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Office of the President

TO MEMBERS OF THE COMMITTEE ON GROUNDS AND BUILDINGS:¹

ACTION ITEM

For Meeting of March 24, 2016

APPROVAL OF PRELIMINARY PLANS FUNDING, MISSION BAY NEUROSCIENCES RESEARCH BUILDING (BLOCK 23A), SAN FRANCISCO CAMPUS

EXECUTIVE SUMMARY

The San Francisco campus proposes to construct a 270,000 gross-square-foot, six-story building on the UC San Francisco (UCSF) Mission Bay Block 23A site, which is currently a surface parking lot. This building would provide a primary home for a new Neurosciences Institute, with bench laboratory research programs in Psychiatry and Neuroscience as well as desktop research, clinical and clinical research space, a vivarium, and other necessary support spaces for various campus research units currently distributed at multiple sites including the Parnassus Heights campus site, the Mission Bay campus site, and the Hunters Point facility.

This item requests the approval of preliminary plans funding in the amount of \$21 million, funded by campus funds, specifically from a centrally managed pool of unrestricted funds (non-State, non-tuition). These funds are derived from a variety of sources, including indirect cost recovery on sponsored contracts and grants, gift assessments, and investment earnings. The campus funds will be reimbursed by gift funding upon receipt of the gifts. The proposed funding would allow the campus to engage an executive architect and construction professional to explore structural design alternatives, develop a cost-effective development plan, and advance the proposed project through design development. A Discussion Item was heard by the Committee on Grounds and Buildings at the January 2016 Regents' meeting, and by the Committee on Health Services at its February 2016 meeting. Approval of full budget, financing, and approval of design following action pursuant to the California Environmental Quality Act will be requested at a future meeting.

RECOMMENDATION

The President of the University recommends that the Committee on Grounds and Buildings recommend to the Regents that the 2015-16 Budget for Capital Improvements and the Capital Improvement Program be amended to include the following project:

¹ Of interest to the Committee on Health Services

San Francisco: UCSF Mission Bay Neurosciences Research Building (Block 23A) – Preliminary Plans – \$21 million to be funded from campus funds.

BACKGROUND

Context

The proposed project is part of a complex of neuroscience facilities in Mission Bay. The Sandler Neurosciences Center, completed in 2012 on Block 19A, includes wet laboratories headed by principal investigators focused on neuro-inflammation research from the Department of Neurology, the Institute for Neurodegenerative Diseases (IND), and the Center for Integrative Neuroscience. The Sandler Neurosciences Center, along with nearby Arthur and Toni Rembe Rock Hall (Attachment 4, Figure 2), makes Mission Bay one of the largest neuroscience complexes in the world. However, additional space for neuroscience research is sorely needed to provide for expanded research programs, which cannot be accommodated in these existing facilities, and capture advances in the field.

Project Drivers

The key drivers for this project are:

1. **Demand for Psychiatry basic science research space**

A revolution in mental health is underway, transforming not only the social science of mental health, but also the biological science of mental health. UCSF is poised to be at the forefront of research into the biological and genetic components of psychiatric disorders, translating that research to advance the understanding and treatment of developmental and mood disorders, schizophrenia, and others. UCSF has recruited a world-class leader in the study of the molecular basis for mental health and the Department of Psychiatry would like to increase its wet laboratory space in order to provide state-of-the-art facilities for this program.

2. **Demand for Neurology and Neuroscience research space**

Neurology and Neuroscience basic research are also experiencing growth. New collaborative research projects among existing principal investigators in the Department of Psychiatry, the UCSF Memory and Aging Center (MAC), and the new Kavli Institute for Fundamental Neuroscience (Kavli IFN), among others, are creating demand for wet research space co-located with dry research space.

The MAC is a world-renowned research and treatment center for brain diseases associated with aging, and UCSF researchers are launching research projects on specific aspects of depression in the elderly, which carries significant health risks. Research at the Kavli IFN will focus on brain plasticity, or changeability, and the collaborations will allow investigators to better understand how aberrant brain circuits at the root of

depression and bipolar disorder could be altered by new therapies. The Kavli IFN and the MAC are the recipients of philanthropic support for programmatic activity in the amounts of \$20 million and \$177 million, respectively.

The work of these two groups, along with the Department of Psychiatry's wet laboratory research, is outgrowing the space they currently occupy at Mission Bay in the Sandler Neurosciences Center and Rock Hall.² Additionally, the new direction of the collaborative research requires a tighter integration of wet and dry laboratory spaces – a design that is not feasible in the current facilities.

3. **Co-location of Psychiatry and Neuroscience research and proximity to administration**

Psychiatry and other Neuroscience wet research programs have a significant overlap in their research and there are anticipated benefits of increased collaboration by locating them in the same facility. Also, having Psychiatry wet laboratories at a Mission Bay location will improve efficiencies by bringing researchers closer to the Department of Psychiatry's new administrative, dry research, and clinical home being planned in the nearby Dogpatch neighborhood (2130 Third Street).³ Because the 2130 Third Street project will house what are essentially office functions and cannot accommodate wet laboratory space, it is both necessary and cost effective to allocate space for Psychiatry wet research in the proposed Neuroscience Research facility, which will be designed to meet laboratory requirements.

4. **Release existing space for ambulatory care**

UCSF Health is experiencing significant growth in ambulatory care services with a commensurate need for increased space. The proposed clinical component on the ground floor of the 23A Building would allow neurology outpatient clinics at Parnassus to move to Mission Bay, freeing up space in the Ambulatory Care Center at the Parnassus Heights campus site for other growing ambulatory services.

5. **Philanthropy support**

Within the philanthropic community, there is substantial support for neuroscience research. This proposed research building would attract such philanthropic support, allow UCSF to grow research programs in both wet and dry neuroscience programs, and provide the space needed to recruit world-class researchers.

² See Attachment 4.

³ See Attachment 4.

PROJECT DESCRIPTION

The proposed new building would provide a primary home for a new Neurosciences Institute, which is conceived as a magnet to bring the neurosciences community together with a translational focus and maximize collaborative opportunities among Neurology, Psychiatry, Neurosurgery, the IND, and basic neurosciences. The new Institute would focus on neurodegeneration; behavior, emotion and cognition; and nervous system repair. It would provide recruitment space for new principal investigators as well as expansion space for existing programs. By providing a collaborative space for neuroscience research, the proposed building would complement the existing Mission Bay neuroscience facilities, forming a cohesive cluster ringing the central open space of the Mission Bay North campus, Koret Quad.

The proposed building, containing six stories above grade, is expected to be complex in terms of uses and systems, as shown in Table 1. The co-location of wet and dry research intended for this project will pose unique design challenges. Additionally, because Mission Bay was previously underdeveloped land, utilities and other infrastructure for projects there require more improvements than typical campus buildings. Rather than provide a separate utility plant within the Block 23A building, the project includes the extension of the existing utility loop from Block 19B across Fourth Street in order to leverage spare capacity from other buildings and the Preliminary Utility Plant (PUP), located on Block 16B.

Table 1: Mission Bay Block 23A Building Program

Program	GSF
Wet Lab	90,000
Office/Dry Lab	106,000
Clinical/Imaging	36,000
Vivarium	28,000
Lobby Space	5,000
Retail Space	5,000
Total	270,000

The majority of the wet laboratory space would be allocated to new investigators, to be funded with philanthropic and campus support as well as new sponsored research funding, which will generate new overhead revenue to pay for the building's operating and debt service costs.

Desktop research space (office/dry laboratory) would be co-located on floors with wet laboratory areas to allow close collaboration between wet and dry laboratory investigators. This type of tightly integrated collaborative space is lacking in the current research space in the Sandler Neuroscience Center.

The clinical/imaging space would accommodate relocated existing neurology outpatient clinics from Parnassus.

The vivarium space would accommodate vivarium space now located at Hunters Point, and provide new space for the proposed researchers in the building. The existing vivarium would be vacated, consistent with the UCSF's Long Range Development Plan. The campus will consider a variety of options for re-using or selling the Hunters Point facility. Educational space would also be embedded in the office space of the proposed building to accommodate the new Global Brain Health Institute.

Because of the building's proposed frontage on Fourth Street, which is designated in the City of San Francisco's *Mission Bay Redevelopment Plan* for neighborhood-serving retail uses, some retail space is planned for the building at the ground level, both to serve the UCSF campus community and its visitors, and to activate the pedestrian level frontage on Fourth Street.

The proposed building would be constructed on a surface parking lot, containing 202 parking spaces. In compliance with UC's commitment to become carbon neutral by 2025, and in support of UC's Policy on Sustainable Practices, non-drive-alone-access to the proposed facility will be encouraged through UCSF's robust Transportation Demand Management program. The site is served by the Third Street Muni line in addition to UCSF shuttles. The displaced parking spaces, as well as the new parking demand generated by the occupants of the new building, would be accommodated in the existing Third Street parking structure immediately adjacent and new surface parking lots in the northwest blocks of the Mission Bay North campus.

UCSF intends to deliver this project with a Construction Manager-at-Risk approach⁴, with integrated Design/Build subcontractor trades using an integrated Target-Value Design strategy. UCSF evaluated campus-delivered models and developer-delivered models and determined that the campus-delivered building model is more straightforward and less time-consuming, and is therefore a more cost-effective delivery model and more appropriate for this particularly complex building program.

Approval Request and Schedule

Approval of Preliminary Plans funding of \$21 million, to be funded by campus funds, is requested. Preliminary plans will be funded by campus funds, specifically from a centrally managed pool of unrestricted funds (non-State, non-tuition). These funds are derived from a variety of sources, including indirect cost recovery on sponsored contracts and grants, gift assessments, and investment earnings. This funding would support completion of programming and design development documents together with development of California Environmental Quality Act (CEQA) documentation and cost analysis. Upon receipt of the gift funding, the campus funds would be reimbursed by the gift funding.

The campus intends to submit the project for full budget, financing, and design/CEQA approval in March 2017. Following these approvals, it is estimated that construction would commence in fall 2017 with completion targeted for spring 2020.

⁴ See Attachment 3.

Key to Acronyms

CEQA	California Environmental Quality Act
CM	Construction Manager
CUP	Central Utility Plant
GSF	Gross Square Feet
IND	Institute for Neurodegenerative Diseases
Kavli IFN	Kavli Institute for Fundamental Neuroscience
MAC	UCSF Memory and Aging Center
PUP	Preliminary Utility Plant

ATTACHMENTS:

Attachment 1: Preliminary Plans Budget

Attachment 2: Alternatives Analysis

Attachment 3: Delivery Model

Attachment 4: Project Location and Site

PRELIMINARY PLANS BUDGET

<u>Category</u>	<u>Amount</u>
Fees ⁽⁵⁾	\$11,540,000
Campus Administration ⁽⁶⁾	\$3,900,000
Surveys, Tests, Plans, and Specifications ⁽⁷⁾	\$360,000
Special Items ⁽⁸⁾	\$5,200,000
Total Preliminary Plans Budget	\$21,000,000

The preliminary plans budget phase will include the Master Planning, Programming, Schematic Design, and Design Development documents. The participants will include the Master Planning and Programming consultant, Building Design consultant, Construction Manager/General Contractor and Sub-contractors (performed under pre-construction services), as well as various design support teams including campus Facilities Management, and campus consultants on fire alarm, keying, signage, information technology, Leadership in Energy and Environmental Design, building commissioning, as well as third-party review, Office of the State Fire Marshal, Department of State Architect, and other agencies. The complex building program requires a high degree of structural, mechanical, and electrical design work to be coordinated with specialists and end-users during the planning phase to ensure the final space meets exacting specifications. Capital Programs will produce the pre-qualification and qualification documents and will facilitate the design team, construction management, and sub-contractor selection processes. Other activities such as California Environmental Quality Act (CEQA) analysis, community outreach, internal review, and coordination will occur during this period.

⁵ Architect, construction manager, and technical team fee required through Design Development and Regents Final Approval.

⁶ Campus project management, plan review, and contract administration.

⁷ Surveys, tests, plans, and specifications include hazardous materials survey and testing.

⁸ Planning and programming, structure peer review, third-party peer review, legal and CEQA consultants, community presentations, CEQA documentation, telecommunications, audio/visual consultant.

ALTERNATIVES ANALYSIS

QUALITATIVE ANALYSIS

Four options were analyzed to compare three site location options and one different building program:

- A.1 Construct a new 270,000 gsf building on the Block 23A site at Mission Bay North Campus.
- A.2 Construct a new 316,000 gsf building on the Block 23A site at Mission Bay North Campus.
- B. Construct a new 270,000 gsf building on the Block 25B site at Mission Bay North Campus.
- C. Construct a new 270,000 gsf building on the Block 16 site at Mission Bay North Campus.

Option A.1– Block 23A Site, 270,000 gsf Building (Proposed Project)

This site option is for construction of a 270,000 gsf new building on the Mission Bay North Campus Block 23A site, which is currently a surface parking lot.

UCSF has performed a preliminary site analysis and feasibility study for this building site. The proposed research building use and the six-story building volume are consistent with the LRDP's functional zoning.

The site is located at the geographic center of the North Campus across 4th Street from the Koret Quad and fronting Gene Friend Plaza. It is near the Sandler Neurosciences Center building located north of the Koret Quad and one block away from the new UCSF Medical Center at Mission Bay. The 23A site is also two blocks away from the proposed Mission Bay East Campus Phase 1 Building on Block 33. All Mission Bay research buildings are within easily walkable distances.

All site utilities, including power, telecommunication, water, sewer, and stormwater lines, are in close proximity to the site and ready for tie-in. The campus Preliminary Utility Plant (PUP), located one block away on Block 16B, provides wet laboratory utility generating systems including chilled water and hot water systems and has sufficient capacity to serve the new research building. Locating the new building on the 23A site requires less site utility infrastructure work than other options.

Existing surface parking spaces displaced from the Block 23A site would need to be accommodated elsewhere along with the additional parking demand generated by the new building.

Option A.2 – Block 23A Site, 316,000 gsf Building

This option is for construction of a 316,000 gsf new building with a basement and six stories above grade. This option would house a 41,000 gsf vivarium in the basement and would have a significant increase in vivarium supply and return ductwork volumes resulting in lower energy efficiency, less efficient space utilization, and higher construction cost. The excavation for the basement space would also add a significant cost to the project.

Option A.2 adds approximately \$37 million in cost to the project.

Option B – Block 25B Site, 270,000 gsf Building

This option is for construction of a 270,000 gsf new building on the Block 25B site on the Mission Bay North Campus, which is currently a surface parking lot.

A nine-story building would be required to accommodate a 270,000 gsf building on Block 25B. The site would require smaller floor plate sizes and inefficient space configurations resulting from the vertical circulation and transportation systems, and piping and duct shafts. This tall wet laboratory building would be inefficient and more costly to construct than the proposed building on Block 23A, which would be much lower and would not require costly high-rise construction. Constructing a taller building involving high-rise construction on Block 25B would add approximately 15 percent to the cost of construction on Block 23A. Chemical quantities allowed under the building code in high-rise laboratories are up to 50 percent smaller than quantities allowed in laboratories located nearer the ground levels. This limitation would prevent a building on the 25B site from meeting the proposed wet laboratory building program needs.

The campus Preliminary Utility Plant (PUP), located on Block 16B, provides chilled and hot water for the bench laboratory buildings on the Mission Bay North Campus. Utility loop extension across 4th Street would be necessary to bring the chilled and hot water to either the 23A or 25B site. The utility extension would need to be significantly longer to serve the 25B site, more costly than provision to the 23A site.

All other site utilities, including power, telecommunication, water, sewer, and stormwater lines, are nearby both 23A and 25B sites and ready for tie-in. There would be no significant cost differential for connecting to these utilities for the two sites.

Existing surface parking spaces displaced from the Block 25B site would need to be accommodated elsewhere, along with the additional parking demand generated by the new building.

Option B adds approximately \$40 million construction cost to the project.

Option C – Block 16 Site, 270,000 gsf Building

This option is for construction of a new 270,000 gsf building on the Block 16 site on the Mission Bay North Campus.

Block 16 is located west of 4th Street directly across the street from the Smith Cardiovascular Research Building on Block 17. Mission Bay Commons, which belongs to the City of San Francisco, is north of Blocks 16 and 17. The 4th Street North Gateway is the entryway to the Block 16B and Block 17A sites. A significant building structure of comparable size and quality to the Smith Cardiovascular Research Building is envisioned here to create a truly remarkable campus North Gateway at 4th Street.

According to the 2014 Long Range Development Plan proposed functional zones, Block 16 is designated for research and to be considered for a permanent Central Utility Plant (CUP). The Preliminary Utility Plant (PUP) on 16B must be fully operational to serve the campus unless alternative utility services are provided or until a permanent CUP is constructed.

If the proposed research building were to be built on the Block 16B site, the project must provide alternative utility services while taking down the PUP and relocating it elsewhere. Such work scope was estimated to cost more than \$30 million.

Block 16 is also farther away from the campus core, the UCSF Medical Center at Mission Bay, and other planned clinical service facilities at the Mission Bay campus site. As such, it is a less desirable location for philanthropic support for Psychiatry and Neuroscience research and clinical services.

Option C adds approximately \$18 million construction cost to the project.

DELIVERY MODEL

There are various ways to deliver the project including a campus-delivered building and a developer-delivered building through a Public Private Partnership (PPP). UCSF evaluated these project delivery models considering the following key factors: the building location on campus, the anticipated donor involvement, the complexity of the building program, and cost differences between the delivery models. Balancing the demands of these factors and the tradeoffs of the delivery models, UCSF determined that the campus-delivered building model is a more straightforward, less time-consuming, and consequently more cost-effective delivery model, and thus is more appropriate for this particularly complex building program. Using a PPP project delivery model would add unnecessary complexity and duration to the project without producing significant cost benefits.

UCSF intends to deliver this project through Construction Manager (CM)-at-Risk approach, with integrated Design/Build subcontractor trades using an integrated Target-Value Design strategy. Because of the complexity of the building program, UCSF anticipates working closely with the UCSF Neurosciences community and campus stakeholders in a thorough programming and design development effort to meet the challenges and demands of this unique and challenging building program. CM-at-Risk project delivery would allow UCSF the most careful process for selecting the project team most capable of successfully designing and delivering this challenging building. UCSF firmly believes that an integrated Target-Value Design process will ensure the highest overall design quality and building performance.

UCSF has demonstrated success in managing major project delivery using similar approaches. UCSF has a history of campus-delivered major projects that are on-schedule and on-budget. Recent successes include the Smith Cardiovascular Research Building, the Ray and Dagmar Dolby Regeneration Medicine Building, the Medical Center Phase 1 Parking Structure, and the Mission Hall Global Health and Clinical Sciences Building, as well as the Medical Center at Mission Bay.

Figure 1: Project Location



Figure 2: Project Site for the Mission Bay Neurosciences Research Building (Block 23A)

