Turner Construction
Barnard College
New Building
Construction Plan

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Contents

Executive Summary
• Project Overview
• Construction Timeline Summary
• Construction Logistics Summary

Section 1: Construction Activities
• 1A: Pre-Construction Activities
• 1B: Construction Activities Defined
• 1C: Construction Activities in Detail

Section 2: Construction Logistics in Detail
• 2A: Hours of Operation
• 2B: No Construction Work Dates
• 2C: Construction Worker Access Points and Identification
• 2D: Campus Access Plan
• 2E: Claremont Avenue
• 2F: Parking Implications
• 2G: Safety and Security Measures
• 2H: NYC Construction Regulations

Section 3: Noise and Dust Mitigation Plans
• 3A: Noise Mitigation
• 3B: Dust Mitigation
• 3C: Additional Potential Remediation Efforts for On-Campus Activities

Section 4: Communications
• 4A: Communications
• 4B: Emergency Communications

Section 5: Educational Opportunities

Appendices
Appendix 1: Hazardous Materials Abatement
Appendix 2: Matrix of Noise and Dust Mitigation Plan through the Excavation and Foundation Phase (February – September)
Appendix 3: Schematics of Construction
Project Overview

Barnard College proudly builds on its 125-year history with the teaching and learning center, a new structure that will stand at the heart of its campus and at the core of a Barnard education. When the 128,000-square-foot building (4 story podium and 11 story tower) opens its doors in 2018, it will be a distinctive place that brings students and faculty together – facilitating collaboration, fostering dialogue, and continuing Barnard’s legacy for decades to come.

Located in the heart of Barnard's campus, the new facility will house the College’s library, with a core collection of books, journals, and special collections that support a strong liberal arts education. The spacious facility will allow the College to expand its Special Collections and Archives, and grow the total footprint of the library by more than 30 percent.

The facility will significantly increase the number of student study spaces on campus overall and create distinct, inviting areas for both quiet study and group collaboration. The outdoor terraces will enhance the library environment, extending the College’s signature campus lawn up onto the building to create inviting green spaces where students can gather over a cup of coffee purchased in the building’s café.

The teaching and learning center will house a digital commons with innovative teaching labs (empirical reasoning center, digital humanities lab, multimedia lab, and a roomy maker space dedicated to creativity) and a range of flexible learning spaces that utilize new media and digital technologies.

In addition, the new building will integrate an expanded conference center that will be physically connected to existing event spaces on campus; bring together offices and collaborative space for Barnard’s departments of economics, history, political science and urban studies; and provide a new home for two of Barnard’s signature programs -- the Barnard Center for Research on Women and the Athena Center for Leadership Studies.
Construction Timeline Summary

2015
• November 18: Magnolia tree move
• December 23: Closure of Lehman Hall
• Dec 23 – Jan 18: Faculty and staff move from Lehman to LeFrak Center

2016
• January 19: Official opening of LeFrak Center; Classes begin
• Dec – Jan 2016: Construction site fenced off; installs above ground walkway
• Jan – June: Demolition of Lehman Hall
• June– Nov: Excavation and foundations work
• Jun – Sept: Rock drilling operation
• Dec – May 2017: Steel structure and concrete

2017
• May – Aug: Installation of the exterior wall
• September: Building watertight
• May – Apr 2018: Interior finishes

2018
• June: Temporary occupancy
• May – Aug: Furniture and equipment
• Aug: Building is open for business
Construction Logistics Summary

Hours of Operation (see section 2A)
- Permits allow for work to be done from 8:00 am – 6:30 pm

No Noisy Construction Dates (see section 2B)
- Noisy construction work will not take place during reading and finals periods

Campus Access (see section 2D)
- An above ground, wheelchair accessible, walkway runs from Barnard Annex to Altschul Hall and The Diana Center, across the lawn, providing access from north to south campus and vice-versa.
- This aboveground “North/South Walkway” will replace the underground tunnel between Barnard and Altschul Halls during construction.
- Pedestrians can also access campus from Claremont Avenue via the 119th St. entrance.

Construction Worker Access Points (see section 2C)
- Construction workers will enter and exit the site via Claremont Avenue; all workers will wear clearly labeled ID cards.
- Please be aware that Turner Construction maintains an office in the basement of Altschul. Contractors may be directed there in case of questions.

Claremont Avenue (see section 2E)
- Claremont Avenue will serve as the logistics hub for the construction site.
- One northbound lane will be closed resulting in the loss of around 20 parking spaces for the duration of the project.

Safety and Security (see section 2G)
- Barnard Public Safety will be responsible for perimeter controls at all booth areas and on foot patrol as normal.
- Turner will add additional controls at site fence during operation.

Noise Mitigation (see section 3A)
- All practical measures will be in place to mitigate noise.
- Use of high construction fences draped in sound deadening blankets, noise mufflers on vehicles, limited vehicle idling along Claremont.

Dust Mitigation (see section 3B)
During demolition, Lehman Hall will be covered in a fine mesh netting to contain dust and all demolition operations will be hosed with water. During excavation, truck wash-down areas will hose vehicles before they leave the site, as required.
Section 1: CONSTRUCTION ACTIVITIES

1A: PRE-CONSTRUCTION ACTIVITIES

SWING SPACE CONSTRUCTION

- LeFrak Gymnasium went offline in early June to begin construction.
- Barnard is refurbishing the LeFrak Gymnasium to serve as “swing space” where select staff and programs currently operating in Lehman Hall will be located during construction. (IMATS moved to 2nd floor Sulzberger Annex in August.)
- The new LeFrak Center will consist of a first floor transitional library, archives, two seminar rooms, digital lab, Empirical Reasoning Center and a new second floor for the Economics, History, Political Science, and Urban Studies Departments.
- The LeFrak Center will be open for business on January 19, 2016, the start of the spring semester.
- The College will move staff and equipment from Lehman Hall to the LeFrak Center over winter break, between December 28, 2015 and January 18, 2016.
- For more details on swing space construction see: http://barnard.edu/about/teaching-learning-center/swing-space.

MAGNOLIA MOVE: November 17-19, 2015

- Great care was taken over the summer to ensure a smooth move for the Magnolia tree. Our consultants provided air spading and pruning, and additional mulch to protect the tree. Watering was also increased and the tree, post pruning, is showing vibrancy.
- The College will move the Magnolia tree about 30 feet from its current location to a new spot south of the Diana Center and closer to the fence along Broadway.
- Prior to move, we will remove the pine tree and crab apple tree along the fence along Broadway. Removing these trees is necessary to maintain the health of the Magnolia tree, ensuring that it will receive the appropriate amount of light and room for growth in its new location.
- The College plans to recycle the trees being removed in the service of the Magnolia tree, creating new lawn furniture for use when the lawn re-opens.
- The actual move of the Magnolia will take three days.
  - On day one, a portion of the Broadway fence will be removed to allow for installation of a crane that will move the tree on day two. A temporary fence will be put in place for security. We will also lay protection for the crane to rest on lawn.
On day two, the Magnolia will move to its new location, via crane on lawn. This could take up to 12 hours. There will be tape/barricades indicating where it is safe to walk during this move.

On day three, the property will be restored along with the metal fence along Broadway. We will keep the protection in place on the lawn for use as a walkway for pedestrians next to an aboveground tunnel that will be used for access across campus during construction (see section 7 below for more information on access through campus).

Unfortunately, as we have come to know by now, the magnolia tree did not survive the move. We knew from the start that moving the tree was risky, but given its significance to the community we decided that every effort should be made to try to relocate it. Sadly, despite our seeking out the best expert care, the move did not work. A magnolia tree committee was formed and decided to plant a sapling of the original magnolia under the guidance of the greenhouse.
1B: CONSTRUCTION ACTIVITIES DEFINED

1) **Building closure, Fence, Sidewalk Shed** – December 2015 thru January 2016
   Lehman Hall will be closed and scaffolded; a security fence will seal off the construction site and an above ground walkway will be installed for pedestrian access across campus.

2) **Abatement and Demolition Operation** – January thru June 2016
   Hazardous material remediation – also known as abatement -- will occur along with demolition of Lehman Hall; the building will be demolished from the top down, a noisy operation; noise and dust mitigation measures will be in place.

3) **Excavation and Foundations** – June thru November 2016
   Preparing the site for construction entailing excavating and removing rock and creating the new foundation for the building. This part of the operation will be noisy and noise and dust mitigation efforts will be in place.

4) **Rock Excavation** – June thru September 2016
   This operation involves drilling and splitting rock. This is the noisiest part of the construction project and is occurring over the summer. Noise and dust mitigation efforts will be fully in place.

5) **Steel Erection and Concrete Superstructure** – December 2016 thru May 2017
   During this phase we will see the building rise first with a steel structure and then with concrete.

6) **Exterior Wall** – May thru August 2017
   Installation of the exterior walls of the building

7) **Building Watertight** – September 2017
   The point where the exterior wall is completed and the roof has been installed so that all work is now confined to the interior of the building.

8) **Interior Finishes** – May 2017 thru April 2018
   This phase focuses on fitting out the interior spaces; landscaping will also begin.

9) **Temporary Certificate of Occupancy** – Anticipated May 2018
   The construction is substantially complete and ready for the installation of furniture and equipment.

10) **Furniture and Equipment** – May thru August 2018
    Installation of furniture and equipment to finalize the interior spaces, including the return of Barnard’s book collection from offsite storage.

11) **Occupancy** – August 2018
    The building is open for business!
Section 1C: CONSTRUCTION ACTIVITIES IN DETAIL

Note: Appendix 4 shows schematic diagrams of the phases of construction.


Demolition of Lehman Hall will begin at the end of the fall semester 2015. As the existing Lehman Hall is emptied, a site construction fence will be installed, sealing off the area currently occupied by Lehman Hall and a large section of the lawn. In addition, a new, above ground, enclosed “tunnel” will be constructed to provide access between north and south campus for students, faculty, and staff. The construction fence installation will include sound deadening blankets around the entire perimeter fence to better assist in containing noise within the site. Nearly all deliveries will be scheduled to start at 8 a.m.

Claremont Avenue will be the primary thoroughfare for construction trucks and staff to enter and exit the site. Prior to commencing demolition, a lane closing will be required for the frontage of Lehman Hall on Claremont Avenue extending 20 to 25 feet in both directions to allow for pedestrian access. Flag-people will direct pedestrian traffic as trucks enter and exit the site.

Abatement and Demolition Operation – January thru May 2016 (see Appendix 4; schematic 2 for a depiction of the site during the demolition phase)

Abatement refers to the removal of hazardous material from the building. Demolition refers to the process of dismantling Lehman Hall. This phase of the process will take place from the middle of January until May.

To begin, the demolition contractor will provide sidewalk scaffolding for pedestrian traffic on Claremont – similar to the scaffolding that you find in many NYC construction sites including the structure by Hewitt along Claremont Avenue. The contractor will install scaffolding on all four sides of Lehman; the scaffold will include fine-mesh netting along the perimeter, which will help contain dust. The scaffold will also be a staging point for a water operation. As the demolition proceeds in an area, hoses will be focused on the operation to keep dust to a minimum.

Abatement: Upon emptying the top two floors of Lehman, abatement operations will begin on the 4th floor and will work its way down the building, provided there is an empty floor in-between. Abatement will continue in this manner until completed. Abatement work is typically focused on a particular area of operation to contain any hazardous materials. While abatement can be noisy, it should not interrupt operations in other buildings. The abatement operation will be well contained and conducted in strict compliance with city, state, and federal regulations.

Demolition: Once the abatement operation is completed on the top two floors, demolition activities will commence. The windows will be removed first and covered to contain dust. Roll-off waste containers will be set up along the sidewalk area on Claremont Avenue, but within the construction fence, to collect debris. Debris will be sent down to the containers through covered shoots from various points in Lehman. The area between Barnard Hall and Lehman is another potential location for a roll-off
container, but this will be considered once this area is demolished. We expect to remove trash on a daily basis. As with abatement, the demolition operation will work from the top down and out of the building.

Demolition will be noisy; the demolition contractor will most likely bring several Brokk machines into Lehman to help pull down the walls, pillars, and other parts of the building. Brokk machines are compact tools, originally designed for mining tasks, but are used in construction for drilling, scaling, digging, and breaking. These machines make a loud drilling noise that is continual through the entire demolition process.

During the demolition operation, it is also possible that we may pre-drill the rock in the plaza area, so that a safe, non-toxic chemical demolition agent, like Crackamite or Bustar or Da-mite, can be inserted to soften the rock to make it easier to excavate and remove. The pre-drill is loud and noisy and will seem disruptive. This construction activity is not definite and is part of means and methods for some of the potential excavation contractors.

Note that construction activities will cease during reading and finals week.

**Excavation and Foundations – June thru November 2016** *(see Appendix 4; schematic 3 for a depiction of the site during this phase)*

The next phase of the project is excavation and foundation work. During this phase, we will begin to prepare the site for construction, excavating and removing rock, and creating a new foundation to support the building. This work will began in late June, after commencement and reunion weekend.

The construction fence protecting the site will remain. The foundation contractor will create stabilized construction entrances as well as a truck wash down area to contain dirt from leaving the site, as needed. The contractor will bring large excavators onto the site and trucks will take excess soil from the site as they work to set the grade for the different building areas. This operation will be very noisy for a continuous period.

Once excavation is completed for a portion of the site, work on the foundation will begin. This area will include the construction of a foundation for the steel crane. This part of the operation is less noisy, but will be louder on days when there are concrete pours and a large influx of trucks making concrete deliveries. Concrete trucks need to run continuously so the concrete does not harden.

**Rock Excavation – June thru September 2016**

During the regular excavation operation, the contractor will bring in equipment to drill and break rock primarily at the northern end of the site. This operation will be very loud as it involves drilling and splitting rock with numerous trucks removing the broken rock from the site. This operation is happening over the summer when activity on campus is less intense. Turner continues to review schemes to possibly accelerate this operation to limit the impact on campus and the surrounding community.

**Steel Erection and Concrete Superstructure – December 2016 thru May 2017** *(see Appendix 4, schematics 4 and 5 for a depiction of the site during these phases of construction)*
During this phase, we will see the building rise, first with the steel structure and then concrete. At the end of this phase the new building will take its shape and will be a presence on campus.

While slab on grade is being installed and poured, a steel crane will be brought to campus for the steel erection phase of the project; the crane will be situated on Claremont. Bringing the crane to the site will likely occur on a weekend when such work is usually permitted.

The steel erection operation will involve daily deliveries of steel to the site. Delivery trucks will be queued on Riverside Drive and come to Claremont for just-in-time delivery. This operation is noisy, but will not be as loud as the excavation operation. Before the steel structure reaches 75 feet in height, an outside hoist will be installed at the tower portion of the building on the Claremont Avenue side of the site, as will horizontal safety netting. This hoist will allow for staff and material deliveries to the individual floors. The superstructure concrete operation will begin once the steel erection is four to five stories high.

Once the steel is erected on each floor, the construction team will begin setting embedded items and reinforcement on the deck, and then concrete will be poured. On the days of concrete pours there will be numerous concrete trucks coming to Claremont that will likely be concurrent with steel deliveries. As a result, on these days there will be a higher level of construction truck traffic.

**Exterior Wall – May 2017 thru early September 2017 (see Appendix 4, schematic 5 for a depiction of the site during this phase of construction)**

As the concrete deck operation approaches the floors of the tower, we will begin installing the exterior wall from the bottom of the building to the top. The exterior wall includes the façade of the building, which are large patinated zinc panels. Construction of “party walls” will start first at the north and south ends of the site. Party walls are structures that adjoin adjacent buildings. In this case, the party walls join the new building to Altschul on the north side and to Barnard Annex on the south side. Installation of the party walls will require a scaffold; however, this scaffold will be within the site and this operation will produce minimal noise.

Once the party walls are constructed the metal and glass panel installation will begin.

As the exterior wall installation proceeds up the building, interior activities like the construction of mechanical and electrical pathways and masonry walls, and the laying down of track for interior walls will begin on the lower levels. While some of this work (e.g. shooting track and hangers into the deck) is loud the sound will mostly be contained within the building walls.

Another operation which will be concurrent with the installation of the wall is the installation of the two passenger elevators. Once the superstructure is in place, rail installation can commence and as the building becomes watertight, then installation of the equipment up at the Elevator Machine Room can begin.
Building Watertight – September 2017

“Building watertight” is the point where the exterior wall is complete and the roof has been installed.

Interior Finishes - May 2017 thru April 2018 (see Appendix 4, schematic 6 for a depiction of the site during this phase of construction)

Building watertight is generally the kick-off for the finish trades such as millwork, ceiling tile, interior walls, and mechanical equipment. While Turner will still need to coordinate material deliveries, many of these activities will be less noisy and the sound will be contained within the building enclosure.

Turner will begin building and lawn landscape operations in late winter/early spring. The aboveground corridor will be removed at some point during landscaping. Some of the landscape operations will require equipment to move soil that will be noisy, but for the balance of the time the noise should be limited.

Temporary Certificate of Occupancy – Anticipated June 2018

Temporary Certificate of Occupancy (TCO) means the construction is substantially complete. There will still be a “punch-list” to perform - fixing small things inside the building and commissioning of non-essential life safety systems, but for the most part, the building will be ready for Barnard to start installing furniture and equipment. Some portions of the construction fence may still remain, but most of it will be removed along with the sidewalk shed. One lane on Claremont Avenue will still be closed for delivery of furniture and equipment so Yodock barriers will still be required to direct pedestrian flow. The campus corridor will be eliminated, as the underground path (“tunnels”) through campus will be fully operational.

Furniture and Equipment – May thru August 2018

The furniture and equipment operation will also require numerous trucks. While deliveries may not occur daily, there will be numerous trucks on days when deliveries do occur. It is also possible a set of trailers will sit outside for longer periods of time to unload. This is typically a less noisy operation.

Occupancy - August 2018

Once the operation is complete, all remaining construction fence and barriers will be removed and the building will be ready for use by the College!
SECTION 2: CONSTRUCTION LOGISTICS IN DETAIL

2A: HOURS OF OPERATION

- Construction activities will occur from 8:00 a.m. until 6:30 p.m. Monday through Friday.
- No deliveries will be permitted on Claremont Avenue before 8:00 a.m. or after 10:00 p.m., consistent with current practice.
- The Barnard community and neighbors will be provided with advance notice on the occasion that work will be required on weekends or after hours.
- Noisy construction activities will cease during reading and finals weeks.

2B: NO NOISY CONSTRUCTION WORK DATES

- Noisy construction activities will stop during reading and finals periods.
- For the Fall 2017 semester, no noisy construction work will occur from:
  - Tuesday, December 12 – Thursday, December 21, 2017.
- No noisy work periods will continue during these periods for each academic year during construction.

2C: CONSTRUCTION WORKER ACCESS POINTS/IDENTIFICATION

- Turner Construction will maintain its field office in the basement of Altschul Hall.
- Construction workers and affiliated trades will enter on Claremont.
- All construction workers and affiliated trades will wear clearly labeled ID cards with photos and will be equipped with relevant PPE (personal protective equipment).
- Visitors to the site will need to request approval to schedule a visit from Campus Services and Turner, and will be required to wear appropriate PPE and sign a visitors’ waiver release.

2D: CAMPUS ACCESS DURING CONSTRUCTION

- Turner will erect a construction fence that will run from Barnard Annex to Altschul Hall, across the lawn, on the campus side. On Claremont, they will erect a construction fence around the same perimeter.
- The existing tunnel that traverses Lehman Hall connecting Barnard Hall to Altschul Hall will be closed for the duration of construction.
• In place of the underground tunnel, North-south access across campus will be maintained through a pedestrian walkway (a “North/South Walkway”) linking the north side of Barnard Hall to The Diana Center and Altschul Hall.

• The Corridor is over 8’ in width and covered to protect students, faculty, and staff from the elements.

• A path will be created alongside the corridor on the lawn to create additional space to traverse north and south, but will be uncovered and open to the elements.

• The aboveground corridor will be wheelchair accessible from Barnard Hall to The Diana Center and Altschul Hall.

• The walkway will be lit at all times to ensure safety, as well as have an emergency call box that reports directly to Public Safety.

• Access will still be available from the 119th Street gates on both Broadway and Claremont to the north side buildings and east/west.

2E: CLAREMONT AVENUE

• Claremont Avenue will serve as the logistics hub for the construction project.

• Construction workers will enter and exit from Claremont Avenue.

• Orange Yodoks and concrete jersey barriers will create a lane for delivery trucks and other logistics operations. One northbound lane of Claremont Avenue will be closed, resulting in the loss of approximately 20 parking spaces for the duration of the project.

• Trucks will not be permitted to idle along Claremont Avenue; trucks will stage along Riverside Drive prior to dropping off at Claremont.

• Flag-people will direct pedestrian traffic as trucks enter and exit the site.

2F: PARKING IMPLICATIONS

• The northbound parking lane (east side) of Claremont Avenue will be closed during construction, resulting in the loss of approximately 20 parking spaces for the duration of the project. Traffic will still be able to go north and south.

• The closure of one parking lane on Claremont Avenue will have implications for the availability of parking in and around the neighborhood.

• We anticipate that parking along Claremont Avenue, 116th and 120th Streets, and Broadway will be limited.
2G: SAFETY AND SECURITY MEASURES

- Barnard Public Safety will be responsible for perimeter controls at all booth areas and on foot patrol, as standard.
- Emergency call boxes are available and will be in convenient locations.
- The construction fence will be in place both to restrict access from campus to the site and vice versa.
- Flag-people will direct traffic as required during deliveries to the construction site to ensure that unauthorized people do not enter on site.

2H: NYC CONSTRUCTION REGULATIONS

- All construction activities will be conducted in accordance with NYC building regulations.
- See Appendix 2 for key noise and dust regulations.
SECTION 3: NOISE AND DUST MITIGATION PLANS

3A: NOISE MITIGATION

- While noise is a major concern for all construction projects, Barnard and Turner Construction will take every practical measure to mitigate noise.
- Turner has erected a 12’ fence around the construction perimeter, 4’ higher than New York City construction standards require to help contain the noise.
- Turner has draped the construction fence with sound-deadening blankets to further muffle noise.
- Trucks will be equipped with variable volume backup beepers to regulate truck noise during construction hours, as available.
- Trucks, construction vehicles, and other equipment will be equipped with sound mufflers, as available.
- Trucks will not be permitted to idle along Claremont Avenue. Delivery trucks will be staged on Riverside Drive and come to campus for just-in-time deliveries.

3B: DUST MITIGATION

- Dust is a typical byproduct of construction, especially in the early phases – demolition, excavation, and foundations.
- The most effective dust mitigation technique is a process called “wetting.” Turner will hose areas with water to keep dust to a minimum. The wetting process was used to great success during demolition of LeFrak Gymnasium during the summer of 2015.
- During excavation, truck wash-down areas will hose vehicles before they leave the site, as required.

3C: ADDITIONAL POTENTIAL REMEDIATION EFFORTS

- Barnard is hiring a third party contractor to evaluate additional noise remediation effects and to monitor vibration and dust while construction is ongoing.
- The College is evaluating whether to block windows in Barnard Annex to keep out dust and select noise.
- The College installed acoustic treatments in select areas in Barnard Hall to help insulate the external noise. These are in LeFrak Center, 1st and 2nd floor, along with the James Room.
- For select College activities, Barnard has and will evaluate moving these activities to offsite locations.
• The College continues to evaluate class schedules to determine if some classes can occur after standard construction times.
SECTION 4: COMMUNICATIONS

4A: ROUTINE COMMUNICATIONS

- Barnard Communications has prepared a comprehensive communications plan for both internal and external audiences. The Communications Director for Special Projects is responsible for the management and implementation of the communications plan.

- Internal audiences, including students, faculty and staff, will receive information and updates about the project via a number of different communications channels, including email, a new “Campus Construction” section on the MyBarnard portal (intranet), expanded social media highlighted by @MillieBuilds Twitter, signage, meetings and briefings, and celebratory events.

- External audiences include Claremont residents, Columbia University, other neighborhood groups and elected officials, Barnard alumnae, prospective students and their parents, and the media. Communications tools for these audiences will vary by audience but will include an expanded website with FAQs, timelines, and impact notices; monthly email project updates, becoming more frequent when construction commences; community meetings; signage/message boards; collateral materials; and videos. Barnard will maintain an email and phone number to send construction questions and concerns.

For more information, visit: http://barnard.edu/about/teaching-learning-center.

4B: EMERGENCY COMMUNICATIONS

- Barnard personnel will be available to handle concerns that come up during construction.

- If you have a general question or comments, please email newbuilding@barnard.edu.

- If you have an urgent issue that needs to be addressed immediately, please email constructionteam@barnard.edu if you have any issues or concerns that need immediate attention.

- During off-hours, please call Barnard Public Safety at 212/854-3362.
Section 5: EDUCATIONAL OPPORTUNITIES

The building of the teaching and learning center provides a number of opportunities for our faculty, as well as the project architects and construction management company, to teach discrete lessons to the Barnard community and audiences about a variety of topics, including architecture, construction, biological sciences, urban studies, history, visual arts, and more. Barnard’s Campus and Community committee will develop ideas over the course of the construction and planning period, and invite faculty and others to participate.
Appendix 1: HAZARDOUS MATERIALS ABATEMENT

The removal of hazardous materials including asbestos is a common occurrence in most every pre-1970s building that is renovated or demolished in New York City. The process of removing these materials is heavily regulated and monitored by the New York City Department of Environmental Protection’s Bureau of Environmental Compliance.

This is the case with Barnard College’s Lehman Hall, which was built in the late 1950s. The College’s contractors will be removing asbestos and other hazardous materials from the building as a part of its abatement and demolition operation. It is anticipated that the removal of these materials will take approximately six weeks, beginning in January. The College’s construction team, led by Turner Construction, will manage the process, complying with all city, state and federal requirements for the removal if these materials.

Among the regulations’ requirements include an ongoing, daily, comprehensive air and bulk sampling, monitoring and analysis program; notice of abatement signage posted on the exterior of the building; and isolation barriers on openings throughout the building. The method for sealing these openings is specifically outlined in the city’s removal regulations, and include, but are not limited to windows, corridors, doorways, barriers, skylights, ducts, grills, diffusers and any other penetrations of the work areas.

In addition, the regulations outline specific cleanup procedures that must occur during abatement including that all waste shall be bagged, wrapped, or containerized immediately upon removal; and the installation and maintenance of a worker decontamination enclosure system, which shall be HEPA vacuumed and wet cleaned at the end of each work shift at a minimum.

The complete rules and regulations for the New York City Department of Environmental Protection’s Asbestos Control Program can be found at:
### Appendix 2: NOISE AND DUST MITIGATION PLAN THROUGH THE EXCAVATION AND FOUNDATION PHASE

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Site Capture: Empty Lehman Hall, install site fence, campus corridor, and Claremont Avenue sidewalk shed</th>
<th>Noise Mitigation</th>
<th>Dust Mitigation</th>
<th>NYC Code</th>
</tr>
</thead>
</table>
| December 2015 – January 2016 | • Perimeter construction fence will be 12’ – 4’ taller than NYC code requires.  
• Perimeter fence will include sound-deadening blankets; these blankets are not required by NYC code.  
• Entry gates will be sound-treated and will remain closed when not in use; sound-treatment on gates is not required by NYC code. | • The 12’ construction fence and the sound-deadening blankets help contain dust.  
• Scaffolding surround the construction site will include fine-mesh netting to further capture dust. The NYC code requires ½” mesh; however, the mesh used at the Barnard site will be smaller than ½”.  
• Sound-treated entry gates will remain closed when not in use; this helps contain dust. | • NYC code calls for an 8’ construction fence; Barnard is installing a 12’ fence, 4’ taller than required.  
• Sound-deadening blankets are not required by NYC code.  
• Sound-treatment on gates is not required by NYC code. |

| Abatement and Demolition: Interior abatement, scaffolding Lehman Hall, demolition of Lehman hall from top floors down, removal of Lehman scaffold and Claremont Avenue shed. | January 2016 – May 2016 | • Perimeter construction fence will be 12’ – 4’ taller than NYC code requires.  
• Perimeter fence will include sound-deadening blankets; these blankets are not required by NYC code.  
• Entry gates will be sound-treated and will remain closed when not in use; sound-treatment on gates is not required by NYC code.  
• Trucks, construction vehicles, and other equipment with large motors will be equipped with sound mufflers to help mitigate noise.  
• Trucks will be equipped with variable volume back-up beepers, alarms that are ambient sensitive and self-adjusting to minimize noise | • The 12’ construction fence and the sound-deadening blankets help contain dust.  
• Scaffolding surround the construction site will include fine-mesh netting to further capture dust. The NYC code requires ½” mesh; however, the mesh used at the Barnard site will have much tighter spacing to capture dust.  
• Entry gates will remain closed when not in use; this helps contain dust.  
• Demolition operation will use hoses to dampen and contain dust. Lehman scaffold will allow for the hose operation at the exterior face of the building as well. | • NYC code calls for an 8’ construction fence; Barnard is installing a 12’ fence, 4’ taller than required.  
• NYC code does not require sound-deadening blankets.  
• NYC code requires perimeter netting with a ½” mesh, but the mesh used at the Barnard site will have much tighter spacing to capture dust.  
• NYC code does not require entry gates to be sound-treated. |
|  | from the site. These are not required by NYC code.  
- Trucks will not idle on Claremont Avenue and will be queued on Riverside Drive for just-in-time deliveries. | Exterior windows will be removed first and openings will be covered with plastic or plywood to contain dust. | Demolition operations will meet all NYC code and agency regulations.  
The use of variable volume back-up beepers is not required by NYC code.  
All equipment will meet sound level standards specified in NYC building codes. |
## Appendix 2: NOISE AND DUST MITIGATION PLAN THROUGH THE EXCAVATION PHASE

<table>
<thead>
<tr>
<th>Excavation: Install jersey concrete barriers on Claremont Avenue, create stabilized construction entry and truck wash-down area, excavate grade and soil removal, drill and remove rock</th>
<th>Schedule</th>
<th>Noise Mitigation</th>
<th>Dust Mitigation</th>
<th>NYC Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>May 2016-September 2016</td>
<td>• Perimeter construction fence will be 12’ – 4’ taller than NYC code requires.</td>
<td>• The 12’ construction fence and the sound-deadening blankets will help contain dust.</td>
<td>• NYC code calls for an 8’ construction fence; Barnard is installing a 12’ fence, 4’ taller than required.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Perimeter fence will include sound-deadening blankets; these blankets are not required by NYC code.</td>
<td>• Scaffolding surrounding the construction site will include fine-mesh netting to further capture dust. The NYC code requires ½” mesh; however, the mesh used at the Barnard site will be smaller than ½”.</td>
<td>• NYC code does not require entry gates to be sound-treated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Entry gates will be sound-treated and will remain closed when not in use; sound-treatment on gates is not required by NYC code.</td>
<td>• Entry gates will remain closed when not in use; this helps contain dust.</td>
<td>• The use of variable volume back-up beepers is not required by NYC code.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Trucks, construction vehicles and other equipment with large motors will be equipped with sound mufflers to help mitigate, but not eliminate sound.</td>
<td>• Entry to site will be built up with gravel and stone to mitigate dust when exiting the site.</td>
<td>• All equipment will meet sound level standards specified in NYC building codes.</td>
</tr>
<tr>
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<td></td>
<td>• Trucks will be equipped with variable volume back-up beepers, alarms that are ambient sensitive and self-adjusting to minimize noise from the site. These are not required by NYC code.</td>
<td>• Truck wash-down stations will be set up at exits to wash trucks before they leave the site as needed.</td>
<td>• Entry and wash-down operations will meet NYC codes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Trucks will not idle on Claremont Avenue and will arrive on site just-in-time deliveries.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Completed
Appendix 3: SCHEMATICS

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