Notice of Meeting

UNIVERSITY OF HAWAIʻI

BOARD OF REGENTS COMMITTEE ON PLANNING AND FACILITIES
Members: Regent Stanford Yuen (Chair), Michelle Tagorda (Vice Chair), and Regents Kudo, Putnam, and Wilson

Date: Wednesday, May 17, 2017
Time: 9:00 a.m.
Place: University of Hawaiʻi at Mānoa
Information Technology Building
1st Floor Conference Room 105A/B
2520 Correa Road
Honolulu, Hawaiʻi 96822

AGENDA

I. Call Meeting to Order

II. Approval of Minutes of February 9, 2017 Meeting

III. Public Comment Period for Agenda Items: All written testimony on agenda items received after posting of this agenda and up to 24 hours in advance of the meeting will be distributed to the board. Late testimony on agenda items will be distributed to the board within 24 hours of receipt. Registration for oral testimony on agenda items will be provided at the meeting location 15 minutes prior to the meeting and closed once the meeting begins. Written testimony may be submitted via US mail, email at bor@hawaii.edu, or facsimile at 956-5156. Oral testimony is limited to three (3) minutes.

IV. Agenda Items

A. For Information:
   1. FY 2017 Third Quarter CIP Status Report
   2. Update on energy savings projects
   3. Update on UH Mānoa Campus Physical Plan

V. Adjournment
FY 2017 THIRD QUARTER CIP STATUS REPORT
(as of 3/31/17)

Planning and Facilities Committee Meeting
May 17, 2017
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FY 2017 Third Quarter Capital Improvement Project Status Update (as of 3/31/17)

Projects Pending Close-Out

Closed Projects
**Table Summary – Construction Projects Over $5 Million**

*Indicates changes from FY17 Q2 CIP Status Update Report (as of 12/31/16)*

<table>
<thead>
<tr>
<th>Campus/Project</th>
<th>Original/Revised Completion Date</th>
<th>Original Construction Amount</th>
<th>Change Orders &amp; Percent Change to Date</th>
<th>Change(s) from Quarter 2</th>
<th>Reason for Extension/Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mānoa – Coconut Island Utility Rehabilitation /Replacement</td>
<td>Nov. ‘16 / Oct. ‘17</td>
<td>$6,397,204</td>
<td>$153,072 (2.4%)</td>
<td>None</td>
<td>No changes from Quarter 2</td>
</tr>
<tr>
<td>Mānoa – Coconut Island Lilipuna Pier and Seawall Repair</td>
<td>Jan. ‘18 / Jan. ‘18</td>
<td>$5,999,000</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Mānoa – Coconut Island Marine Laboratory Buildings 1 &amp; 2 Interior Renovation and General Repairs</td>
<td>Feb. ‘18 / Mar. ‘18*</td>
<td>$21,019,747</td>
<td>$10,646* (0.05%)</td>
<td>Completion Date, Change Order Amount &amp; Reason for Extension</td>
<td>Replacement of sub-contractor.*</td>
</tr>
<tr>
<td>Mānoa – Bilger Complex Air Conditioning System Upgrade</td>
<td>Nov. ‘13 / June ‘17</td>
<td>$5,737,790</td>
<td>$789,513* (13.8%)</td>
<td>Change order amount</td>
<td>No changes from Quarter 2</td>
</tr>
<tr>
<td>Mānoa – Elevator Modernization (Phase 3) – Various Buildings</td>
<td>Dec. ‘16 / Jul. ‘17</td>
<td>$9,162,000</td>
<td>$1,077,720* (11.8%)</td>
<td>Change Order Amount</td>
<td>No changes from Quarter 2</td>
</tr>
<tr>
<td>Hilo – Daniel K. Inouye College of Pharmacy</td>
<td>May ‘18 / May ‘18</td>
<td>$31,300,000</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Haw CC – Culinary Arts Building Phase 1A &amp; Health Science and Student Services Building Phase 1B</td>
<td>Mar. ‘16 / May ‘17*</td>
<td>$22,670,172</td>
<td>$5,920,286 (26.1%)</td>
<td>Completion Date</td>
<td>No changes from Quarter 2</td>
</tr>
<tr>
<td>Kap CC – Culinary Institute of the Pacific at Diamond Head (Phase 1)</td>
<td>Oct. ‘16 / Feb. ‘17</td>
<td>$25,058,110</td>
<td>$1,568,837* (6.3%)</td>
<td>Change Order Amount</td>
<td>No changes from Quarter 2</td>
</tr>
<tr>
<td>Mānoa – Law School Renovation &amp; Addition – Community Legal Outreach Center</td>
<td>Nov. ‘17 / Nov. ‘17</td>
<td>$7,372,000</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>LCC – Repair and Refurbish Theater</td>
<td>Sept. ‘17 / Nov. ‘17 *</td>
<td>$10,256,335</td>
<td>None</td>
<td>Completion Date</td>
<td>No changes from Quarter 2</td>
</tr>
<tr>
<td>West Oʻahu – Administration &amp; Allied Health Facility</td>
<td>May ‘18 / Oct ‘18*</td>
<td>$29,941,000</td>
<td>None</td>
<td>Completion Date &amp; Reason for Extension</td>
<td>Changes to the roof drainage design affected coordination with underground utilities. Interior roof drains were replaced with exterior downspouts to</td>
</tr>
</tbody>
</table>
### Table Summary - Design Projects Over $1 Million

<table>
<thead>
<tr>
<th>Campus/Project</th>
<th>Original/Revised Completion Date</th>
<th>Original Design Amount</th>
<th>Change Orders &amp; Percent Change to Date</th>
<th>Change(s) from Quarter 2</th>
<th>Reason for Extension/Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mānoa – Holmes Hall Renovation</td>
<td>Feb. ‘17 / Aug. ‘17*</td>
<td>$1,514,992</td>
<td>None</td>
<td>Completion Date &amp; Reason for Extension</td>
<td>Estimated construction costs for the conceptual design exceeded the justifiable benefit, and the proposed renovation would not meet academic facilities needs for growth so the scope of pre-design work is being modified to analyze current and future academic program and facilities space needs, and develop a programming document for the renovation of Holmes Hall and the use of other existing facilities.*</td>
</tr>
<tr>
<td>CTAHR Due Diligence for Various Deferred Maintenance Improvements</td>
<td>Sept. ‘17 / Sept. ‘17</td>
<td>$1,231,316</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td>Mānoa – Campus Infrastructure Trunklines, Easements, Water Catchment, Filtration and Reuse Plan, and LMP Phase I Infrastructure Design</td>
<td>Jan. ‘18 / Mar. ’20</td>
<td>$1,490,403</td>
<td>None</td>
<td>None</td>
<td>Contract modification to support a high-level systemwide facilities strategy and a comprehensive vision for the development of Mānoa’s Campus &amp; an associated Long Range Development Plan and Plan Review Use permit update</td>
</tr>
</tbody>
</table>

### Table Summary - Upcoming Capital Improvement Projects

<table>
<thead>
<tr>
<th>Campus/Project</th>
<th>Estimated Construction Amount</th>
<th>Current Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawai‘i CC – North Hawai‘i Education and Research Center Renovation (Phase III)*</td>
<td>$5m - $10m</td>
<td>Design</td>
</tr>
<tr>
<td>Maui College – Renovate Kitchen &amp; Accessory Spaces in Pilina Building*</td>
<td>$5m - $10m</td>
<td>Design</td>
</tr>
</tbody>
</table>
Coconut Island Utility Rehabilitation/Replacement – Mānoa

| **Contractor:** | Frank Coluccio Construction Company |
| **Estimated Date of Project Completion:** | October 2017 |
| **Original Estimated Date of Project Completion:** | November 2016 |
| **Completion Level:** | 54% |
| **Original Construction Amount:** | $6,397,204 |
| **Change Orders & Percent Change to Date:** | $153,072 (2.4%) (No change from Quarter 2) |

**Next Phase:**
Conduct more research and design to address additional issues discovered in portions of the existing sewer lines.

**Project Scope:**
Coconut Island, located in Kāne‘ohe Bay, is the home to the Hawai‘i Institute of Marine Biology, a world-renown marine research institute of the School of Ocean and Earth Science and Technology at UH Mānoa. This project involves (1) horizontal directional drilling of a bore through rock roughly 40’ below Kāne‘ohe Bay for the installation of new sewer and telecommunications lines between Coconut Island and Lilipuna Pier, and (2) replacing an existing sewer pump station and selected sewer pipes on Coconut Island. Approximately 2,000 cubic yards of soil and rock must be excavated and hauled from the site to create a level area for the drilling rig. Increase due to additional trenching and pull boxes for the telecom lines; Extension due to first hitting basalt and then extremely soft sand requiring a different drill, and additional work to install the telecom system.

New sewer pump station, which began service on March 1, 2017
6” sewer line and 4” communication conduit prior to being pulled back from Coconut Island to O‘ahu through the boring
Screen capture of the inside of one of the gravity sewer pipes requiring repair
Coconut Island Lilipuna Pier and Seawall Repair – Mānoa

Contractor: Global Specialty Contractors, Inc.

Estimated Date of Project Completion: January 2018

Original Estimated Date of Project Completion: January 2018

Completion Level: 3%

Original Construction Amount: $5,999,000

Change Orders & Percent Change to Date: None

Current Phase:
Consultant is preparing a post-contract drawing for the permit and pricing of additional repair work (more pier damage has been discovered that was not scheduled for repair in the time since the original investigation and design). Contractor is investigating electrical line location in preparation for placing the barge anchors. 

Next Phase:
Mobilize the barge to the site and anchor the barge in place. Begin pier demolition.

Project Scope: Coconut Island, located in Kāne‘ohe Bay, is the home to the Hawai‘i Institute of Marine Biology, a world-renown marine research institute of the School of Ocean and Earth Science and Technology at UH Mānoa. This project involves the evaluation and repair of Lilipuna Pier, which serves as the transit point for shuttle service to and from Coconut Island. The existing concrete piles will be repaired, the landing deck will be replaced, and the precast planks of the last one third of the pier will also be removed and replaced. A temporary dock will be constructed to the right of the existing pier to maintain shuttle access to the island.
Coconut Island Marine Laboratory Buildings 1 & 2 Interior Renovation and General Repairs – Mānoa

**Contractor:** Frank Coluccio Construction Company

**Estimated Date of Project Completion:** March 2018*

**Original Estimated Date of Project Completion:** February 2018

**Completion Level:** 0%

**Original Construction Amount:** $21,019,747

**Change Orders & Percent Change to Date:** $10,646 (0.05%)*

**Current Phase:** Abatement of hazardous materials by replacement sub-contractor. Staging areas, site protections and environmental controls have been installed.

**Next Phase:** Completion of general demolition

**Project Scope:** Coconut Island, located in Kāne‘ohe Bay, is the home to the Hawai‘i Institute of Marine Biology, a world-renown marine research institute of the School of Ocean and Earth Science and Technology at UH Mānoa. This project involves the renovation of the interior of Marine Laboratory Buildings 1 & 2 to provide state of the art research and teaching laboratories, provide general repairs of the buildings (including replacing and upgrading mechanical, electrical, and architectural systems and structures), and perform significant structural retrofitting. Increase and extension due to replacement of sub-contractor.
Bilger Complex Air Conditioning System Upgrade – Mānoa

Contractor: Civil Mechanical Contractor
Estimated Date of Project Completion: June 2017
Original Estimated Date of Project Completion: November 2013
Completion Level: 99%
Original Construction Amount: $5,737,790
Change Orders & Percent Change to Date: $789,513 (13.8%)*

Current Phase:
Completing work in Bilger Addition mechanical room, testing and balancing ongoing in Bilger Hall, completing punchlist items.

Next Phase:
Install steel support beam for condenser water pipe, apply epoxy floor coating in chiller room, complete punchlist items.

Project Scope: This project consists of demolition and lead and asbestos abatement. New work consists of installing new water/air cooled chillers, a cooling tower, chilled water and condenser water pumps, expansion tanks, exhaust fans, a condenser water/chilled water chemical feed system, air handling units, variable air volume terminal units, reheat coils, direct digital control system, piping, valves, vibration isolation, insulation, pipe supports, ductwork, plumbing, structural steel, electrical roofing, and painting HVAC commissioning. Increase and extension due to schedule conflicts with other projects affecting Bilger; schedule changes to minimize impact on occupants; non-conforming construction required reinstallation; unforeseen conditions; and change orders to address vibration issues.

- Installation of the new AHU B3 and sheet metal ductwork in the crawl space of Bilger Hall.
- Installation of new sheet metal air conditioning ducts in the 2nd floor offices of Bilger Hall to provide more even distribution of conditioned air.
Mānoa Elevator Modernization (Phase 3) – Various Buildings

Contractor: Ralph S. Inouye Co., Ltd.

Estimated Date of Project Completion: July 2017

Original Estimated Date of Project Completion: December 2016

Completion Level: 92%

Original Construction Amount: $9,162,000

Change Orders & Percent Change to Date: $1,077,720 (11.8%)*

Current Phase: Contractor performing contract work on POST elevator

Next Phase: Modernizing the last of three elevators at POST, complete security installation and programming, address punch list items for all buildings, excluding POST, and perform Life Safety inspections

Project Scope: This project replaces various UH Mānoa elevator cabs, upgrades the existing elevator systems, machine rooms, and penthouses; and replaces elevator cabs if technically feasible. The modernization will comply with all codes and accessibility standards. Buildings impacted: POST (3 elevators), Watanabe Hall (1 elevator), Queen Liliʻuokalani Center (2 elevators), School of Architecture (1 elevator), Hamilton Library Phase II (4 elevators), Agricultural Science (2 elevators) and Kuykendall Hall (1 elevator). The scope of work also includes the installation of security access surveillance (card readers and cctv cameras) in the elevator lobbies and cabs. Extension and increase due to scheduling conflicts to minimize impact on occupants; unforeseen POST freight elevator shaft issue; modifications due to the adoption of the 2010 American Society of Mechanical Engineers code; and separate modernization of POST elevators.

Installation of hoistway equipment for passenger elevator #2 in POST

Installation of elevator traveling cable for passenger elevator #2 in POST

School of Architecture ceiling cutouts for new elevator lobby lights
Daniel K. Inouye College of Pharmacy – Hilo

Contractor: Isemoto Contracting Co., Ltd.
Estimated Date of Project Completion: May 2018
Original Estimated Date of Project Completion: May 2018
Completion Level: 20%
Original Construction Amount: $31,300,000
Change Orders & Percent Change to Date: None
Current Phase: Construction of Level 1 – walls, elevator shaft, first floor slab
Next Phase: Construction of Level 2

Project Scope: This project involves a new pharmacy facility. Level 1 consists of lecture rooms, breakout rooms, a student lounge, and restrooms. Level 2 includes an administration suite with counsel offices, administrative offices, two biolabs, faculty offices, a Medication Therapy Management suite, a mock pharmacy, a resource center, two seminar rooms, consult rooms, a compound lab, two sim labs, an IV Institutional Pharmacy lab and restrooms. Site development includes new surface parking stalls, landscaping and site lighting.
Culinary Arts Building Phase 1A & Health Science and Student Services Building Phase 1B
Hawaiʻi Community College, Pālamanui Campus

Contractor: F&H Construction
Estimated Date of Project Completion: May 2017*
Original Estimated Date of Project Completion: March 2016
Completion Level: 98%
Original Construction Amount: $22,670,172
Change Orders & Percent Change to Date: $5,920,286 (26.1%) (No change from Quarter 2)
Current Phase: Installation of PV panels (nearly complete) with installation of inverters to follow. Testing of waste waste treatment system in progress
Next Phase: Inspections, certificate of occupancy, closeout and project acceptance

Project Scope: This project involves construction of approximately 24,000 square feet of new buildings for the University of Hawaiʻi System, Hawaiʻi Community College, Pālamanui Campus located in Kona, Hawaiʻi. These buildings will house functions servicing the Culinary Arts Program, Nursing and Allied Health Program and Student Services Administration. The buildings will include new educational classrooms, learning kitchens, science laboratories and related support services. Extension and increase due to delay in permit approvals, archaeological monitoring, and the inclusion of PV system, food service equipment, and landscaping at UH’s request

Construction of recirculating sand filter
Recirculating Sand Filter
Photovoltaic system installed over parking
Culinary Institute of the Pacific at Diamond Head (Phase I) – Kapiʻolani CC

Contractor: Jacobsen Construction Co.
Estimated Date of Project Completion: February 2017
Original Estimated Date of Project Completion: October 2016
Completion Level: 99%
Original Construction Amount: $25,058,110
Change Orders & Percent Change to Date: $1,568,837 (6.3%)*
Current Phase: Completing punch list items and training for college staff
Next Phase: Closeout and inspection for project acceptance

Project Scope: This project at the former U.S. Army Fort Ruger Cannon Club site on the northern slope of Diamond Head Monument is essential to the expansion of the culinary arts program at Kapiʻolani Community College. It supports a Bachelor of Applied Science in Culinary Management and an advanced professional certificate to provide advanced training in Asian, Pacific and Hawaiian cuisine. Phase 1 includes four single story buildings, an outdoor cooking area, landscaping, two parking lots and utility infrastructure. The main building will house two laboratories, one advanced multi-function laboratory and one advanced Asian cuisine laboratory. Other buildings that will be constructed in the first phase are the locker room/restrooms/student lounge building, storage building, and support (central plant) building. Increase and extension due to archaeological monitoring, scheduling and requirements; unforeseen conditions in Diamond Head Road; and conflict with underground utilities and building foundations.
Law School Renovation & Addition: Community Legal Outreach Center – Mānoa

Contractor: F&H Construction
Estimated Date of Project Completion: November 2017
Original Estimated Date of Project Completion: November 2017
Completion Level: 18%
Original Construction Amount: $7,372,000
Change Orders & Percent Change to Date: None
Current Phase: Install precast wall panels and pour ground floor slab
Next Phase: Second floor slab, precast wall panels and place roof deck

Project Scope: The Community Legal Outreach Center at the William S. Richardson School of Law on the UH Mānoa campus will serve as a space for the growing clinical service offered by law school students and faculty. Currently, students provide thousands of hours of free legal help to some of Hawai‘i’s most vulnerable people, including the elderly, troubled and incarcerated youth, veterans, and families living at or near poverty levels. The building will also provide much-needed space to develop practical trial and advocacy skills. The project includes partial demolition and reconfiguration of the existing parking and site features at the UH Mānoa Zone 17 parking lot outside of the Law School and construction of a new, 6,000 square foot, two-story precast concrete building and connecting bridge to the existing law school.

Completed floor slab, interior columns, and forms installed for the beams. Wall precast panels will be installed around the perimeter.
Repair and Refurbish Theater – Leeward CC

Contractor: MEI Corporation
Estimated Date of Project Completion: October 2017
Original Estimated Date of Project Completion: November 2017*
Completion Level: 38%
Original Construction Amount: $10,256,335
Change Orders & Percent Change to Date: None

Current Phase: Additional abatement at various locations, utility rough-ins, mezzanine structural framing, site work, ceiling grid, drywall and windows.
Next Phase: Continuation of the utility rough-ins, mezzanine system, site work and drywall. Begin installation of the catwalks, stage lift system, stage rigging system, and AC system. Begin painting.

Project Scope: This project involves remedying the water intrusion into the building by improving the exterior drainage, doing landscaping improvements, installing continuous canopies to the side entries, creating an open and inviting exterior foyer to the main entry by relocating the ticket office, renovating the restrooms and including a concession area. It also involves upgrading the stage equipment (rigging and drapes, orchestra pit lift system, stage trap panel system and related items) and the main seating and stage area throughout the Theater. The auditorium seating, stage and dance rooms wood flooring, carpet and VCT flooring, painting, ceiling, and lighting, will also be replaced. The project will also retrofit the existing fire alarm system and mechanical system, abatement of hazardous materials at rooms/areas being renovated, meeting DCAB requirements, and making improvements to the theater lighting system and sound system. Extension due to unforeseen site and interior conditions, additional abatement work, and extended campus relocation.

Lobby drywall, ceiling and utilities rough-in
Ticket Office wall and steel framing, utilities rough-in, and windows
Administration & Allied Health Facility – West O‘ahu

**Contractor:** Swinerton Builders Hawai‘i  
**Estimated Date of Project Completion:** October 2018*  
**Original Estimated Date of Project Completion:** May 2018  
**Completion Level:** 8%  
**Original Construction Amount:** $29,941,000  
**Change Orders & Percent Change to Date:** None  
**Current Phase:** Mass grading, foundations, and underground utilities, including water, chilled water, and storm drainage.  
**Next Phase:** Continue with foundations, underground utilities, concrete slabs on grade, and concrete unit masonry (CMU).

**Project Scope:** The project consists of an approximately 43,442 square foot facility to house Administration and Allied Health programs at the University of Hawai‘i at West O‘ahu (UHWO) Campus. The new facility will include offices for UHWO administration and faculty, classrooms, laboratories, and other related spaces. Extension due to changes to the roof drainage design affected coordination with underground utilities. The changes involved replacing interior roof drains with exterior downspouts, to address campus concerns for long term maintenance.
Life Sciences Building – Mānoa

Contractor: Layton Construction
Estimated Date of Project Completion: Spring 2019
Original Estimated Date of Project Completion: Spring 2019
Completion Level: 0%
Original Construction Amount: $49,500,000
Change Orders & Percent Change to Date: None
Current Phase: Notice to Proceed given on March 7, 2017. Project is in design.
Next Phase: Permitting submissions begin in April 2017.

Project Scope: This design-build project for a new Life Sciences Building will be developed at the site of Henke Hall and will support multiple programs like botany, PBRC, biology and microbiology. As the first of a three-phase Mānoa Mini Master Plan, this project will also provide surge space to allow for the redevelopment of the Snyder Hall site and subsequent redevelopment of Kuykendall Hall.

Rendering of the Life Sciences Building
Kennedy Theatre: General Repairs and Code Compliance – Mānoa

Contractor: RSI Roofing and Building
Estimated Date of Project Completion: July 2017
Original Estimated Date of Project Completion: July 2017
Completion Level: 33%
Original Construction Amount: $5,491,500
Change Orders & Percent Change to Date: $15,454 (0.28%)*
Current Phase: Installation of new catwalk and steel mezzanine continues; installation of new dimmer units in progress; and electrical rough ins.
Next Phase: Installation of steel columns at new framed wall and painting in Ernst Lab Theater.

Project Scope: Kennedy Theatre is the flagship performing arts center on the UH Mānoa Campus. The need for repairs and maintenance is long overdue as the theater was built in 1963 and no interior work has been done in over 50 years. Parts of the facility are OSHA, building code and ADA non-compliant – including the catwalk system over the Ernst Lab Theater. This project involves, among other things, replacing the existing sand bag rigging system at the Lab Theater with a new system, replacing the Main Theater theatrical dimming system and Main Stage curtains, replacing the catwalk system at the Lab Theater to meet OSHA requirements, replacing the finished floor at the Lab Theater and Main Stage with a floor suitable for dance performances, installing a pre-manufactured dust collection booth at the Scene shop, and installing a safety cage around the existing 80-foot high spiral staircase for fall protection. Increase due to storage container for theater items during construction.
Saunders Hall Exterior Repairs and Reroof – Manoa*

- **Design Consultant:** WTN Architecture
- **Estimated Date of Project Completion:** August 2018
- **Original Estimated Date of Project Completion:** August 2018
- **Completion Level:** 3%
- **Original Design Amount:** $5,227,618
- **Change Orders & Percent Change to Date:** None
- **Current Phase:** Replacement of overhead protection over all entry points and walkways around the perimeter of the building.
- **Next Phase:** Start spall and crack repair.

**Project Scope:** Saunders Hall (formerly known as Porteus Hall) was designed in the early 1970’s. Due to inadequate concrete coverage over the reinforcing bars during the original construction of the building, corrosion of the rebars is causing the exterior of the building to crack and spall. This project involves the repair of all concrete delaminations, spalls and cracks. In order to seal the entire building envelope watertight, the project also includes reroofing, new traffic coating, glazing, and interior renovation work.
Hamilton Library Addition, Phase III – Mechanical Repairs – Mānoa*

Contractor: Economy Plumbing & SheetMetal, Inc.
Estimated Date of Project Completion: Award posted on May 1, 2017; NTP date to be established
Original Estimated Date of Project Completion: Award posted on May 1, 2017; NTP date to be established
Completion Level: 0%
Original Construction Amount: $6,018,387
Change Orders & Percent Change to Date: None
Current Phase: Contract award and signatures.
Next Phase: Establish NTP date, pre-construction meeting.

Project Scope: Hamilton Library is the main library on the UH Mānoa campus. This project involves the replacement of existing mechanical equipment, ductwork, plumbing and piping, and partial ceiling replacement to upgrade the central chiller plant, air distribution system, reheat system and direct digital control systems. The project also involves replacement of electrical work, chemical abatement, a roof thermography study, structural steel work for cooling tower support, and miscellaneous painting.

Existing air handlers are in poor condition and badly corroded
Three existing cooling towers in poor condition will be replaced with two new cooling towers
Holmes Hall Renovation - Mānoa

- **Design Consultant:** John Hara Associates
- **Estimated Date of Project Completion:** August 2017 (Requirements assessment, pre-design)*
- **Original Estimated Date of Project Completion:** February 2017
- **Completion Level:** 50%
- **Original Design Amount:** $1,514,992
- **Change Orders & Percent Change to Date:** None
- **Current Phase:** Pre-Design
- **Next Phase:** Pre-Design – Additional Programming

**Project Scope:** The project involves the renovation of Holmes Hall (approximately 133,350 gross square feet) to transform it into an innovative, state-of-the-art facility to accommodate instructional, research, student and administrative workspaces for the College of Engineering and the related UHM engineering community. The project also intends to add approximately 27,000 square feet of new research laboratories and supporting workspaces for graduate students and researchers. Extension due to estimated construction costs for the conceptual design exceeded the justifiable benefit, and the proposed renovation would not meet academic facilities needs for growth so the scope of pre-design work is being modified to analyze current and future academic program and facilities space needs, and develop a programming document for the renovation of Holmes Hall and the use of other existing facilities.

*Note: Pre-design work involves assessing requirements and developing a design strategy.*
CTAHR Due Diligence for Various Deferred Maintenance Improvements

- **Design Consultant:** INK Architects
- **Estimated Date of Project Completion:** September 2017
- **Original Estimated Date of Project Completion:** September 2017
- **Completion Level:** 60%
- **Original Design Amount:** $1,231,316
- **Change Orders & Percent Change to Date:** None
- **Current Phase:** Updating format of and restructuring Project Development Report
- **Next Phase:** Request design and construction funds to address the priorities identified by the due diligence study

**Project Scope:** The UH Mānoa's College of Tropical Agriculture and Human Resources (CTAHR) has twenty-seven sites statewide as part of its outreach, research, and experimentation programs. All of these sites have facilities that are currently in use by its occupants and are in various states of disrepair or require upgrades for improved functionality and/or life safety and accessibility code compliance. The goals of the due diligence study are as follows: Document general property information and code requirements, identify programmatic needs and goals, assess and document the existing conditions exhibited at the project site, assess and document the existing conditions exhibited at each building on the property, and provide recommendations for demolition, repair, maintenance, accessibility, life safety, and hazardous materials condition. As the due-diligence contract progresses and the facilities are assessed, design contracts will be executed to engage in schematic design, which will lead to construction.

*Kaua‘i Agriculture Research Center (left) and Pearl City Research Center (right) Due Diligence Studies showing the areas and buildings.*
*Each Due Diligence Study evaluates the condition of each of the buildings and provides detailed photos and a description.*
Campus Infrastructure Trunklines, Easements, Water Catchment, Filtration and Reuse Plan, and LMP Phase I

Infrastructure Design – Mānoa

Design Consultant: WRNS Studio
Estimated Date of Project Completion: March 2020
Original Estimated Date of Project Completion: January 2018
Completion Level: 58%
Original Design Amount: $1,490,403
Change Orders & Percent Change to Date: None
Current Phase: Schematic Design of infrastructure and water reuse design is complete
Next Phase: Completion of Academic Programming and Space Utilization studies for development of Mānoa's Integrated Academic and Facilities Plan, which will inform this project

Project Scope: This project involves the design of an infrastructure trunkline and a water catchment and reuse system. If constructed, this project would organize and update campus utilities into an interconnected network under major open space corridors for predictable and available access during future construction, maximize areas unrestricted by utility easements for future developments, and increase the capacity of our campus drainage system to convey 100 year storms. The water catchment and reuse system is anticipated to redirect 95% of rainfall toward rain gardens and recycled water cisterns which, when combined with 600,000 gallons of water scalped from sewer, could offset 73% of potable water and reduce the volume of storm drainage to be conveyed off site. Extension due to contract modification to support Long Range Development Planning/Plan Review Use permit update
Upcoming CIP: North Hawai‘i Education and Research Center Renovation (Phase III) – Hawai‘i CC*

**Estimated Construction Amount:** $5m – $10m

**Current Phase:** Design; out to bid early 2018

**Project Scope:** The North Hawai‘i Education and Research Center (NHERC) is located 40 miles north of Hilo in Honoka‘a and is designed to serve the approximately 19,000 residents in North Hawai‘i currently underserved by higher education. This project includes the complete interior renovation of the existing unused wing at NHERC. The project will include a commercial kitchen, nursing and STEM lab, classroom and storage space. The wing will be reroofed and all walls repaired and refinished. Parking and site improvements will be included as required.

*Existing unused wing at NHERC which will be renovated*
Upcoming CIP: Renovate Kitchen & Accessory Spaces in Pilina Building – Maui College*

**Estimated Construction Amount:** $5m – $10m

**Current Phase:** Design; out to bid early 2018

**Project Scope:** This project includes the renovation of an existing kitchen space on the second floor and loading dock on the first floor of the Pilina building. The space will include food innovation spaces that include kitchens, packaging, as well as research and development.

*Existing kitchen space that will be renovated*
## Projects Pending Close-Out

<table>
<thead>
<tr>
<th>Campus/Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mānoa – Agricultural Science Facility Chill Water Plant, Reheating Water System, and HVAC Upgrade*</td>
</tr>
<tr>
<td>Mānoa – Clarence T.C. Ching Complex, Construction of New Athletics Complex</td>
</tr>
<tr>
<td>Mānoa – Biomedical Sciences Building, R/R HVAC Equipment, Reheat Water System, Building Air Balance &amp; Controls</td>
</tr>
<tr>
<td>Mānoa – Snyder &amp; Edmonson Halls, New Elevators &amp; Stairway</td>
</tr>
<tr>
<td>Mānoa – Various Buildings, Elevator Modernization, Phase II</td>
</tr>
<tr>
<td>Mānoa – Hamilton Library, Phase II</td>
</tr>
<tr>
<td>Hawai‘i CC – Hale Aloha Renovation</td>
</tr>
<tr>
<td>Honolulu CC – Building 8807, Upgrade Infrastructure</td>
</tr>
<tr>
<td>Hilo – Campus Security &amp; Emergency Operations Center</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Original/Revised Completion Date</th>
<th>Original Construction Amount</th>
<th>Change Orders &amp; Percent Change</th>
<th>Reason for Extension/Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mānoa – Agricultural Science Facility Chill Water Plant, Reheating Water System, and HVAC Upgrade*</td>
<td>Aug ‘15 / Apr. ‘17</td>
<td>$5,270,742</td>
<td>$169,847 (3.2%)</td>
<td>New roof cover design required for cooling tower room; scheduling changes to minimize impact on occupants; and enhancements added during construction to improve system performance and energy efficiency</td>
</tr>
<tr>
<td>Mānoa – Clarence T.C. Ching Complex, Construction of New Athletics Complex</td>
<td>July ‘13 / Mar. ‘17</td>
<td>$12,393,000</td>
<td>$2,294,625 (18.5%)</td>
<td>Unforeseen conditions; C&amp;C comments and owner changes; and the design, redesign, negotiation and execution of change orders</td>
</tr>
<tr>
<td>Mānoa – Biomedical Sciences Building, R/R HVAC Equipment, Reheat Water System, Building Air Balance &amp; Controls</td>
<td>Aug. ‘13 / May ‘17</td>
<td>$5,324,800</td>
<td>$57,895 (1.1%)</td>
<td>Scheduling conflicts with other projects affecting Biomed; revision of type of air valves used in the air handler systems; and unforeseen conditions including deteriorating reheat hot water piping insulation</td>
</tr>
<tr>
<td>Mānoa – Snyder &amp; Edmonson Halls, New Elevators &amp; Stairway</td>
<td>April ‘14 / Mar. ‘17</td>
<td>$5,133,900</td>
<td>$970,625 (18.9%)</td>
<td>Unforeseen underground electrical utilities; adjustments to foundation depth requirements; and change in manufacturer of pedestrian membrane waterproof coating due to high moisture and humidity levels. Waiting for completion of closing documents.</td>
</tr>
<tr>
<td>Mānoa – Various Buildings, Elevator Modernization, Phase II</td>
<td>Feb. ‘16 / May ‘17</td>
<td>$10,321,500</td>
<td>$1,120,296 (10.9%)</td>
<td>Decision to modernize Biomedical Science’s elevator’s separately; restricted access to freight elevator; scheduling conflicts to minimize impacts on occupants; modifications due to the adoption of the 2010 American Society of Mechanical Engineers code; and elevator deficiency report required updating the existing elevator recall function.</td>
</tr>
<tr>
<td>Mānoa – Hamilton Library, Phase II</td>
<td>Aug ‘13 / Apr. ‘17</td>
<td>$5,901,788</td>
<td>$449,607 (7.6%)</td>
<td>Unforeseen conditions including replacement of light fixtures on the second floor; extensive change order negotiations and revisions; and schedule conflicts with other projects affecting Hamilton</td>
</tr>
<tr>
<td>Hawai‘i CC – Hale Aloha Renovation</td>
<td>Oct. ‘16 / Oct. ‘16</td>
<td>$7,629,500</td>
<td>$282,390 (3.7%)</td>
<td>In litigation</td>
</tr>
<tr>
<td>Honolulu CC – Building 8807, Upgrade Infrastructure</td>
<td>May ‘14 / June ‘17*</td>
<td>$8,609,000</td>
<td>$2,227,220 (25.9%)</td>
<td>Ongoing issues with new emergency generator operations and new elevators*</td>
</tr>
<tr>
<td>Hilo – Campus Security &amp; Emergency Operations Center</td>
<td>Oct. ‘15 / Sept. ‘16</td>
<td>$4,589,000</td>
<td>$486,005 (10.6%)</td>
<td>Correction to the specifications for wind speed resistance of the roof system; and the University driven schedule and sequencing for the construction and migration of the new Structured Cabling across 28 campus structures</td>
</tr>
</tbody>
</table>
## Closed Projects

<table>
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<tr>
<td>Mānoa – Various Buildings, Elevator Modernization, Phase I*</td>
<td>April ‘14 / Mar. ‘17</td>
<td>$6,772,960</td>
<td>$180,339 (2.7%)</td>
<td>Unforeseen conditions resulting in waterproofing repairs; scheduling changes to minimize impacts on occupants; and electrical revisions and modifications to elevator installations.</td>
</tr>
<tr>
<td>Mānoa – Sakamaki Hall, Renovation of 1st &amp; 2nd Floors*</td>
<td>Dec. ‘13 / Mar. ‘17</td>
<td>$6,251,950</td>
<td>$194,999 (3.1%)</td>
<td>Unforeseen conditions; scheduling changes to minimize impacts on occupants; owner changes; landscape design changes; and landscape redesign installation because the soil did not meet specifications. Waiting for architect to review and approve as-built drawings.</td>
</tr>
<tr>
<td>Mānoa – Gartley Hall, Structural Retrofit &amp; Renovation*</td>
<td>May ‘13 / Mar. ‘17</td>
<td>$12,425,781</td>
<td>$1,859,903 (15.0%)</td>
<td>Unforeseen site conditions relating to the micropile/underpinning foundation and waterproofing work</td>
</tr>
</tbody>
</table>
Update on Energy Savings Projects
Planning & Facilities Committee
May 17, 2017
GETTING TO NET ZERO . . .

• Off-site power generation
• Site-specific PV and storage projects
• Site-specific energy conservation efforts

Update since January 2017 . . .
West O‘ahu Mauka Lands

≈250+ acres

- Non -“A” Ag Lands
- South-facing
- < 15% slope
- 64 MW PV Farm
- All current options require HECO to acquire power generated on site
MicroGrid Bill (HB 848)

- Explicitly permitted public higher education institutions to own and operate a microgrid
- Enabled UH to interconnect with HECO infrastructure to transmit power generated at Mauka lands to UH facilities within a 5 mile radius
  - Limited standby charges by HECO to approved PUC rate
  - Permitted UH to be an unregulated power provider to all facilities owned or controlled by UH
CTAHR Waiale‘e (120 Acres)
CTAHR Waimanālo (127 Acres)
CTAHR Poamoho (30.7 Acres)
UHWO Mauka lands (900 Acres)
CTAHR Maui Research (26.67 Acres)
CTAHR Haleakalā Extension (38.26 Acres)
CTAHR Kona Research (2 of 15 Acres)
CTAHR Lalamilo Research (15.66 Acres)
UH Hilo Village (36.07 Acres)
UH Hilo Komohana (293 Acres)
UH Hilo Pana‘ewa (110.21 Acres)
UH Hilo UP (139.83 Acres)

TOTAL SITES: 13 statewide
TOTAL ACRES: 2,000+
1.76 MW SOLAR PV AWARDED

- Green Path Technologies
- Current: 1,300 kWh/day (0.5%)
- Project: 9,300 kWh/day (3%)
- $0.17/kWh (no escalation)
- Est. Savings @ today’s rate ($0.19/kWh): Up to $60,000 a year

SITES NOT FINALIZED
UH Mānoa ESPC
RFP issued April 28, 2017

- Chiller Loop “A”
  - Art Building
  - HIG
  - Holmes Hall
  - Marine Science
  - POST
  - Sakamaki
  - Student Health Center
  - Watanabe Hall
- HVAC
- Lighting
- Roofs, Windows, Structure
- PV

Estimated 30% reduction in energy consumption for 8 buildings
Exterior LED lighting upgrade

- Address dark spots and safety
- 41 fixtures -> 90 fixtures
- 12,000 kwh savings per year
Mānoa Campus Physical Plan Update
Planning & Facilities Committee
May 17, 2017
Agenda:

- Leveraging the Utilization Baseline for Institutional Change
- Integration into University Processes
- Engagement with Leadership & Campus Community
- Timeline and Related Efforts
Baseline: Foundation for decision making and risk management

Utilization Baseline

Scenario planning

Design

Policy

Economic impact

University Goals and Objectives
How do we integrate into university processes to get results?

- Use as analytic tool to answer questions about space and utilization
- Support current planning and design initiatives through scenario modeling and testing
- Develop institutional metrics to support policy development
Live Demonstration
THE OPPORTUNITY

- Mandate to develop an Integrated Academic & Facilities Plan
- Mandate to meet energy & sustainability targets
- Need to update campus plan for regulatory/entitlement related approvals
01 INTEGRATED PLANNING

02 WHAT IS THE MCPP?

03 HOW WILL WE GET THERE?
01. INTEGRATED PLANNING

IAFP

MĀNOA CAMPUS PHYSICAL PLAN (MCPP)  UHM ENROLLMENT GOALS & ACADEMIC PLANNING

UHM CAPITAL PLANNING

THE FUTURE OF UHM
01. INTEGRATED PLANNING

**UH IAFP**

- System-wide strategic plan
- Provides direction to UH Campuses
- Goals & strategies for UHM:
  - Enrollment
  - Academics & Research
  - Campus & Facilities
IAFP IMPLICATIONS FOR UHM

- Lack of modern facilities a deterrent to attracting/retaining students and faculty
- Need to emphasize modernization
- Spaces need to support priority programs and better meet student and faculty needs
- New master facilities plan will provide impetus for creating inspiring spaces
02. WHAT IS THE MCPP?

- Translates the IAFP’s vision for UHM into a phased physical improvement plan
- Outlines strategies, guidelines, and a timeline for achieving the vision
- Opportunity to integrate key elements of adjunct, adopted studies/plans
- Opportunity to apply 21st century planning and design principles to support Hawai‘i’s only public institution of higher education
02. WHAT IS THE MCPP?

CAMPUS PHYSICAL PLAN AS A CATALYST FOR CAMPUS TRANSFORMATION

STANFORD UNIVERSITY

CSU MARITIME ACADEMY

UCSF
02. WHAT IS THE MCPP?

CAMPUS PHYSICAL PLAN AS A CATALYST FOR CAMPUS TRANSFORMATION

UNIVERSITY OF TEXAS, AUSTIN

SINGAPORE UNIVERSITY OF TECHNOLOGY & DESIGN

MISSION AND PLACE
03. HOW WILL WE GET THERE?

2017

Step 1
INTERPRET THE IAFP & VISION FOR UHM

Step 2
ANALYZE UHM’S SPACE NEEDS

Step 3
INVESTIGATE EXISTING CAMPUS CONDITIONS

Step 4
DEVELOP THE MCPP PROGRAM

2018

Step 5
DEVELOP THE MCPP
03. HOW WILL WE GET THERE?

WE ARE HERE..

**Step 1**
INTERPRET THE IAFP & VISION FOR UHM

**Step 2**
ANALYZE UHM’S SPACE NEEDS

**Step 3**
INVESTIGATE EXISTING CAMPUS CONDITIONS

**Step 4**
DEVELOP THE MCPP PROGRAM

**Step 5**
DEVELOP THE MCPP
03. HOW WILL WE GET THERE?

STEP 2. ANALYZE UHM’S SPACE NEEDS

This model contains draft data. Numbers shown are placeholders.
03. HOW WILL WE GET THERE?

STEP 3. INVESTIGATE EXISTING CAMPUS CONDITIONS
03. HOW WILL WE GET THERE?

STEP 3. INVESTIGATE EXISTING CAMPUS CONDITIONS

LEGEND

- FCNI > 0.60 (Poor: Facility Requiring Replacement)
- FCNI 0.51 - 0.59 (Poor: Facility Requiring Total Renovation)
- FCNI 0.31 - 0.50 (Below Average: Facility Requiring Major Renovations)
- FCNI 0.21 - 0.30 (Fair: Facility Requiring Normal Renovations)
- FCNI 0.11 - 0.20 (Good: Renovations Scheduled)
- FCNI > 0.10 (Excellent: New Construction)
- Excluded From Study
03. HOW WILL WE GET THERE?

STEP 3. INVESTIGATE EXISTING CAMPUS CONDITIONS

INTEGRATE INTO THE MCPP
03. HOW WILL WE GET THERE?

STEP 4. DEVELOP THE MCPP PROGRAM

- Documents existing facility conditions
- Documents current & projected space needs
- Proposes the facilities to be renovated and developed over the next 20+ years
03. HOW WILL WE GET THERE?

NEXT YEAR

- **Step 1**: Interpret the IAFP & Vision for UHM
- **Step 2**: Analyze UHM’s Space Needs
- **Step 3**: Investigate Existing Campus Conditions
- **Step 4**: Develop the MCPP Program
- **Step 5**: Develop the MCPP
03. HOW WILL WE GET THERE?

STEP 5.
DEVELOP THE MCPP
MĀNOA CAMPUS PHYSICAL PLAN

THANK YOU