Columbia University
Pupin Hall Construction Projects Information Session and Update

Presentation to the Faculty & Staff at Pupin Hall by Joseph Mannino (VP CUF Planning & CPM)

First Presented: April 2014

Monday, September 8, 2014
THE PROJECTS

INFRASTRUCTURE UPGRADE
CORNICE REPLACEMENT

THEORY CENTER
PUPIN/CEPSR 5th & 6th FEEDER
PRESENTATION SUMMARY

PROJECT TEAM
PROJECT SCHEDULE
PUPIN THEORY CENTER
PUPIN CORNICE
PUPIN/CEPSR 5TH AND 6TH FEEDER
PUPIN INFRASTRUCTURE
CONSTRUCTION IMPACTS & MITIGATION
CUF’S COMMUNICATION PLAN
Q & A
THE PROJECT TEAM

CUF/CPM TEAM
- Maria Bootsma, Project Manager
- Coury Revan, Project Manager
- Shella Cadet, Project Manager
- Ed Pang, Project Manager
- Gary Hyer, Project Manager
- Alfonso Pistone, AVP
- Joseph Mannino, VP

CONSTRUCTION TEAM
- Tishman Construction – CM (Infrastructure/Cornice/Feeders)
- McKissack & McKissack – GC (Theory Center)

PUPIN HALL TEAM
- Michael Tuts, Department of Physics, Professor and Chair
- Kathryn Johnston, Department of Astronomy, Professor and Chair
- Frederik B. Paerels, Director, Columbia Astrophysics Laboratory
- Carl Petitfrere, Manager of Building Operations, Department of Physics
- Lenore Hubner, Assistant Registrar

ARTS & SCIENCES
- Amber Miller, Dean of Sciences
- Fred Palm, AVP Arts and Sciences
<table>
<thead>
<tr>
<th>Project Name</th>
<th>Date Range</th>
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<tbody>
<tr>
<td>PUPIN THEORY CENTER</td>
<td>JUNE 2014 - JULY 2015</td>
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<td>CORNICE REPLACEMENT</td>
<td>MAY 2014 - SEPTEMBER 2015</td>
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<td>PUPIN INFRASTRUCTURE UPGRADE</td>
<td>MAY 2014 - OCTOBER 2015</td>
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<td>CEPSR 5th &amp; 6th FEEDER</td>
<td>MAY 2014 - JANUARY 2016</td>
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<td>PUPIN PERMANENT ELEC</td>
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The Theory Center is the renovation of approximately 5400 square feet of the eastern portion of the 8th and 9th floors to accommodate the emergent needs of the Theoretical Physics Department.

- Includes new Mechanical Room (western side of Bldg)
- With the repurposing of the former 8th floor library space, it will provide a modernized space for interaction and collaboration amongst theorists
- Work will also include the construction of additional mechanical, electrical and data closets on both floors and will leverage the Pupin Infrastructure Project
PUPIN CORNICE REPLACEMENT PROJECT

- The copper cornice work is also original to the building
- Work includes the replacement of the majority of embossed copper fascia panels around entire perimeter of the building.
- Work also includes the replacement of the original wooden framework of the existing copper gutter system with a metal framework.
- Scaffolding and safety netting will be installed throughout building perimeter.
- Work expected to start this month for a one year duration.
PUPIN/CEPSR 5th & 6th FEEDER PROJECT

- To upgrade the CEPSR 4.16 KV bus in the CEPSR building located at 530 West 120 Street on the 100 and 200 levels.

- To increase the current electrical capacity of the CEPSR 4.16 KV Switchgear bus

- Work includes the provision to add (2) two new feeders from Con Ed to serve current planned loads.

- In Pupin, eliminate the existing (3) three electrical 460/265 V service and replace with a double ended substation with step down transformers expanded off of Columbia’s existing CEPSR 5KV distribution network to re-feed the current loads for Pupin Hall, Dodge Gym and Havemeyer Extension.

- Allows for future capacity for Pupin Hall
PUPIN INFRASTRUCTURE UPGRADE

- Working with Arts & Sciences and the Physics and Astronomy Departments for almost two (2) years
- Feedback from specific researchers on equipment locations which led to changes
- Funded by Central University
- It’s about the vertical infrastructure
- Future benefits when floors/spaces are renovated
PUPIN INFRASTRUCTURE UPGRADE

General Scope of Work
- New Vertical Risers - Mechanical and Electrical
- Existing Mechanical and Electrical Systems will remain in Place
- Horizontal distribution will be completed when future renovations take place
- Minor work to clear abandoned systems

Make Ready Work
- Abatement Work and Demolition – 60% Completed
- Collateral Moves throughout the building- In Progress
- 100 Level Electrical Work – Temp Feed for Havemeyer and Dodge Gym - Completed
- Exterior Scaffolding and Netting – In Progress

Recent and Current Activity
- Asbestos Abatement 60% Complete
- West Shaft Temporary 2-hr Enclosure Complete
- East Shaft Temporary 2-hr Enclosure Complete
- Temp Bathroom Stall Closure (3,6,9,12) 50% Complete
- C/HWR East Shaft – 6th to 9th floor Dec thru March 2015
- Exterior Cornice Work – Scaffolding/Bridge Sep 2014 – Sep 2015
PUPIN INFRASTRUCTURE UPGRADE PROJECT

PROJECT FACTS AND OBJECTIVES

➢ To increase building electrical and mechanical infrastructure capacity
➢ To design and install an efficient vertical distribution of new infrastructure services
➢ To design for future horizontal distribution of new infrastructure services
➢ Infrastructure Services to be upgraded
  ○ Electrical – Normal/Emergency/Grounding/Fire Alarm
  ○ Mechanical – Heating and Cooling/ Processed Chilled Water/ Plumbing
  ○ Other - Data/BMS/Security

EXISTING RISERS

PROPOSED UPGRADES
PUPIN INFRASTRUCTURE UPGRADE PROJECT

100 Level Layout

PUPIN HALL - EXISTING 100 LEVEL

ORANGE – EXTENT OF DEMOLITION AND ABATEMENT
PUPIN INFRASTRUCTURE UPGRADE PROJECT
200 Level Layout

Mechanical & Fire Pump Room Layout – 200 Level

Legend:

- Existing Mechanical Room
- New Fire Pumps
- Mechanical Systems
- New Electrical Room & Shaft

Electrical Room Layout – 200 Level
PUPIN INFRASTRUCTURE UPGRADE PROJECT

Typical Floor Layout Identifying Affected Areas

- Mechanical Riser – Heating and Cooling Chilled Water (Floors 6 to 14)
- Mechanical Riser – Processed Chilled Water/Plumbing (Floors 1 to 14)
- Electrical Riser – Normal/Emergency/Grounding/Fire Alarm (Floors 1 to 14)
PUPIN INFRASTRUCTURE UPGRADE PROJECT
Affected Rooms for the Hot/Chilled Water Risers

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<th>East Riser Locations</th>
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<tr>
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<td>Physics</td>
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<tr>
<td>700EC</td>
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Hot Water Risers

Chilled Water Risers
Asbestos Abatement – Removal of Vinyl Acoustical Floor Tile
Construction of Temporary Shaft Walls 100 thru 1400 Level
Affected Bathroom Locations:
300 & 600 – Women’s Bathroom
900 & 1200 – Men’s Bathroom
Area Location of Protection/Barrier (Urinal or Commode Not Accessible) for duration of time
PUPIN INFRASTRUCTURE UPGRADE PROJECT
West Shaft Work – Processed Chilled Water
PUPIN INFRASTRUCTURE UPGRADE PROJECT
East Shaft Work – Electrical Riser

Asbestos Abatement Removal of VAT Floor Tile
Temporary Construction Shaft Wall 100 thru 1400 Level
WHAT TO EXPECT

CONSTRUCTION SCHEDULE:
- A DETAILED CONSTRUCTION SCHEDULE HAS BEEN DEVELOPED BY THE CONSTRUCTION MGR
- ACADEMIC CALENDAR AND BLACK-OUT DATES RELATED TO IMPORTANT EVENTS OF THE UNIVERSITY HAS BEEN INCORPORATED

SCHEDULE CHANGES:
- THE CONSTRUCTION SCHEDULE IS SUBJECT TO PERIODIC UPDATES BASED ON FIELD CONDITIONS, EQUIPMENT LEAD TIMES OR UNFORESEEN DELAYS.
- THE SCHEDULE WILL BE MONITORED WEEKLY BY CM, CUF CPM AND THE PROJECT TEAM.

WORKING HOURS:
- CONSTRUCTION ACTIVITY WILL TAKE PLACE ACCORDING TO THE ESTABLISHED DEPT of BUILDINGS (DOB) GUIDELINES (M – F / 7AM – 6PM).
- PER CODE, THE DOB MUST BE NOTIFIED OF WORK OCCURRING BEFORE 7AM OR AFTER 6PM.
- MOST WORK WILL OCCUR BETWEEN 7AM & 3:30PM.

WHAT ARE THE TYPICAL DISRUPTIONS?
- NOISE, VIBRATIONS, DUST, DELIVERIES, ELEVATOR #36 USAGE & TEMPORARY UTILITY SHUTDOWNs.
WHAT TO EXPECT

LOGISTICS PLAN:
- CM HAS DEVELOPED A LOGISTICS PLAN DESCRIBING THE LOCATIONS WHERE WORK IMPACTS WILL OCCUR.
- MATERIAL FOR THE PROJECT WILL BE LOADED AND DEBRIS REMOVED BY THE 200 LEVEL DOOR TO 120TH STREET.
- SIDEWALK SCAFFOLDING TO BE INSTALLED AROUND PERIMETER OF BUILDING AT 120TH STREET AND CAMPUS LEVEL – FULL NETTING

EXCESSIVELY DISRUPTIVE WORK
- CONSTRUCTION ACTIVITY THAT IS EXCESSIVELY DISRUPTIVE WILL OCCUR AFTERHOURS (ON OVERTIME) IN COORDINATION WITH OCCUPANTS, PUPIN TEAM AND RELEVANT STAKEHOLDERS - SUCH AS CUF OPERATIONS AND CUF PUBLIC SAFETY (WHERE APPROPRIATE).

UTILITY SHUTDOWNS:
- TEMPORARY UTILITY SERVICE INTERRUPTIONS WILL BE COORDINATED IN ADVANCE AND WILL BE SUBJECT TO APPROVAL BY CUF OPERATIONS AND PUPIN TEAM
- ADVANCE NOTICE WILL BE PROVIDED TO AFFECTED OCCUPANTS AT LEAST 48 HOURS AHEAD OF TIME.
CONSTRUCTION IMPACTS & MITIGATION EFFORTS
CUF COMMUNICATION PLAN

PROJECT OVERSIGHT:

- A PROJECT IS BEING MANAGED BY CUF CPM’S PROJECT MANAGER IN COORDINATION WITH PUPIN HALL TEAM
- OTHER CUF STAKEHOLDERS (INCLUDING OPERATIONS, ENGINEERING AND PUBLIC SAFETY) HAVE BEEN NOTIFIED OF THE START OF CONSTRUCTION AND WILL PROVIDE STANDARD SUPPORT AS NEEDED.

WEBSITE & CONSTRUCTION NOTIFICATION:

- GENERAL AND UP-TO-DATE INFORMATION ABOUT THE PROJECT IS INCLUDED ON THE PROJECT WEBSITE INCLUDING CONSTRUCTION LOOK-AHEAD NOTIFICATIONS WHICH WILL BE PUBLISHED BI-WEEKLY AND DISTRIBUTED DIRECTLY TO ANYONE WHO WOULD LIKE TO STAY INFORMED ABOUT UPCOMING WORK.
- IF YOU WOULD LIKE TO RECEIVE DIRECT EMAIL NOTIFICATIONS THERE ARE DIRECTIONS AT THE TOP OF THE DEDICATED PROJECT WEBPAGE.
- THE PROJECT’S DEDICATED WEBPAGE CAN BE FOUND AT FACILITIES.COLUMBIA.EDU.
  http://facilities.columbia.edu/pupin-hall-upgrades
- A SAMPLE LOOK-AHEAD IS INCLUDED ON THE NEXT PAGE OF THIS PRESENTATION.
CONSTRUCTION LOOK-AHEAD NOTIFICATIONS

Pupin Hall Upgrades
Construction Activities for the Next Two Weeks

This construction update has been developed specifically for occupants of Pupin Hall and contains information on construction activities in and around the building. In efforts to make necessary upgrades to the building, while preserving its historic significance on the campus, a series of construction projects commenced in the spring of 2014 and continue until the fall of 2015. We hope you find this useful and thank you for your patience and cooperation as we work to make Pupin a better place to work and learn.

Construction Update for the weeks of September 1, 2014 and September 12, 2014

Although contractors carefully stage construction activities to minimize disruption to the surrounding community, the nature of construction work is such that some disruptions will occur. The community should expect the following in the coming weeks:

What is Happening

- 8th and 9th floors for the New Theory Center
  - Floor layout and carpentry work
  - Electrical rough-in work
  - Construction deliveries
- AEP Vertical Infrastructure Upgrade
  - Corridor work (additional lighting, painting, ceiling work)
  - Heavy utilization of corridors and elevator
  - Selective demolition
- Exterior Copper Cornice Replacement
  - Week of September 8th - Start overhead bridge and scaffolding work
  - Removal of existing scaffolding and installation of new scaffold
  - Heavy utilization of 120th Street (exterior work)

What to Expect

The community should expect the following in the coming weeks:

- Regular weekday work hours: 7:00 a.m. – 5:00 p.m. Saturday work hours: 9:00 a.m. – 5:00 p.m.
- Delivery of materials
- Some noise due to construction-related activities
- Elevator #36 to be utilized for construction related work
- Corridor traffic and noise

Please note that all activities are subject to change based on weather and other field conditions.
KEYS TO SUCCESSFUL PROJECTS

- Collaborative Approach
- Communication
- Advanced Notice of work
- Resources
Q & A