Caltech FACILITIES
PLANNING, DESIGN & CONSTRUCTION

Beckman Institute Courtyard Waterproofing Project

Town Hall – Meeting – 03/19/2026 from 9:00am – 10:00am

Executive Summary

The Beckman Institute Courtyard Waterproofing Project addresses ongoing water intrusion issues impacting sensitive research spaces below grade. The approved scope (Option #01) includes full removal of the existing courtyard and colonnade assemblies, installation of a cold fluid-applied waterproofing system, and reconstruction with positive drainage away from the building.

The project kickoff meeting confirmed scope alignment, construction constraints, and risk mitigation strategies. Construction is targeted to begin in April, pending City of Pasadena permit approval. Disruptive activities will be coordinated during off-hours to minimize impacts to research operations. Phase 2 scope, including seating and landscaping, will be evaluated separately once waterproofing work is complete.

Town Hall - Meeting

Project: Beckman Institute Courtyard Waterproofing
Date: 03/19/2026 (Thursday)
Location: Beckman Institute – Zoom Meeting
Contractor: Pinnacle

PD&C Team Members, BI Staffing & General Contractor

- James Fernane – Caltech Project Manager
- Lauvai Tufele – Caltech Project Manager
- Marie Fares – Caltech Director of Architect
- Marianne Bronner – Director, Beckman Institute
- Susan Ruffins – Beckman Institute Administrator
- Ariane Helou – Beckman Institute Administrator
- TJ – Project Manager, Pinnacle

Summary of Discussion

The Beckman Institute Courtyard Waterproofing Town Hall provided an overview of the upcoming project focused on addressing existing drainage and waterproofing deficiencies to prevent water intrusion into occupied spaces below. The project team outlined the construction scope, anticipated schedule (Monday through Friday, 7:00 AM to 3:30 PM), and site logistics, including courtyard closure, pedestrian rerouting, and safety measures. Noise and vibration impacts were discussed, with construction activities expected to generate intermittent noise between 80–95 dBA and occasional peaks near 100 dBA, while vibration levels are anticipated to remain well below thresholds for sensitive research equipment based on prior campus monitoring. The team confirmed that no routine domestic water shutdowns are expected, though any unforeseen impacts will be coordinated in advance and scheduled to minimize disruption. Emphasis was placed on proactive communication, minimizing impacts to research operations, and coordinating high-sensitivity activities such as recordings outside of active construction hours, with ongoing updates to be provided to building occupants throughout the duration of the project.

Key Decisions

- **Project Scope & Purpose**
  Overview of courtyard waterproofing and drainage improvements to address ongoing water intrusion impacting spaces below.
- **Construction Schedule & Phasing**
  Work hours confirmed as Monday–Friday, 7:00 AM – 3:30 PM, with sequencing and high-impact activities to be communicated in advance.
- **Site Logistics & Building Access**
  Courtyard closure, staging areas, fencing, and adjustments to pedestrian circulation, including maintaining ADA-compliant access routes.
- **Noise & Vibration Impacts**
  Expected construction noise (80–95 dBA with intermittent peaks) and confirmation that vibration levels are anticipated to remain within acceptable limits for research environments.
- **Research & Operational Impacts**
  Discussion on minimizing disruptions, including coordinating sensitive activities (e.g., recordings, experiments) outside active construction hours.
- **Utilities & Infrastructure**
  Confirmation that no routine domestic water shutdowns are anticipated, with contingency planning for any unforeseen conditions.
- **Environmental Considerations**
  Tree relocation/removal strategy and efforts to minimize environmental impact within the courtyard.

- **Safety Measures**
  Construction containment, pedestrian safety, and coordination with EH&S and Facilities.
- **Communication Plan**
  Commitment to ongoing updates, advance notifications for high-impact work, and maintaining a clear point of contact for occupants.
- **Q&A / Stakeholder Concerns**
  Focus on noise sensitivity, vibration thresholds, scheduling coordination, and overall impact to research continuity

Risk & Mitigation

- Underground latent conditions acknowledged; potholing planned to reduce uncertainty.
- Temporary waterproofing & storm response measures required during construction.
- Progressive photo documentation will be used to verify compliance and protect the institute.

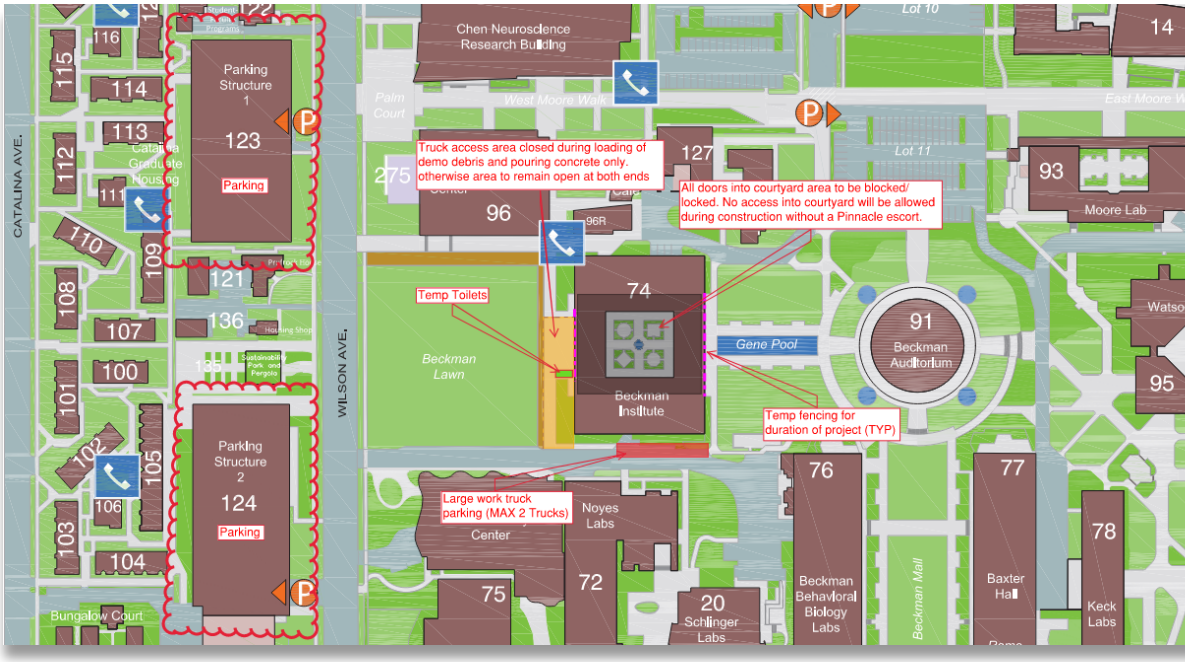
Risk & Mitigations Steps

1. **Noise Impacts to Research & Occupants**
   a. Risk: Elevated noise levels from saw cutting and demolition may disrupt sensitive activities (e.g., recordings, concentration-heavy work).
   b. Mitigation:
      i. Schedule high-noise activities during defined construction hours (7:00 AM – 3:30 PM)
      ii. Communicate advance notice of high-impact work
      iii. Recommend occupants coordinate sensitive activities after construction hours
      iv. Utilize noise-dampening methods where feasible
2. **Vibration Impacts on Sensitive Equipment**
   a. Risk: Potential concern for vibration affecting microscopes, lab instruments, or experiments
   b. Mitigation:
      i. Prior monitoring confirms vibration remains below acceptable thresholds
      ii. Limit use of high-vibration equipment where possible
      iii. Sequence work to avoid prolonged vibration exposure
      iv. Continue monitoring and adjust work if thresholds are approached
3. **Uknown Subsurface / Existing Conditions**
   a. Risk: Unforeseen conditions during demolition (Hidden utilities, structural conflicts, drainage issues)
   b. Mitigation:
      i. Perform exploratory demolition early in the schedule
      ii. Maintain contingency planning for rapid response

iii. Coordinate closely with Facilities & design team for resolution
iv. Communicating impacts immediately to stakeholders

4. **Utility Disruptions (Water, Electrical, etc.)**
    a. Risk: Unexpected need for shutdowns impacting building operations
    b. Mitigation:
        i. No planned domestic water shutdowns under current scope
        ii. Any required shutdowns will be:
            1. Pre-coordinated
            2. Scheduled during off-peak hours
            3. Communicated in advance
                a. PP Service announcement for modified service announcements – If necessary

5. **Access & Circulation Impacts**
    a. Risk: Restricted access through courtyard affecting pedestrian flow & ADA routes
    b. Mitigation:
        i. Implement clear pedestrian detours with signage
        ii. Maintain ADA-Complaint access at all times
        iii. Coordinate logistics plan with Facilities & Campus stakeholders.
    c.



6. **Environmental / Tree Impact Concerns**
    a. Risk: Tree removal or relocation impacting campus landscape and stakeholder concerns
    b. Mitigation:
        i. Coordinate with campus planning – CIT Landscape & Beckman Institute stakeholders

ii. Minimizing impact where feasible
iii. Clearly communicate scope & reasoning

7. **Safety Risks (Construction Adjacent to Occupied Building)**
    a. Risk: Exposure to construction hazards (Dust, debris, equipment movement)
    b. Mitigation:
        i. Full construction Containment within courtyard
        ii. Controlled access points & fencing
        iii. Coordination with CIT Safety Engineer – Frank C. & EH&S.
        iv. Air monitoring and dust control measures – if necessary
8. **Communication Gaps / Stakeholder frustration**
    a. Risk: Misalignment or lack of information leading to frustration or disruption
    b. Mitigation:
        i. Provide regular updates to building occupants
        ii. Issue advance notices for major activities
        iii. Maintain a single point of contact (PD&C)
        iv. Proactively address concerns raised during Town Hall
            1. Vibration

Next Steps

- Finalize scheduling with Pinnacle after Permits have been approved
    - Currently within backcheck & review
- Coordinate with BI to onboard Acoustical Engineer
    - The project team will utilize previously collected noise and vibration data from comparable Caltech lab projects, including conditions observed in BI B253, to establish a practical baseline for acceptable vibration thresholds near sensitive research equipment. While B253 is not the primary focus of this effort, the data trends from that environment will be used as a benchmark to understand how similar construction activities have historically performed adjacent to microscope-sensitive areas.
    - **Data-Driven Baseline Development**
        - Review historical AES monitoring data from projects performed adjacent to specialized equipment
        - Use observed vibration levels (which remained within acceptable limits during prior construction) as a **reference baseline**
        - Compare baseline conditions to anticipated construction activities for the courtyard project
    - **Correlation to Construction Activities**
        - Identify specific activities that generated measurable spikes:
            - Saw cutting
            - Jackhammering / impact demolition

        - Evaluate magnitude, duration, and proximity of those impacts relative to sensitive equipment
    - **Establish Acceptable Performance Criteria**
        - Align historical data trends with manufacturer requirements (e.g., Thermo Fisher equipment thresholds)
        - Use this comparison to define **acceptable vibration ranges during construction** rather than theoretical limits
    - **Construction Means & Methods Evaluation**
        - Prioritize lower-impact construction approaches in proximity to sensitive lab environments, including:
            - Saw cutting in lieu of heavy impact demolition where feasible
            - Electric tools over pneumatic where possible
            - Segmented and controlled demolition sequencing
            - Manual methods in high-sensitivity zones
    - **Coordination with AES (Acoustical Engineer)**
        - Provide AES with historical data trends to support evaluation
        - Confirm monitoring approach, alert thresholds, and reporting protocols
        - Validate that proposed construction methods align with acceptable vibration performance
    - **Noise Reduction Strategies**
        - Evaluate use of temporary acoustic barriers or dampening methods
        - Limit concurrent high-noise activities
        - Maintain proactive communication with building occupants for scheduling-sensitive work