

**UNIVERSITY of HOUSTON**  
**MANUAL OF ADMINISTRATIVE POLICIES AND PROCEDURES**

**SECTION: Facilities**  
**AREA: Facilities Use and Oversight**

**Number: 09.03.04**

<b>SUBJECT: Laboratory Renovation Management</b>
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**I. PURPOSE AND SCOPE**

This policy provides guidance for the Laboratory Renovation process with direction on the key elements of the program. These elements include the Cougar Laboratory Team role and responsibilities, Infrastructure Fund administration and use, cost estimating, and budget process development and scope, and assignment of laboratory space to optimize the efficiency and meet the needs of the University's research enterprise.

**II. POLICY**

This policy will be used to define the structure and administration of laboratory renovations to ensure that there is a consistency in the process that provides both reproducible and timely outcomes, determines responsibilities, and increases the awareness and communication flow of the roles of the Researcher, Colleges, Office of the Provost, Division of Research, Division of Administration and Finance, and other stakeholders in the process.

**III. DEFINITIONS**

1. College/Department Facilities Representative – Individual responsible for representing the department/college as designated by the college dean.
2. Construction –The construction phase of a project, in which unforeseen infrastructure needs may be identified.
3. Cougar Laboratory Team (CLT) - The Cougar Laboratory Team includes representatives from the Division of Academic Affairs, the Division of Research, the Division of Administration & Finance, the Faculty Senate, the Council of Chairs, and the Research & Scholarship Committee, and is a steering committee that provides strategic guidance and recommendations to senior leadership for the Laboratory Renovation Process at the University of Houston. This process encompasses the mandate that new research faculty are provided adequate laboratory facilities consistent with achieving the outcomes as dictated by sponsored research, and other non-funded research mandates of the University in a timely manner.
4. Lab Infrastructure Fund - Serves as a reserve for addressing unforeseen infrastructure costs discovered during the renovation of laboratories.
5. Lab Usage Guide (LUG) - The Laboratory Usage Guide is intended to be a database to assist in making laboratory assignments; identify the infrastructure capacity of research laboratories; improve timeline and financial estimations for renovations; and quickly identify unoccupied laboratories.
6. Planning - The period of time used to identify suitable laboratory spaces and review comparative costs of construction and infrastructure.

7. Rough Order of Magnitude (ROM) – Initial estimate of a cost of a project or part of a project in accordance with [AAE International](#) Recommended Practice No. 18-R-97.
8. Senior Leadership – Senior Vice President for Academic Affairs and Provost, Senior Vice President for Administration and Finance, Vice President for Research and Technology Transfer.

#### IV. COUGAR LABORATORY TEAM ROLES, RESPONSIBILITIES AND PROCEDURES

##### A. Cougar Laboratory Team Roles

1. The Cougar Laboratory Team (CLT) is established as a steering committee that provides strategic guidance and recommendations to senior leadership for the Laboratory Renovation Process at the University of Houston. This process encompasses the mandate that new faculty members with research responsibilities are provided adequate laboratory facilities consistent with achieving the outcomes as dictated by sponsored research, and other non-funded research mandates of the University in a timely manner. Specific functions include:
  - a. Act as a representative of the campus community to provide input as to the laboratory operations and renovation process;
  - b. Assist in disseminating information to the campus community on laboratory renovations;
  - c. Monitor the laboratory renovation process and make recommendations regarding continuous process improvements;
  - d. Monitor that laboratory renovations align with the arrival of new faculty members with research responsibilities to ensure that laboratories are up and running on time; and
  - e. Review and approve Lab Infrastructure Request Forms.
2. The membership of the CLT will reflect the University of Houston's commitment to shared governance and be represented by the following appointees:
  - a. Appointed by Provost Office (Perennial voting member);
  - b. Appointed by Division of Research (Perennial voting member);
  - c. Appointed by Research and Scholarship Committee (Two year appointment);
  - d. Facilities/Construction Management (F/CM) representative appointed by the SVP for A&F (Perennial voting member);
  - e. Three representatives from the Deans' Council (Two-year appointments);
    - i. The dean of Engineering & the dean of NSM will be standing members; the other dean will be appointed by the Provost.
  - f. Two members selected by Council of Chairs (Two year appointments)

3. The committee may also use subject matter experts as needed to assist in the monitoring and reporting of the laboratory renovation process. The CLT has the authority to establish task specific workgroups to examine the research lab renovation process in detail. Examples of subject matter experts commonly involved in this process would be:
    - a. EHS Lab Safety;
    - b. Fire & Life Safety;
    - c. F/CM Planning;
    - d. F/CM Project Management;
    - e. F/CM Campus Construction Services;
    - f. F/CM Maintenance;
    - g. Representative from the Hiring Department/College; and
    - h. Others as needed.
  4. The CLT will meet quarterly with the agenda containing the following items.
    - a. Review current fiscal year faculty hiring plan for laboratory renovation needs;
    - b. Monitor arrival of new research faculty and alignment with lab preparations;
    - c. Review budget and progress information on lab renovation projects;
    - d. Review and make recommendations on Laboratory Usage Guide (LUG) usage; and
    - e. Review proposed lab renovation projects for the next fiscal year.
  5. Appointment of the Chair will be the responsibility of the Senior Vice President for Academic Affairs and Provost and will be a two-year appointment. The committee will provide a report to senior leadership on an annual basis of the lab renovation program available for public review.
- B. Infrastructure Fund Administration
1. The primary purpose of the Lab Infrastructure Fund is to serve as a reserve for addressing unforeseen infrastructure costs discovered during the renovation of laboratories. Given the finite amount of funds available, funds are directed only to projects of the highest priority.
  2. This fund is intended to be used for necessary infrastructure changes that are not part of the project budget and held in reserve and accumulated so that it can be

used to address high cost infrastructure issues identified during ongoing renovations.

3. This fund is not intended to be used as a funding source in the project planning stage, other than critical life-safety issues within the scope of the project plan for the lowest cost suitable laboratory space, as defined by the LUG.
4. No more than 25% of the funds available for a given budget cycle will be made available for use on projects in the planning phase without the written approval of the Senior Vice President for Administration and Finance or designee. As such, it is critical that all projects are planned with the intention of identifying space that is both suitable for the research need and can be renovated for the lowest cost. The LUG is the primary means of selection of space.
5. Lab Infrastructure Fund use requirements:
  - i. Funds may not be used for new construction;
  - ii. Project funding must be secured for all other aspects of the project;
  - iii. Funds may not be used for other unexpected cost increases, which include but are not limited to: rising construction prices, changes in estimate unrelated to the infrastructure, changes in scope, or formal solicitation pricing responses; and
  - iv. Funds may not be used to replace lapsed funds or ineligible costs on other sources of funding.
6. Funding will be provided on a first come, first-serve basis.
7. Applications must be resubmitted for each funding cycle (i.e., allocations will only be made for the current budget cycle).
8. Planning Phase Application Process:
  - a. During planning, it may be identified that laboratory renovation or modification costs will be the catalyst for other cost needs. These costs are generally compliance or life-safety costs.
  - b. Allowable costs for planning phase requests are compliance costs that are in or attached to the laboratory space, and include: Americans with Disabilities Act costs, fire and life-safety costs and infrastructure support to bring the facility to current code compliance.
  - c. Unallowable costs for planning phase requests are:
    - i. Costs for ADA and fire and life-safety that are not in or attached to the laboratory space; alternate funding sources will need to be identified.

- ii. Costs for major structural, mechanical, electrical, and plumbing requirements in buildings and spaces where the lack of capacity is known in advance. Exceptions must be submitted on the Infrastructure Support Form and will be reviewed by the CLT and the Senior Vice President for Administration and Finance.
  - iii. Costs resulting from the nature of the work or equipment in the lab; examples include transformers for equipment that uses a different voltage, or structural change to limit vibrations.
  - iv. Internal costs such as planning or overhead other than that which is associated with the approved scope of work using Lab Infrastructure funds.
- d. Planning phase requests shall be submitted to the CLT using the Lab Infrastructure Fund Request Form, which requires:
- i. The laboratory criteria and a summary of available spaces that meet those criteria as listed in the LUG, with a rough order of magnitude for each qualifying space, approved by the Division of Research or Facilities & Construction Management.
  - ii. Detailed description of the necessity of the infrastructure work, facility project scope of work, risk, and rough order of magnitude cost estimate from Facilities & Construction Management.
  - iii. Project recommendation from the Vice President of Research or their designee.
  - iv. Project recommendation from the Senior Vice President for Academic Affairs/Provost or their designee.
- e. The CLT will review the requests at their next meeting.
- i. If sufficient funding exists for all requests, requests will be forwarded to the Senior Associate Vice President for Facilities/Construction Management or designee.
  - ii. If sufficient funding does not exist for all requests, the CLT will recommend priorities and forward the information to the Senior Associate Vice President for Facilities/Construction Management or designee.
  - iii. The Senior Associate Vice President for Facilities/Construction Management will meet with the Senior Vice President for Academic Affairs/Provost and the Vice President for Research and Technology Transfer to request approval of recommended priorities, or establishment of priorities within the available budget.
- f. The approved projects will be submitted to the Office of the Senior Vice President for Administration & Finance or their designee for their approval.

9. Construction Phase Application Process
  - a. During the construction phase of planned laboratory renovations, it may be identified that unforeseen fire, life-safety, or compliance issues exist and must be addressed for the project to be completed.
  - b. Construction phase requests may be submitted by Project Managers to the Senior Associate Vice President for Facilities/Construction Management using the Lab Infrastructure Fund Request Form, which requires:
    - i. Detailed description of the type and risk of the infrastructure need;
    - ii. Explanation as to how the cost was discovered and estimated; and
    - iii. If sufficient funding does not exist for all requests, the Senior Associate Vice President for Facilities/Construction Management will meet with the Senior Vice President for Academic Affairs/Provost and Vice President for Research and Technology Transfer to request approval of recommended priorities, or establishment of priorities within the available budget.
  - c. Recommendations from the Senior Associate Vice President for Facilities/Construction Management will be submitted for the approval of the Vice President of Research or their designee and the Senior Vice President for Academic Affairs/Provost or their designee.
  - d. The approved projects will be submitted to the Office of the Senior Vice President for Administration & Finance or their designee for their approval.

C. Developing Lab Project Scopes and Estimations

1. Pre-Hire Estimate
  - a. New faculty hiring requests are submitted from all colleges/departments for approval to the Provost.
  - b. Upon approval from the Provost, a college or hiring department may begin the collaboration process with Facilities/Construction Management (F/CM) to determine a renovation and/or new construction project cost estimate and scope for a potential candidate.
  - c. The college facilities representative, following consultation with the department chair and/or dean, submits an “estimate only” request via F/CM FIX-IT (<https://uh.edu/facilities-services/services/fixit/>).
  - d. F/CM assigns a Planner/Project Manager to the project and arranges a job walk to visit the site to verify conditions and collect requirements. The job walk includes the college’s facilities representative, department chair, and subject matter experts to collect scope parameters and project goals.

- e. F/CM will work with the hiring College/Department to fill out the Lab Project Scope Checklist to capture the project requirements (including but not limited to the identification of any scope associated with human and/or animal research) in order to develop the project estimate. The Scope Checklist is then provided for an estimate.
- f. F/CM develops a total project cost estimate based on the documented scope. All infrastructure costs are identified within the estimate. If Lab Infrastructure Funding is identified within the budget, a request is submitted to the CLT for approval and budgeting purposes.
- g. A cost estimate is provided on standard template using one or more of the following methods.
  - i. Three point estimating method:
    - I. Optimistic (O)
    - II. Most likely (M)
    - III. Pessimistic (P)
  - ii. Internal and external historical estimates.
  - iii. Texas Higher Education Coordinating Board pricing is average plus one standard deviation with appropriate escalation. Estimate with +/- range is added to the estimate based on level of project definition. (Expressed as % of complete definition.)
- h. A formal estimate document is routed to the requestor.
- i. If estimate is at or below the approved project budget, the scope may be approved by the hiring College/Department representative.
- j. If estimate is above project budget, scope is returned to project team to either obtain additional funding for the project or reduce the scope of the project.
  - i. A new estimate is obtained for the revised scope.
  - ii. The process continues until the scope's estimated budget is within the approved budget threshold and is approved by the hiring College dean.
- k. The college or hiring department designates an approval authority for scope and budget decision for the anticipated project. The project budget must include all design, construction, furnishings, project management fees and other associated costs to plan, design, build and commission the project.
- l. The project's estimate, scope, and proposed duration are approved by the college facilities representative, department chair and then shared with CLT to support monitoring and tracking efforts per the approved Pre-hire workflow.

- m. After all approvals are obtained, the result is the baseline scope, budget, and schedule for the proposed project.
2. **Post-Hire.** Scope, budget, and schedule is confirmed and approved.
- a. When a college or hiring department is ready to proceed with a lab renovation and/or construction project, the college facilities representative or hiring department submits a lab project initiation request via F/CM FIX-IT (<https://uh.edu/facilities-services/services/fixit/>).
  - b. F/CM Planner/Project Manager assignment is made.
  - c. F/CM, college facilities representative, principal investigator, department chair, and CLT subject matter experts confirm location, scope, and schedule.
  - d. If significant scope changes from the pre-hire estimate are identified, additional review will occur with F/CM and CLT's subject matter experts, and funding requirements are communicated with the college facilities representative, principal investigator, and department chair and/or dean.
  - e. Estimate confirmation occurs, and additional funding is identified as required.
    - i. Funds may come from researcher.
    - ii. Funds may come from hiring College/Department.
    - iii. Funds needed from the Infrastructure Fund requires F/CM department approval.
  - f. If the required additional funding is unavailable, scope parameters are revisited.
  - g. Funding documents are finalized and routed for approval per the approved Post-hire workflow.
  - h. If the proposed change impacts only the baseline schedule and no additional cost impact is expected, the hiring College/Department representative may approve.
  - i. Once the proposed change is approved and funded, the Lab Project Manager may incorporate the change by updating the baseline scope, schedule, and budget.
3. Expected delivery/schedule –
- a. Pre-Awarded contract is utilized using Integrated Project Delivery Methodology
    - i. Design/Construction procurement occurs on an annual basis, which includes the identified labs.



- ii. Each lab renovation is monitored and controlled individually by the F/CM project manager, design team, and general contractor. A key F/CM person oversees all research projects.
- iii. Contractor, principal investigator, and stakeholders participate in design review sessions.
- iv. Design is reviewed and approved per identified process.
- v. Budget and scope reconciliation occurs during the design phases to ensure there are no funding overruns.
- vi. If required and criteria met, Lab Infrastructure Funding is approved.

D. Laboratory Usage Guide

1. The Laboratory Usage Guide (LUG) provides information regarding Laboratory space on the University of Houston campus. The LUG will provide the following information and be available for use by those involved in the management of Laboratory space:
  - a. Faculty member currently assigned to the laboratory space;
  - b. Laboratory building infrastructure capacities;
  - c. Laboratory current usage by project;
  - d. Current project award information per laboratory;
  - e. Laboratory assignments by College;
  - f. Plan drawings for laboratories; and
  - g. Fixed laboratory equipment inventory.
2. The data for the LUG is an aggregation of data from various sources including:
  - a. Division of Research;
  - b. Environment Health & Safety;
  - c. Fire & Life Safety
  - d. Facilities/Construction Management; and
  - e. Colleges and departments with assigned research responsibilities.

Each responsible area will ensure that the information in the LUG is updated as needed to ensure accurate decision-making. In addition, UH Information Technology will act as the subject matter expert to assist, design, and implement database interconnectivity and applications between divisions.

3. The LUG will be reviewed annually by the CLT to ensure that the data being provided is relevant to the renovation process and future management of laboratory space.

VI. REVIEW AND RESPONSIBILITY

Responsible Party: Senior Vice President for Academic Affairs and Provost

Senior Vice President for Administration and Finance

Vice President for Research

Review: Every five years

VII. APPROVAL

*/Paula Myrick Short/*

Senior Vice President for Academic Affairs and Provost

*/Renu Khator/*

President

Date of President's Approval: August 11, 2022