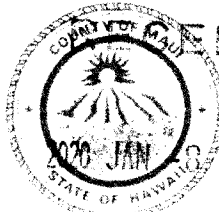


MICHAEL P. VICTORINO  
Mayor

LORI TSUHAKE  
Director

LINDA R. MUNSELL  
Deputy Director



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PM 2:29

OFFICE OF THE MAYOR

OFFICE OF THE  
DEPARTMENT OF HOUSING  
& HUMAN CONCERNS  
COUNTY OF MAUI  
2200 MAIN STREET, SUITE 546  
WAILUKU, MAUI, HAWAII 96793  
PHONE: (808) 270-7805

January 7, 2020

Honorable Michael P. Victorino  
Mayor, County of Maui  
200 South High Street  
Wailuku, Hawaii 96793

APPROVED FOR TRANSMITTAL

*Michael P. Victorino*  
Mayor

1/8/20  
Date

For Transmittal to:

Honorable Tasha Kama, Chair  
Affordable Housing Committee  
Maui County Council  
200 S. High Street  
Wailuku, Hawaii 96793

Dear Chair Kama:

# Structural Condition Analysis and Assessment of Dormitory Facilities

December 17, 2019



Site Located at 820 Ka'ahumanu Avenue, Kahului, Maui 96732 TMK: (2)3-8-07:117

PREPARED FOR  
**County of Maui - Department of Housing and Human Concerns**  
2065 Main St. Suite 108  
Wailuku, Maui, HI 96793

**Analysis Phase for The Department of Housing and Human Concerns (EP No. 19-19)**

# Structural Condition Analysis and Assessment of Dormitory Facilities

December 17, 2019

PREPARED FOR

**County of Maui - Department of Housing and Human Concerns**

2065 Main St. Suite 108

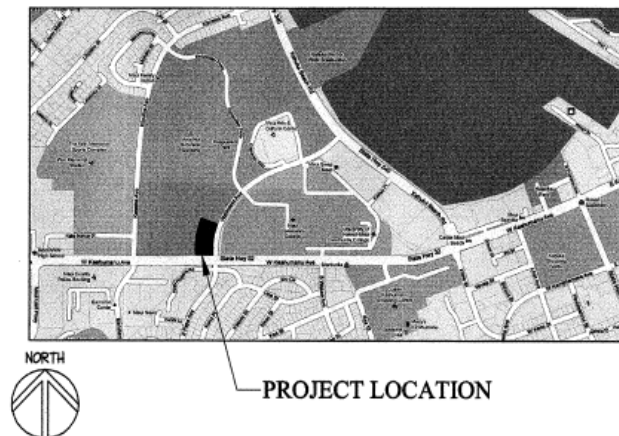
Wailuku, Maui, HI 96793

**Analysis Phase for The Department of Housing and Human Concerns (EP No. 19-19)  
Summary of Findings for the Existing University of Hawaii Community College Dorm  
Campus Buildings and Surrounding Site Located at 820 Ka'ahumanu Avenue, Kahului,  
Maui 96732 TMK: (2)3-8-07:117**

## **Executive Summary:**

The purpose of this report is to assess the structural integrity of the existing four structures and viability for repair, and future habitation. The goal is to provide information to the County of Maui so that they can determine the best course of action in terms of renovating or replacing existing four structures located at 820 Ka'ahumanu Avenue. The information and recommendations of the March 28, 2018 Professional Real Estate Inspectors, Property Condition Report was used as reference information in the preparation of this Analysis Report.

Included in this phase are a structural survey of existing conditions for the three dorm buildings plus the existing community building and surrounding site plus cost estimates prepared by a licensed and active General Contractor with commercial construction experience on the Island of Maui.



**General Building Information:** The subject property consists of three (3) vacant 2- story apartment type use buildings located in the Kahului area of Maui, Hawaii. There are 12 residential tenant spaces with no tenant(s) presently occupying the property. Each building consisted of four (4) two-bedroom one-bathroom apartment units with a living room and kitchen. There is also a single-story community building with laundry facility. The property has been vacant for approximately 11 years. The structures were built in 1980-81 and the total square footage being discussed is approximately 15,000 square feet. Included in the cost estimate are some site improvements including paving, basic signage and a landscaping allowance. Refer to the PCR section 3.2 for overall site drone footage and exterior building elevation photographs.

**1. Field Condition Survey (FCS) by John Ritchey Structural Engineer dated November 7, 2019** - A field condition survey of the existing University of Hawaii Community College Dorm campus buildings, located in Kahului, Maui, to identify and document structural deterioration, damages, or defects that have the potential to adversely affect the existing buildings strength and performance. Removal of drywall or exterior siding specifically selected by the structural engineer to expose every area of structural framing was completed in order to conduct the structure for analysis (Attached as appendix A).

**2. Construction Cost Estimate(s) by Castaway Construction dated November 18, 2019** – A line item cost estimate for the complete renovation of the existing structures as well as a cost estimate for the complete replacement of the structures including all electrical and plumbing and fire sprinkler system in addition to the fixtures themselves (Attached as appendix B).

**3. Property Condition Report (PCR) conducted dated March 8, 2019 (N.I.C.)** - This is a commercial property condition assessment to determine if three (3) former UH dormitories are suitable for housing. This inspection includes invasive and non-invasive inspection methods as well as sampling for asbestos and lead based paint (not attached to this Assessment Report but can be obtained from the County of Maui Department of Human Concerns).

**4. Site Visits** for visual and physical assessment by project team members began April 9, 2019 and concluded on November 11, 2019 and included 4 or more site visits by each member of the design team.

**Scope of Option 3 – Complete Replacement:** Same as option 2 but with the complete removal of the existing concrete slab.

In summary, the cost for engineering, plan creation, permit processing and construction costs including an estimated schedule to completion are as follows:

|            |                                        |                  |                    |
|------------|----------------------------------------|------------------|--------------------|
| Option 1 – | Plan preparation and permit processing | 6 Months         | \$193,213          |
|            | Renovation Cost Estimate               | 6 Months         | \$3,696,892        |
|            | <b>TOTAL</b>                           | <b>12 Months</b> | <b>\$3,890,105</b> |
| Option 2 - | Plan preparation and permit processing | 9 Months         | \$245,311          |
|            | Replacement Down to Slab               | 9 Months         | \$5,162,654        |
|            | <b>TOTAL</b>                           | <b>18 Months</b> | <b>\$5,407,965</b> |
| Option 3 - | Plan preparation and permit processing | 9 Months         | \$386,302          |
|            | Complete Replacement                   | 12 Months        | \$6,203,895        |
|            | <b>TOTAL</b>                           | <b>31 Months</b> | <b>\$6,740,197</b> |

**Conclusion:**

The structural analysis along with a cost estimate including any remediation that may be necessary was enough to establish professional opinions of Architect, Structural Engineer and Contractor that all buildings can be made habitable under Option 1 Renovation. Options 2 and 3 are also viable options that achieve the result of providing 12 quality housing units for transitional homeless housing.

Included along with this executive summary are:

# APPENDIX 'A'



**John Ritchey Structural Engineer, LLC.**

*Structural Engineering and Consulting*

*308 Pulihi Street*

*Kahului, Maui, HI 96732*

*jr@jrse.engineer*

*808.727.2839*

*www.jrse.engineer*

**M19011**

**November 7, 2019**

**County of Maui - Department of Housing and Human Concerns**

2065 Main St. Suite 108

Wailuku, Maui, HI 96793

**Re: Emergency Proclamation to Provide Homeless House – Analysis Phase (EP No. 19-19)**

**Summary of Structural Field Condition Survey for the Existing University of Hawaii Community College Dorm Campus Buildings and Appurtenances**



The locations of construction defects, where observed, are presented in Exhibit F – Drawings. Photographs of the types of construction defects are referenced on the plans and depicted in Exhibits A thru C for each respective building.

The following structural deterioration observed in the Recreational Center Building include the following:

1. The top northwest corner of the concrete pier at Gridline '5-D' is broken off, spalled.
2. At Gridline '5-D', the top of the wood post is damaged by termites. The end of the beam, along Gridline '5', at this location is also damaged by termites.
3. At various locations, exterior sheathing is damaged or missing.
4. Minor dry rot is present at the base of the wood post at Gridline '1-D'.
5. A small region of roof sheathing is moderately damaged adjacent to Gridline's 'B-4'. A depression can be seen from the exterior.

The locations of damages, were observed, are presented in Exhibit F – Drawings. Photographs of the types of damages are referenced on the plans and depicted in Exhibit D.

The following construction defects observed in the Recreational Center Building include the following:

1. Truss web bracing is not installed.
2. At various locations, stud wall sole plate anchors are installed greater than 32" apart or missing.
3. Gable end-wall framing is not installed.
4. At various locations, let-in braces are not installed per the original structural drawings.
5. At various locations, Door and window openings missing full-height, continuous, king studs on each side of opening.
6. At various locations, windows are supported on spaced blocks, shims. It is unknown if the windows are attached at these locations.

The locations of construction defects, where observed, are presented in Exhibit F – Drawings. Photographs of the types of construction defects are referenced on the plans and depicted in Exhibit D.







Cordially,

JOHN RITCHEY STRUCTURAL ENGINEER, LLC.

John Ritchey, PE  
President

Attachments

Exhibit A thru E – Photos

Exhibit F – Drawings

Exhibit G – Structural Engineering Fee for Repair/Retrofit

Exhibit H – Structural Engineering Fee for Replacement































































## EXHIBIT F – DRAWINGS





































































































































































