

Office of the President

TO MEMBERS OF THE COMMITTEE ON GROUNDS AND BUILDINGS:

ACTION ITEM

For Meeting of May 15, 2013

APPROVAL OF PRELIMINARY PLANS FUNDING, CLINICAL SCIENCES BUILDING SEISMIC RETROFIT AND RENOVATION, SAN FRANCISCO CAMPUS

EXECUTIVE SUMMARY

The Clinical Sciences Building (CSB) is a 107,600 gross square foot (gsf) building, constructed in 1932, which includes office, research laboratory, clinical, and educational space requiring seismic remediation to comply with the University's Seismic Safety Policy. The renovation of CSB for desk-top and instructional space would accommodate approximately 400 to 450 faculty and staff. Total project cost, including the cost of site improvements to the adjacent sidewalk, is estimated to range from \$72.6 million to \$85.5 million, to be funded from campus funds, external financing, and a future request of State funds. This item requests approval of preliminary plans funding in the amount of \$2.4 million from campus funds. The proposed funding would allow the campus to engage with an executive architect and construction professional to explore structural design alternatives, develop a cost-effective renovation plan, and advance the proposed project through schematic design.

RECOMMENDATION

The President recommends that the Committee on Grounds and Buildings recommend to the Regents that the 2012-13 Budget for Capital Improvements be amended to include the following project:

San Francisco: Clinical Sciences Building Seismic Retrofit and Renovation - preliminary plans – \$2.4 million to be funded from campus funds.

BACKGROUND

The Parnassus Heights campus site, which is one of multiple UCSF campus sites, contains the home of all four UCSF professional schools: Schools of Medicine, Pharmacy, Nursing, and Dentistry. The campus also contains wet and dry biomedical research labs and offices, core instructional facilities (including classrooms, auditoria, clinical skills labs, teaching labs, the library, etc.), UCSF Medical Center inpatient and outpatient facilities, and other campus support functions.

UCSF has embarked on a long-range renewal plan for the Parnassus campus site, consistent with the Long Range Development Plan, Physical Design Framework, Ten-year Capital Financial Plan, and Strategic Plan. The renewal plan contains a number of goals, which include remediating seismic hazards, renovating obsolete laboratory space in existing high-rise laboratory buildings, and improving the office space supporting UCSF faculty and staff who provide patient care, educate students and trainees, and conduct research at Parnassus. With the renewal plan, the programmatic emphasis at the Parnassus campus site would remain essentially the same, except that women's, children's, and cancer clinical programs and their faculty would relocate to the new UCSF Medical Center and the new UCSF Faculty Office Building, both at Mission Bay. Clinical programs serving adult patients at Parnassus would backfill the space vacated by programs moving to Mission Bay. New faculty and staff would be hired to support the Parnassus programs and would require desk-top work space at the Parnassus campus site adjacent to the clinical facilities.

Project Drivers

1. Seismic Remediation. The Clinical Sciences Building (CSB) is rated Level VI under the University's Seismic Safety Policy. Per the Seismic Review Board, UCSF must make immediate progress towards remediating CSB's seismic conditions.
2. Programmatic Office Space Need. Desk-top work space is needed to accommodate: the existing CSB occupants; existing unmet demand for 54 existing clinical faculty who do not have desk-top work space; office occupants decanted from UC Hall as part of a future retrofit project (under a separate project to be brought to the Regents in the future). The renovated facility would also provide the additional space necessary for the 200 clinical faculty and staff to be hired over the period to 2021; the new faculty and staff would support the expansion of adult clinical services at Parnassus.
3. Adjacency Needs. Clinical faculty and staff need desk-top work space at the Parnassus campus because of programmatic adjacency needs. Clinical faculty must be within a short walk of the clinical and instructional facilities, as well as their research labs. The faculty housed in CSB have clinical responsibilities at Moffitt/Long Hospital and outpatient clinics at the Parnassus campus site, and many also teach students or trainees, or conduct research at the campus site. There is no space for these programmatic needs elsewhere on the Parnassus campus. Not only is CSB centrally located at the Parnassus campus site, it is physically linked via hallways to the Medical Sciences Building, which in turn connects to Moffitt/Long Hospital. This link is critical to faculty in CSB because it provides for quick travel between their offices and clinical, instructional, and research spaces.
4. Cost-effectiveness. Of the options analyzed, the option to renovate and the option to demolish and build a new replacement building were the two most viable ones for the campus. Between these two options, the retrofit/renovation option is less expensive than the demolition/rebuild option, which includes the high cost of the demolition work as well as the cost of a new building shell. (See Attachment 3, Alternatives.) The retrofit/renovation option meets the campus's objective for a plan that is cost-effective and fundable.

Project Description

The proposed CSB retrofit and renovation project would remediate the seismic hazards in the seven-story building in compliance with the University's Seismic Safety Policy, provide renovated office space for approximately 400 to 450 faculty and staff, and replace instructional space in both auditorium and classroom format.

Decant. The research laboratories now in CSB would relocate in 2014 and early 2015 to recently vacated older laboratory spaces, once those older laboratories are renovated. The laboratory renovations would be undertaken as separate projects that are anticipated to be under the Chancellor's approval authority. The decant projects are estimated to cost in aggregate \$49 million, and they will upgrade obsolete laboratories that are poorly configured and contain aging infrastructure.

The proposed project would be completed in one phase, in order to avoid the additional cost of phased moves, disturbance to existing occupants, project overhead, and cost escalation because of drawn-out construction schedules. The complete gutting of the building would be necessary in order to replace the infrastructure, install shear walls, and reconfigure circulation and program space. Specifically, the building would be vacated in order to gut and seismically retrofit the building, replace aging mechanical/electrical/plumbing infrastructure, renovate the space for efficient desk-top work space, and consolidate instructional space on the ground floor.

Seismic. CSB is a seven-story steel frame building, with a poured-concrete exterior envelope. The building has shear walls on the upper levels but these are discontinuous, stopping at the third-floor level and never reaching the foundations. This discontinuous shear wall structure concentrates lateral earthquake forces on the lower levels of the building structure without providing a load path to the foundations and into bedrock. In addition, the building lacks structural strength in the transverse direction; and it has a soft-story condition on the top level. These structural deficiencies have led to a seismic performance rating of Level VI under the University Seismic Safety Policy. Seismic reinforcement of CSB requires construction of extensive new shear walls as well as reinforcement of the steel frame.

Infrastructure. The building's infrastructure is aged and out-of-date. Restrooms and building access from Parnassus Avenue are not compliant with current code and would need to be addressed. The main air-handling equipment, electrical equipment, and switchgear must be replaced. The existing mechanical and electrical equipment spaces in the building are too small for code compliance, and need to be expanded in size and reconfigured to allow room for contemporary equipment and code-mandated maintenance access. Due to the proposed change in occupancy, the laboratory exhaust system would need to be removed; this removal would damage the roof, triggering the need for its replacement. Electrical distribution and information technology distribution would need to be replaced, also.

Program. CSB currently contains offices, research laboratories, clinics, and educational space. Roughly 40 percent of the space is devoted to wet laboratory programs, with the rest devoted to non-laboratory programs. There are roughly 300 to 310 occupants in the building, excluding students, Ph.D. candidates, and clinic patients. Because of research and clinical affiliations, it is important for current faculty and staff housed in CSB to remain at the Parnassus campus site.

Thus, the goal of the CSB retrofit and renovation project is to accommodate existing desk-top office, dry research, and instructional use, to address the current unmet demand for the 54 clinical faculty without desk-top workspace, and to provide equivalent workspace for future faculty and staff associated with the expanded clinical programs through 2021. Total full-time occupancy would accommodate approximately 400 to 450 faculty and staff. Some of these hires have occurred and some recruitments are in-progress; it is assumed that offices and desk space must be shared due to the scarcity of offices.

Approval Request and Schedule

The requested preliminary plans funding of \$2.4 million in funds available to the Chancellor (Chancellor's Core Funds Plan) would enable UCSF to refine and confirm the scope of the project, and develop a budget for and design of preliminary plans for future Regents' approval. The funding would support completion of programming and concept design, develop hazardous abatement and site surveys, and development of California Environmental Quality Act documentation and cost analysis. The campus intends to submit the project for full budget, financing, and design approval in January 2014. Following budget, financing, and design approval, it is estimated that construction would commence in summer 2015, with the goal of completion by spring 2017.

ATTACHMENTS: (all below)

Attachment 1: Preliminary Plans Budget

Attachment 2: Policy Compliance

Attachment 3: Alternatives

Attachment 4: Delivery Model

Attachment 5: Project Site Map and UCSF Site Map

PRELIMINARY PLANS BUDGET

<u>Category</u>	<u>Amount</u>
Fees ⁽¹⁾	\$1,200,000
Campus Administration ⁽²⁾	\$225,000
Surveys, Tests, Plans and Specifications ⁽³⁾	\$178,000
<u>Special Items ⁽⁴⁾</u>	<u>\$797,000</u>
Total Preliminary Plans Budget	\$2,400,000

¹ Architect and Technical Team, Design Development to Regents Design, Construction Management Consultants, and Plan Review

² Campus Project Management and Contract Administration

³ Includes Hazardous Materials Survey and Testing

⁴ Legal and CEQA Consultants, Community Presentations, CEQA Approval, Telecommunications, Security, Structural Peer Review and Audio/Visual Consultant

POLICY COMPLIANCE

Capital Financial Plan. The *2012-22 Capital Financial Plan* for the San Francisco campus includes the project at a project budget of \$90.5 million.

Environmental Analysis. Pursuant to the California Environmental Quality Act (CEQA) and the University Procedures for implementation of CEQA, appropriate CEQA review will be completed prior to consideration by the Regents or its delegate of authorization to proceed with the project.

Sustainable Practices. This project will comply with the *University of California Policy on Sustainable Practices*. As required by this policy, the project will adopt the principles of energy efficiency and sustainability to the fullest extent possible, consistent with budgetary constraints and regulatory and programmatic requirements, and achieve a minimum U.S. Green Building Council Leadership in Energy and Environmental Design Silver rating. Specific information regarding energy efficiency and sustainability will be provided when the project is presented for design approval.

Seismic Safety Policy. This project will comply with the *University of California Seismic Safety Policy* including independent seismic peer review.

ALTERNATIVES

Four options have been identified for remediating the seismic risk posed by CSB:

- 1) Do nothing (the 'Null Option');
- 2) Demolish CSB and construct a landscaped entry to Saunders Court from Parnassus Avenue;
- 3) Demolish and rebuild CSB on-site;
- 4) Fully decant CSB and, once empty, rehabilitate the building; and
- 5) Working from the base of the building to the top, decant one or two floors at a time and rehabilitate the vacated floors, working up the building in this fashion a floor or two at a time.

Option 1: The 'null option' of doing nothing and continuing to use CSB as it is: This option ignores *UC Seismic Safety Policy*, which requires remediation of seismic hazards, and exposes both UCSF and the University to levels of seismic risk deemed unacceptable by *Policy*. (<http://www.ucop.edu/ucophome/coordrev/policy/seismic-safety-policy.pdf>). This option has been rejected by Campus Leadership and will not be developed or analyzed further.

Option 2: Demolish CSB, construct a landscaped entrance to Saunders Court from Parnassus Avenue, and renovate UC Hall as office: This option does not fulfill UCSF programmatic goals of providing faculty and staff workplaces in the closest possible proximity to Moffit/Long Hospital, Medical Sciences, and Health Sciences East and West buildings in support of maximal faculty and staff efficiency. Furthermore, this option compromises UCSF's ability to meet the 2035 LRDP space ceiling goals currently under development, as demolition of CSB removes 40,000 gsf less space from the Parnassus space inventory than demolition of UC Hall or conversion of UC Hall to housing. This option has been rejected by Campus Leadership and will not be developed or analyzed further.

Option 3: Demolition and rebuild of CSB on-site: This is the second-most expensive option, because it incurs the cost of demolition and construction of a new CSB shell, costs which are wholly or partially avoided by renewal of the existing building. Furthermore, new building construction would be more disruptive to the center of campus than renovation, as renovation within the existing shell would do much to contain the noise, dust, and vibration of construction. This option does fulfill UCSF programmatic goals, as CSB lies at the heart of the Parnassus campus, and connects to three buildings on all floors: Nursing, Medical Sciences, and UC Hall. CSB is partially buried at the basement and half of the level above in the hillside, resulting in a retaining wall structure integrated into the building on the south side. These factors all complicate demolition of the building and increase cost, as they each require extensive temporary protective measures and/or traffic control to support the demolition process. These same factors also complicate and add cost to construction of a new building on the site. Rough project cost: \$98.7 to \$116.3 million (\$922 - \$1,086/gsf), duration 30 to 36 months.

Option 4: Full decant and single-phase remediation of CSB, followed by re-occupancy: This option provides the most efficient opportunity to replace aged and out-of-date building systems and interiors in addition to remediation of the seismic risk through augmentation of structural systems and of non-structural support elements. This option does fulfill UCSF programmatic

goals, providing faculty and staff workplaces in close proximity to Moffit/Long Hospital and other sites. The construction work required for remediation would not have to be phased, and thus avoids the additional cost of phased moves, and of additional project overhead and cost escalation because of drawn-out construction schedules. Scientific research would not be put at risk because of the noise and vibration associated with installing structural shear walls, strengthening steel framing, and interior fit out in an occupied building. Renewal of CSB requires replacement of primary mechanical and electrical systems because of age and code-compliance issues, and ADA upgrades in restrooms and for access to the building from Parnassus Avenue. Rough project cost: \$72.2 to \$85.5 million (\$678 - \$799/gsf), duration 24 to 30 months.

Option 5: Partial decant and floor-by-floor phased remediation of CSB: This option would empty one floor of CSB at a time, and remediate the building starting at the foundation level and rising floor-by-floor, moving people around the work in progress. This option does fulfill UCSF programmatic goals, providing faculty and staff workplaces in close proximity to Moffit/Long Hospital and other sites, but otherwise has significant impacts on occupants. This approach would engender significant additional costs for phasing, greatly extended overhead, premium hourly wage rates for extended working hours during evenings and weekends, disruption of the occupants due to power and other utilities shutdowns, vibration and noise, and cost and disruption of multiple moves. Cost of floor-by-floor renovation would rise significantly in comparison to renovation of an empty building due to a significantly longer construction schedule, and delays due to working shutdowns around work schedules in an occupied building. Rough project cost: \$ 107 to \$135 million (\$1000 - \$1261/gsf), duration 64 to 66 months.

Note: A "seismic retrofit only" option was not developed because while it would address the most critical driver of seismic safety, it would not address the other related drivers such as accommodating the office and dry research space demands on Parnassus of CSB, staff decanted from UC Hall, and existing unmet and future clinical faculty and staff hires. Moreover, a seismic retrofit only option would trigger code-mandated upgrades of other building systems, which then would engender a whole-building renewal project.

FACTORS AFFECTING COST AND SCHEDULE

This project is at a very early stage. Costs have been estimated based on conceptual design options but are subject to a high level of imprecision. Preliminary plans funding will allow UCSF to assemble the project team and to build a final project budget grounded in a thorough risk mitigation plan. Because of factors that are discussed below, UCSF proposes to develop a project plan that will effectively mitigate risk and boost construction labor productivity, which is the single largest drag on project costs at Parnassus.

Project costs and construction costs on Parnassus have historically been high, because of the extreme urban density, and the interconnectedness of the buildings and utilities systems.

These conditions typically erode daily construction labor productivity and increase risk for contractors and subcontractors. This erosion of productivity is by far the single largest cause of high construction costs at Parnassus.

Factors which impact labor productivity include:

- 1) Lack of close-in contractor parking.
- 2) Lack of lay-down space and/or material handling and staging space, which forces contractors to use just-in-time delivery. Any impediment to the smooth delivery of materials to the site impacts crew productivity.
- 3) Cost of managing site access by delivery vehicles and construction equipment in a location visited by 16,000 persons per day.

These are typical challenges faced by contractors working at the Parnassus campus. UCSF intends to use P funding to assemble the best project team available in San Francisco to design productivity-enhancement and cost avoidance measures into the project risk management plan and bidding documents. UCSF hopes that this process of design, risk analysis and mitigation, and delivery strategy development will lead to costs at the low end of (or below) the range contained in this Business Case Analysis.

CONCLUSIONS

Option 4 – full decant and single-phase remediation of CSB, followed by re-occupancy – delivers the best value for money of the three CSB Renovation Options. *UC Seismic Safety Policy* and UCSF programmatic objectives are met at the lowest cost compared to the other options. The duration for demolition and rebuilding is longer than for renovation, and demolition of CSB would remove an historic resource that is valued by members of both the UCSF community and the public at large. Demolition and replacement would engender significantly more disruption to the center of the campus than renovation, as renovation would take place mostly within the existing building shell, and would require far less transportation of material out of and into the tight urban site.

For these reasons the Chancellor's Executive Committee has approved Option 4.

DELIVERY MODEL

Cost control for projects at the dense, urban Parnassus campus site depends upon comprehensive logistical planning, risk management, and, for a renovation option, careful calibration of the design for cost effectiveness. The campus's analysis of what alternative best serves the campus needs points to the renovation option. (Please see Attachment 3.) If the renovation alternative is ultimately the preferred alternative, the likely range of delivery models for the proposed project is:

- (1) Basic Design-Build;
- (2) Design-Bid-Build; and
- (3) Construction Manager at Risk (CM@Risk).

The delivery models were analyzed for their ability to address these issues, and were evaluated against versions that incorporated Lean Construction methods used for UCSF's Smith Cardiovascular Research Building at the Mission Bay campus site (Lean CM@Risk) and the Dolby Regeneration Medicine Building (Lean Design-Build) at the Parnassus campus site.

Use of a CM@Risk delivery model allows UCSF to work with the CM@Risk contractor and the design team to develop bid documents reflective of a fine-grained approach to risk mitigation, one that will inform subcontractors bidding the project of specific measures and programs designed to mitigate risks inherent to individual trade packages. This will, in turn, allow more effective management of labor productivity, construction escalation, and of the work itself, leading to smoother workflow and improved labor productivity. For these reasons the CM@Risk delivery model has been selected for the renewal of CSB.

PROJECT SITE MAP AND UCSF SITE MAP

