stairs North Raised Terrace</td>
<td></td>
<td>1801417-10</td>
<td>ND</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Light Pole Northwest of West Stairs to North Raised Terrace</td>
<td></td>
<td>1801417-11</td>
<td>ND</td>
<td>N</td>
</tr>
<tr>
<td>Material Description</td>
<td>Sample Location</td>
<td>Type</td>
<td>Sample Number</td>
<td>Results (% Asbestos)</td>
<td>ACM</td>
</tr>
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</tr>
<tr>
<td>White Caulk on the North Terrace Stairs</td>
<td>Bottom of East Stairs to the North Raised Terrace</td>
<td>M</td>
<td>1801417-12</td>
<td>ND</td>
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</tr>
<tr>
<td></td>
<td>Between Pavers on the Top of the North Raised Terrace North of Library</td>
<td></td>
<td>1801417-13</td>
<td>ND</td>
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<tr>
<td>Black Coating on the Concrete Base of the North Raised Terrace</td>
<td>South Side of the North Raised Terrace, Center Area by a PVC Drain</td>
<td>M</td>
<td>1801417-14</td>
<td>NAD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>South Side of the North Raised Terrace, Southwest Corner Area</td>
<td></td>
<td>1801417-15</td>
<td>ND</td>
<td></td>
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<tr>
<td>White Caulk on the Concrete Base of the North Raised Terrace</td>
<td>South Side of the North Raised Terrace, Center Area by a PVC Drain</td>
<td>M</td>
<td>1801417-16</td>
<td>ND</td>
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<tr>
<td></td>
<td>South Side of the North Raised Terrace, Southwest Corner Area</td>
<td></td>
<td>1801417-17</td>
<td>ND</td>
<td></td>
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<tr>
<td>Black Membrane on the Sides of the North Raised Terrace</td>
<td>Base of East Stairs to the North Raised Terrace Northeast Corner North of Library</td>
<td>M</td>
<td>1801417-18</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td></td>
<td>South Center Side of the North Raised Terrace North of Library</td>
<td></td>
<td>1801417-19</td>
<td>ND</td>
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<tr>
<td>Hard Yellow Exterior Door Frame Caulk</td>
<td>Olin Library Second Floor North Side Northwest Door Between Door Frame and Metal Panel West Side</td>
<td>M</td>
<td>1801417-20</td>
<td>1.5% Chrysotile</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>Olin Library Second Floor North Side Northwest Door Between Door Frame and Metal Panel East Side</td>
<td></td>
<td>1801417-21</td>
<td>NA/PS</td>
<td>NA</td>
</tr>
<tr>
<td>Material Description</td>
<td>Sample Location</td>
<td>Type</td>
<td>Sample Number</td>
<td>Results (% Asbestos)</td>
<td>ACM</td>
</tr>
<tr>
<td>----------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Soft Gray Caulk on Panel Adjacent to Door Frame</td>
<td>Olin Library Second Floor North Side Northwest Door Perimeter of Panel West of Doorway</td>
<td>M</td>
<td>1801417-22</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1801417-23</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>Soft White Caulk Top of Metal Counter Flashing at Base of West Stairs</td>
<td>Top of Metal Counter Flashing West of Stairs to the Raised Terrace North of Library, Northeast Corner</td>
<td>M</td>
<td>1801417-24</td>
<td>ND</td>
<td>ND</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>1801417-25</td>
<td>ND</td>
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<tr>
<td>Black Tar Base of Bottom Tread West Side Stairs to Ho Plaza</td>
<td>Base of Bottom Tread Stairs West of Olin Library to Ho Plaza</td>
<td>M</td>
<td>1801417-26</td>
<td>ND</td>
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<td></td>
<td></td>
<td></td>
<td>1801417-27</td>
<td>ND</td>
<td>ND</td>
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<tr>
<td>Black Tar and Fabric Waterproofing on Olin Library West Foundation</td>
<td>West Side of Olin Library Foundation Northwest Area Below Stairs to Ho Plaza</td>
<td>M</td>
<td>1801417-28</td>
<td>ND</td>
<td>ND</td>
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<td></td>
<td></td>
<td></td>
<td>1801417-29</td>
<td>ND</td>
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<tr>
<td>Light Gray Capstone Caulk Retaining Walls</td>
<td>West End of the Retaining Wall West of the Plaza by North Raised Terrace Northeast Corner of the Retaining Wall East of the Plaza by Raised Terrace</td>
<td>M</td>
<td>1801417-30</td>
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<td></td>
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<td>1801417-31</td>
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<tr>
<td>Soft Black Caulk Along the Base of Copper Flashing Base of Olin Library Walls</td>
<td>Olin Library Second Floor North Wall Northeast Corner Above Gravel Plaza Level</td>
<td>M</td>
<td>1801417-32</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1801417-33</td>
<td>ND</td>
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</tbody>
</table>
Bulk samples were delivered with the chain-of-custody form to EMSL Analytical, Inc. (EMSL) in Depew, NY. EMSL is a New York State accredited laboratory that is a participant in the Environmental Laboratory Approval Program (ELAP) and National Voluntary Laboratory Approval Program (NVLAP). Friable materials were analyzed using Polarized Light Microscopy (PLM) using Method 198.1. Non-friable organically bound (NOB) materials underwent gravimetric reduction prior to being analyzed by Polarized Light Microscopy (PLM) Method 198.6. In addition, if NOB samples were negative by PLM, they were further analyzed by Transmission Electron Microscopy (TEM) Method 198.4.

**Observations/Recommendations**

The plaza level extends around all sides of Olin Library at the second floor level. The concrete deck, non-asbestos vapor barrier, foam insulation and white membrane beneath gravel ballast and pavers are consistent on all sides.

Asbestos-containing hard caulk was observed on the edges of all metal panels on Olin Library along the second floor level above the plaza level. A total of approximately 30 metal panels with asbestos-containing caulk were observed on the building exterior second floor level.

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Sample Location</th>
<th>Type</th>
<th>Sample Number</th>
<th>Results (% Asbestos)</th>
<th>ACM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Yellow Exterior Caulk Perimeter of Exterior Panels</td>
<td>Olin Library Second Floor North Wall Northeast Corner Panel</td>
<td>M</td>
<td>1801417-34</td>
<td>1.5% Chrysotile</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>1801417-35</td>
<td>NA/PS</td>
<td>NA</td>
</tr>
<tr>
<td>White Caulk on Copper Flashing Base of Wall Abutting Pavers</td>
<td>Olin Library Second Floor East Wall Northeast Corner at Stone pavers</td>
<td>M</td>
<td>1801417-36</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>1801417-37</td>
<td>ND</td>
<td>ND</td>
</tr>
</tbody>
</table>

ND = None Detected  
Y = Yes  
S = Surfacing  
NA = Not Analyzed  
N = No  
T = Thermal System Insulation  
NA/PS = Not Analyzed/Positive Stop  
M = Miscellaneous
Photo 1: View of the plaza north of Olin Library. View is looking to the west at the raised terrace. The first floor level of Olin Library extends beneath the plaza. The location of test core 3 is at the removed paver in the plaza.

Photo 2: View of test core 2 placed on the north plaza northeast of Olin Library. No asbestos was detected in samples collected from the plaza test cores.
Photo 3: View of the black asphalt and fabric vapor barrier on the concrete deck beneath gravel ballast at test core 1 on the plaza level. No asbestos was detected in samples of the vapor barrier on the concrete deck (arrow).

Photo 4: View of light poles and guard rails on the north raised terrace north of Olin Library. No asbestos was detected in samples of caulk at the base of guard rails or light poles.
Photo 5: Looking east at the base of the raised terrace on the plaza north of Olin Library. No asbestos was detected in samples of tar, caulk or fabric on the sides of the raised terrace or between retaining wall capstones.

Photo 6: View of the steps to Ho Plaza west of the north plaza and west of Olin Library. No asbestos was detected in tar samples collected at the base of the steps.
Photo 7: View of a section of damaged foundation at the northwest corner of Olin Library on the west elevation. No asbestos was detected in samples of the black coating on the foundation at this location (arrow).

Photo 8: View of the Olin Library second floor plaza northwest doorway. The hard caulk at the perimeter of the door frame abutting the adjacent metal panels was determined to be an asbestos-containing material (arrow).
Photo 9: View of the Olin Library second floor east elevation at the plaza level. Hard caulk between metal panels along the second floor exterior was determined to be an asbestos-containing material (arrow).

The sample location drawing, laboratory report, chain-of-custody form, laboratory accreditations and Watts’ license and certifications are attached. Should you have any questions or need additional information, please contact me at (716) 206-5142.

Sincerely,

WATTS ARCHITECTURE & ENGINEERING

Edward J. Jones
Environmental Consultant

Attachments
SUMMARY OF FIRST CUTS:

1. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS.

RC-#01, #05:
- Loose laid #2 & #3 rounded stones and filter fabric, over
- 0.060" PVC (polyvinyl chloride) single ply roof membrane over,
- 2-1/2" expanded polystyrene insulation (60PSI), over,
- 2-ply asphaltic vapor retarder mopped to a sloped lightweight concrete fill.

RC-#02, #04, #06:
- Loose laid #2 & #3 rounded stones and filter fabric, over
- 0.060" PVC (polyvinyl chloride) single ply roof membrane over,
- 2-1/2" expanded polystyrene insulation (60PSI), over,
- 1" perlite board, over
- 120 mil asphaltic membrane, over
- 2-1/2" polyisocyanurate insulation, over
- 1-1/2" metal deck.

RC-#03:
- Loose laid #2 & #3 rounded stones and filter fabric, over
- 2-1/2" expanded polystyrene insulation (60PSI) and filter fabric, over,
- 0.060" PVC (polyvinyl chloride) single ply roof membrane over,
- Slip sheet fabric, over
- 2-ply asphaltic vapor retarder, over
- Sloped concrete deck.

RC-#07:
- 2'x2' concrete pavers supported on plastic bases, over
- 2-ply modified bitumen membrane, over
- Concrete deck.
12'-6"  10'-1"  9'-3"  9'-3"  9'-3"  9'-10'  11'-2"

RECONSTRUCT AND RECONFIGURE STONE MASONRY WALL AND CAPSTONE

NEW WALKWAY OPENING IN MASONRY WALL

EGRESS DOOR

REMOVE STONE MASONRY WALL AND COPING FOR ACCESS TO THE MEMBRANE FLASHING
**Property Information**

<table>
<thead>
<tr>
<th>Address:</th>
<th>161 Ho Plaza</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historic Name:</td>
<td>Olin Library</td>
</tr>
<tr>
<td>Owner:</td>
<td>Cornell University</td>
</tr>
<tr>
<td></td>
<td>2B07 Uris Library Dock</td>
</tr>
<tr>
<td></td>
<td>Central Ave.</td>
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<tr>
<td></td>
<td>Ithaca, NY 14853</td>
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<tr>
<td>Year Purchased:</td>
<td>NA</td>
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<tr>
<td>Date of Construction:</td>
<td>1960</td>
</tr>
<tr>
<td>Historic District/Individual Landmark:</td>
<td>Cornell Arts Quad Historic District</td>
</tr>
<tr>
<td>Period of Significance:</td>
<td>1868-1919</td>
</tr>
<tr>
<td>Local Designation:</td>
<td>1990</td>
</tr>
<tr>
<td>State and National Register Listings:</td>
<td>N/A</td>
</tr>
<tr>
<td>Significance:</td>
<td>N/A</td>
</tr>
<tr>
<td>Resources:</td>
<td>Library (NC)</td>
</tr>
<tr>
<td>Historic Structure Inventory Form</td>
<td>Attached; see notes below</td>
</tr>
<tr>
<td>Incentive Programs:</td>
<td>□ Local Property Tax Exemption</td>
</tr>
<tr>
<td></td>
<td>□ State Homeowner Tax Credit:</td>
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<tr>
<td></td>
<td>□ State Commercial Tax Credit:</td>
</tr>
<tr>
<td></td>
<td>□ Federal Commercial Tax Credit:</td>
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</tbody>
</table>
A. Project Description

The applicant proposes the replacement of the roofing materials on Olin Library’s single-story plinth. Roof replacement includes removing the loose stone ballast and underlying roof membrane and installing a modified bitumen roof membrane with a flood coat and gravel finished surface. The applicant also proposes the following: the replacement of the west stairs from the roof area to Ho Plaza, with changes in their structural systems and visual properties; the replacement of hand and guard rails at all stairs with changes in design; installation of guardrails along the pedestrian path of travel on the terrace level roof; and installation of an ADA accessible ramp on the east side of the terrace-level podium.

B. Location

The library is located on the southern end of the Cornell Arts Quad between Uris Library and Stimson Hall. The project will impact all elevations but the most visible alteration will occur on the north façade, with is highly visible from the Cornell Arts Quad.

C. Historic Structure Inventory Form Notes:

The library was constructed in 1960 and is considered a non-contributing resource in the Cornell Arts Quad Historic District. Designed by the architecture firm of Warner, Burns, Toan, and Lunde, the building reflects the high visual and material quality of the contributing buildings within the Cornell Arts Quad Historic District. The rusticated, random ashlar base replicates the wall treatment of Boardman Hall (demolished, 1958) and complements the stonework of Stimson Hall and Uris Library; the design of the lead-coated copper mansard roof echoes the roof cladding of McGraw Tower; and the regularized and vertically oriented fenestration reflects the traditional configuration and proportions of windows in the surrounding historic buildings.

C. Other Relevant Information

The architect-designed Olin Library is now over fifty years old and is likely eligible for individual local landmark designation and listing on the State and National Registers of Historic Places as an outstanding example of Mid-20th-Century Brutalist architecture and the work of a noted architecture firm, Warner, Burns, Toan, and Lunde.

E. Staff Photographs of Existing Conditions and Site Map (attached)

Staff photographs are not available for this project.

F. Evaluation/Review Criteria

Standards and Principles

Standard #9  New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
City of Ithaca Historic District and Landmark Design Guidelines
Section: Non-Contributing Structures (p. 103)
“Proposed alterations to a non-contributing structure are evaluated solely for their impact on adjacent historic properties and on the adjacent historic environment as a whole. The proposed alteration may not increase the incompatibility of the non-contributing element with its historic environment.

G. Issues and Considerations

- Intent of the original design: Olin Library was designed to be highly compatible with its historic architectural environment, with its materiality, detailing, size, scale and massing derived from the surrounding historic structures;
- The visual impact of the proposed guardrails and ADA accessible ramp on the Cornell Arts Quad;
- The visibility of the stair stringers;
- The compatibility of replacing masonry stair stringers with metal;
- Evidence of visible metal structural members in the Cornell Arts Quad Historic District;
- The differences in the visual properties of the loose stone ballast and the proposed gravel finish;
BUILDING-STRUCTURE INVENTORY FORM

DIVISION FOR HISTORIC PRESERVATION
NEW YORK STATE PARKS AND RECREATION
ALBANY, NEW YORK (518) 474-0479

YOUR NAME: Mary Donohue

DATE: 9/20/78

YOUR ADDRESS 111 Cascadilla Ave. TELEPHONE: 277-0486

ORGANIZATION (if any): Cornell University

********* IDENTIFICATION *********

1. BUILDING NAME(S): Olin Library

2. COUNTY: Tompkins TOWN/CITY: Ithaca VILLAGE: Ithaca

3. STREET LOCATION: South End of Cornell Arts Quadrangle

4. OWNERSHIP:  a. public b. private

5. PRESENT OWNER: Cornell University ADDRESS: Ithaca, NY

6. USE: Original Library Present: Library

7. ACCESSIBILITY TO PUBLIC: Exterior visible from public road: Yes No

Interior accessible: Explain Yes=Library

********* DESCRIPTION *********

8. BUILDING MATERIAL: a. clapboard b. stone c. brick d. board and batten

  e. cobblestone f. shingles g. stucco h. other: concrete

9. STRUCTURAL SYSTEM: a. wood frame with interlocking joints

  b. wood frame with light members

  c. masonry load bearing walls

  d. metal (explain): steel

  e. other

10. CONDITION: a. excellent b. good c. fair d. deteriorated

11. INTEGRITY: a. original site b. moved if so, when?

  c. list major alterations and dates (if known):

12. PHOTO:
14. THREATS TO BUILDING:  a. none known [x]  b. zoning  c. roads
    d. developers  e. deterioration
    f. other:

15. RELATED OUTBUILDINGS AND PROPERTY:
    a. barn  b. carriage house  c. garage
    d. privy  e. shed  f. greenhouse
    g. shop  h. gardens
    i. landscape features:
    j. other:

16. SURROUNDINGS OF THE BUILDING (check more than one if necessary):
    a. open land [x]  b. woodland
    c. scattered buildings [x]
    d. densely built-up  e. commercial
    f. industrial  g. residential
    h. other:

17. INTERRELATIONSHIP OF BUILDING AND SURROUNDINGS:
   (Indicate if building or structure is in an historic district)
   Olin Library is located at the south edge of the Arts Quad between Uris Library on the west and Stimson Hall on the east. It occupies the site of Boardman Hall, designed by William Henry Miller, and intended for the Law School. Boardman Hall featured one of his finest interiors and was demolished in 1958.

18. OTHER NOTABLE FEATURES OF BUILDING AND SITE (including interior features if known):
   This new building makes a concious effort to relate to its neighbors by employing regular fenestration, the same height for the cornice line, a modified mansard roof, and a gray slate roof which has a pattern similar to the one on McGraw Tower of Uris Library.

SIGNIFICANCE
19. DATE OF INITIAL CONSTRUCTION:  Completed 1960

   ARCHITECT:  Warner, Toan, and Lunde

   BUILDER:

20. HISTORICAL AND ARCHITECTURAL IMPORTANCE:

21. SOURCES:

22. THEME:
14. THREATS TO BUILDING:  
   a. none known [X]  
   b. zoning □  
   c. roads □  
   d. developers □  
   e. deterioration □  
   f. other: ________

15. RELATED OUTBUILDINGS AND PROPERTY:  
   a. barn □  
   b. carriage house □  
   c. garage □  
   d. privy □  
   e. shed □  
   f. greenhouse □  
   g. shop □  
   h. gardens □  
   i. landscape features: ________
   j. other: ________

16. SURROUNDINGS OF THE BUILDING (check more than one if necessary):  
   a. open land [X]  
   b. woodland □  
   c. scattered buildings [X]  
   d. densely built-up □  
   e. commercial □  
   f. industrial □  
   g. residential □  
   h. other: ________

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   (Indicate if building or structure is in an historic district)  
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SIGNIFICANCE

19. DATE OF INITIAL CONSTRUCTION: Completed 1960

   ARCHITECT: Warner, Toan, and Lunde

   BUILDER: ________

20. HISTORICAL AND ARCHITECTURAL IMPORTANCE:

21. SOURCES:

22. THEME:
Arts Quadrangle Update, 2/1992
Olin Library
Alterations: Construction currently underway on north-east end of building for connection to the underground Kroch Library.
<table>
<thead>
<tr>
<th>Date</th>
<th>HD or Individual</th>
<th>Address</th>
<th>Scope of Work</th>
<th>BP #</th>
<th>non-CofA</th>
<th>CofA</th>
<th>Inspector</th>
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<tr>
<td>1/2/2018</td>
<td>University Hill</td>
<td>100 Cornell Ave</td>
<td>extended existing northwest fire escape to meet BC requirements; remove escape</td>
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<td>ladders on east and north elevations</td>
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<td>1/9/2018</td>
<td>University Hill</td>
<td>636 Stewart Ave</td>
<td>in-kind garage door replacement</td>
<td>36829</td>
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<tr>
<td>1/13/2018</td>
<td>Individual</td>
<td>13 South Ave</td>
<td>pipe rail installation at a basement entrance</td>
<td>36842</td>
<td>Y</td>
<td>R</td>
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<tr>
<td>2/6/2018</td>
<td>Cornell Heights</td>
<td>102 The Knoll</td>
<td>pipe rail installation on two rear elevation balconies</td>
<td>36910</td>
<td>Y</td>
<td>R</td>
<td>F-dW</td>
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<tr>
<td>2/16/2018</td>
<td>Cornell Heights</td>
<td>504 Thurston Ave</td>
<td>code required improvements to fire escape</td>
<td>36909</td>
<td>Y</td>
<td>R</td>
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<tr>
<td>2/16/2018</td>
<td>Cornell Heights</td>
<td>55 Ridgewood Rd</td>
<td>pipe rail installation on a landscape stair</td>
<td>36911</td>
<td>Y</td>
<td>R</td>
<td>F-dW</td>
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<tr>
<td>2/22/2018</td>
<td>Cornell Heights</td>
<td>112 Edgeciff Pl</td>
<td>bathroom exhaust hood installation</td>
<td>35856</td>
<td>Y</td>
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<tr>
<td>3/5/2018</td>
<td>Clinton Block</td>
<td>104-14 N. Cayuga St</td>
<td>in-kind roof replacement</td>
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<td>425 Wyckoff Ave.</td>
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<td>3/8/2018</td>
<td>Downtown West</td>
<td>310 W. State St</td>
<td>in-kind chimney reconstruction</td>
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<td>Y</td>
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<tr>
<td>3/23/2018</td>
<td>DeWitt Park</td>
<td>106 E Court St</td>
<td>non-historic window replacement; inappropriate window replacement mitigation</td>
<td>36573</td>
<td>Y</td>
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<tr>
<td>3/26/2018</td>
<td>East Hill</td>
<td>404 E Seneca St</td>
<td>roof repair - straighten sagging ridge</td>
<td>36945</td>
<td>Y</td>
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<td>4/3/2018</td>
<td>Cornell Heights</td>
<td>115 The Knoll</td>
<td>in-kind roof flashing repair</td>
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<td>Y</td>
<td>R</td>
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<td>4/3/2018</td>
<td>East Hill</td>
<td>201 Williams St</td>
<td>in-kind roof replacement</td>
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<tr>
<td>4/9/2018</td>
<td>Cornell Arts Quad</td>
<td>Olin Library</td>
<td>temporary art installation</td>
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<td>East Hill</td>
<td>406 Stewart Ave.</td>
<td>remove dormer from new building design</td>
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<td>5/1/2018</td>
<td>Henry St. John</td>
<td>318 S Geneva St</td>
<td>in-kind replacement of asphalt driveway</td>
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<td>Y</td>
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<td>5/1/2018</td>
<td>Cornell Heights</td>
<td>120-126 Westbourne Ln</td>
<td>in-kind roof replacement and chimney repointing</td>
<td>37221</td>
<td>Y</td>
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<td>5/3/2018</td>
<td>Cornell Heights</td>
<td>55 Ridgewood Rd</td>
<td>in-kind roof and parapet wall repair</td>
<td>37248</td>
<td>Y</td>
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<td>5/7/2018</td>
<td>East Hill</td>
<td>211 Williams St</td>
<td>in-kind porch repair</td>
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<td>Y</td>
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<td>5/12/2018</td>
<td>East Hill</td>
<td>418-428 Eddy St</td>
<td>in-kind roof replacement</td>
<td>36510</td>
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<tr>
<td>6/14/2018</td>
<td>Cornell Heights</td>
<td>411 Thurston</td>
<td>removal of two fire escapes</td>
<td>37226</td>
<td>Y</td>
<td>R</td>
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<tr>
<td>6/14/2018</td>
<td>East Hill</td>
<td>426 E Buffalo St</td>
<td>in-kind chimney reconstruction</td>
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<td>Y</td>
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<td>East Hill</td>
<td>712 E Seneca</td>
<td>in-kind repair of porch</td>
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<td>Y</td>
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<td>6/25/2018</td>
<td>Cornell Arts Quad</td>
<td>Landscape</td>
<td>widen fire access paths with in-kind materials</td>
<td>37506</td>
<td>Y</td>
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<td>7/23/2018</td>
<td>Cornell Heights</td>
<td>40 Ridgewood Rd</td>
<td>resurface parking area</td>
<td>37608</td>
<td>Y</td>
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<td>7/24/2018</td>
<td>Henry St. John</td>
<td>309 W Green St</td>
<td>in-kind porch repairs</td>
<td>37602</td>
<td>Y</td>
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<td>8/1/2018</td>
<td>Cornell Heights</td>
<td>40 Ridgewood Rd</td>
<td>in-kind non-historic window replacements</td>
<td>37646</td>
<td>Y</td>
<td>R</td>
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<tr>
<td>8/8/2018</td>
<td>Cornell Heights</td>
<td>216 Wait Ave</td>
<td>replacement rear deck decking</td>
<td>37531</td>
<td>Y</td>
<td>R</td>
<td>F-dW</td>
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<td>8/8/2018</td>
<td>Cornell Arts Quad</td>
<td>Stimson Hall</td>
<td>in-kind flat roof replacement</td>
<td>37593</td>
<td>Y</td>
<td>R</td>
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<td>8/13/2018</td>
<td>DeWitt Park</td>
<td>307 N Tioga St</td>
<td>in-kind sign replacement</td>
<td>37690</td>
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<td>8/15/2018</td>
<td>Cornell Heights</td>
<td>201 Wyckoff Ave.</td>
<td>in-kind roof replacement</td>
<td>37713</td>
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<td>8/22/2018</td>
<td>Henry St. John</td>
<td>305 W Green St</td>
<td>in-kind foundation repair and repointing</td>
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<td>8/28/2018</td>
<td>East Hill</td>
<td>322-324 E Seneca St</td>
<td>retaining wall replacement (determined to be outside of the EHHD boundary)</td>
<td>37336</td>
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<td>418 E Seneca St</td>
<td>rear yard stone patio installation</td>
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<td>9/4/2018</td>
<td>Cornell Heights</td>
<td>106 The Knoll</td>
<td>installation of pipe railing to meet housing code</td>
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<td>9/19/2018</td>
<td>East Hill</td>
<td>601 E State St</td>
<td>in-kind roof replacement</td>
<td>37850</td>
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<td>9/19/2018</td>
<td>Cornell Heights</td>
<td>117 Triphammer Rd</td>
<td>resurface parking area</td>
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<td>9/27/2018</td>
<td>East Hill</td>
<td>314 E Buffalo St</td>
<td>repair and repoint chimney</td>
<td>37868</td>
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<td>DeWitt Park</td>
<td>408 N Cayuga St</td>
<td>driveway, stoop and fence replacement</td>
<td>37851</td>
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<td>10/9/2018</td>
<td>Henry St. John</td>
<td>309 W Green St</td>
<td>in-kind porch stair replacement</td>
<td>37858</td>
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<td>10/11/2018</td>
<td>DeWitt Park</td>
<td>315 N Cayuga St</td>
<td>in-kind asphalt paving replacement and subsurface drain installation</td>
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<td>Cornell Heights</td>
<td>111 Kelvin Pl</td>
<td>non-historic carport roof replacement</td>
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<td>216 Wait Ave</td>
<td>side yard brick walkway installation</td>
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<td>10/18/2018</td>
<td>East Hill</td>
<td>221 Eddy St</td>
<td>in-kind garage soffit repair</td>
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<td>10/22/2018</td>
<td>Cornell Heights</td>
<td>203 Highland Pl</td>
<td>in-kind storage shed replacement</td>
<td>37984</td>
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<td>East Hill</td>
<td>531 E State St</td>
<td>in-kind porch repairs</td>
<td>37971</td>
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<td>10/29/2018</td>
<td>Henry St. John</td>
<td>329 S Geneva St</td>
<td>replacement of rear flat metal roof with rubberized roof material</td>
<td>37830</td>
<td>Y MB</td>
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<td>11/5/2018</td>
<td>East Hill</td>
<td>403 E Buffalo</td>
<td>rear flat roof replacement</td>
<td>38024</td>
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<td>11/13/2018</td>
<td>Cornell Heights</td>
<td>110-112 Heights Crt</td>
<td>in-kind retaining wall repair</td>
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<td>11/14/2018</td>
<td>Henry St. John</td>
<td>206 S Geneva St</td>
<td>in-kind replacement of rear fire stair</td>
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<td>11/20/2018</td>
<td>University Hill</td>
<td>625 University Ave</td>
<td>heat pump installation</td>
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<td>115 W Green St</td>
<td>heat pump installation</td>
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<td>11/20/2018</td>
<td>DeWitt Park</td>
<td>310-314 N Cayuga St</td>
<td>minor design changes</td>
<td>33251</td>
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<td>12/6/2018</td>
<td>Cornell Heights</td>
<td>203 Wyckoff Ave</td>
<td>localized in-kind roof replacement</td>
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<td>12/6/2018</td>
<td>East Hill</td>
<td>420 E Seneca St</td>
<td>in-kind repairs to carriage barn</td>
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<td>pipe rail installation as required by code</td>
<td>38194</td>
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<td>12/13/2018</td>
<td>East Hill</td>
<td>204 Stewart Ave</td>
<td>in-kind concrete sidewalk replacement</td>
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<td>12/19/2018</td>
<td>Cornell Arts Quad</td>
<td>Uris Library</td>
<td>exterior camera and ADA actutor installation at rear (south) entrance</td>
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<tr>
<td>12/20/2018</td>
<td>Cornell Heights</td>
<td>210 Thurston Ave</td>
<td>pipe rail installation as required by code</td>
<td>38228</td>
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<td>12/20/2018</td>
<td>Henry St. John</td>
<td>339 S Geneva St</td>
<td>approval of window units per CofA condition</td>
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</tbody>
</table>
MEMBERS:

Edward Finegan – monitors East Hill  Term Expires December 31, 2020
403 E. Seneca Street  Phone: (607) 279-0234 (home)
Ithaca, NY 14850  e-mail: efithaca@me.com

Steve Gibian – monitors Henry St. John  Term Expires December 31, 2019
1379 Coddington Rd  Phone: (607) 277-6200
Brooktondale, NY 1481  e-mail: S_Gibian@yahoo.com

David Kramer – monitors University Hill  Term Expires December 31, 2019
406 North Cayuga Street  Phone: (607) 227-5302
Ithaca, NY 14850  e-mail: dkramer196@yahoo.com

M. Megan McDonald – monitors DeWitt Park  Term Expires December 31, 2019
408 Utica St, Apt 1  Phone: (443) 413-8303
Ithaca, NY 14850  e-mail: m.megan.mcdonald@gmail.com

Susan Stein – monitors Cornell Heights  Term Expires December 31, 2018
310 Fall Creek Drive  Phone: (607) 257-1182
Ithaca, NY 14850  e-mail: ses10@cornell.edu

Katelin Olson – monitors East Hill  Term Expires December 31, 2020
8011 Falls Road  Phone: (951) 323-0442
Trumansburg, NY 14886  e-mail: keo24@cornell.edu

Avi Smith  Term Expires December 31, 2020
110 Parker Street  Phone: (415) 710-8707
Ithaca, NY 14850  Email: avi@argosinn.com

ALTERNATES:

Nancy Break  Term Expires December 31, 2019
5214 Jacksonville Road  Phone: (607) 387-4335
Trumansburg, NY 14886  e-mail: break@zoom-dsl.com

Mary Tomlan  Term Expires December 31, 2018
200 Delaware Ave  Phone: (607)272-9481
Ithaca, NY 14850  e-mail: mtomlan@aol.com

Common Council Liaison: Donna Flemming  
e-mail: dfleming@cityofithaca.org

Department of Planning & Development Staff:
Bryan McCracken, Historic Preservation Planner, (607)274-6555, bmccracken@cityofithaca.org

Regular Meetings, 2nd Tuesday of each month, 5:30 p.m. in Common Council Chambers located on the 3rd Floor of City Hall, 108 East Green Street, Ithaca, NY 14850