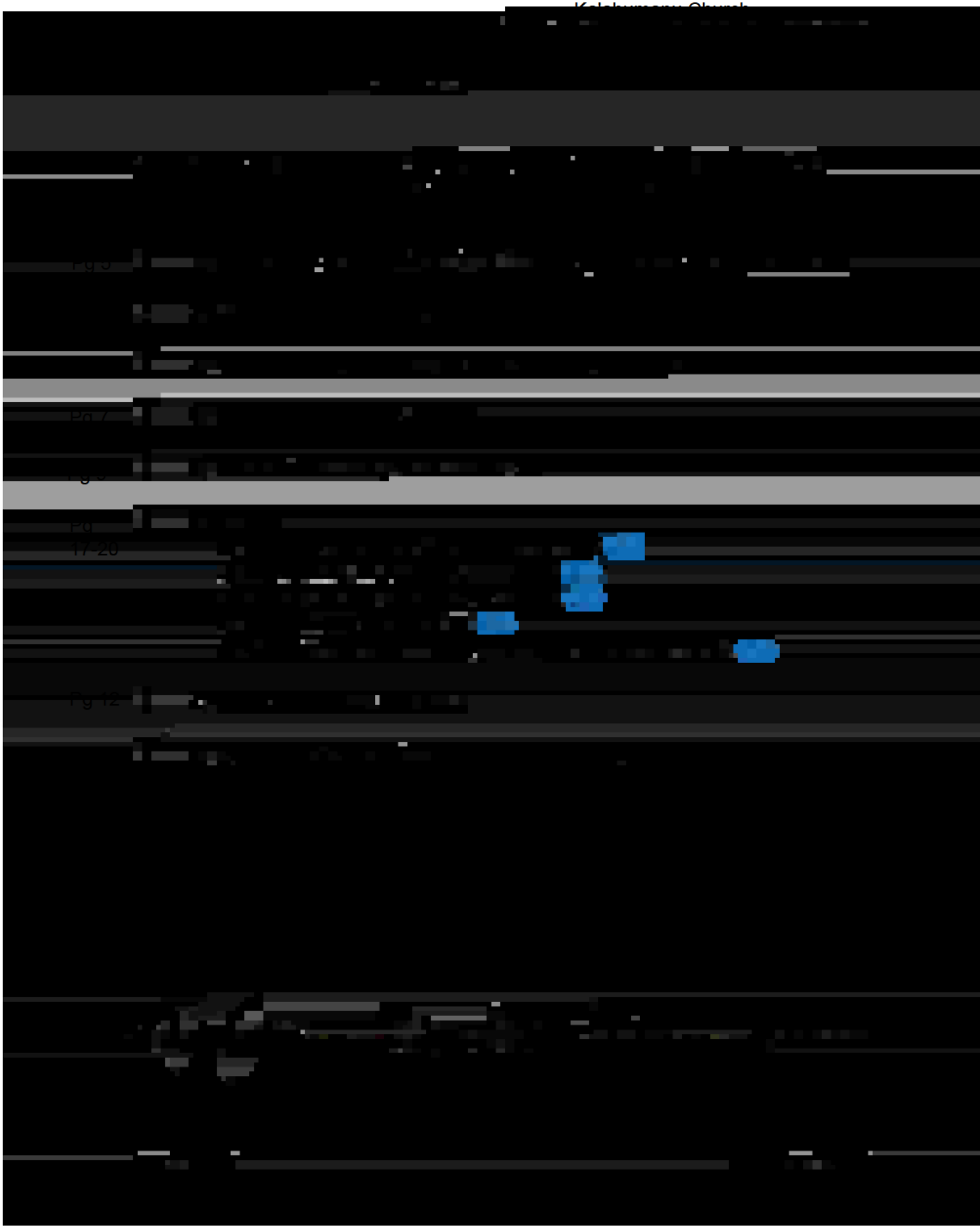


Grant Application Instructions
Fiscal Year 2023 (July 1, 2022 to June 30, 2023)

1) Fill out the application form in its entirety.

2) Submit (1) completed original of the application to the House Committee on Finance and (1) completed original of the application to the Senate Committee on Ways and Means via United States Postal Service (USPS):

   House of Representatives Committee on Finance
   State Capitol
   415 S. Beretania Street, Rm. 306
   Honolulu, HI 96813
   Attn: GIA

   Senate Committee on Ways and Means
   State Capitol,
   415 S. Beretania Street, Rm. 208
   Honolulu, HI 96813
   Attn: GIA

3) Or Submit (1) completed original of the application via email to

4) Do not include stapled or bound materials or brochures with applications. All materials submitted should be in 8 and ½ by 11 format and clipped together if submitted via USPS.

5) Applications submitted via email should be:
   a) Submitted as an attachment
   b) Attachments should be a single consolidated file in PDF format.
   c) Email size including attachments should not exceed 150MB.
   d) All signatures in the application must be executed by either signing and scanning a hard copy or via Adobe E-Sign to be considered a valid original of the application.

e) Applications submitted via email must be submitted to the email address to be considered valid.

6) Applications may be submitted effective immediately. The deadline for receipt of applications is **January 21, 2022 at 5:00pm (HST)** as determined by the official legislative calendar.

Please contact the House Committee on Finance staff at 586-6200 or Senate Committee on Ways and Means staff 586-6800 if you have questions.

Your application will be posted on the Legislature's website. Your federal and state tax id numbers on the cover page will be redacted.

THE THIRTIETH LEGISLATURE
APPLICATION FOR GRANTS
CHAPTER 42F, HAWAII REVISED STATUTES

Type of Grant Request:

☐ Operating ☒ Capital

Legal Name of Requesting Organization or Individual: Dba:

Ka'ahumanu Church Ka'ahumanu Church

Amount of State Funds Requested: $800,000

Brief Description of Request (Please attach word document to back of page if extra space is needed):

Restoration of a Historic Building. Ka'ahumanu Church is valued for both its design, architectural and historical significance and what it means to the people of Hawaii who consider its cultural heritage priceless. Named for Kuhina Nui Queen Ka'ahumanu it's historical significance predates it's missionary history as the royal compound of King Kahekili.

Amount of Other Funds Available:

State: $

Federal: $

County: $ 150,000

Private/Other: $ 10,000

Total amount of State Grants Received in the Past 5 Fiscal Years:

$ 0.00

Unrestricted Assets:

$

New Service (Presently Does Not Exist): ☐ Existing Service (Presently in Operation): ☐

Type of Business Entity:

☒ 501(C)(3) Non Profit Corporation

☐ Other Non Profit

☐ Other

Mailing Address:

P.O. Box 1403

City:	State:	Zip:
Wailuku,	HI	96793

Contact Person for Matters Involving this Application

Name:
Wayne Higa

Title:
Kahu/Pastor

Email:
kahuwayne@live.com

Phone:
808-446-4649

Federal Tax ID#: [redacted]

State Tax ID#: [redacted]

Authorized Signature

Wayne Higa - Kahu
Name and Title

1/16/2022
Date Signed

Department of Commerce and Consumer Affairs

CERTIFICATE OF GOOD STANDING

I, the undersigned Director of Commerce and Consumer Affairs of the State of Hawaii, do hereby certify that

KAAHUMANU CHURCH

was incorporated under the laws of Hawaii on 10/26/1998 ; that it is an existing nonprofit corporation; and that, as far as the records of this Department reveal, has complied with all of the provisions of the Hawaii Nonprofit Corporations Act, regulating domestic nonprofit corporations.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Department of Commerce and Consumer Affairs, at Honolulu, Hawaii.

Dated: January 05, 2022

Director of Commerce and Consumer Affairs

To check the authenticity of this certificate, please visit: http://hbe.ehawaii.gov/documents/authenticate.html
Authentication Code: 416832 COGS_PDF-113582D

DECLARATION STATEMENT OF APPLICANTS FOR GRANTS PURSUANT TO CHAPTER 42F, HAWAI'I REVISED STATUTES

The undersigned authorized representative of the applicant certifies the following:

1) The applicant meets and will comply with all of the following standards for the award of grants pursuant to Section 42F-103, Hawai'i Revised Statutes:

   a) Is licensed or accredited, in accordance with federal, state, or county statutes, rules, or ordinances, to conduct the activities or provide the services for which a grant is awarded;

   b) Complies with all applicable federal and state laws prohibiting discrimination against any person on the basis of race, color, national origin, religion, creed, sex, age, sexual orientation, or disability;

   c) Agrees not to use state funds for entertainment or lobbying activities; and

   d) Allows the state agency to which funds for the grant were appropriated for expenditure, legislative committees and their staff, and the auditor full access to their records, reports, files, and other related documents and information for purposes of monitoring, measuring the effectiveness, and ensuring the proper expenditure of the grant.

2) If the applicant is an organization, the applicant meets the following requirements pursuant to Section 42F-103, Hawai'i Revised Statutes:

   a) Is incorporated under the laws of the State; and

   b) Has bylaws or policies that describe the manner in which the activities or services for which a grant is awarded shall be conducted or provided.

3) If the applicant is a non-profit organization, it meets the following requirements pursuant to Section 42F-103, Hawai'i Revised Statutes:

   a) Is determined and designated to be a non-profit organization by the Internal Revenue Service; and

   b) Has a governing board whose members have no material conflict of interest and serve without compensation.

Pursuant to Section 42F-103, Hawai'i Revised Statutes, for grants used for the acquisition of land, when the organization discontinues the activities or services on the land acquired for which the grant was awarded and disposes of the land in fee simple or by lease, the organization shall negotiate with the expending agency for a lump sum or installment repayment to the State of the amount of the grant used for the acquisition of the land.

Further, the undersigned authorized representative certifies that this statement is true and correct to the best of the applicant's knowledge.

Ka'ahumanu Church
(Typed Name of Individual or Organization)

(Signature) 1/16/2022 (Date)

Wayne Higa — Pastor
(Typed Name) (Title)

Application for Grants

If any item is not applicable to the request, the applicant should enter "not applicable".

I. Certification – Please attach immediately after cover page

1. Certificate of Good Standing (If the Applicant is an Organization)

If the applicant is an organization, the applicant shall submit one (1) copy of a certificate of good standing from the Director of Commerce and Consumer Affairs that is dated no earlier than December 1, 2021.

2. Declaration Statement

The applicant shall submit a declaration statement affirming its compliance with Section 42F-103, Hawaii Revised Statutes.

3. Public Purpose

The applicant shall specify whether the grant will be used for a public purpose pursuant to Section 42F-102, Hawaii Revised Statutes.

II. Background and Summary

This section shall clearly and concisely summarize and highlight the contents of the request in such a way as to provide the State Legislature with a broad understanding of the request. Please include the following:

1. A brief description of the applicant's background;

Kaahumanu Church was established in 1832 with missionary roots in Wailuku, Maui, Hawaii. Queen Kaahumanu attended a service and requested that when a sanctuary was built, it be named after her. She passed away and her request was honored in 1876 with the completion of the present sanctuary building. As a historic and cultural icon in the community, Kaahumanu Church was adopted on the National Historic Register in 1975. It is one of the oldest Protestant missionary churches on the island of Maui, celebrating its 185th anniversary in 2017. The church property was given to the church by the Kahale ohana. William P. Kahale later became one of the first native pastors. The property was also a part of the royal compound of Kahekili, the last independent

King of Maui. The present sanctuary may have been built using pohaku (stone) from and possibly on the site of a heiau within the compound. The Kahale ohana monument lies within one of the cemeteries. Also buried within the property is Bartimaeus Pua'a'iki, known as the blind preacher of Maui. Pua'a'iki was one of the first native licentiate pastors. It is possible that John Honoli'i is also buried on the property, his grave site is unmarked and location unknown. John Honoli'i was one of the four young Hawaiian men to have studied in New England with Henry Opukaha'ia and to have come with the first contingent of missionaries.

2. The goals and objectives related to the request;

Kaahumanu Church is seeking a $800,000 CIP grant-in-aid from the Hawaii Legislature for significant restoration and preservation work along with repairing, restoring and preserving its integrity as well as ensuring the safety and security of the property. The property is valued for both its design, architectural and historical significance and what it means to the people of Hawaii who consider its cultural heritage priceless.

3. The public purpose and need to be served;

From 1832 to date, Kaahumanu Church has served the local community by providing a place of Hawaiian worship as well as a monthly gathering place for local residents and visitors to enjoy celebrations, performances, special events and various other social and cultural events. The church's grounds often serve as a place for First Amendment freedom of expression and vigils. Throughout its many years of service to our community, it has become apparent that we must continue to preserve and restore a unique Wailuku site which promotes Hawaiian culture, music, and education as well assisting it as it expands its outreach as a safe haven by providing a welcoming facility with a focus on family in addressing the needs of incarcerated individuals being released into the community and to help prevent homelessness. The Church plans to continue to serve as a meeting place for support groups and other human service needs.

4. Describe the target population to be served; and

For over a decade, it is the site of Hawaiian immersion preschool program, Punana Leo O Maui. The church has long served the greater Wailuku community and desperately is in need of renewal and restoration. The church has developed a program to restore the church, the buildings, and the grounds which is consistent with the general restoration and preservation of Wailuku town itself.

5. Describe the geographic coverage.

The geographic coverage includes the entire State of Hawaii. It will serve the many visitors from all over the world that come to Maui, both individuals and groups, allowing us to tell our story through marketing plans and publications.

III. Service Summary and Outcomes

The Service Summary shall include a detailed discussion of the applicant's approach to the request. The applicant shall clearly and concisely specify the results, outcomes, and measures of effectiveness from this request. The applicant shall:

1. Describe the scope of work, tasks and responsibilities;

The project addresses serious major repair and restoration work. A private contractor submitted a preliminary budget, however, as in all historic preservation work, the plans would need to be adjusted to do the proper preservation and restoration. Attached is a cost estimation prepared by Rider Levett Bucknall (RLB) in 2015 based on a conceptual estimate itemizing the essential preservation and restoration work of the project.

In 2021 Architects Hawaii completed drawings and specifications for the Ka'ahumanu Church project that are contract ready. The KC Board

partnering with Hawaii Conference Foundation UCC are currently putting together a capital campaign to raise the funding for the project.

The project manager and KC Board will be responsible to oversee the work meets historic preservation standards. This responsibility will be included in the design fees.

2. Provide a projected annual timeline for accomplishing the results or outcomes of the service;

After receiving formal notice that the GIA award for the preservation and restoration project has been awarded, the Church will: Create an RFP to secure a project manager and contractor. Oversee contractor bidding/select contractor Secure building permit Outline a more definitive timetable for each stage of the project.

Once the funds have been released, the restoration and preservation work will begin immediately. It is estimated that the project will be completed in one year, from the date of receiving the funds.

3. Describe its quality assurance and evaluation plans for the request. Specify how the applicant plans to monitor, evaluate, and improve their results; and

Kaahumanu Church (KC) is a volunteer organization governed by its Board of Directors (BOD) which will oversee the preservation and restoration work of the project, with the assistance of a Project Manager. The quality assurance and evaluation plans will be created and managed by the project manager and KC Board.

Architects Hawaii has already completed drawings and design the plans (attached). The project manager will provide assistance and guidance in the development of the project, handle administration, and many other responsibilities geared towards the project's inception to completion. The project manager will assist in providing the necessary protocols and

procedures to meet the goals and objectives of the project.

4. List the measure(s) of effectiveness that will be reported to the State agency through which grant funds are appropriated (the expending agency). The measure(s) will provide a standard and objective way for the State to assess the program's achievement or accomplishment. Please note that if the level of appropriation differs from the amount included in this application that the measure(s) of effectiveness will need to be updated and transmitted to the expending agency.

The measure of effectiveness to report the project's success to all necessary State agencies will be conducted as follows: 1. Documentation - Photos will be taken to record before, during and after for each stage of the project. 2. Quality of the historic preservation and restoration work will be essential to upholding the distinction and excellence that this historic property deserves for years to come. The project architect and staff will follow this aspect throughout the restoration project. 3. Cost effectiveness - Adhering to the proposed timeline assures efficiency and cost effectiveness.

IV. Financial

Budget

1. The applicant shall submit a budget utilizing the enclosed budget forms as applicable, to detail the cost of the request. **See Attachment**
   a. Budget request by source of funds (Link)
   b. Personnel salaries and wages (Link)
   c. Equipment and motor vehicles (Link)
   d. Capital project details (Link)
   e. Government contracts, grants, and grants in aid (Link)

2. The applicant shall provide its anticipated quarterly funding requests for the fiscal year 2023.

Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total Grant
$300,000	$250,000	$250,000		$800,000

3. The applicant shall provide a listing of all other sources of funding that they are seeking for fiscal year 2023.
Not Applicable

4. The applicant shall provide a listing of all state and federal tax credits it has been granted within the prior three years. Additionally, the applicant shall provide a listing of all state and federal tax credits they have applied for or anticipate applying for pertaining to any capital project, if applicable.
Not Applicable

5. The applicant shall provide a listing of all federal, state, and county government contracts, grants, and grants in aid it has been granted within the prior three years and will be receiving for fiscal year 2023 for program funding.
Maui County Line item grant $100,000. A grant application still needs to be completed and approved for these funds.

6. The applicant shall provide the balance of its unrestricted current assets as of December 31, 2021.
NOT APPLICABLE. As a non-profit organization, its assets are restricted.

V. Experience and Capability

1. Necessary Skills and Experience

The applicant shall demonstrate that it has the necessary skills, abilities, knowledge of, and experience relating to the request. State your experience and appropriateness for providing the service proposed in this application. The applicant shall also provide a listing of verifiable experience of related projects or contracts for the most recent three years that are pertinent to the request.

As previously stated, Kaahumanu Church (KC) is a volunteer organization governed by its Board of Directors (Board) which will oversee the preservation and restoration work of the project, with the assistance of an experienced Project Manager. The quality assurance and evaluation plans will be created and managed by the project architect and KC Board. Local vendors with experience in historic preservation will be subcontracted for specific project areas.

2. Facilities

The applicant shall provide a description of its facilities and demonstrate its adequacy in relation to the request. If facilities are not presently available, describe plans to secure facilities.

Attached is a copy of the approved nomination form for the National Register of Historic Places which aptly describes the facility and accompanying photos of the facility in 1975. In addition, attached is a cost estimation prepared by Rider Levett Bucknall (RLB) in 2015 based on a conceptual estimate itemizing the essential preservation and restoration work of the project. Also attached are Ka'ahumanu Church Drawings and Ka'ahumanu Church Specifications for this project.

VI. Personnel: Project Organization and Staffing

1. Proposed Staffing, Staff Qualifications, Supervision and Training

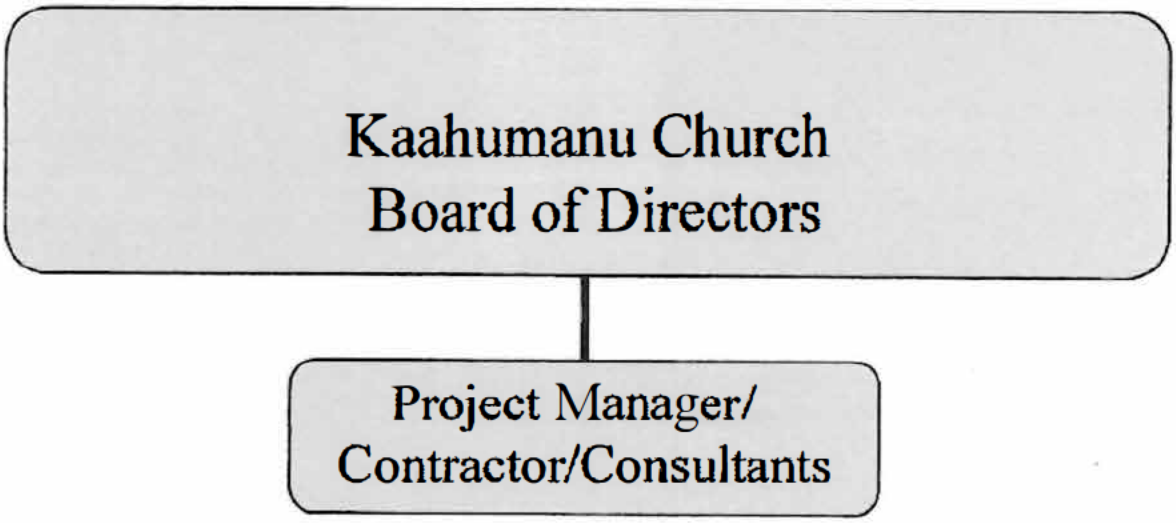
The applicant shall describe the proposed staffing pattern and proposed service capacity appropriate for the viability of the request. The applicant shall provide the qualifications and experience of personnel for the request and shall describe its ability to supervise, train and provide administrative direction relative to the request.

The staffing for the project includes a project manager and contractors. Staffing must be experienced in preservation of historic structures and design.

The projected capital restoration and preservation project will be overseen by KC Board and project manager to assure quality of construction and code compliance when applicable. Contractors and vendors will be chosen based on professional qualifications, competencies and referrals, and will be subject to a competitive bidding process.

2. Organization Chart

The applicant shall illustrate the position of each staff and line of responsibility/supervision. If the request is part of a large, multi-purpose organization, include an organization chart that illustrates the placement of this request.



3. Compensation

The applicant shall provide an annual salary range paid by the applicant to the three highest paid officers, directors, or employees of the organization by position title, not employee name.

All officers and directors of Kaahumanu Church serve on a volunteer basis. Pastor Wayne Higa, serving as Kahu for the church, receives a monthly stipend of $600.

VII. Other

1. Litigation

The applicant shall disclose any pending litigation to which they are a party, including the disclosure of any outstanding judgement. If applicable, please explain.
Not Applicable

2. Licensure or Accreditation

The applicant shall specify any special qualifications, including but not limited to licensure or accreditation that the applicant possesses relevant to this request.

The Kaahumanu Church is listed on the National Register of Historic

Places since 1975.

3. Private Educational Institutions

The applicant shall specify whether the grant will be used to support or benefit a sectarian or non-sectarian private educational institution. Please see Article X, Section 1, of the State Constitution for the relevance of this question.
Not Applicable

4. Future Sustainability Plan

The applicant shall provide a plan for sustaining after fiscal year 2022-23 the activity funded by the grant if the grant of this application is:

(a) Received by the applicant for fiscal year 2022-23, but

- **Once the project is completed, the site will be opened more often, and a nominal fee charged to visitors for tours to help sustain operations.**
- **The site will be made available to rent for special events by the public.**
- **With the infrastructure in place, a large annual fundraising event will also help with the sustainability.**

(b) Not received by the applicant thereafter.

We will continue with the above sustainable plan, pursue other grant applications, donations and fundraisers.

BUDGET REQUEST BY SOURCE OF FUNDS

Period: July 1, 2022 to June 30, 2023

App Ka'ahumanu Church

BUDGET CATEGORIES	Total State Funds Requested (a)	Total Federal Funds Requested (b)	Total County Funds Requested (c)	Total Private/Other Funds Requested (d)
A. PERSONNEL COST				
1. Salaries				
2. Payroll Taxes & Assessments				
3. Fringe Benefits				
TOTAL PERSONNEL COST				
B. OTHER CURRENT EXPENSES				
1. Airfare, Inter-Island				
2. Insurance				
3. Lease/Rental of Equipment				
4. Lease/Rental of Space				
5. Staff Training				
6. Supplies				
7. Telecommunication				
8. Utilities				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
TOTAL OTHER CURRENT EXPENSES				
C. EQUIPMENT PURCHASES				
D. MOTOR VEHICLE PURCHASES				
E. CAPITAL	800,000			
TOTAL (A+B+C+D+E)	**800,00**			

SOURCES OF FUNDING	
(a) Total State Funds Requested	800,000
(b) Total Federal Funds Requested	
(c) Total County Funds Requested	
(d) Total Private/Other Funds Requested	
TOTAL BUDGET	800,000

Budget Prepared By:

Wayne Higa — 808-446-4649

Name (Please type or print) — Phone

Wayne Higa — 1/16/2022

Signature of Authorized Official — Date

Wayne Higa

Name and Title (Please type or print)

Wayne Higa Pastor

BUDGET JUSTIFICATION - PERSONNEL SALARIES AND WAGES

Period: July 1, 2022 to June 30, 2023

Applicant: Kahumanu Church

POSITION TITLE	FULL TIME EQUIVALENT	ANNUAL SALARY A	% OF TIME ALLOCATED TO GRANT REQUEST B	TOTAL STATE FUNDS REQUESTED (A x B)
Not Applicable				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
TOTAL:				

JUSTIFICATION/COMMENTS:

BUDGET JUSTIFICATION - EQUIPMENT AND MOTOR VEHICLES

Period: July 1, 2022 to June 30, 2023

Applicant: _Ka'ahumanu Church_____

DESCRIPTION EQUIPMENT	NO. OF ITEMS	COST PER ITEM	TOTAL COST	TOTAL BUDGETED
Not Applicable			$ -	
			$ -	
			$ -	
			$ -	
			$ -	
TOTAL:				

JUSTIFICATION/COMMENTS:

DESCRIPTION OF MOTOR VEHICLE	NO. OF VEHICLES	COST PER VEHICLE	TOTAL COST	TOTAL BUDGETED
Not Applicable			$ -	
			$ -	
			$ -	
			$ -	
			$ -	
TOTAL:				

JUSTIFICATION/COMMENTS:

BUDGET JUSTIFICATION - CAPITAL PROJECT DETAILS

Period: July 1, 2022 to June 30, 2023

Applicant: _Ka'ahumanu Church_____

FUNDING AMOUNT REQUESTED						
TOTAL PROJECT COST	ALL SOURCES OF FUNDS RECEIVED IN PRIOR YEARS		STATE FUNDS REQUESTED	OTHER SOURCES OF FUNDS REQUESTED	FUNDING REQUIRED IN SUCCEEDING YEARS	
	FY: 2020-2021	FY: 2021-2022	FY:2022-2023	FY:2022-2023	FY:2023-2024	FY:2024-2025
PLANS						
LAND ACQUISITION						
DESIGN						
CONSTRUCTION				800000		
EQUIPMENT						
TOTAL:				800,000		
JUSTIFICATION/COMMENTS:						

GOVERNMENT CONTRACTS, GRANTS, AND / OR GRANTS IN AID

Apı Ka'ahumanu Church Contracts Total: -

	CONTRACT DESCRIPTION	EFFECTIVE DATES	AGENCY	GOVERNMENT ENTITY (U.S./State/Hawaii/ Honolulu/ Kauai/ Maui County)	CONTRACT VALUE
1	Not Applicable				
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

January 20, 2022

Kahu Wayne Higa
Kaahumanu Church
PO Box 1403
Wailuku, HI 96793

RE: Grant-in-Aid Request to Repair and Reroof Kaahumanu Church in Wailuku

Aloha,
I am writing to support this GIA request to restore Kaahumanu Church in Wailuku. A group of we concerned citizens have been working for the past four years to bring this project to fruition.

The steeple of this 144-year-old church has suffered wind and storm damage and is leaking badly. Water intrusion is the beginning of the end for a vulnerable structure such as this. Through the generous contribution of the AHL Design firm we have received pro-bono architectural services that have this repair and restoration project ready for construction.

Kaahumanu Church sits prominently in the civic center of Maui's County seat. It is a guiding icon of Wailuku's history, a symbol of such cultural importance that its deteriorating condition speaks loudly of our civic neglect to maintain this important architectural feature. It is Maui's equivalent of Iolani Palace and should command the same respect.

Approval of this Grant-in-Aid request will allow the community to provide that respect and restore this important monument to its deserved prominence.

Respectfully,

James Niess
Consulting Architect

Kaahumanu Church, South High Street

Wailuku, Maui

What is it? Historic churches are an important symbol of the missionary period of Hawaii's history. The Kaahumanu Church, built in 1876 on the grounds of an old heaiau, has a congregation that is 181 years old.

"The structure was designed by Edward Bailey The complex from the church to the Bailey House was originally King Kahekili's compound He was the last ruling alii of Maui before unification," says the church's kahu, Wayne Higa

Its traditional steeple stands in stark constrast to the verdant natural environment around it. For years, Higa says, the clock on the tower was central to Maui and defined "Maui time." Its graveyard holds the blind preacher of Hawaii, Bartimaeus Puaaiki, who was also the first licensed pastor of Hawaiian ancestry.

What threatens it? The church's wooden structure is nearly two centuries old, and termites and salt air have ravaged it. "We've been given a figure of $700,000. We're looking at restoring the sanctuary of the church and four other structures on the property," Higa says. "One was a theater, and it's used by our Hawaiian immersion preschool. It needs a lot of repairs. From a safety point of view, with children there, it's at the top of our list."

He also says they hope to restore other buildings to become a kitchen and office space. "It's more than rebuilding buildings," Higa says. "It's becoming part of the community again."

What can be done? Restorations of historic churches generally rely on their congregations for funding and labor. But with only 30 members, Higa says there has not been consistent maintenance over the years. They are exploring how to raise more money from sources outside the church wlls, but it's a tough learning process for a congregation without many businesspeople, Higa says. "We're taking it one step at a time and giving it to God to help lead us."

HISTORIC HAWAI'I FOUNDATION

Helping People Preserve Historic Places

Ka‘ahumanu Church (2013)

Update 2015 Article Written By: Katrina Valcourt, HONOLULU Magazine When we last wrote about Ka‘ahumanu Church, it needed $700,000 to restore structures on the property. Unfortunately, that number increased to $1.5 million to do essential repairs after February’s storm wreaked havoc on the steeple and adjoining buildings, especially the Hawaiian immersion school. According to the Rev. Anne Wong Troy, some progress has been made—they’ve gotten some grants, and a company lent the church a crane for free—but there’s still a long way to go. “There are musicians and artists willing to donate their time [to fundraisers], but the church is so small they can’t get enough volunteers to collect money, organize the concert, be at the door, etc.,” Troy says. “If there are 10 people there on a Sunday, that’s a large number.” Anyone willing to volunteer or donate can go to kaahumanuchurch.org. Listed as Endangered in 2013 Article Written By: Victoria Wiseman, HONOLULU Magazine What is it? Historic churches are an important symbol of the missionary period of Hawaii's history.

The Kaahumanu Church, built in 1876 on the grounds of an old heaiau, has a congregation that is 181 years old. "The structure was designed by Edward Bailey. The complex from the church to the Bailey House was originally King Kahekili's compound. He was the last ruling alii of Maui before unification," says the church's kahu, Wayne Higa. Its traditional steeple stands in stark constrast to the verdant natural environment around it. For years, Higa says, the clock on the tower was central to Maui and defined "Maui time." Its graveyard holds the blind preacher of Hawaii, Bartimaeus Puaaiki, who was also the first licensed pastor of Hawaiian ancestry. What threatens it? The church's wooden structure is nearly two centuries old, and termites and salt air have ravaged it. "We've been given a figure of $700,000. We're looking at restoring

DATA SHEET PH0098256

Form 10-300 (July 1969)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY – NOMINATION FORM

(Type all entries – complete applicable sections)

STATE:	HAWAII
COUNTY:	MAUI
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
MAY 12 1975	

SEE INSTRUCTIONS

1. NAME

COMMON: KAAHUMANU CHURCH

AND/OR HISTORIC: WAILUKU EKALESIA HOOLE POPE

2. LOCATION

STREET AND NUMBER: South High Street

CITY OR TOWN: Wailuku

STATE: Hawaii — CODE: 15 — COUNTY: Maui — CODE: 009

3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP		STATUS	ACCESSIBLE TO THE PUBLIC
☐ District ☒ Building	☐ Public	Public Acquisition:	☒ Occupied	Yes: ☒ Restricted
☐ Site ☐ Structure	☒ Private	☐ In Process	☐ Unoccupied	☐ Unrestricted
☐ Object	☐ Both	☐ Being Considered	☒ Preservation work in progress	☐ No

PRESENT USE (Check One or More as Appropriate)

☐ Agricultural	☐ Government	☐ Park	☐ Transportation	☐ Comments
☐ Commercial	☐ Industrial	☐ Private Residence	☐ Other (Specify)	
☐ Educational	☐ Military	☒ Religious		
☐ Entertainment	☐ Museum	☐ Scientific		

4. OWNER OF PROPERTY

OWNER'S NAME: Trustees of the Wailuku Church of Wailuku

STREET AND NUMBER: P. O. Box 323

CITY OR TOWN: Wailuku, Maui — STATE: Hawaii — CODE: 15

STATE: HAWAII

5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC: Bureau of Conveyances

STREET AND NUMBER: 403 South Queen Street

CITY OR TOWN: Honolulu — STATE: Hawaii — CODE: 15

COUNTY: MAUI

RECEIVED FEB 5 1975 NATIONAL REGISTER

6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY: Hawaii Register of Historic Places

DATE OF SURVEY: 1974 — ☐ Federal ☒ State ☐ County ☐ Local

DEPOSITORY FOR SURVEY RECORDS: State of Hawaii Dept. of Land and Natural Resources, Division of State Parks

STREET AND NUMBER: P. O. Box 621

CITY OR TOWN: Honolulu — STATE: Hawaii — CODE: 15

FOR NPS USE ONLY — ENTRY NUMBER — DATE: MAY 12 1975

7. DESCRIPTION

CONDITION	(Check One)					
	☐ Excellent	☐ Good	☒ Fair	☐ Deteriorated	☐ Ruins	☐ Unexposed
	(Check One)		(Check One)			
	☒ Altered	☐ Unaltered	☐ Moved	☒ Original Site		

DESCRIBE THE PRESENT AND ORIGINAL (if known) PHYSICAL APPEARANCE

The Kaahumanu Church is a large blue stone structure with walls more than two feet thick. It has a high-pitched gable roof with no overhang, but the eave terminates in a small moulding adjacent to the top place along the wall. The gable ends are enclosed by wood frame structure with clapboard siding on the exterior. A single window is set in the gable wall at both the front and rear of the church. The structure is four bays in depth with each bay having a single tall Gothic arched window with the interior of the window opening splayed. Windows are multi-paned, double-hung wood frame with simple tracery in the upper part of the arch. Between each window, and further defining the bays are two-stage batted stone buttresses which reinforce the thrust placed on the wall by the large roof structure. Buttresses are also set diagonally at each corner above which the upper portion of the corner is articulated with rusticated quoins. An open entry porch with a similar pitch small gable roof is supported by the front wall of the church at one end and by three columns in arch form set on a concrete pedestal at the other end and a Gothic arch form is cut from the wood gable wall of the entry porch. Wood scallops decorate the eaves. The exterior is finished in plaster. Above the forward part of the church is an elaborate three-stage wooden belfry. The lower stage is square in form with small wood pilasters reaching up to a small hip roof from which a smaller square element with a clock face in each of three sides, above which a similar hip roof is pierced by an octagonal structure with louvered Gothic arched wood openings. An octagonal hip roof at a low pitch is pierced by a central high pitched octagonal wooden spire capped by a sphere. The bell tower is in the finest tradition of New England carpenter Gothic architecture. The building is extremely well-proportioned and handsome.

Entry to the church is gained by way of concrete stairs leading to the entry porch and through two wood panelled entry doors with an upper cross form set in a low arched opening. The interior is stucco similar to the exterior on the walls with a horizontal band surrounding the interior at the upper portion of the wall. A wood board and batten ceiling with panelled beams projecting below the ceiling creates a coffered system.

The roof is supported by an horizontal member of the roof structure which is tied to the roof rafters by diagonal truss braces and a central vertical steel tie rod. The roof structure is of heavy timber construction in mill sawed lumber. The structure for the bell tower is of extremely heavy timber construction with a generous amount of X-bracing diagonal ties, all of which are stabilized with a half twist and bolted to the timbers.

SEE INSTRUCTIONS

SIGNIFICANCE

PERIOD *(Check One or More as Appropriate)*

☐ Pre-Columbian	☐ 16th Century	☐ 18th Century	☐ 20th Century
☐ 15th Century	☐ 17th Century	☒ 19th Century	

SPECIFIC DATE(S) *(If Applicable and Known)* 1832, 1876, 1884

AREAS OF SIGNIFICANCE *(Check One or More as Appropriate)*

Aboriginal	☐ Education	☐ Political	☐ Urban Planning
☐ Prehistoric	☐ Engineering	☒ Religion/Philosophy	☐ Other *(Specify)*
☐ Historic	☐ Industry		
☐ Agriculture	☐ Invention	☐ Science	
☒ Architecture	☐ Landscape Architecture	☐ Sculpture	
☐ Art		☐ Social/Humanitarian	
☐ Commerce	☐ Literature		
☐ Communications	☐ Military	☐ Theater	
☐ Conservation	☐ Music	☐ Transportation	

STATEMENT OF SIGNIFICANCE

(1) Architectural Significance:

The structure is an excellent example of the adaptation of New England style simple Gothic architecture to Hawaii and the use of native Hawaiian materials in this adaptation.

(2) Historical Significance:

The present structure is ninety-seven years old. The history of the congregation and the present church have associations with some of the more notable missionaries, such as Edward Bailey, Jonathan Green, Richard Armstrong, William Alexander, Thomas Thurston, and Daniel Conde. There are also some associations with important political figures, such as Kaahumanu.

Also, among those buried in the church's cemetery is Honolii, one of the native Hawaiians who returned to Hawaii aboard the Thaddeus with the first company of missionaries in 1820.

It is one of the few native Hawaiian churches still in existence.

HISTORIC SKETCH:

The present Kaahumanu Church is actually the fourth place of worship for the Wailuku congregation. The original congregation, which came into being in 1832, under the leadership of the Reverend Jonathan S. Green, was forced to hold their meetings in a shed. The congregation built the shed on land belonging to the Kahale family under a grant from King Kamehameha III (Liholiho).

SEE INSTRUCTION

BIBLIOGRAPHICAL REFERENCES

Hawaiian Mission Children's Society, Missionary Album, Sesquicentennial Edition 1820-1970 (Honolulu: Hawaiian Mission Children's Society) 3rd Ed., 1970.

Kaahumanu Church Records (Translated from Hawaiian)

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY

CORNER	LATITUDE Degrees	Minutes	Seconds	LONGITUDE Degrees	Minutes	Seconds
NW	°	'	"	°	'	"
NE	°	'	"	°	'	"
SE	°		"	°		"
	°	'	"	°	'	"

OR

LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES

LATITUDE Degrees	Minutes	Seconds	LONGITUDE Degrees	Minutes	Seconds
156	30	01	20	53	49

NORTH

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: 96 acres

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY:	CODE
	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE

RECEIVED FEB 5 1975 NATIONAL REGISTER

SEE INSTRUCTIONS

BY:

NAME AND TITLE: Gar Cummins Director and Historian

ORGANIZATION: State Parks Division, Hawaii Register of Historic Places

DATE: June 14, 1974

STREET AND NUMBER: 465 S. King Street

CITY OR TOWN: Honolulu

STATE: Hawaii

CODE: 15

12. STATE LIAISON OFFICER CERTIFICATION

As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is:

National ☐ State ☐ Local ☒

Name: Christopher Cobb

Christopher Cobb

Title: Hawaii State Historic Preservation Officer

Date: January 3, 1975

NATIONAL REGISTER VERIFICATION

I hereby certify that this property is included in the National Register.

Ernest A. Connally

Chief, Office of Archeology and Historic Preservation

Date: 5/12/75

ATTEST:

Ronald M. Greenberg

Actg. Keeper of The National Register

Date: 5/9/75

GPO 901-087

7. (Continued)

A choir loft is supported by the stone walls on three sides with projecting stone pilasters adjacent to the wall at the open side and two central square wooden columns with wooden handrails.

At the sanctuary end of the church is a platform raised in two levels. The level adjacent to the sanctuary wall has two rows of chairs and is surrounded on three sides by a koa wood balustrade with turned corner posts and wooden stairs above, supported below by wood structure with a moulded panel base. At the lower level is an elaborate carved koa wood podium, and three straight-backed koa wood chairs. Three lights hung from the ceiling have scalloped crystal globes.

The building is currently in fair condition with the basic structure in good condition, but in need of rehabilitation. It is located in a large terraced lawned area with a number of large trees. It faces the Court House on one of the main roads in Wailuku.

OTHER STRUCTURES ON THE PROPERTY

To the rear of the church is a small, stone enclosure with a single opening in a semi-delapidated condition. It is difficult to assess what the original purpose of this structure was.

Also to the rear are several grave sites. One is an arched pile of rock which is partially delapidated.

To the left rear of the church is a single story, wooden structure with a gable roof, horizontal wood clapboard siding, a small projecting hip shed roof over an entry porch supported with square wood posts and reached by wood stairs with rectilinear window openings and a double entry door with an upper cross panelling. Above the entry is a rectilinear wood louvered vent. The floors and ceiling are of wood. The end of the building opposite the entry has a raised stage platform with a low arched opening flanked on either side by two semi-circled arched door openings set in a canted wall space 45° to the exterior walls and the stage opening wall. The building is now being used as a meeting hall for the church. It is a simple structure with no distinguishing architectural characteristics.

8. (Continued)

During its first year, Queen Kaahumanu, the kuhina-nui of the Kingdom and ardent convert to Christianity, visited the congregation and asked that when the congregation built an actual church, it be named for her. Her request was not honored, however, until 1876.

The small shed meeting house soon proved too small as the service held there attracted as many as 3000 worshippers. In 1834, a larger meeting house with a thatched roof was erected by the congregation.

Despite the large numbers of people attending the services at the Wailuku Church, the actual membership tended to be quite small. The Wailuku Station Report for 1833-1834, for instance, noted that two new members had been added, making the total membership eleven.

During the period of the "Great Revival," 1837-1840, the Wailuku Church membership rose to 487, with 200 being taken in during the 1838-1839 year alone. The need for a larger and better church was apparent.

The Reverend Richard Armstrong who had replaced the Reverend Green as pastor in 1836, supervised the construction of two stone meeting houses one at Haiku, and the other at Wailuku. The new Wailuku Church, completed in 1840, was 100 feet by 52 feet, and was two stories (actually one story and a gallery) in height.

There were problems, however. Reverend Green, who returned to replace Armstrong in 1840, wrote in 1841 that the roof was a "failure." It had to be re-thatched in 1848 at a cost of $648.28.

In 1843, the Reverend Green was replaced by the Reverend E. W. Clark. Five years later, Clark was transferred to Kawaihao Church in Honolulu, and the Reverend Daniel Conde took over the pastorate at Wailuku. He was not popular with the church membership, however, and a petition was circulated calling for his removal. The Reverend W. P. Alexander was the congregation's choice to become the new pastor, but he was not named officially until 1857.

The Reverend Alexander saw that a new church was needed. As early as 1866, he spoke of a fund for such a project. It was not until 1872, however, under the leadership of Wailuku's

8. (Continued)

first native Hawaiian pastor[1], that the congregation began a serious drive to raise money for a new church.

When construction began, the work was supervised by the Reverend Edward Bailey. In May, 1876, the new church, finally named the Kaahumanu Church, was completed. The only remains of the old church was and is a rock retaining wall that now borders High Street in Wailuku.

In 1884, a tower was added, with a "fine tower clock from the U. S. costing $1000.00..," a gift from the Reverend Edward Bailey. In 1892 the chandeliers were added to the interior.

The church has remained active to the present day. In recent years the church has undergone repairs to the steeple and roof, and is at present in need of some rather extensive repairs.

1 William Pulepule Kahale

Library of Congress
Prints & Photographs Online Catalog

Bibliographic Information

1. SOUTH (FRONT) ELEVATION - Kaahumanu Church, South High Street, Wailuku, Maui County, HI

- Digital ID: (None) hhh hi0053.photos.058737p http://hdl.loc.gov/loc.pnp/hhh.hi0053/photos.058737p
- Reproduction Number: HABS HI,5-WAILU,3--1
- Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA http://hdl.loc.gov/loc.pnp/pp.print

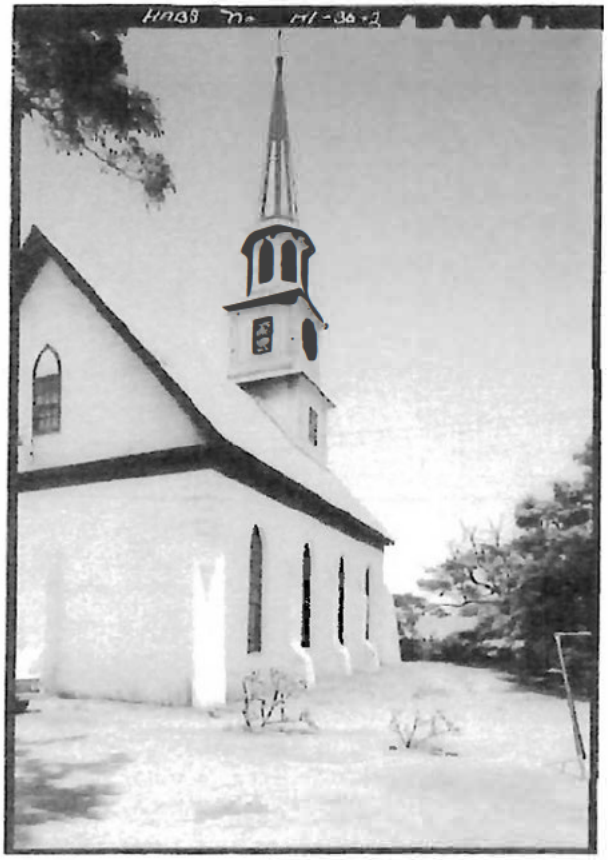
About This Item | JPEG (42kb) | JPEG (100kb) | TIFF (17.1mb)

Library of Congress
Prints & Photographs Online Catalog

2. REAR VIEW - Kaahumanu Church, South High Street, Wailuku, Maui County, HI

- Digital ID: (None) hhh hi0053.photos.058738p http://hdl.loc.gov/loc.pnp/hhh.hi0053/photos.058738p
- Reproduction Number: HABS HI,5-WAILU,3--2
- Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA http://hdl.loc.gov/loc.pnp/pp.print

About This Item JPEG (42kb) | JPEG (104kb) | TIFF (16.9mb)



Library of Congress
Prints & Photographs Online Catalog

3. INTERIOR, TOWARDS PULPIT - Kaahumanu Church, South High Street, Wailuku, Maui County, HI

- Digital ID: (None) hhh hi0053.photos.058739p http://hdl.loc.gov/loc.pnp/hhh.hi0053/photos.058739p
- Reproduction Number: HABS HI,5-WAILU,3--3
- Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA http://hdl.loc.gov/loc.pnp/pp.print

About This Item JPEG (33kb) | JPEG (77kb) | TIFF (17.1mb)

Library of Congress
Prints & Photographs Online Catalog

Bibliographic Information

4. INTERIOR, TOWARDS REAR BALCONY - Kaahumanu Church, South High Street, Wailuku, Maui County, HI

- Digital ID: (None) hhh hi0053.photos.058740p http://hdl.loc.gov/loc.pnp/hhh.hi0053/photos.058740p
- Reproduction Number: HABS HI,5-WAILU,3--4
- Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA http://hdl.loc.gov/loc.pnp/pp.print

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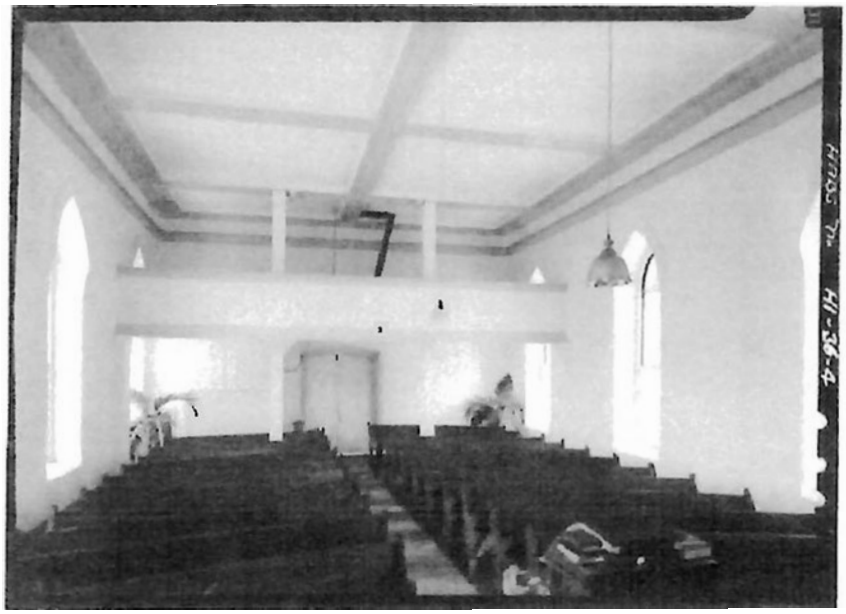


Description		Unit	Qty	Rate	Total
B2010	**Exterior Walls**				
02	**Existing Conditions**				
17	Demo Entry Canopy	SF	96	10.00	960
20	Gable Siding Demo	SF	618	10.00	6,180
28	Demolition for Rear Entry	SF	100	10.00	1,000
29	Demolition of Exsisting Windows	EA	8	1,000.00	8,000
	Existing Conditions				***$16,140***
06	**Wood, Plastics, and Composites**				
18	Entry Porch Post	EA	6	600.00	3,600
21	Structural Repairs to Gable End Framed Walls	SF	618	10.00	6,180
27	Structural Enhancements Roof to Wall Ties	EA	12	250.00	3,000
33	Gable Siding	SF	618	12.00	7,416
34	Steeple Siding & Trim	SF	2,200	16.00	35,200
48	Exterior Standing & Running Trin	LF	304	20.00	6,080
	Wood, Plastics, and Composites				***$61,476***
08	**Openings**				
30	Exterior Window Replacement	EA	8	22,000.00	176,000
	Openings				***$176,000***
09	**Finishings**				
36	Exterior Painting	SF	5,150	2.50	12,875
	Finishings				***$12,875***
13	**Special Construction**				
26	Seismic Enhancements to Rubble Masonry Walls - Structural Plaster	SF	10,300	55.00	566,500
	Special Construction				***$566,500***
	Exterior Walls				***$832,991***
B2020	**Exterior Windows**				
08	**Openings**				
50	Steeple Windows	EA	4	1,100.00	4,400
	Openings				***$4,400***
	Exterior Windows				***$4,400***
B2030	**Exterior Doors**				
08	**Openings**				
31	Rear Entry Door & Hardware	EA	1	6,000.00	6,000
32	Front Entry Door & Hardware	EA	1	3,000.00	3,000
	Openings				***$9,000***
	Exterior Doors				***$9,000***

Description		Unit	Qty	Rate	Total
C1010	**Partitions**				
06	**Wood, Plastics, and Composites**				
12	Rostrum Wall Framing	SF	172	12.00	2,064
16	Balcony Support Walls & Pony Walls	SF	593	12.00	7,116
	Wood, Plastics, and Composites				***$9,180***
	Partitions				***$9,180***
C1020	**Interior Doors**				
08	**Openings**				
40	Interior Doors & Hardware	EA	6	1,500.00	9,000
	Openings				***$9,000***
	Interior Doors				***$9,000***
C2010	**Stair Construction**				
03	**Concrete**				
45	Exterior Stair Repair & ADA Compliance	SF	144	100.00	14,400
	Concrete				***$14,400***
05	**Metals**				
47	Entry Stair Railing	LF	28	100.00	2,800
	Metals				***$2,800***
06	**Wood, Plastics, and Composites**				
15	Balcony Stairs	FT/R	18	1,100.00	19,800
	Wood, Plastics, and Composites				***$19,800***
	Stair Construction				***$37,000***
C3010	**Wall Finishes**				
06	**Wood, Plastics, and Composites**				
41	Interior Standing & Running Trim	LF	656	15.00	9,840
	Wood, Plastics, and Composites				***$9,840***
09	**Finishings**				
37	Interior Painting Walls	SF	5,150	2.00	10,300
	Finishings				***$10,300***
	Wall Finishes				***$20,140***
C3020	**Floor Finishes**				
09	**Finishings**				
38	Interior Finishing Floors	SF	2,054	2.00	4,108
	Finishings				***$4,108***
	Floor Finishes				***$4,108***

Location Elements/Divisions Item

ALL ALL LOCATIONS (continued) Rates Current At April 2015

Description		Unit	Qty	Rate	Total
C3030 Ceiling Finishes					
09 Finishings					
39 Interior Painting Ceilings		SF	1,668	2.50	4,170
	Finishings				***$4,170***
	Ceiling Finishes				***$4,170***
D3090 Other HVAC Systems & Equipment					
08 Openings					
49 Steeple Louvres		EA	8	350.00	2,800
	Openings				***$2,800***
	Other HVAC Systems & Equipment				***$2,800***
D5010 Electrical Service & Distribution					
26 Electrical					
46 New Electrical Service		LF	200	25.00	5,000
	Electrical				***$5,000***
	Electrical Service & Distribution				***$5,000***
D5020 Lighting and Branch Wiring					
26 Electrical					
44 Electrical Lighting and Power distribution		SF	2,054	23.00	47,242
	Electrical				***$47,242***
	Lighting and Branch Wiring				***$47,242***
D5090 Other Electrical Systems					
26 Electrical					
52 Power for Lawn Based Functions		LS	1	10,000.00	10,000
	Electrical				***$10,000***
	Other Electrical Systems				***$10,000***
E1090 Other Equipment					
13 Special Construction					
42 Clock Maintenance Remove & Replace		LS	2	7,500.00	15,000
	Special Construction				***$15,000***
	Other Equipment				***$15,000***
E2010 Fixed Furnishings					
06 Wood, Plastics, and Composites					
43 Clean & Reset Pews		EA	18	500.00	9,000
	Wood, Plastics, and Composites				***$9,000***
	Fixed Furnishings				***$9,000***

Location Elements/Divisions Item

ALL ALL LOCATIONS (continued) Rates Current At April 2015

Description		Unit	Qty	Rate	Total
F1010	**Special Structures**				
11	**Equipment**				
54	Restroom Building	EA	1	75,000.00	75,000
	Equipment				***$75,000***
	Special Structures				***$75,000***
F1030	**Special Construction Systems**				
01	**General Requirements**				
2	Termite Treatment - Tenting	SF	1,668	8.00	13,344
	General Requirements				***$13,344***
	Special Construction Systems				***$13,344***
F2020	**Hazardous Components Abatement**				
02	**Existing Conditions**				
3	Lead Paint Abatement -Wood Floors	SF	2,055	8.80	18,084
4	Lead Paint Abatement -Wood Ceiling & Trim	SF	1,668	8.80	14,678
5	Lead Paint Abatement -Wood Siding at Gables & Steeple	SF	2,681	8.80	23,593
	Existing Conditions				***$56,355***
	Hazardous Components Abatement				***$56,355***
G2020	**Parking Lots**				
32	**Exterior Improvements**				
53	Parking Lot Repairs	SF	15,600	5.00	78,000
	Exterior Improvements				***$78,000***
	Parking Lots				***$78,000***
G2040	**Site Development**				
32	**Exterior Improvements**				
51	Landscape Repairs	SF	702	5.00	3,510
	Exterior Improvements				***$3,510***
33	**Utilities**				
55	Utility Services for Restroom Building	LF	150	150.00	22,500
	Utilities				***$22,500***
	Site Development				***$26,010***
	ALL LOCATIONS				***$1,446,783***

KAAHUMANU CHURCH REPAIRS

103 South High Street
Wailuku, Hawaii 96793
TMK: (2) 3-4-014:002

PROJECT TEAM

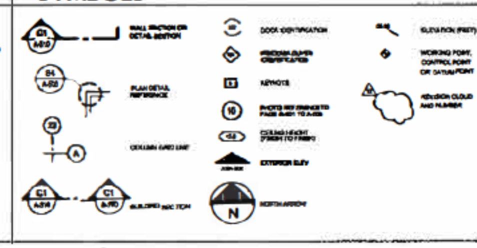
OWNER
HAWAII CONFERENCE FOUNDATION
1848 NUUANU AVENUE
HONOLULU, HI 96817

ENVIRONMENTAL
MASA FUJIOKA & ASSOCIATES
98-021 KAMEHAMEHA HWY, #337
AIEA, HI 96701

ARCHITECTURAL
ARCHITECTS HAWAII, LTD.
733 BISHOP STREET, SUITE 3100
HONOLULU, HI 96813
(808) 523-9636

SPECIFICATIONS
ROBERT FREEBURG AIA
827 SOUTH STREET, SUITE 201
HONOLULU, HI 96813

SYMBOLS



PROJECT INFORMATION & CODE SUMMARY

GROSS SITE (LAND) AREA:	81,082 SQUARE FEET
PROPERTY CLASS:	ASSEMBLY
ZONING DISTRICT:	HD-3 - HISTORIC DISTRICT 3
ZONING HEIGHT:	35'-0"
FRONT YARD SETBACK:	15'-0"
REAR YARD SETBACK:	5'-0"
SIDE YARD SETBACK:	6'-0"
STATE LAND USE DISTRICT:	URBAN
SHORELINE MANAGEMENT AREA / SMA:	NONE
FEMA FLOOD DESIGNATION:	X - BEYOND 500 YEAR FLOOD PLAIN
STATE HISTORIC REGISTER:	REGISTERED
NATIONAL HISTORIC REGISTER:	REGISTERED

EXISTING BUILDING INFO:

EXISTING BUILDING AREA:	2,146 SF
PROPOSED NEW BUILDING AREA:	2,146 SF
EXISTING BUILDING HEIGHT:	42'-0" (STEEPLE 105'-0")
YEAR BUILT:	1876

NOTE: THE PROJECT SCOPE DID NOT TRIGGER THE INCLUSION OF THIS ENERGY CODE BLOCK

COUNTY OF MAUI
MAUI COUNTY CODE, CHAPTER 16.16B ENERGY CODE
COMMERCIAL PROVISIONS

COMPLIANCE METHOD
Check applicable method

- ☐ C401.2(1) ANSI/ASHRAE/IESNA 90.1
- ☐ C401.2(2) Sections C402 through C408
- ☐ C401.2(3) Sections C402, C403.2, C404, C405.2, C405.3, C405.4, C405.6 & C407
- ☐ C102.1 Alternative

To the best of my knowledge, this project's design substantially conforms to the Energy Code.

Signature: [signature] Date: 6/22/21
Name: MYLES MICHIBATA
Title: ARCHITECT
License No. 12387

APPLICABLE CODES & REGULATIONS

MAUI COUNTY CODE 1980 (2020 EDITION, AS AMENDED BY MAUI COUNTY)	2020 MCC
2012 INTERNATIONAL BUILDING CODE, AS AMENDED BY MAUI COUNTY	2012 IBC
2012 INTERNATIONAL EXISTING BUILDING CODE, AS AMENDED BY MAUI COUNTY	2012 IEBC
HAWAII STATE FIRE CODE - HAWAII REVISED STATUTES SECTION 132-3	HAR 132-3
2012 NATIONAL FIRE CODE (NFPA 1 UNIFORM FIRE CODE)	2012 NFPA 1

BUILDING CODE ANALYSIS - 2012 INTERNATIONAL BUILDING CODE

BASIS OF ANALYSIS:	2012 INTERNATIONAL BUILDING CODE
OCCUPANCY GROUP:	ASSEMBLY GROUP A3
TYPE OF CONSTRUCTION:	TYPE III

ALL WORK TO COMPLY WITH PROVISIONS SET FORTH ACCORDING TO 2012 IEBC, SECTION 502 & 503, REGARDING THE LEVEL OF REPAIRS & RE-ROOFING TO BE DONE WITHIN THE EXISTING BUILDING CONDITIONS.

WIND LOADS BASED ON IBC 2012 AND ASCE 7 10

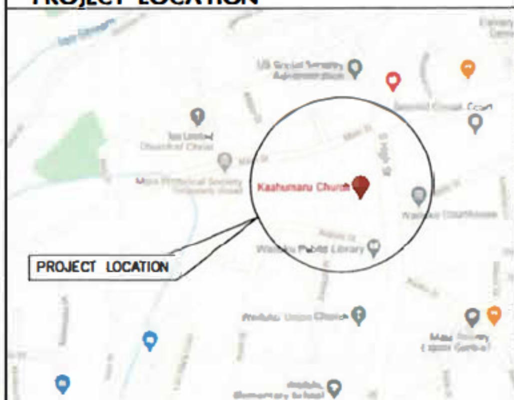
EXISTING USE AND OCCUPANCY CLASSIFICATION - CHURCH (IBC CHAPTER 3)

DESCRIPTION	OCCUPANCY GROUP	IBC REFERENCE
ASSEMBLY (CHURCH)	GROUP A-3	303

GENERAL NOTES

1. THESE DRAWINGS "DEMOLITION PERMIT DRAWINGS" WERE PREPARED BY ARCHITECTS HAWAII LTD AND ITS CONSULTANTS. USE OF THESE DRAWINGS IN ANY LOCATION OTHER THAN INDICATED IS NOT AUTHORIZED. THE ARCHITECT AND ITS CONSULTANTS ASSUMES NO RESPONSIBILITY FOR UNAUTHORIZED USE OF THESE DRAWINGS.
2. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, EQUIPMENT, ETC. TO COMPLETE THE WORK INDICATED ON THE DRAWINGS. PROVIDE ADEQUATE PROTECTION OF ADJACENT SURFACES NOT INCLUDED IN THE DEMOLITION.
3. CONTRACTOR SHALL BE SOLELY BE RESPONSIBLE FOR ALL MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES FOR DEMOLITION, REMOVAL OF DEMOLITION DEBRIS FROM SITE AND NEW CONSTRUCTION, INCLUDING BUT NOT LIMITED TO SAFETY PRECAUTIONS.
4. CONTRACTOR SHALL COMPLY WITH APPLICABLE LOCAL, STATE & FEDERAL CODES & REGULATIONS PERTAINING TO SAFETY OF PERSONS, PROPERTY & ENVIRONMENTAL PROTECTION.
5. IF DEMOLITION IS PERFORMED IN EXCESS OF THAT REQUIRED, THE CONTRACTOR SHALL RESTORE AFFECTED AREAS AT NO COST TO THE OWNER. IF DURING THE DEMOLITION WORK, AN UNFORESEEN FIELD CONDITION THAT WILL AFFECT THE CONTRACTOR'S ABILITY TO PERFORM THEIR WORK IS FOUND, THE CONTRACTOR SHALL INFORM THE ARCHITECT, OWNER OR OWNER'S REPRESENTATIVE OF THE SITUATION AND HAS THE RIGHT TO PREPARE A COST ESTIMATE OF THE WORK ASSOCIATED WITH THE FIELD CONDITION AND PRESENT TO THE OWNER BEFORE COMMENCING WORK.
6. CONTRACTOR SHALL BE REQUIRED TO FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, SIZES, MATERIALS AND FINISHES PRIOR TO START OF ANY WORK.
7. CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE OWNER IN WRITING OF ANY DISCREPANCY AND/OR CONDITION WHICH WILL ADVERSELY AFFECT THE CONSTRUCTION COST AND TIMELY COMPLETION OF THE TERMS OF THE CONTRACT PRIOR TO START OF ANY WORK AND ORDERING OF MATERIALS AND/OR EQUIPMENT. THE START OF ANY WORK AND ORDERING OF MATERIALS AND/OR EQUIPMENT SHALL CONSTITUTE ACCEPTANCE OF THE EXISTING CONDITIONS. ANY COSTS OR TIME DELAYS RESULTING FROM THE CONTRACTOR'S FAILURE TO VERIFY AND/OR NOTIFY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COSTS SHALL BE REQUESTED FROM THE OWNER OR THEIR CONSULTANTS.
8. CONTRACTOR SHALL PROTECT ALL WORKERS, OWNER'S PERSONNEL AND THE GENERAL PUBLIC FROM ALL CONSTRUCTION HAZARDS AND SHALL ERECT AND MAINTAIN AN APPROVED SAFETY BARRIER AROUND THE PROJECT AREA(S). ONLY AUTHORIZED PERSONNEL SHALL BE ALLOWED ENTRY INTO THE PROJECT AREA(S). THE PROJECT AREA(S) SHALL CONFORM TO ALL APPLICABLE SAFETY LAWS, ORDINANCES AND LAWS.
9. CONTRACTOR SHALL PROVIDE PROTECTION TO MATERIALS STORED ON SITE AS WELL AS ERECTED PARTITIONS, COLUMNS, ETC.
10. CONTRACTOR SHALL REMOVE TRASH AND LEFT OVER MATERIAL FROM SITE AS IN ACCORDANCE WITH FEDERAL, STATE AND MUNICIPAL CODES.
11. CONTRACTOR SHALL KEEP THE AREA OF WORK FREE FROM DEBRIS ON A DAILY BASIS.
12. PRIOR TO START OF CONSTRUCTION A PRE-CONSTRUCTION MEETING SHALL OCCUR WITH THE OWNER'S REPRESENTATIVE, ARCHITECT AND STRUCTURAL ENGINEER.
13. ALL NEW WOOD IS REQUIRED TO BE TERMITE TREATED PRIOR TO INSTALLATION.
14. WHERE EXISTING HISTORIC FINISH MATERIALS BEING TEMPORARILY REMOVED ARE NOT ABLE TO BE REINSTALLED, NEW MATERIALS MUST MATCH THE ORIGINAL IN SPECIES, PROFILE AND DIMENSION.
15. DURING ANY SANDING OF SURFACES OR REMOVAL OF EXISTING PAINT, CONTRACTOR TO USE ALL REQUIRED PRECAUTIONS FOR WORK WITH LEAD-CONTAINING PAINT.
16. ALL WORK MUST BE MADE WEATHER-TIGHT AT THE END OF EACH WORK DAY AND PROTECTED FROM THE ELEMENTS THROUGHOUT CONSTRUCTION.
17. CONTRACTOR TO ENSURE 100% COMPATIBILITY OF ALL MATERIALS PRIOR TO INSTALLATION.

PROJECT LOCATION



DRAWING INDEX

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A-202	EXTERIOR ELEVATION - EAST (STEEPLE)
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A-205	EXTERIOR ELEVATION - WEST
A-206	EXTERIOR ELEVATION - WEST (STEEPLE)
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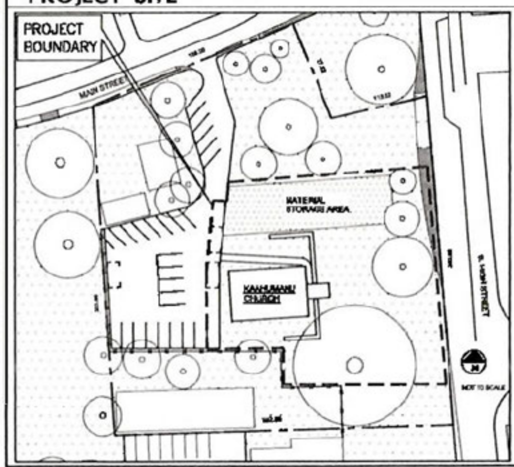
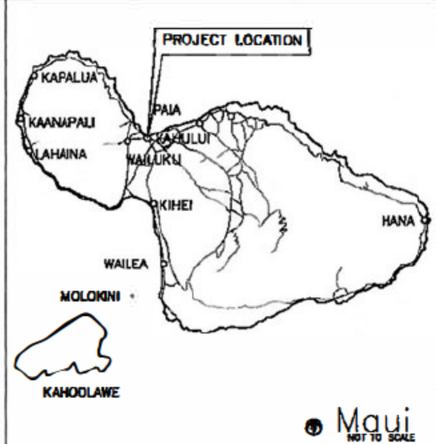
A-601	WINDOW/LOUVER SCHEDULE, WINDOW/LOUVER TYPES, ENLARGED EXTERIOR ELEVATIONS

PROJECT SITE



ISLAND MAP



ahl.
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KAAHUMANU CHURCH

PROJECT PHASE: SCHEMATIC DESIGN DRAFT
SHT TITLE: LOCATION PLAN, SYMBOLS, PROJECT TEAM & GEN NOTES

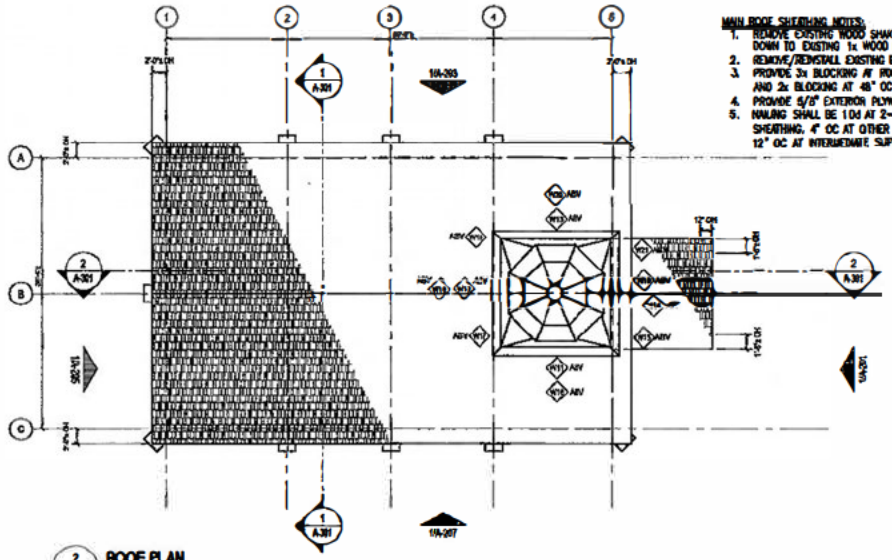
MYLES M. MICHIBATA
LICENSED PROFESSIONAL ARCHITECT
No. 12387
HAWAII, U.S.A.

This work was prepared by me or under my supervision and construction of this project will be under my observation.

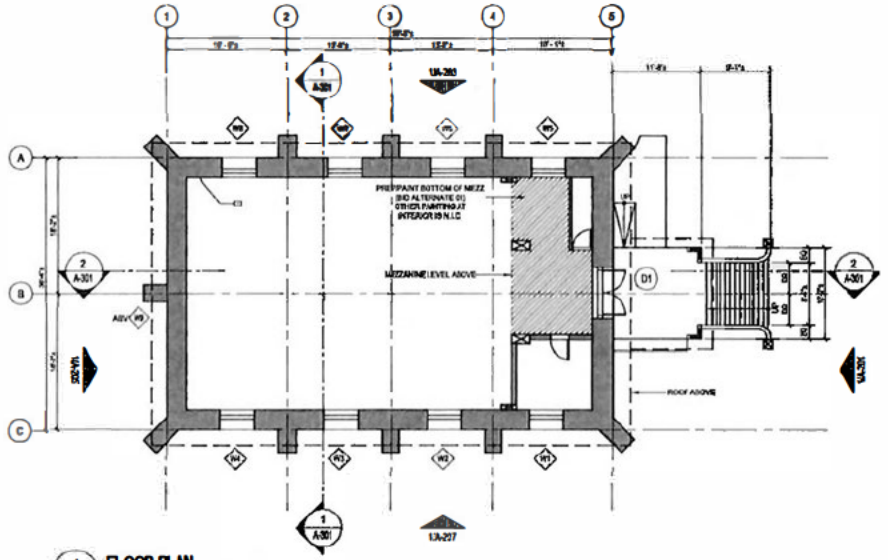
PROJECT NO:
CAD DWG FILE:
DRAWN BY:
DATE:
DRAWING NO

G-001

1 of 18 Sheets



2 ROOF PLAN
A-101 SCALE: 1/8" = 1'-0"



1 FLOOR PLAN
A-101 SCALE: 1/8" = 1'-0"

MAIN ROOF SHEATHING NOTES:
1. REMOVE EXISTING WOOD SHAKE ROOFING AND BUILDING FELT THROUGHOUT DOWN TO EXISTING 1x WOOD BATTENS.
2. REMOVE/REINSTALL EXISTING BATTENS AS NEEDED TO INSTALL NEW BLOCKING.
3. PROVIDE 3x BLOCKING AT ROOF PERIMETER INCLUDING AT RIDGE AT 48" OC, AND 2x BLOCKING AT 48" OC TYP.
4. PROVIDE 5/8" EXTERIOR PLYWOOD SHEATHING THROUGHOUT.
5. NAILING SHALL BE 10d AT 2-1/2" OC AT THE BOUNDARY OF PLYWD SHEATHING, 4" OC AT OTHER FRAMING AND BLOCKING EDGE SUPPORTS, AND 12" OC AT INTERMEDIATE SUPPORTS.

KEY NOTES

A	CEMENT PLASTER/STUCCO - (BID ALTERNATE 01) REF DET A2/A-403 REF DET C3/A-403		
	CEMENT PLASTER/STUCCO	MISCELLANEOUS - INFILL	10' SF
	CEMENT PLASTER/STUCCO	REPAIR INFILL AT WINDOW SILL	10' SF

GENERAL NOTES:
1. REFERENCE SHEETS A-201 THROUGH A-208 FOR SCOPE OF WORK (REPLACEMENT OR REPAIR).
2. DETAILS ON A-401 AND A-402 REFLECT EXISTING CONDITIONS AND EXISTING MEMBER SIZES. AND CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
3. ALL WOOD SHAKE ROOFING, SELF-ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING ARE NEW.
4. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.
5. PREP AND PAINT ALL EXISTING TO REMAIN AND NEW EXPOSED SURFACE UNLESS OTHERWISE NOTED AS NIC.

GRAPHIC SCALE APPLICABLE TO THIS SHEET

SCALE: 1/8" = 1'-0"

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KAAHUMANU CHURCH
[redacted]

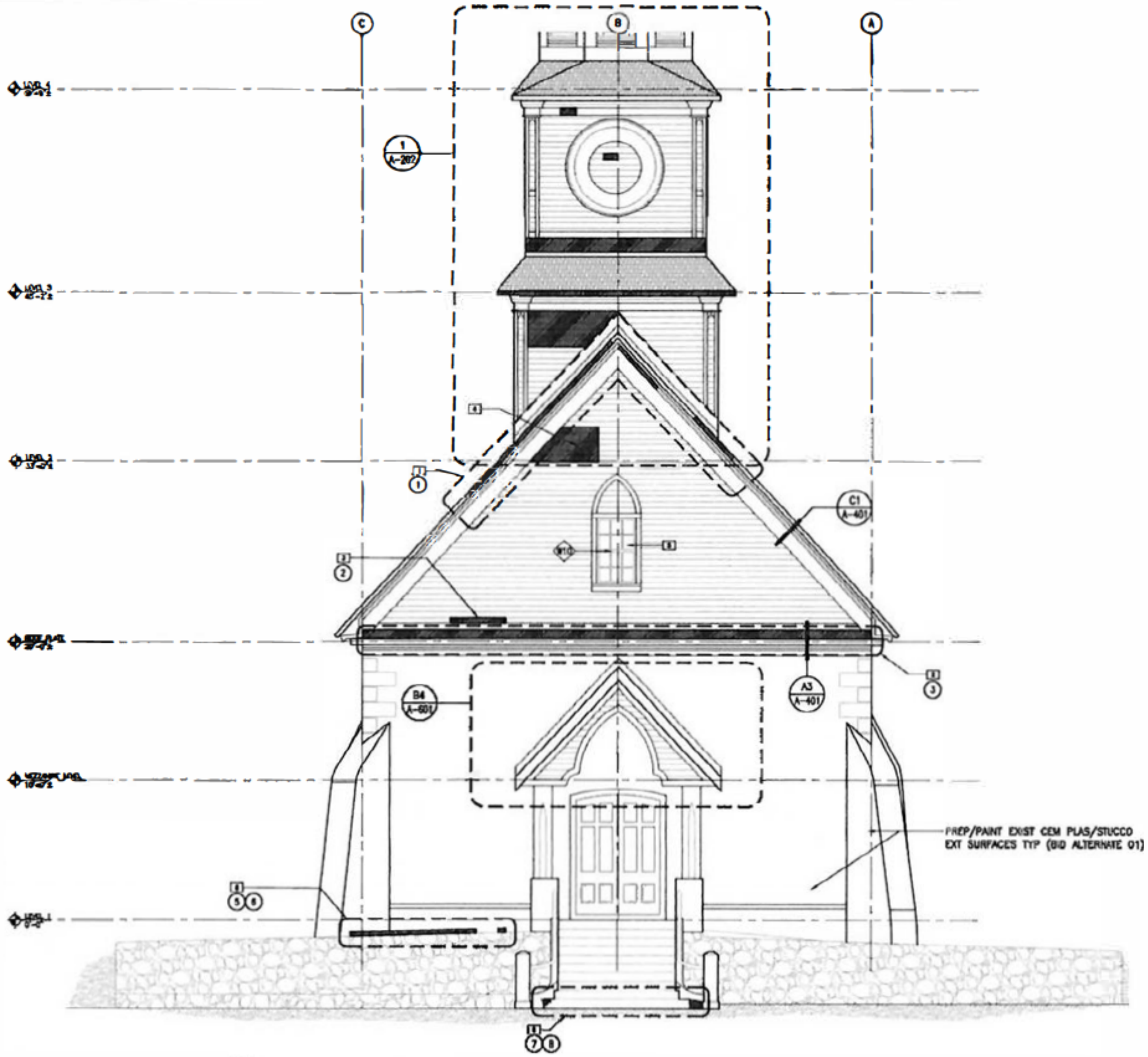
PROJECT PHASE
SCHEMATIC DESIGN - DRAFT
SHT TITLE
FLOOR PLAN & ROOF PLAN

WYLES M. MICHIBATA
LICENSED PROFESSIONAL ARCHITECT
No. 11347
HAWAII, U.S.A.

PROJECT NO:
CAD DWG FILE:
DRAWN BY:
DATE:
DRAWING NO:

A-101

2 of 18 Sheets



1 / A-201 EXTERIOR ELEVATION - EAST
SCALE: 1/4" = 1'-0"

SCALE: 1/8"=1'-0"

KEY NOTES

1	ROOF EAVE - REF DETAIL C1/A-401		
F1	1x8 WD FASCIA TRIM	REMOVE/REPLACE	16' L
F2	1x12 WD FASCIA	REPAIR	8' L
F3	1x WD SOFFIT	REMOVE/REPLACE	8' L
2	EYEBROW ROOF - REF DETAIL A3/A-401		
C1	1x WD ROOF SHEATHING	REMOVE/REPLACE	30' L
3	GABLE SIDING		
	1x WD T&G SIDING	REMOVE/REPLACE	3' L
4	GABLE SIDING		
	1x WD T&G SIDING	REPAIR	3' SF
5	WINDOW (BID ALTERNATE 01)		
	WINDOW PUTTY	REMOVE/REPLACE	12' L
6	CEMENT PLASTER/STUCCO - REF DET A2/A-403 (BID ALTERNATE 01)		
	CEMENT PLASTER/STUCCO	MISSING/VOID - INFILL	5' SF

GENERAL NOTES:
1. CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
2. ALL WOOD SHAKE ROOFING, SELF ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING SHALL BE NEW. REMOVE EXISTING 1x AND 2x TRIMS AT ROOF/WALL CONDITION AND REFER TO KEY NOTE FOR ADDITIONAL REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.
4. PREP AND PAINT ALL EXISTING TO REMAIN AND NEW SURFACES UNLESS OTHERWISE NOTED AS NIC.

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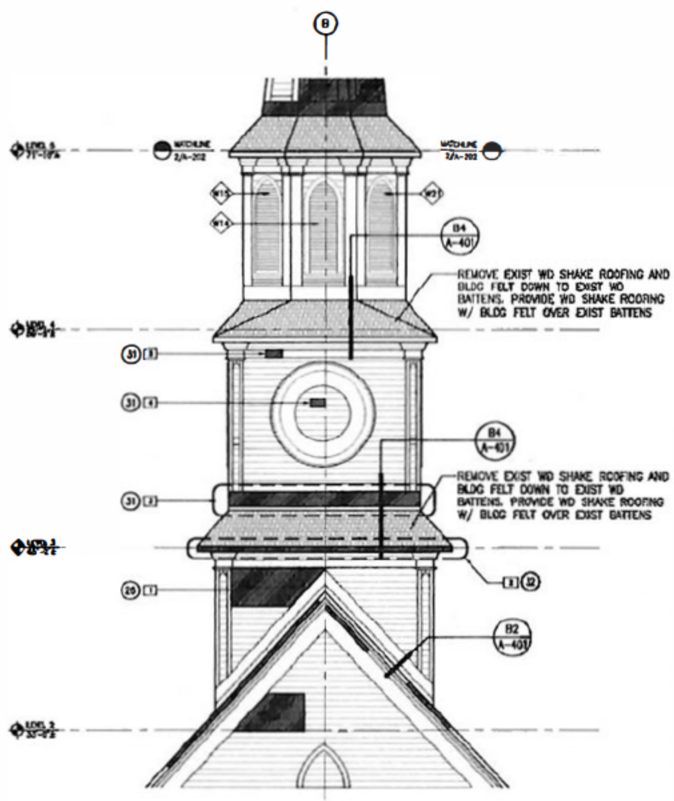
PROJECT PHASE
PREFINAL DESIGN

SHT TITLE
EXTERIOR ELEVATION - EAST

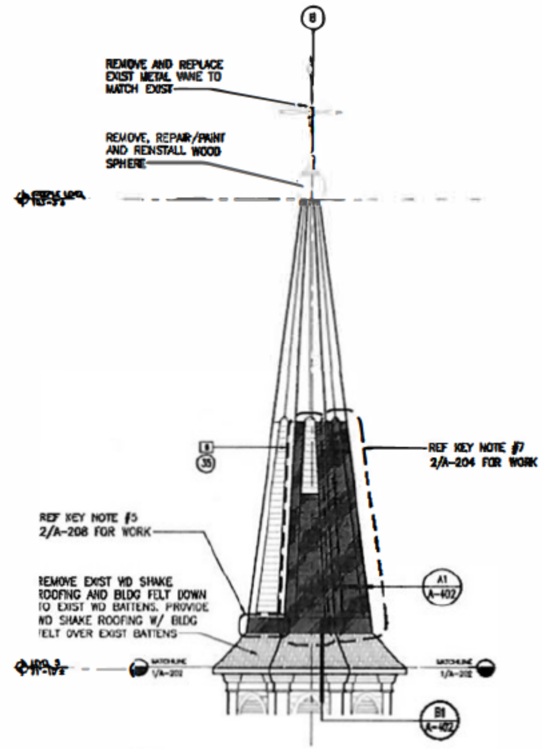
MYLES M. NICHIBATA
LICENSED PROFESSIONAL ARCHITECT
No. 12347
HAWAII, U.S.A.

PROJECT NO:
CAD DWG FILE:
DRAWN BY:
DATE:
DRAWING NO

A-201



1 EXTERIOR ELEVATION - EAST (STEEPLE)
A-202 SCALE: 1/8" = 1'-0"



2 EXTERIOR ELEVATION - EAST (STEEPLE)
A-202 SCALE: 1/8" = 1'-0"

GRAPHIC SCALE APPLICABLE TO THIS SHEET
1/4"=1'-0"

KEY NOTES

1	STEEPLE SIDING		
	1x T&G SIDING	REMOVE/REPLACE	16' SF
2	STEEPLE ROOF – REF DETAIL B4/A-401		
E4	1x8 WD FASCIA	REMOVE/REPLACE	18' L
3	STEEPLE TRIM – REF DETAIL B4/A-401		
F2	2x12 WD TRIM	REMOVE/REPLACE	13' L
4	STEEPLE SIDING		
	1x WD T&G ACCESS PANEL	REMOVE/REPLACE	1' SF
5	STEEPLE TRIM – REF DETAIL B4/A-401		
G2	2x WD TRIM	REPAIR	1' LF
6	STEEPLE TRIM – REF DETAIL B1/A1/A-402		
J1	2x8 WD VERT TRIM	REMOVE/REPLACE ENTIRELY	30' L
K1	2x8 WD TRIM	REMOVE/REPLACE	2' L
K2	2x12 WD TRIM	REMOVE/REPLACE	3'-6" L
K3	1x4 WD TRIM	REMOVE/REPLACE	3'-8" L
	1x T&G SIDING	REMOVE/REPLACE	30' SF

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
2. ALL WOOD SHAKE ROOFING, SELF ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING SHALL BE NEW. REMOVE EXISTING 1x AND 2x TRIMS AT ROOF/WALL CONDITION AND REFER TO KEY NOTE FOR ADDITIONAL REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.
4. PREP AND PAINT ALL EXISTING TO REMAIN AND NEW SURFACES UNLESS OTHERWISE NOTED AS NIC.

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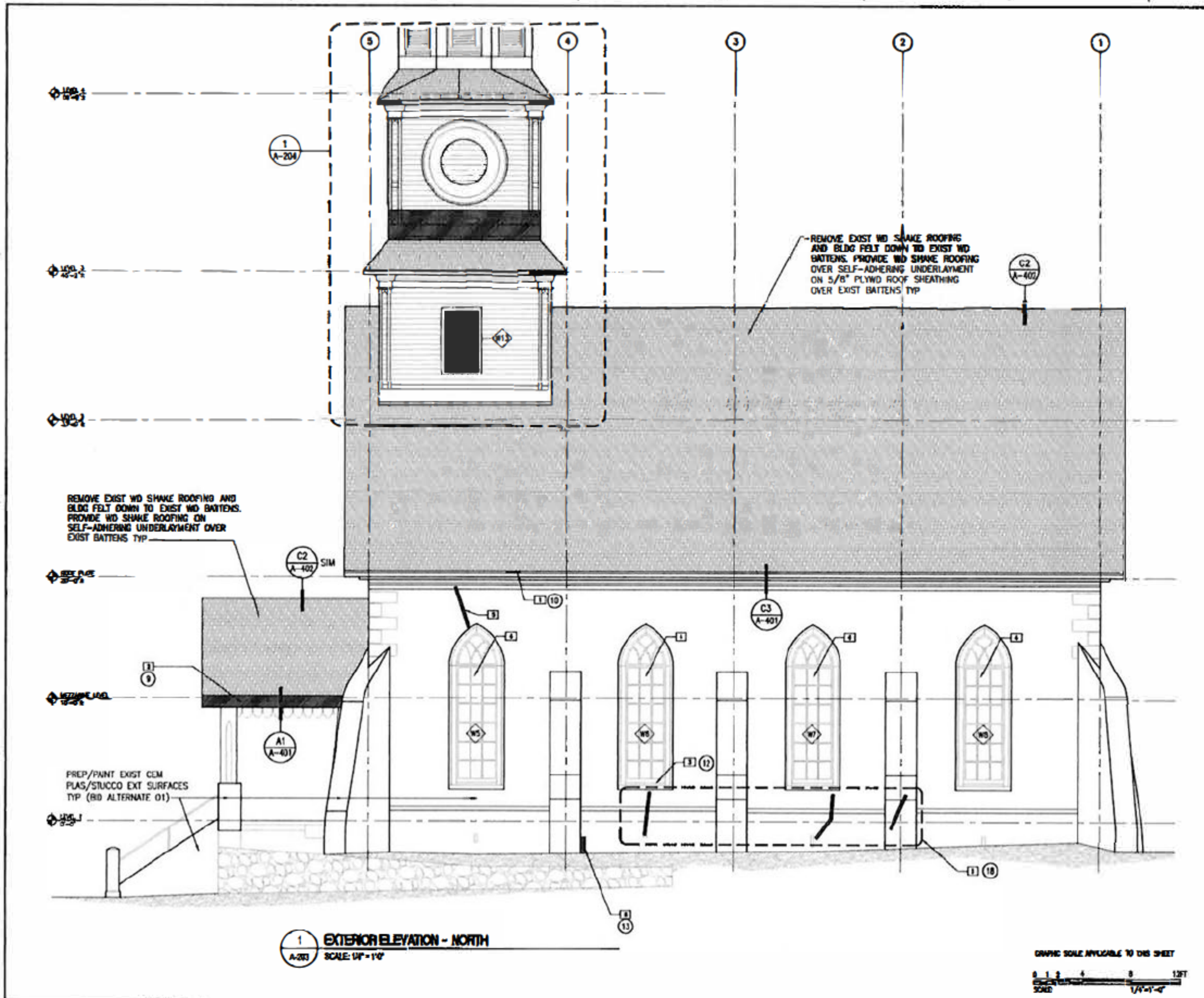
KAAHUMANU CHURCH

PROJECT PHASE
PRE/FINAL DESIGN

SHT TITLE
EXTERIOR ELEVATION - EAST (STEEPLE)

MYLES M. MICHIBATA
LICENSED PROFESSIONAL ARCHITECT
HAWAII, USA

A-202



EXTERIOR ELEVATION - NORTH
SCALE: 1/4" = 1'-0"

KEY NOTES

1	ROOF EAVE – REF DETAIL C3/A-401		
H1	1x4 WD TRIM	MISSING – PROVIDE NEW	12" L
2	ROOF EAVE – REF DETAIL A1/A-401		
A1	1x10 WD FASCIA	REMOVE/REPLACE	14' L
3	WINDOW FRAME – REF DET A4/A-402 (BID ALTERNATE 01)		
C	2x WD SILL PLATE	REPAIR	4'-6' L
4	WINDOW (BID ALTERNATE 01)		
D	WINDOW PUTTY	REMOVE/REPLACE	50' L EA WDW
8	CEMENT PLASTER/STUCCO – (BID ALTERNATE 01) REF DET C1/A-403 REF DET C3/A-403		
	CEMENT PLASTER/STUCCO	REPAIR/INFILL CRACKS	18" L
	CEMENT PLASTER/STUCCO	REPAIR/INFILL WINDOW SILL	10' SF
9	CEMENT PLASTER/STUCCO – REF DET A2/A-403 (BID ALTERNATE 01)		
	CEMENT PLASTER/STUCCO	MISSING/VOID – INFILL	1' SF

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
2. ALL WOOD SHAKE ROOFING, SELF ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING SHALL BE NEW. REMOVE EXISTING 1x AND 2x TRIMS AT ROOF/WALL CONDITION AND REFER TO KEY NOTE FOR ADDITIONAL REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.
4. PREP AND PAINT ALL EXISTING TO REMAIN AND NEW SURFACES UNLESS OTHERWISE NOTED AS NIC.

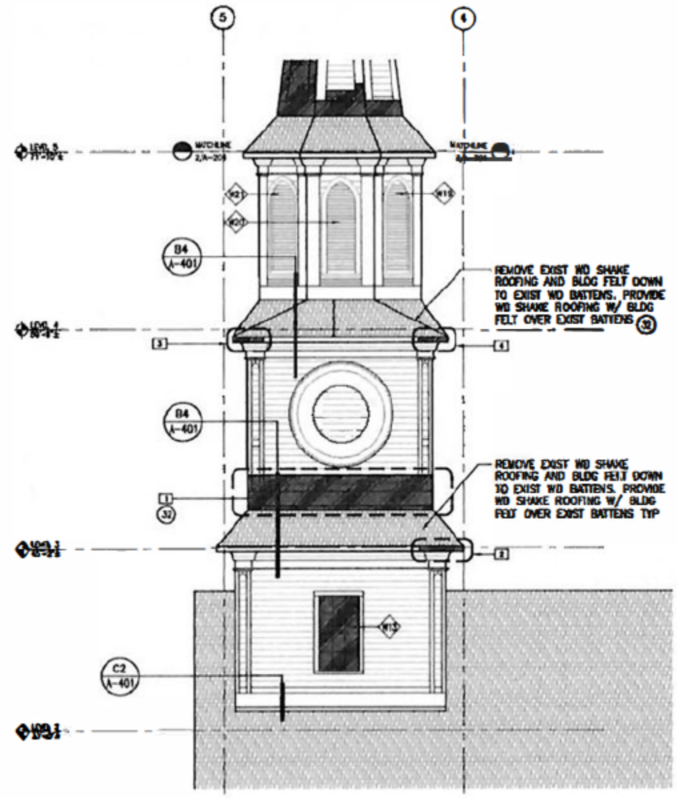
ahl.

KAAHUMANU CHURCH

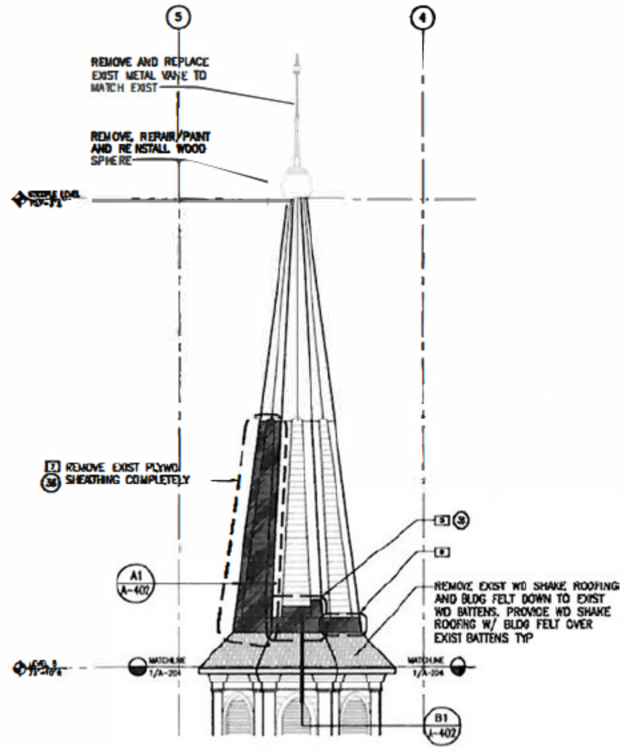
PROJECT PHASE: PREFINAL DESIGN

SHEET TITLE: EXTERIOR ELEVATION - NORTH

A-203



1 A-204 EXTRIOR ELEVATION - NORTH (STEEPLE)
SCALE: 1/4" = 1'-0"



2 A-204 EXTERIOR ELEVATION - NORTH (STEEPLE)
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE APPLICABLE TO THIS SHEET
0 1 2 4 8 12FT
SCALE 1/4"=1'-0"

KEY NOTES

1	STEEPLE TRIM - REF DETAIL B4/A-401		
E1	2x8 WD TRIM	REMOVE/REPAIR AND	15' L
E2	2x12 WD TRIM	REMOVE/REPLACE	15' L
E3	1x4 WD TRIM	REMOVE/REPLACE	13' L
	1x T&G SIDING	REPAIR AND REALIGN	18' SF
2	STEEPLE TRIM - REF DETAIL B4/A-401		
E4	1x8 WD FASCIA	REPAIR	3' L
3	STEEPLE TRIM - REF DETAIL B4/A-401		
E4	1x8 WD FASCIA	REPAIR	2' L
4	STEEPLE TRIM - REF DETAIL B4/A-401		
E4	1x8 WD FASCIA	REPAIR	2' L
5	STEEPLE TRIM - REF DETAIL B1/A1/A-402		
J1	2x8 WD VERT TRIM	REMOVE/REPLACE PORTION	1'-6" L
K1	2x8 WD TRIM	REMOVE/REPLACE	2' L
K2	2x12 WD TRIM	REMOVE/REPLACE	3'-6" L
K3	1x4 WD TRIM	REMOVE/REPLACE	3'-6" L
	1x T&G SIDING	REMOVE/REPLACE	3' SF
6	STEEPLE TRIM - REF DETAIL B1/A-402		
K2	2x12 WD TRIM	REMOVE/REPLACE	3'-6" L
K3	1x6 WD TRIM	REMOVE/REPLACE	3'-6" L
7	STEEPLE TRIM - REF DETAIL B1/A1/A-402		
J1	2x8 WD VERT TRIM	REMOVE/REPLACE ENTIRELY	30' L
K1	2x8 WD TRIM	MISSING/PROVIDE NEW	2' L
K2	2x12 WD TRIM	MISSING/PROVIDE NEW	3'-6" L
K3	1x4 WD TRIM	MISSING/PROVIDE NEW	3'-6" L
	1x T&G SIDING	MISSING/PROVIDE NEW	40' SF

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
2. ALL WOOD SHAKE ROOFING, SELF ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING SHALL BE NEW. REMOVE EXISTING 1x AND 2x TRIMS AT ROOF/WALL CONDITION AND REFER TO KEY NOTE FOR ADDITIONAL REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.
4. PREP AND PAINT ALL EXISTING TO REMAIN AND NEW SURFACES UNLESS OTHERWISE NOTED AS NIC.

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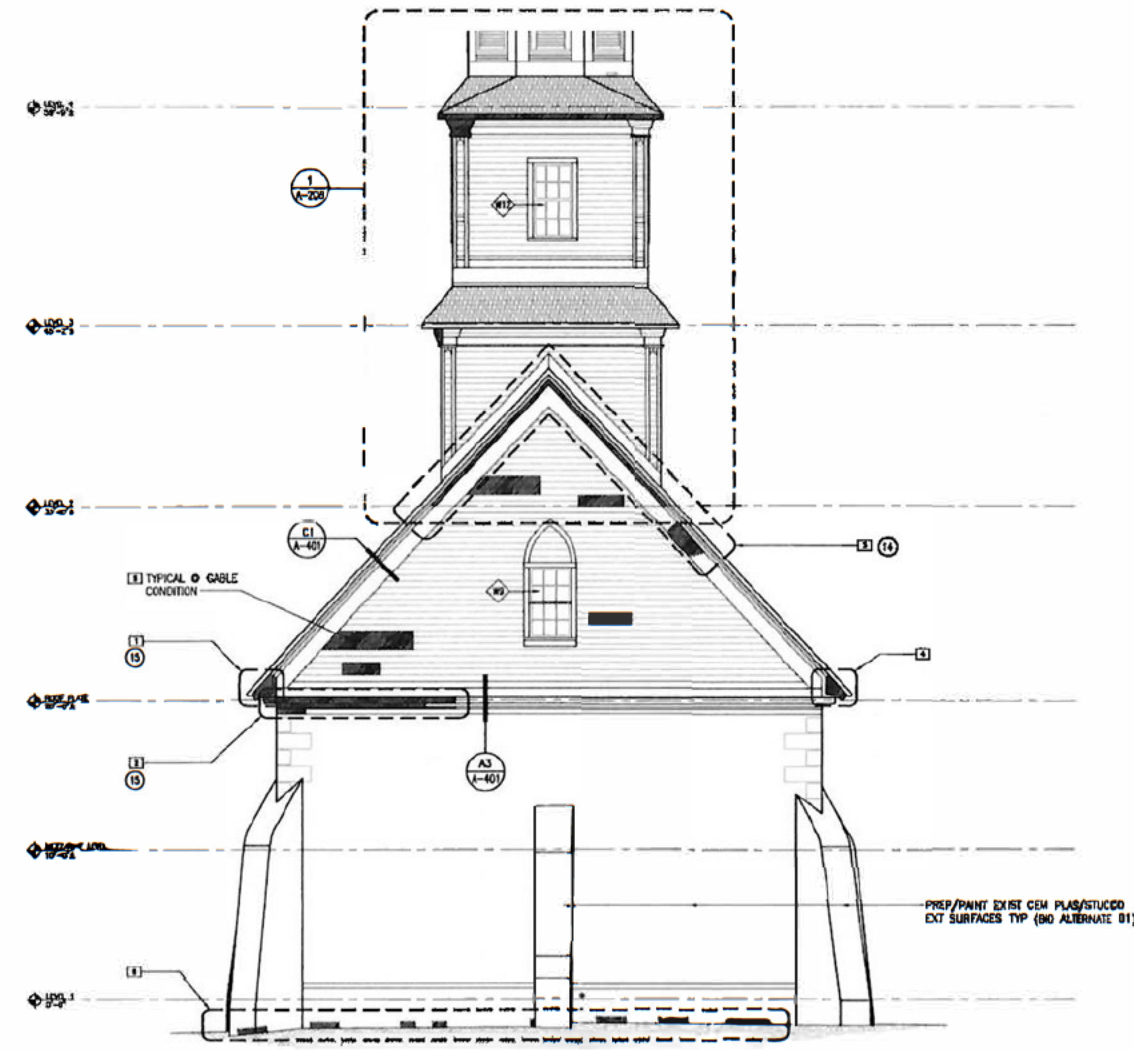
PROJECT PHASE
PREFINAL DESIGN
SHT TITLE
EXTRIOR ELEVATION - NORTH (STEEPLE)

MYLES M. NICHIBATA LICENSED PROFESSIONAL ARCHITECT No. 11587 HAWAII, U.S.A.

PROJECT NO.:
CAD DWG FILE:
DRAWN BY:
DATE:
DRAWING NO

A-204

5 of 18 Sheets



1 A-205 EXTRIOR ELEVATION - WEST
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE APPLICABLE TO THIS SHEET

KEY NOTES

1	ROOF GABLE – REF DETAIL C1/A-401		
F1	1x8 WD TRIM	REPAIR IN PLACE	4' LF
F2	1X12 WD FASCIA	REPAIR IN PLACE	4' LF
2	EYEBROW ROOF – REF DETAIL A3/A-401		
C1	1x WD ROOF SHEATHING	REMOVE/REPLACE	6' LF
C2	1x8 WD FASCIA	REMOVE/REPLACE	12' LF
C4	1x6 WD TRIM	REMOVE/REPLACE	12' LF
C5	2x WD TRIM	REMOVE/REPLACE	12' LF
3	ROOF GABLE – REF DETAIL C1/A-401		
F1	1x6 WD TRIM	REMOVE/REPLACE	12' LF
F2	1x12 WD FASCIA	REMOVE/REPLACE	26' LF
F3	1x WD SOFFIT	REMOVE/REPLACE	26' LF
F4	1x10 WD TRIM	REMOVE/REPLACE	4' LF
	2x6 WD OUTRIGGER FRAMING	REMOVE/REPLACE	40' LF
4	ROOF GABLE – REF DETAIL C1/A-401		
F1	1x6 WD TRIM	REPAIR IN PLACE	3' LF
F2	1X12 WD FASCIA	REPAIR IN PLACE	1' LF
5	GABLE SIDING		
	1x WD T&G SIDING	REMOVE/REPLACE REPAIR AND REALIGN	8' SF 16' SF
6	CEMENT PLASTER / STUCCO – REF DET A2/A-403 (BID ALTERNATE 01)		
	CEMENT PLASTER/STUCCO	MISSING/VOID – INFILL	10' SF

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
2. ALL WOOD SHAKE ROOFING, SELF ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING SHALL BE NEW. REMOVE EXISTING 1x AND 2x TRIMS AT ROOF/WALL CONDITION AND REFER TO KEY NOTE FOR ADDITIONAL REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.
4. PREP AND PAINT ALL EXISTING TO REMAIN AND NEW SURFACES UNLESS OTHERWISE NOTED AS NIC.

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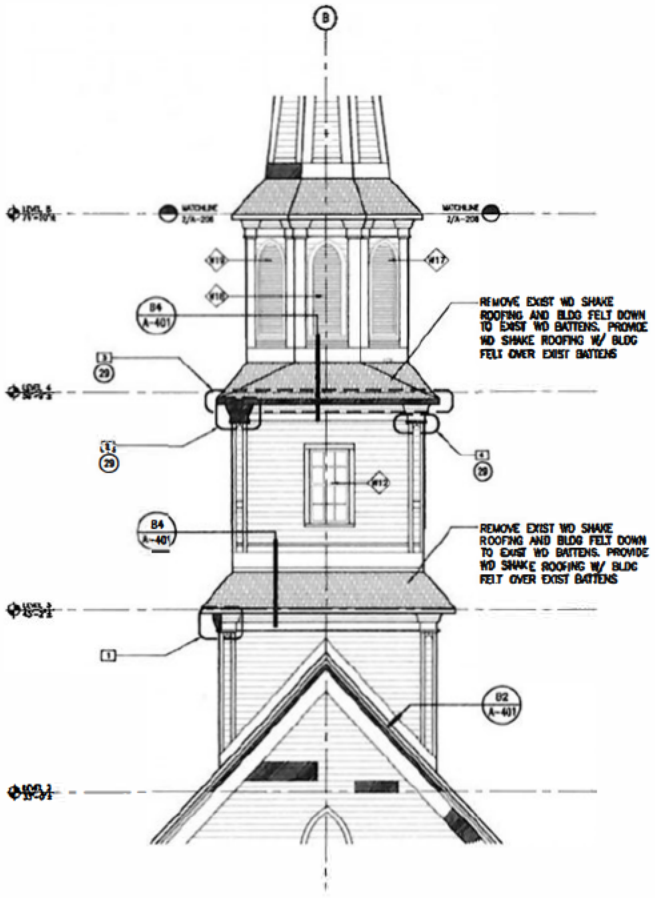
PROJECT PHASE: PREFINAL DESIGN
SHT TITLE: EXTERIOR ELEVATION - WEST

MYLES M. MICHIBATA · LICENSED PROFESSIONAL ARCHITECT · No. 12567 · HAWAII, U.S.A.

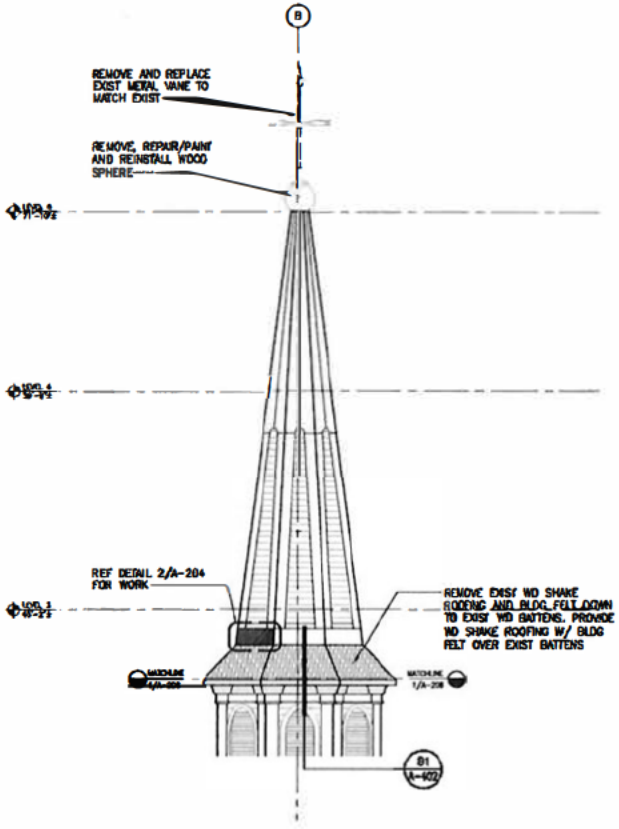
PROJECT NO.
CAD DWG FILE
DRAWN BY
DATE
DRAWING NO

A-205

7 of 10 Sheets



1 A-206 EXTERIOR ELEVATION - WEST (STEEPLE)
SCALE: 1/4" 1'-0"



2 A-206 EXTERIOR ELEVATION - WEST (STEEPLE)
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE APPLICABLE TO THIS SHEET

0 1 2 4 8 12FT
SCALE: 1/4"=1'-0"

KEY NOTES

1	STEEPLE TRIM -- REF DETAIL B4/A-401		
E8	WD CROWN MOLDING TRIM	REPAIR AND REALIGN CORNER	1" L
2	STEEPLE TRIM -- REF DETAIL B4/A-401		
E8	WD CROWN MOLDING TRIM	REPAIR AND REALIGN CORNER	1" L
3	STEEPLE TRIM -- REF DETAIL B4/A-401		
E6	1X8 WD FASCIA	REMOVE/REPLACE	16" L
4	STEEPLE TRIM -- REF DETAIL B4/A-401		
E4	WD CAPITOL TRIM	REMOVE/REPLACE	3" L

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
2. ALL WOOD SHAKE ROOFING, SELF ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING SHALL BE NEW. REMOVE EXISTING 1x AND 2x TRIMS AT ROOF/WALL CONDITION AND REFER TO KEY NOTE FOR ADDITIONAL REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.
4. PREP AND PAINT ALL EXISTING TO REMAIN AND NEW SURFACES UNLESS OTHERWISE NOTED AS NIC.

ahl.
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KAAHUMANU CHURCH
[illegible]

PROJECT PHASE
PRELIMINARY DESIGN

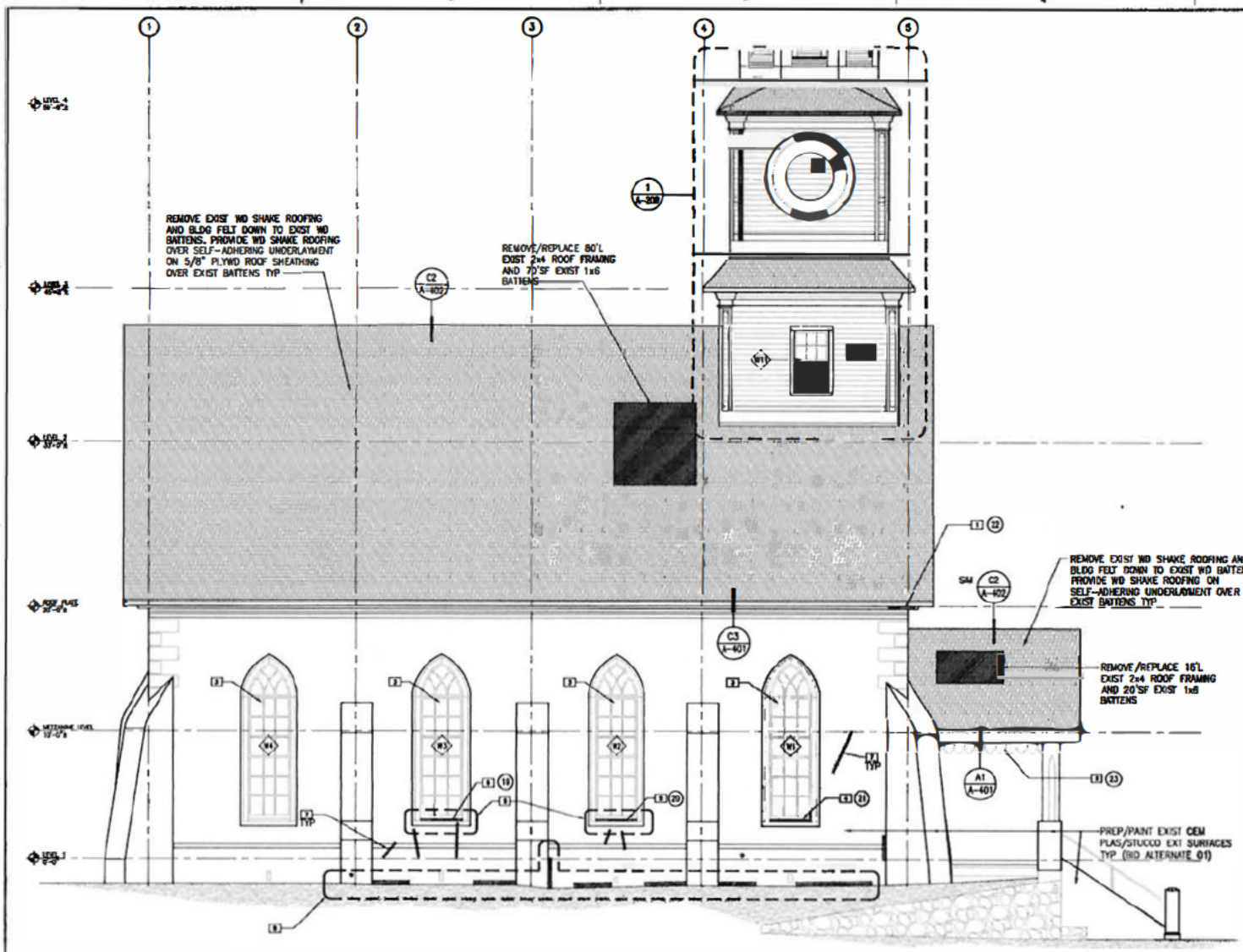
SHEET TITLE
EXTERIOR ELEVATION - WEST (STEEPLE)

MYLES M. MICHIENZI
LICENSED PROFESSIONAL ARCHITECT
No. 11387
HAWAII, U.S.A.

PROJECT NO: [illegible]
CAD DWG FILE:
DRAWN BY:
DATE:
DRAWING NO:

A-206

[illegible] of 18 Sheets



1 EXTERIOR ELEVATION - SOUTH
SCALE: 1/8" 1'-0"

KEY NOTES

1	ROOF EAVE -- REF DETAIL C3/A-401		
#2	1x8 WD FASCIA	REMOVE/REPLACE	18' L
2	ROOF EAVE -- REF DETAIL A1/A-401		
A4	1x WD SCALLOPED TRIM	REPLACE MISSING SCALLOP TRIM	12' L
3	WINDOW (BID ALTERNATE 02)		
D	WINDOW PUTTY	REMOVE/REPLACE	20' L EA WDW
4	WINDOW SILL -- REF DETAIL A4/B4/A-402 (BID ALTERNATE 01)		
D	2x WD SILL / CTR RD WD TRIM	REPAIR	4'-6" L SILL/12' L CTR RD
5	WINDOW SILL -- REF DETAIL A4/A-402 (BID ALTERNATE 01)		
D	2x WD SILL	REPAIR	4'-6" L
6	WINDOW SILL -- REF DETAIL A4/A-402 (BID ALTERNATE 01)		
D	2x WD SILL	REPAIR	4'-6" L
7	CEMENT PLASTER/STUCCO -- REF DET C1/A-403 (BID ALTERNATE 01)		
	CEMENT PLASTER/STUCCO	REPAIR/INFILL CRACKS	20' L
8	CEMENT PLASTER/STUCCO -- REF DET A2/A-403 (BID ALTERNATE 01)		
	CEMENT PLASTER/STUCCO	REMOVE/ADD -- INFILL	20' SF
9	CEMENT PLASTER/STUCCO -- REF DET C3/A-403 (BID ALTERNATE 01)		
	CEMENT PLASTER/STUCCO	REPAIR/ INFILL AT WINDOW SILL	10' SF

GENERAL NOTES:
1. CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
2. ALL WOOD SHAKE ROOFING, SELF ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING SHALL BE NEW. REMOVE EXISTING 1x AND 2x TRIMS AT ROOF/WALL CONDITION AND REFER TO KEY NOTE FOR ADDITIONAL REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.
4. PREP AND PAINT ALL EXISTING TO REMAIN AND NEW SURFACES UNLESS OTHERWISE NOTED AS NIC.

ahl.
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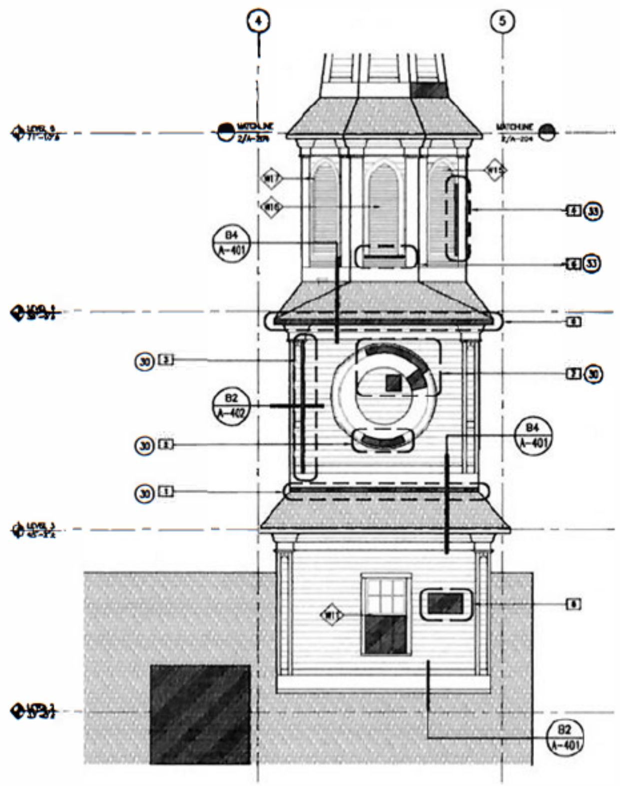
PROJECT PHASE
PRELIMINARY DESIGN

SHEET TITLE
EXTERIOR ELEVATION - SOUTH

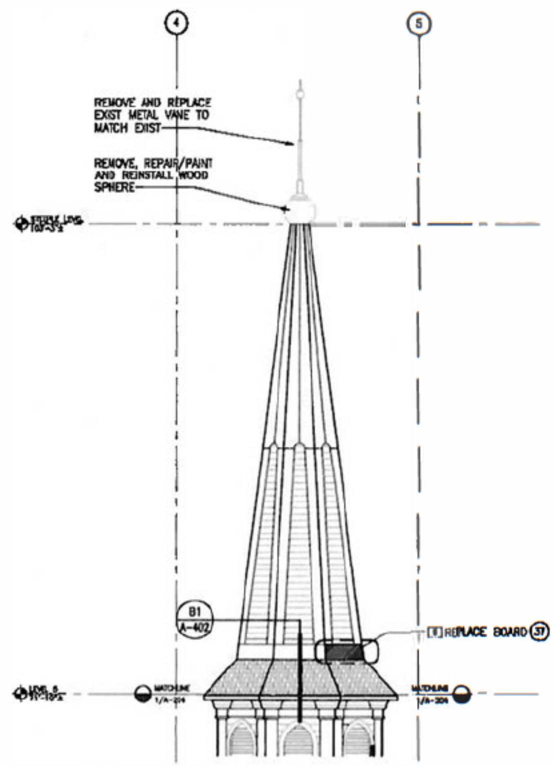
MYLES M. MICHIMATA
LICENSED PROFESSIONAL ARCHITECT
No. 11347
HAWAII, U.S.A.

PROJECT NO.
CAD DWG FILE:
DRAWN BY:
DATE:
DRAWING NO.

A-207



1 A-208 EXTERIOR ELEVATION - SOUTH (STEEPLE)
SCALE: 1/4" = 1'-0"



2 A-208 EXTRIOR ELEVATION - SOUTH (STEEPLE)
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE APPLICABLE TO THIS SHEET
0 1 2 4 8 12FT
SCALE: 1/4"=1'-0"

KEY NOTES

1	WOOD TRIM – REF DETAIL B4/A-401		
E3	1x4 WD TRIM	REMOVE/REPLACE	13' L
2	CLOCK TRIM		
	2x WD TRIM	REMOVE/REPLACE	3'-6" L
3	STEEPLE CORNER TRIM – B2/A-402		
J1	2x8 WD VERTICAL TRIM	REMOVE/REPLACE	9' L
4	LOUVER TRIM		
	2x WD JAMB CASING TRIM	REPAIR	6' L
5	LOUVER SILL		
	2x WD SILL	REMOVE/REPLACE	3' L
6	STEEPLE TRIM – REF DETAIL B4/A-401		
E4	1x6 WD FASCIA TRIM	REPAIR	4'-0" L
7	CLOCK TRIM		
	2x WD TRIM	REMOVE/REPLACE	5' L
	1x WD TRIM	REMOVE/REPLACE	1' L
	1x T&G SIDING	REMOVE/REPLACE	2' SF
8	STEEPLE SIDING		
	1x T&G SIDING	REPAIR / REALIGN	4' SF

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
2. ALL WOOD SHAKE ROOFING, SELF ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING SHALL BE NEW. REMOVE EXISTING 1x AND 2x TRIMS AT ROOF/WALL CONDITION AND REFER TO KEY NOTE FOR ADDITIONAL REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.
4. PREP AND PAINT ALL EXISTING TO REMAIN AND NEW SURFACES UNLESS OTHERWISE NOTED AS NIC.

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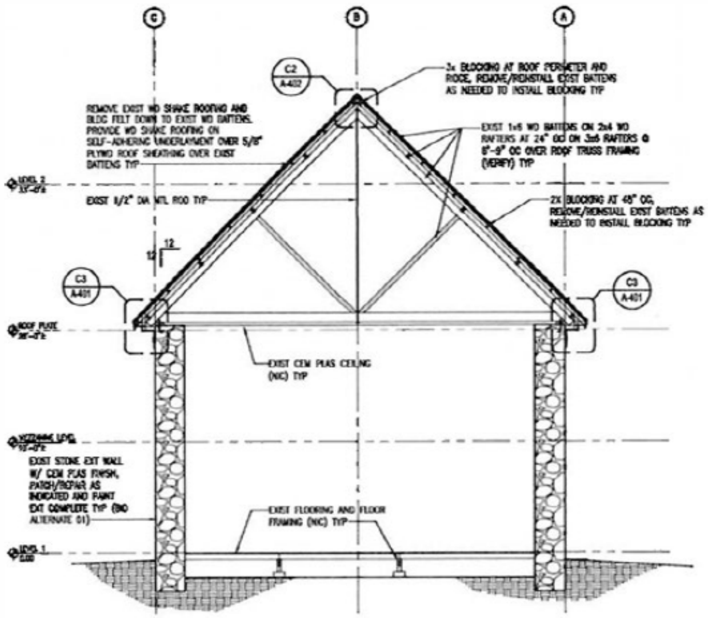
PROJECT PHASE: PREFINAL DESIGN
SHT TITLE: EXTERIOR ELEVATION - SOUTH (STEEPLE)

MYLES M. MICHIBATA LICENSED PROFESSIONAL ARCHITECT No. 12567 HAWAII, U.S.A.

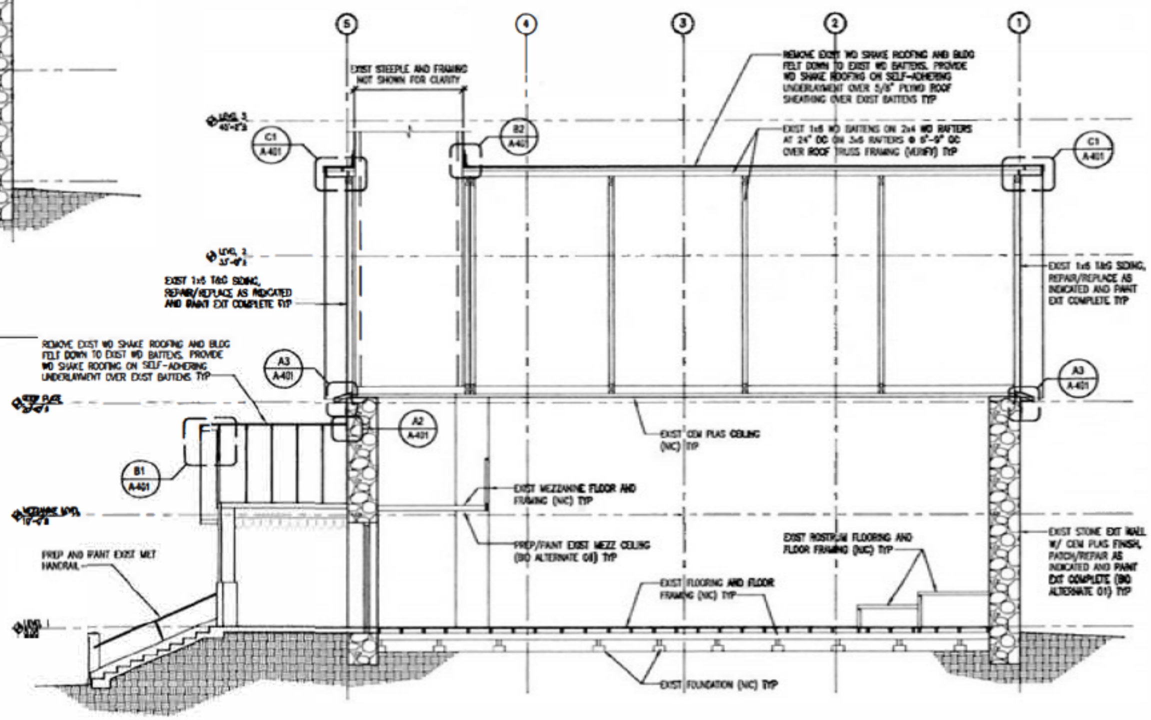
PROJECT NO:
CAD DWG FILE:
DRAWN BY:
DATE:
DRAWING NO

A-208

10 of 19 Sheets



1 TRANSERVSE BUILDING SECTION
A-301 SCALE: 1/8" = 1'-0"



2 LONGITUDINAL BUILDING SECTION
A-301 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
2. ALL WOOD SHAKE ROOFING, SELF ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING SHALL BE NEW. REMOVE EXISTING 1x AND 2x TRIMS AT ROOF/WALL CONDITION AND REFER TO KEY NOTE FOR ADDITIONAL REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.
4. PREP AND PAINT ALL EXISTING TO REMAIN AND NEW SURFACES UNLESS OTHERWISE NOTED AS NIC.

GRAPHIC SCALE APPLICABLE TO THIS SHEET
SCALE: 1/8"=1'-0"

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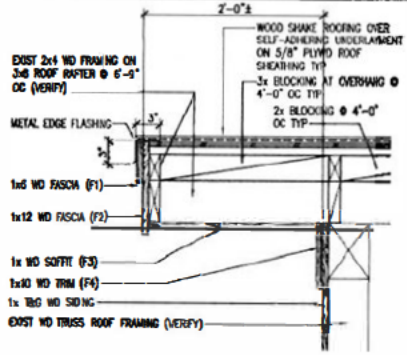
PROJECT PHASE: PREFINAL DESIGN
SHT TITLE: BUILDING SECTIONS

LICENSED PROFESSIONAL ARCHITECT No. 12387 HAWAII, USA

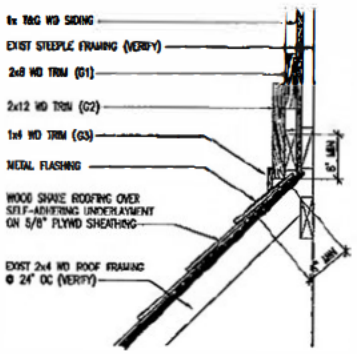
PROJECT NO.:
CAD DWG FILE:
DRAWN BY:
DATE:
DRAWING NO.

A-301

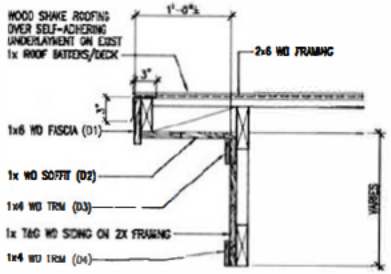
11 of 19 Sheets



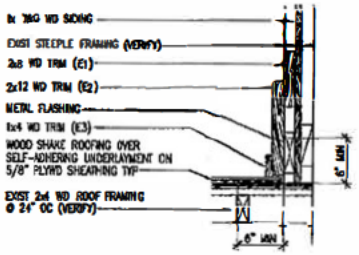
C1 MAIN ROOF GABLE
A-401 SCALE: 1 1/2" = 1'-0"



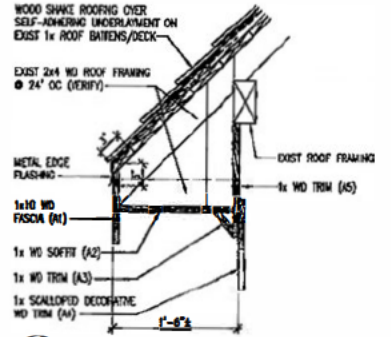
C2 MAIN ROOF @ STEEPLE
A-401 SCALE: 1 1/2" = 1'-0"



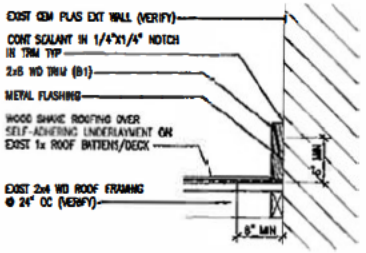
B2 ENTRY ROOF GABLE
A-401 SCALE: 1 1/2" = 1'-0"



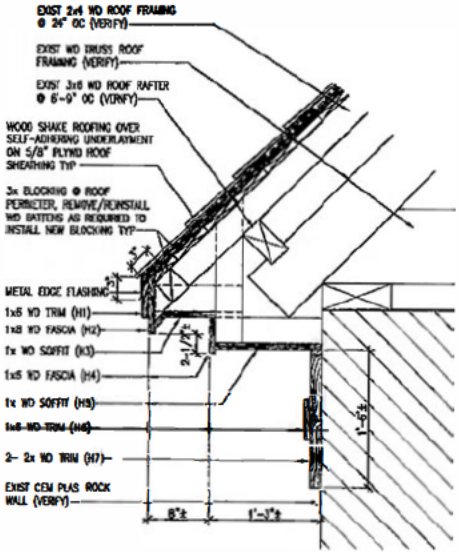
B2 MAIN ROOF @ STEEPLE
A-401 SCALE: 1 1/2" = 1'-0"



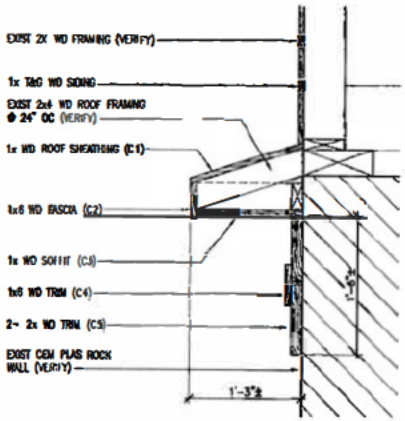
A1 ENTRY ROOF EAVE
A-401 SCALE: 1 1/2" = 1'-0"



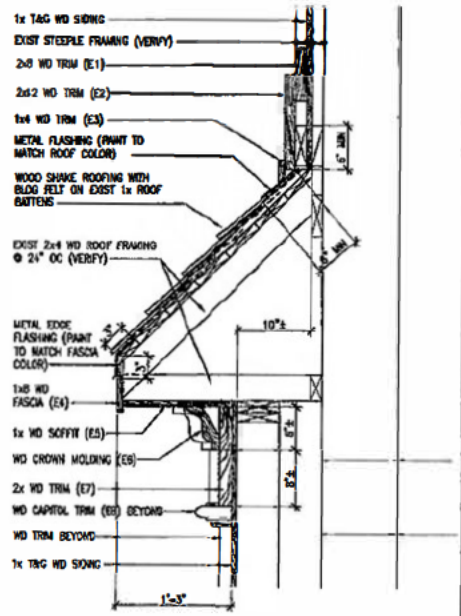
A2 ENTRY ROOF @ BUILDING
A-401 SCALE: 1 1/2" = 1'-0"



C3 MAIN ROOF EAVE
A-401 SCALE: 1 1/2" = 1'-0"



A3 EYEBROW ROOF
A-401 SCALE: 1 1/2" = 1'-0"



B4 STEEPLE ROOF (LVL 3 + 4)
A-401 SCALE: 1 1/2" = 1'-0"

GENERAL NOTES:
1. REFERENCE SHEETS A-201 THROUGH A-208 FOR SCOPE OF WORK (REPLACEMENT OR REPAIR).
2. DETAILS REFLECT EXISTING CONDITIONS AND EXISTING MEMBER SIZES, AND CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
3. ALL WOOD SHAKE ROOFING, SELF-ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING ARE NEW.
4. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.

GRAPHIC SCALE APPLICABLE TO THIS SHEET
0 3" 6" 1' 1.5 2FT
SCALE: 1 1/2"=1'-0"

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PROJECT PHASE
SCHEMATIC DESIGN / DRAFT
SHT TITLE
DETAILS

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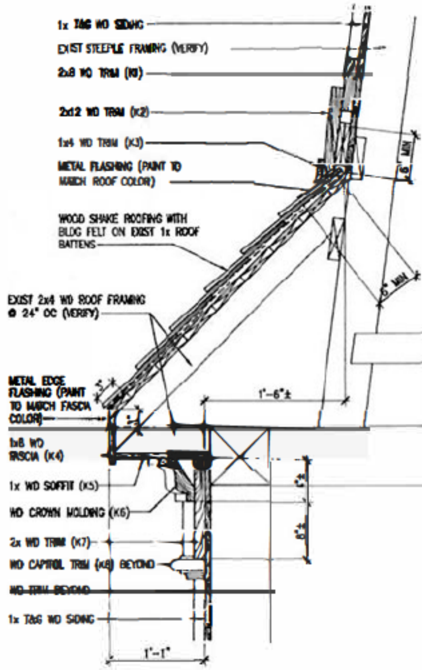
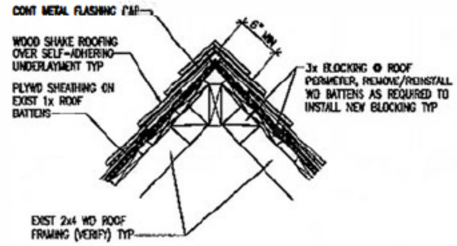
PROJECT NO:
CADD/FILE:
DRAWN BY:
DATE:
DRAWING NO

A-401

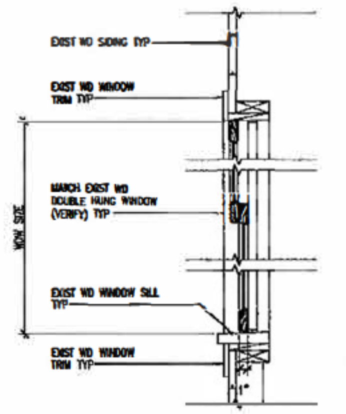
12 of 18 Sheets



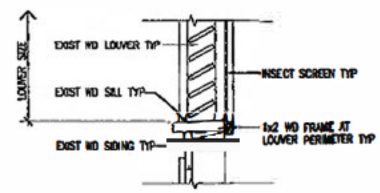
B1 STEEPLE ROOF (LVL 5)
A-402 SCALE: 1 1/2" = 1'-0"



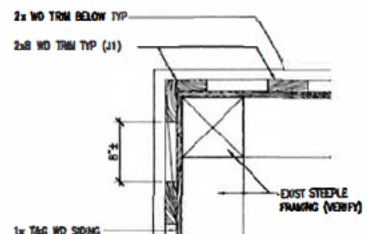
C2 ROOF RIDGE
A-402 SCALE: 1 1/2" = 1'-0"



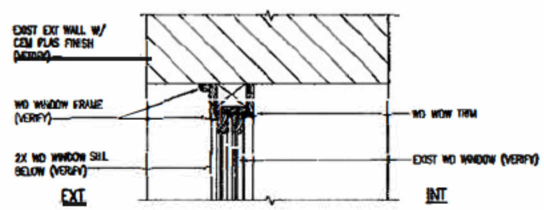
C4 WINDOW SECTION AT STEEPLE
A-402 SCALE: 1 1/2" = 1'-0"



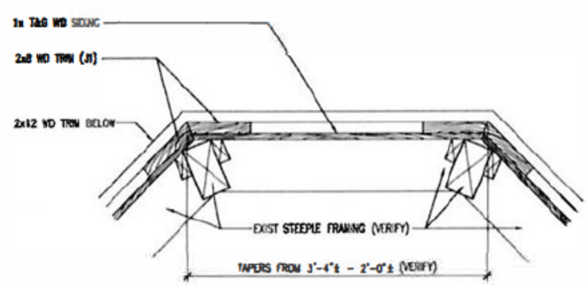
C5 LOUVER SECTION AT STEEPLE
A-402 SCALE: 1 1/2" = 1'-0"



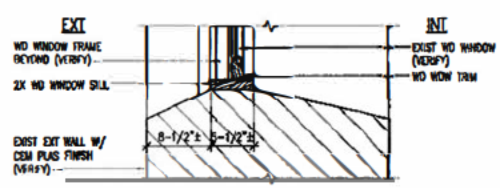
B2 STEEPLE CORNER TRIM (LVL 2 + 3)
A-402 SCALE: 1 1/2" = 1'-0"



B4 WINDOW JAMB (HEAD SIM)
A-402 SCALE: 1 1/2" = 1'-0"



A1 PARTIAL STEEPLE PLAN (LVL 5)
A-402 SCALE: 1 1/2" = 1'-0"



A4 WINDOW SILL
A-402 SCALE: 1 1/2" = 1'-0"

GENERAL NOTES:

1. REFERENCE SHEETS A-201 THROUGH A-208 FOR SCOPE OF WORK (REPLACEMENT OR REPAIR).
2. DETAILS REFLECT EXISTING CONDITIONS AND EXISTING MEMBER SIZES, AND CONTRACTOR TO FIELD VERIFY PRIOR TO PERFORMING ANY WORK. EXISTING MEMBERS OR ELEMENTS TO BE REPLACED SHALL BE OF SAME DIMENSIONAL PROPERTIES AS EXISTING.
3. ALL WOOD SHAKE ROOFING, SELF-ADHERING UNDERLAYMENT, BUILDING FELT AND METAL FLASHING ARE NEW.
4. REFER TO SPECIFICATIONS FOR REPAIR OF EXISTING WOOD MEMBERS/ELEMENTS.

GRAPHIC SCALE APPLICABLE TO THIS SHEET

SCALE 1-1/2"=1'-0"

ahl.

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KAAHUMANU CHURCH

PROJECT PHASE: SCHEMATIC DESIGN DRAFT
SHT TITLE: DETAILS

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PROJECT NO:
CAD DWG FILE:
DRAWN BY:
DATE:
DRAWING NO

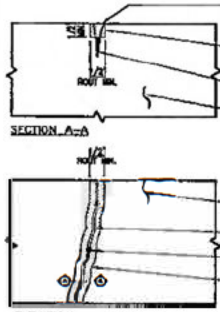
A-402

13 of 18 Sheets

PLASTER CRACK REPAIR NOTES:

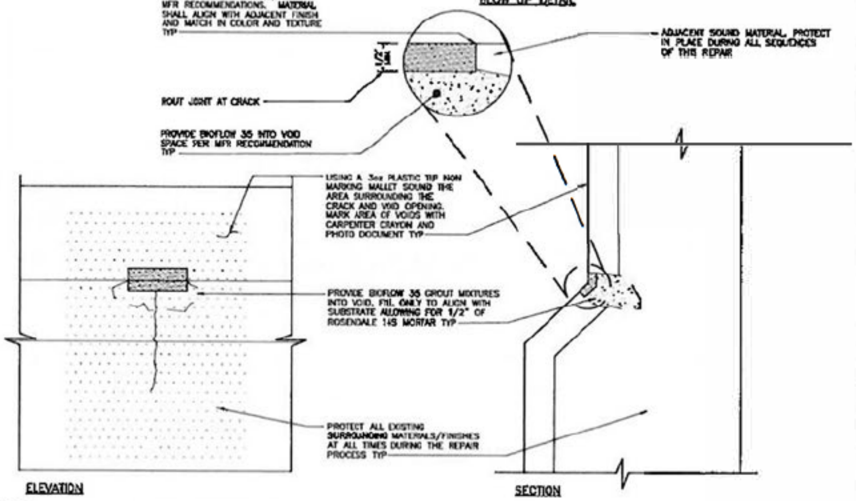
1. OBTAIN A SAMPLE OF THE EXISTING PLASTER AND SEND TO MANUFACTURER FOR MATCHING AND COMPATIBILITY OF REPAIR MORTAR COLOR, TEXTURE AND PHYSICAL AND MECHANICAL PROPERTIES WITH THE PLASTER.
2. SAW CUT AND ROUT A JOINT ALONG EXISTING CRACK TO A MINIMUM DEPTH OF 1/2", DEEPER IF NECESSARY, TO REMOVE ALL THE DETERIORATED PLASTER. AVOID FEATHERING.
3. CLEAN ROUTED AREA BY USING A STIFF NATURAL BRISTLE BRUSH AND POTABLE WATER.
4. IF CRACK DEPTH EXCEEDS THE ROUTED DEPTH, INJECT BIOFLOW 35 CRACK MATERIAL INTO THE CRACK BY USING INJECTION HOLES ALL ALONG THE CRACK PER MFR RECOMMENDATIONS.
5. WET AREA AND APPLY MORTAR. USE MATERIAL BASED ON DEPTH AND WIDTH OF CRACK, AND IN ACCORDANCE WITH MFR INSTRUCTIONS.
6. ALLOW TO CURE AND USE FINISHING TECHNIQUES TO MATCH EXISTING ADJACENT MATERIAL/FINISH.

MORTAR MATERIAL CHART			
MATERIAL	APPLICATION		NOTES
	INTERIOR	EXTERIOR	
INTER-PLAST 57	X		
ROSENDALE 14S		X	USE FOR DEPTHS OF 1/4" – 1/2"
ROSENDALE 13P		X	USE FOR DEPTHS OF 1/2" – 3/4"



GENERAL NOTE:
SUBSTRATE PRESUMED TO BE CONCRETE. CONTRACTOR TO CONTACT OWNER REPRESENTATIVE SHOULD CONDITIONS DEVIATE.

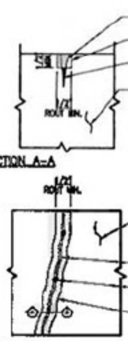
G1 / A-403 PLASTER CRACK REPAIR
SCALE: 3" = 1'-0"



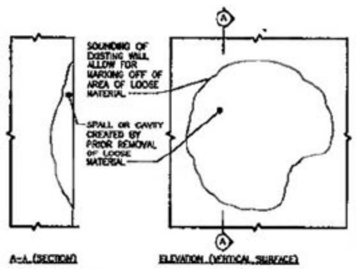
C3 / A-403 LOW PRESSURE GROUT INJECTION
SCALE: NTS

CONCRETE CRACK REPAIR NOTES:

1. CLEAN ROUTED AREA BY USING A STIFF BRUSH AND WATER. SATURATE CAVITY SURFACE USING POTABLE WATER. SUBSTRATE SHOULD BE SATURATED SURFACE DRY WITH NO STANDING WATER.
2. INJECT EPOXY INTO THE CRACK BY USING INJECTION PORTS ALL ALONG THE CRACK. USE ROSENDALE 11CI (OR APPROVED EQUAL), BASED ON DEPTH AND WIDTH OF CRACK AND IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. REMOVE PORTS AND ALLOW TIME FOR CURING.
4. PREPARE AND APPLY RESTORATION MORTAR AND ALLOW TO CURE. USE ROSENDALE 13P FOR EXTERIOR PATCHES 1/2"–3/4" IN DEPTH, ROSENDALE 14S FOR EXTERIOR PATCHES 1/4"–1/2" IN DEPTH, OR INTER-PLAST 57 FOR INTERIOR APPLICATION, BASED ON DEPTH AND WIDTH OF CRACK, AND IN ACCORDANCE WITH MFR INSTRUCTIONS. AT COMPLETION OF INSTALLATION, SURFACE OF REPAIR MORTAR TO MATCH PROFILE AND TEXTURE OF ADJACENT SURFACES. AVOID FEATHERING WITH ADJACENT CONCRETE TO REMAIN.
5. COMPLETE AND LEAVE AREA CLEAN.



A1 / A-403 CONCRETE CRACK REPAIR
SCALE: 3" = 1'-0"



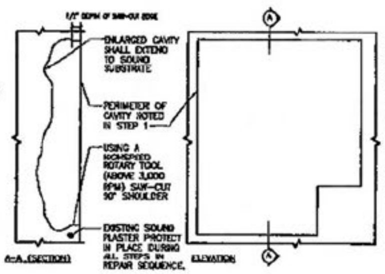
STEP 1: IDENTIFICATION OF DETERIORATED PLASTER

VISUALLY SURVEY ALL SURFACES.

SOUND SURFACES WITH 3 LB. DEAD BLOW HAMMER AT LOCATIONS APPROXIMATELY 1'-0" O.C. TO IDENTIFY EXTENT OF DETERIORATED/DELAMINATED PLASTER TO BE REMOVED.

MARK AREA OF DETERIORATED/DELAMINATED PLASTER USING CARPENTER'S CRAYON. PHOTO DOCUMENT THIS AREA PRIOR TO PROCEEDING.

OBTAIN A SAMPLE OF THE EXISTING PLASTER AND SEND TO MANUFACTURER FOR MATCHING AND COMPATIBILITY OF REPAIR MORTAR COLOR, TEXTURE AND PHYSICAL AND MECHANICAL PROPERTIES WITH THE PLASTER.



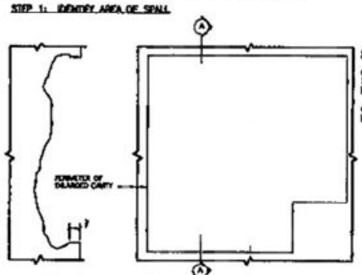
STEP 2: CUTTING AND REMOVAL OF LOOSE PLASTER

CREATE AN ENLARGED CAVITY BY PROVIDING A SAW CUT EDGE 1/2" IN DEPTH, LOCATED A MINIMUM OF 1 1/2" BEYOND THE PERIMETER OF THE CAVITY INTO SOUND PLASTER.

PROVIDE A RECTILINEAR CAVITY, WITH EDGES PARALLEL TO EDGES OF EXISTING ADJACENT STRUCTURE.

REMOVE ANY/ALL DETERIORATED PLASTER IN CAVITY, IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION AND/OR UNTIL A SOUND SURFACE IS UNCOVERED.

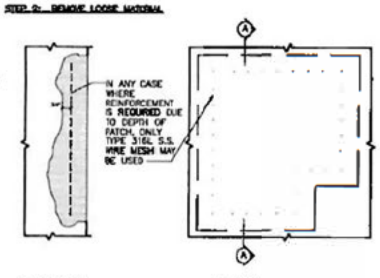
ALL SURROUNDING SOUND MATERIALS MUST BE PROTECTED AT ALL TIMES DURING THE REPAIR SEQUENCE.



STEP 3: SURFACE PREPARATION

CLEAN ROUTED AREA BY USING A STIFF NATURAL BRISTLE BRUSH AND POTABLE WATER.

CONFIRM 1/2" SHOULDER, NO KNIFE EDGES SHOULD BE SEEN.



STEP 4: MODIFIED REPAIR MORTAR APPLICATION

SATURATE CAVITY SURFACE USING POTABLE WATER.

APPLY MORTAR. USE MATERIAL BASED ON DEPTH AND WIDTH OF PATCH IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. IN AREAS WHERE REINFORCEMENT IS REQUIRED, ANCHOR TO SOUND SUBSTRATE USING MFR RECOMMENDATIONS.

AT COMPLETION OF INSTALLATION, SURFACE OF REPAIR MORTAR TO MATCH PROFILE OF ADJACENT PLASTER SURFACES.

GENERAL NOTES:
1. REFER TO CHART BELOW FOR PLASTER PATCH MATERIAL AND THE LOCATIONS WHICH THEY ARE TO BE INSTALLED.
2. STEPS 1, 2 AND 3 MAY BE SIMILAR FOR EACH TYPE OF MATERIAL. CONTRACTOR SHALL CONSULT WITH THE MFR SPECIFIC INSTALLATION METHODS FOR ALL CONDITIONS INCLUDING BUT NOT LIMITED TO CONSTRATE, REINFORCEMENT, EXTENT OF REPAIR ETC.
3. MATERIALS MAY BE APPLIED IN LIFTS ONLY AS INTENDED BY THE MFR.
4. SHOULD SUBSTRATE REQUIRE FURTHER REPAIR OR STABILIZATION, CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION OF ANY MATERIALS BELOW.

MORTAR MATERIAL CHART			
MATERIAL	APPLICATION		NOTES
	INTERIOR	EXTERIOR	
INTER-PLAST 57	X		
ROSENDALE 14S		X	USE FOR DEPTHS OF 1/4" – 1/2"
ROSENDALE 13P		X	USE FOR DEPTHS OF 1/2" – 3/4"

A2 / A-403 PLASTER SPALL REPAIR
SCALE: NTS

GRAPHIC SCALE APPLICABLE TO THIS SHEET

SCALE: 0 1" 2" 3" 6" 9" 1FT — 3"=1'-0"

ahl.
733 BISHOP ST., SUITE 3100
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OFFICE: (808) 523-8836

KAAHUMANU CHURCH
103 S HIGH ST., WAILUKU HI 96793

PROJECT PHASE: PREFINAL DESIGN
SHT TITLE: DETAILS

MYLES M. MICHIDATA · LICENSED PROFESSIONAL ARCHITECT · No. 12367 · HAWAII, U.S.A.

PROJECT NO: | CAD DWG FILE: | DRAWN BY: | DATE: | DRAWING NO:

A-403

of Sheets

D1 PHOTO 1
SCALE: NTS

D2 PHOTO 2
SCALE: NTS

D3 PHOTO 3
SCALE: NTS

D4 PHOTO 4
SCALE: NTS

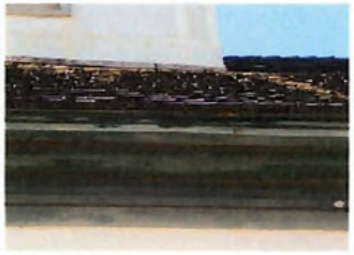
C1 PHOTO 5
SCALE: NTS

C2 PHOTO 6
SCALE: NTS

C3 PHOTO 7
SCALE: NTS

C4 PHOTO 8
SCALE: NTS

B1 PHOTO 9
SCALE: NTS



B2 PHOTO 10
SCALE: NTS

B3 PHOTO 11
SCALE: NTS

B4 PHOTO 12
SCALE: NTS

A1 PHOTO 13
SCALE: NTS

A2 PHOTO 14
SCALE: NTS

A3 PHOTO 15
SCALE: NTS

A4 PHOTO 16
SCALE: NTS

PHOTO NOTES

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KAAHUMANU CHURCH

PROJECT PHASE
PRELIMINARY DESIGN

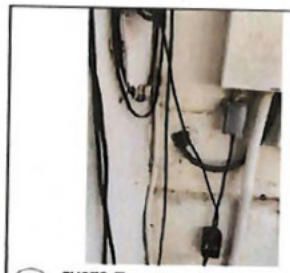
SHEET TITLE
PHOTO CATALOG 1

LICENSED PROFESSIONAL ARCHITECT
No. 12587
HAWAII, U.S.A.

PROJECT NO:
CAD DWG FILE:
DRAWN BY:
DATE:
CHECKED:

A-501

13 of 18 Sheets



D1 PHOTO 17
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D2 PHOTO 18
SCALE: NTS

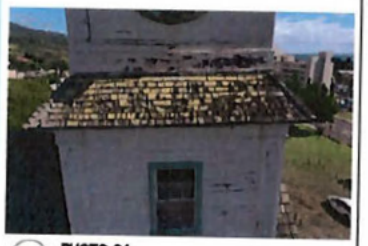
D3 PHOTO 19
SCALE: NTS

D4 PHOTO 20
SCALE: NTS

C1 PHOTO 21
SCALE: NTS

C2 PHOTO 22
SCALE: NTS

C3 PHOTO 23
SCALE: NTS



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B1 PHOTO 25
SCALE: NTS

B2 PHOTO 26
SCALE: NTS

B3 PHOTO 27
SCALE: NTS

B4 PHOTO 28
SCALE: NTS

A1 PHOTO 29
SCALE: NTS

A2 PHOTO 30
SCALE: NTS

A3 PHOTO 31
SCALE: NTS

A4 PHOTO 32
SCALE: NTS

PHOTO NOTES

ahl.
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KAAHUMANU CHURCH
[illegible] BISHOP ST., HONOLULU, HI 96813

PROJECT PHASE
PRE-FINAL DESIGN

SHT TITLE
PHOTO CATALOG 2

MILES M. MICHAELMAN
LICENSED PROFESSIONAL ARCHITECT
No. 13347
HAWAII, U.S.A.

04/25/22

PROJECT NO: [illegible]
CAD DWG FILE:
DRAWN BY:
DATE: [illegible]
DRAWING NO:

A-502

18 of 18 Sheets

D1 PHOTO 33
SCALE: NTS

D2 PHOTO 34
SCALE: NTS

D3 PHOTO 35
SCALE: NTS

D4 PHOTO 36
SCALE: NTS

C1 PHOTO 37
SCALE: NTS

PHOTO NOTES

ahl.

KAAHUMANU CHURCH

PROJECT PHASE
PRE-FINAL DESIGN
SHT TITLE
PHOTO CATALOG 3

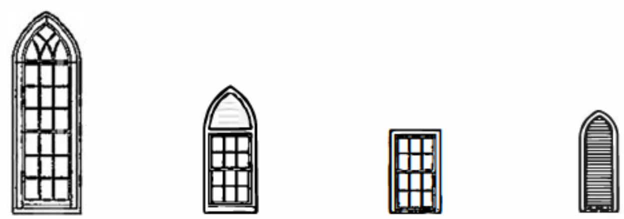
PROJECT NO:
CAD DWG FILE:
DRAWN BY:
DATE:
DRAWING NO

A-503

17 of 18 Sheets

WINDOW / LOUVER SCHEDULE

ID	SIZE (WxH)	TYPE	DETAIL	REMARKS
W1	4'-6"± x 13'-6"±	A	A4/B4/A-402	REMOVE/REPLACE WINDOW PUTTY
W2	4'-6"± x 13'-6"±	A	A4/B4/A 402	REPAIR WD SILL, REMOVE/REPLACE WINDOW PUTTY
W3	4'-6"± x 13'-6"±	A	A4/B4/A-402	REPLACE WD SILL, REPLACE RIGHT HAND FRAME/TRIMS, REPLACE RIGHT RIGHT HAND SASH ROPE, REMOVE/REPLACE WINDOW PUTTY
W4	4'-6"± x 13' 6"±	A	A4/B4/A-402	REPLACE RIGHT HAND INTERIOR WD CASING TRIM, REPLACE SASH ROPES, REMOVE/REPLACE WINDOW PUTTY
W5	4' 6"± x 13'-6"±	A	A4/B4/A-402	REPLACE SASH ROPES, REMOVE/REPLACE WINDOW PUTTY
W6	4'-6"± x 13' 6"±	A	A4/B4/A-402	REPAIR WD SILL, REPLACE LEFT HAND INTERIOR WD STOP, REMOVE/REPLACE WINDOW PUTTY
W7	4' 6"± x 13' 6"±	A	A4/B4/A-402	REMOVE/REPLACE WINDOW PUTTY
W8	4'-6"± x 13' 6"±	A	A4/B4/A-402	REPLACE SASH ROPES, REMOVE/REPLACE WINDOW PUTTY
W9	3' 6"± x 8'-6"±	B	–	–
W10	3' 6"± x 8' 6"±	B	–	–
W11	3' 3"± x 5' 6"±	C	C4/A-402	REPLACE MISSING BOTTOM SASH TO MATCH EXIST TOP SASH, REPLACE SASH ROPES
W12	3' 3"± x 5' 6"±	C	–	–
W13	3' 3"± x 5' 6"±	C	C4/A-402	REPLACE MISSING BOTTOM SASH TO MATCH EXIST TOP SASH, REPLACE SASH ROPES, REMOVE/REPLACE WINDOW PUTTY
W14 W21	3' 3"± x 5'-6"±	D	C5/A-402	REMOVE AND REPLACE BIRD SCREEN WITH WD FRAMED INSECT SCREEN



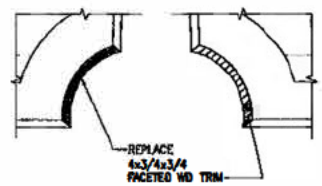
TYPE A
WOOD DOUBLE-HUNG
ARCHED WINDOW

TYPE B
WOOD DOUBLE-HUNG
WINDOW WITH ARCH
LOUVER

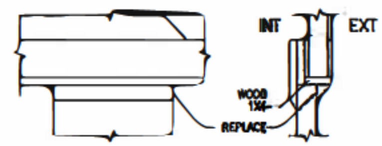
TYPE C
WOOD DOUBLE-HUNG
WINDOW

TYPE D
WOOD LOUVER
WITH INSECT SCREEN

B1 WINDOW/LOUVER TYPES



C4 FRONT ENTRY ROOF ENLARGED
SCALE 1 1/2" = 1'-0"



C5 FRONT ENTRY ROOF ENLARGED
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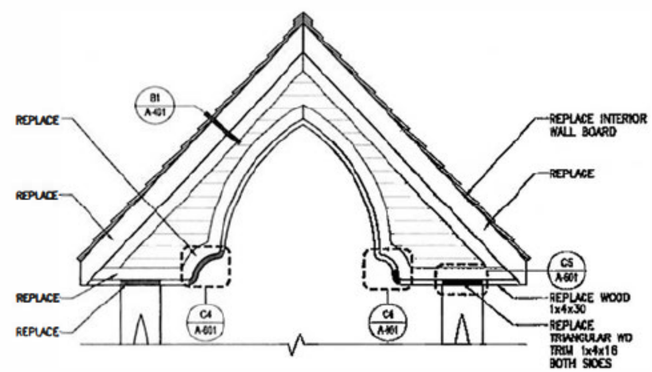

B4 FRONT ENTRY ROOF
SCALE: 1/2" = 1'-0"

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KAAHUMANU CHURCH

PROJECT PHASE:
PRE-FINAL DESIGN

SHEET TITLE
WINDOW/LOUVER SCHEDULE,
WINDOW/LOUVER TYPES, AND
ENLARGED EXTERIOR ELEVATION

MYLES M. MICHIBATA
LICENSED PROFESSIONAL ARCHITECT
No. 12567
HAWAII, U.S.A.

PROJECT NO:
CADD FILE:
DRAWN BY:
DATE:
DRAWING NO

A-601

Ka'ahumanu Church Repairs

TECHNICAL SPECIFICATIONS

SEPTEMBER 2021

ahl.

AHL Project No. 9995.114.002

58

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Title Sheet
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Section 00100 - Instructions to Bidders
Section 00410 - Bid Form
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TECHNICAL SPECIFICATIONS

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Section 01010 - Special Conditions
Section 01100 - Alternates
Section 01310 - Construction Schedule
Section 01330 - Submittal Procedures
Section 01410 - Testing Laboratory Services
Section 01500 - Temporary Facilities
Section 01567 - Environmental Protection
Section 01700 - Project Closeout
Section 01710 - Cleaning

DIVISION 2 - SITE WORK

Section 02070 - Selective Demolition

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DIVISION 4 - MASONRY (None)

DIVISION 5 - METALS (None)

DIVISION 6 - WOOD AND PLASTICS

Section 06100 - Rough Carpentry
Section 06200 - Finish Carpentry
Section 06311 - Preservative Treated Lumber

DIVISION 7 - THERMAL AND MOISTURE CONTROL

Section 07312 - Wood Shake Roofing
Section 07600 - Flashing and Sheet Metal
Section 07920 - Sealants

DIVISION 8 - DOORS AND WINDOWS

Section 08800 - Glazing

DIVISION 9 - FINISHES

Section 09200 - Plaster
Section 09900 - Painting

DIVISION 10 - SPECIALTIES (None)

DIVISION 11 - EQUIPMENT (None)

DIVISION 12 - FURNISHINGS None)

DIVISION 13 - SPECIAL CONSTRUCTION

Section 13281 - Asbestos Abatement Measures
Section 13283 - Lead Based Paint Control Measures

DIVISION 14 - CONVEYING SYSTEM (None)

DIVISION 15 - MECHANICAL (None)

DIVISION 16 - ELECTRICAL (None)

END OF TABLE OF CONTENTS

Applicant _____

Application Submittal Checklist

The following items are required for submittal of the grant application. Please verify and check off that the items have been included in the application packet.

- ☑ 1) Certificate of Good Standing (If the Applicant is an Organization)
- ☑ 2) Declaration Statement
- ☑ 3) Verify that grant shall be used for a public purpose
- ☑ 4) Background and Summary
- ☑ 5) Service Summary and Outcomes
- ☑ 6) Budget
  - a) Budget request by source of funds (Link)
  - b) Personnel salaries and wages ( )
  - c) Equipment and motor vehicles ( )
  - d) Capital project details ( )
  - e) Government contracts, grants, and grants in aid ( )
- ☑ 7) Experience and Capability
- ☑ 8) Personnel: Project Organization and Staffing

Authorized Signature	Print Name and Title	Date
[signature]	Wayne Higa-Porter	1/16/2022

DIVISION 2 - SITE CONSTRUCTION

SECTION 02070 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in SECTION 00700.

1.02 SUMMARY

A. Extent of selective demolition work is indicated on drawings. Selective demolition work includes, but is not limited to, removal and subsequent disposal of all materials indicated or required to be removed.

B. All materials resulting from demolition work, except as indicated or specified otherwise, shall become the property of the Contractor at the time of demolition and shall be removed from the limits of the school property and disposed of at an approved facility in accordance with County, State, and Federal regulations. Remove rubbish and debris from the job site daily, unless otherwise directed by the Owner.

C. It shall be the responsibility of the Contractor to examine the project site and determine the existing conditions.

D. Execute all work in an orderly and careful manner with due consideration for all items of work to remain.

E. Obvious conditions which exist at the site shall be accepted as part of the work, even though they may not be clearly indicated on the Drawings and/or described herein, or may vary therefrom.

F. All debris of any kind accumulated from the work of this Section shall be disposed off the site in a State Department of Health (DOH) approved waste, recycle, or asbestos-containing material landfill as applicable.

G. Burning of any debris on-site will not be permitted.

H. Permits, Notice, Etc.:

1. The Contractor shall procure and pay for all necessary permits, certificates, or approvals that may be required in connection with this work.

2. The Contractor shall serve proper notice and consult with the Owner regarding any temporary barricades and disconnections of electrical or other utility lines in the area which may interfere with the removal work, and all such lines where necessary shall be properly disconnected or relocated before commencing with the work.

I. Carefully remove and store materials indicated for relocation or reinstallation. Record all deficiencies prior to removal and record with the Owner. All damage caused by the Contractor's operations shall be repaired as accepted by the Owner at no additional cost to the Owner.

1.03 SUBMITTALS

A. Submit in accordance with SECTION 01330 - SUBMITTAL PROCEDURES.

B. Schedule: Submit 2 copies of schedule indicating proposed methods and sequence of operations for selective demolition work to the Owner for review prior to commencement of work. Include coordination for temporary shut-off and continuation of utility services as required, together with details for weather protection, dust and noise control protection.

C. Permits and Notices: Submit a State Department of Health, Asbestos Notification of Demolition & Renovation form.

D. Landfill Disposal or Recycling Site: Submit the name of the approved DOH and Federal disposal facility to be used for this project.

E. Landfill Disposal or Recycling Manifests: Submit certified landfill disposal or recycling manifests documenting proper transit and disposal of demolition materials. Receipt of certified manifests shall be a requirement prior to progress payment for disposal or recycling.

F. Plans and Procedures: Submit a plan and list of procedures for performing the demolition and removal work.

1.04 JOB CONDITIONS

A. Condition of Structure: The Owner assumes no responsibility for actual condition of items or portions of structure to be demolished.

B. Conditions existing at time of commencement of contract will be maintained by the Owner insofar as practicable.

C. Do not interfere with use of adjacent occupied spaces or buildings. Maintain free and safe passage to and from occupied spaces or other occupied buildings.

D. Partial Demolition and Removal: Items indicated to be removed but of salvageable value to Contractor, may be removed as work progresses. Transport salvaged items from site as they are removed. Storage or sale of removed items on site will not be permitted.

E. Protections: Provide temporary barricades and other forms of protection as required to protect the general public, school, staff, and students from injury due to selective demolition work.

1. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or elements to be demolished, and adjacent facilities or work to remain.

2. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.

3. Life safety procedures and provisions shall be in conformance with all applicable Federal, State, and County regulations, including HIOSH.

4. Provide accessibility around temporary structures conforming to Americans with Disabilities Act Accessibility Guidelines (ADAAG) Section 201.3 and Section 206.1.

5. Remove protections, obstructions, and barricades at completion of work.

F. Damages: Promptly repair damages caused to adjacent facilities by demolition work at no cost to the Owner.

G. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close, block or otherwise obstruct streets, walks or other occupied or used facilities without written permission from the Owner. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations, as directed by the Owner.

H. Dust Control:

1. Keep dust within acceptable levels at all times, including non-working hours, weekends, and holidays, in conformance with State Department of Health, Title 11, Administrative Rues, Chapter 60.1 - Air Pollution Control, latest edition.

2. Mechanical dry sweeping not permitted. Vacuuming, wet mopping, approved limited dry hand, wet or damp sweeping is acceptable.

3. During loading operations, water down debris and waste materials to allay dust.

4. The method of dust control and all costs incurred thereof shall be the responsibility of the Contractor.

I. Noise Control:

1. Noise shall be kept within acceptable levels at all times in conformance with State Department of Health, Title 11, Administrative Rules, Chapter 46 - Community Noise Control, latest edition. The Contractor shall obtain and pay for community noise permit from the State Department of Health when the construction equipment or other devices emit noise at level exceeding the

allowable limits.

2. All internal combustion engine powered equipment shall have mufflers to minimize noise and shall be properly maintained to reduce noise to acceptable levels.

3. Starting up of on-site vehicular equipment meeting allowable noise limits shall not be done prior to 6:45 AM without prior acceptance of the Owner. Equipment exceeding allowable noise limits shall not be started prior to 7:00 AM.

J. Fire Safety: Fire safety during demolition shall comply with NFPA 241, "Standard for Safeguarding Construction, Alteration, and Demolition Operations", and 2012 NFPA 1, "Fire Code", as amended.

K. Demolition Work: Conform to State of Hawaii, Occupational Safety and Health Standards; Subtitle 8, Division of Occupational Safety and Health; Part 3, Construction Standards; Chapter 131.1, Demolition.

L. Other Controls:

1. Wherever trucks and/or vehicles leave the site and enter surrounding paved streets, the Contractor shall prevent any material from being spilled onto the pavement. Waste water shall not be discharged into existing streams, waterways, or drainage systems such as gutter and catch basins unless treated to comply with Department of Health pollution regulations.

2. Trucks hauling materials shall be covered as required by PUC regulation. Trucks hauling fine materials shall be covered.

PART 2 - PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

3.01 INSPECTION

A. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Inventory existing conditions of structure surfaces, equipment or surrounding properties which could be misconstrued as damage resulting from selective demolition work; photograph, video or otherwise document and file with the Owner prior to starting work.

B. Test all equipment that is to be relocated or reinstalled prior to disconnection. File a list of discrepancies with the Owner prior to disconnection and relocation. Allow the Owner 5 working days to verify discrepancies prior to removal.

3.02 PREPARATION

Provide temporary security type weatherproof enclosures and covering for exterior openings and exposed roof deck resulting from demolition work.

3.03 BARRICADES AND ENCLOSURES

A. Erect temporary barricades as required to prevent people from entering into project area to extent accepted by the Owner. The extent of barricade may be adjusted as necessary with acceptance of the Owner. This work shall be accomplished at no extra cost to the Owner.

B. When necessary, the Contractor shall provide, erect, and maintain lights, barriers, etc., as required by traffic and safety regulations with special attention to protection of life.

3.04 SELECTIVE DEMOLITION

A. Perform selective demolition work, including all exterior improvements indicated on the drawings, in a systematic manner. Use such methods as required to complete work indicated on drawings in accordance with demolition schedule and governing regulations.

1. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction. All dust shall be suppressed by a fog spray or other approved method.

2. Extent of demolition and removal as shown are minimum requirements. Contractor shall be responsible for the extent of work required to properly accommodate the methods of construction required for the new work. Additional work required to accommodate construction shall be considered incidental to the new work and shall be done at no additional cost to the Owner.

B. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to the Owner in written, accurate detail. Pending receipt of directive from the Owner rearrange selective demolition schedule as necessary to continue overall job progress without delay.

3.05 ROOF REMOVAL WORK

A. Carefully remove all wood shake roofing, etc. down to existing bare furring.

B. Remove all existing sheet metal edging, gravel stops, vent pipe flashings, flashings, etc., except where otherwise indicated on drawings. Remove all existing nailers and blocking.

C. The entire area shall be inspected by the Owner before any new roofing work can be started. Should the Contractor start the new work without the Architect's acceptance, the Owner may have the Contractor remove, repair, and reroof the area at no cost to the Owner.

D. In the event any roofing is removed and deck is exposed to the weather, the Contractor shall provide and maintain a waterproof covering for the duration of the exposure. Waterproof covering shall be provided for during the removal work, surface preparation work, repair work, and until the new roofing work is completed and the temporary covering is not required.

E. Any damage to roof, building, its contents, etc. for failure to provide a waterproof system or the Contractor's negligence shall be made good by the Contractor to the satisfaction of the Owner at no cost to the Owner.

3.06 DRY ROT AND TERMITE DAMAGES

A. All dry rot and termite damage discovered during the progress of the selective demolition work shall be reported to the Owner for inspection and recommendation. Failure to report such damage that result in poor roof installation and/or roof leakage or inability to support or fasten new work shall be made good by the Contractor at no cost to the Owner.

B. All materials used to replace deteriorated areas shall match the existing material in size, shape, species, and shall be preservative treated.

C. Any damage to roof deck or other areas caused by the Contractor during the execution of the removal work shall not be considered extras and shall be repaired at the Contractor's expense.

D. All repair work of reported dry rot and termite damaged areas not indicated on the drawings as repair or replacement work, shall be considered additional work and the Contractor shall be compensated for it in accordance with the GENERAL CONDITIONS.

3.07 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove debris, rubbish, and other materials resulting from demolition operations from building site daily. Transport and legally dispose of materials off site.

1. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution. Report conditions to the Owner.

2. Burning of removed materials is not permitted on project site.

B. Disposition of Materials: All waste materials shall be disposed of outside the limits of State-controlled land at the Contractor's expense to an approved solid

waste or recycle disposal site. The Contractor shall provide to the Owner certified disposal manifests for all materials disposed of off-site. Comply with Federal, State, and local hauling and disposal regulations. The Contractor is encouraged to recycle materials to maximum extent possible to avoid disposal at a landfill.

3.08 CLEAN-UP AND REPAIR

A. Upon completion of demolition work, remove tools, equipment, and demolished materials from site. Remove protections and leave areas broom clean.

B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

C. Any existing work which is to remain and which is damaged as a result of demolition work shall be restored to its original condition or as otherwise directed by the Owner at no cost to the Owner.

D. All existing grass areas disturbed or damaged due to construction or ingress or egress to the site shall be repaired to original conditions. Grass areas shall be recultivated, topsoiled, and then grassed with the same kind and type of material as existing, in a manner accepted by and to the satisfaction of the Owner.

END OF SECTION

DIVISION 6 - WOOD AND PLASTICS

SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in SECTION 00700.

1.02 SUMMARY

Provide all rough carpentry, complete, including, but not limited to roof sheathing and rough hardware.

1.03 SUBMITTALS

A. Submit in accordance with SECTION 01330 - SUBMITTAL PROCEDURES.

B. Certificates: Provide a certificate of treatment showing compliance with the specifications, and a certificate of dryness for all wood specified to be dried after treatment.

1.04 QUALITY ASSURANCE

A. Grading Marks: Factory mark each piece of lumber with type, grade, mill, and grading agency identification. Certificate of inspection and grading by a recognized agency, which is certified by the American Lumber Standards Committee's (ALSC) Board of Review, may be submitted with each shipment in lieu of factory marking, at Contractor's option.

B. Wood Preservative Treatment: In accordance with SECTION 06311 - PRESERVATIVE TREATED LUMBER.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Storage: Keep materials dry at all times. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber and provide air circulation within stacks. Store materials away from threat of termite or other insect infestation.

B. Handling: Handle manufactured materials as recommended by the manufacturer.

1.06 JOB CONDITIONS

Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Lumber, General: Factory-mark each piece of lumber with type, grade, mill, and grading agency, except omit marking from surfaces to be exposed with transparent finish or without finish. Nominal sizes are indicated, except as shown by detail dimensions or as required by insulation thickness. Provide actual sizes as required by DOC PS 20, with moisture content specified for each use.

1. Provide dressed lumber, S4S, unless otherwise indicated.

2. Provide seasoned lumber with 15 percent maximum moisture content at time of dressing.

B. Light Framing Lumber: 2-inches through 4-inches thick, less than 6-inches wide, such as studs, plates, blocking, rough bucks, furring, nailing strips, etc., provide Construction grade, Douglas Fir/Larch, or Hem/Fir.

C. Plywood Roof Sheathing: DOC PS 1, Grade Structural I, with T&G edges; thickness as shown.

D. Fasteners and Anchorages: Provide size, type, material, and finish as indicated and as recommended by American Wood Council, "National Design Specification (NDS) for Wood Construction" and "Wood Frame Construction Manual for One- and Two-Family Dwellings", as applicable, complying with applicable ANSI standards for nails, staples, screws, bolts, nuts, washers, and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use, including recommended nails. Provide all fasteners and anchorages with a hot-dip zinc coating ASTM A 153/A 153M, Class C or D as applicable except that fasteners used with ACQ-C and ACQ-D, CBA-A, CA-B, and borate non-DOT type treated wood shall be G185 or stainless steel.

1. Bolts, Nuts, and Studs: ANSI/ASME B18.2.1, ANSI/ASME B18.5.2.1M, ANSI/ASME B18.5.2.2M, ANSI/ASME B18.2.2, hot dip galvanized.

2. Lag Screws and Lag Bolts: ANSI/ASME B18.2.1, hot dip galvanized.

3. Wood Screws: ANSI/ASME B18.6.1, hot dip galvanized.

4. Wire Nails: Steel wire shall be good commercial quality, entirely suitable for the purpose and sufficiently ductile to ensure that the finish nail shall withstand, without fracture, cold bending through 180 degrees over a diameter not greater than the diameter of the wire. Wire nails shall be hot dip galvanized.

2.02 WOOD TREATMENT

Treat all rough lumber in accordance with SECTION 06311 - PRESERVATIVE TREATED LUMBER.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.

1. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted. Lumber shall be flush and tight against each other during fastening.

2. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes. Overdriving of fasteners shall be avoided.

3. Use common wire nails, except as otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.

4. Fasteners having chipped coatings shall not be used.

5. Where more than 20 percent of the fasteners are found to be overdriven up to 1/8-inch deep, or if any fastener is overdriven more than 1/8-inch deep, additional fasteners shall be driven at a rate of one additional fastener for every 2 overdriven fasteners.

6. Where the corrosion resistant coating on the head of the fastener has been chipped by the device in excess of 25 percent, the fastener shall be removed and replaced. The device shall not be used until its driver has been repaired.

7. Nails shall be of the proper length to suit their particular application (the point of the nail shall not be exposed after being driven).

B. Wood Framing, General:

1. Provide framing members of sizes and on spacings shown, and frame openings as shown, or if not shown, comply with recommendations of "Wood Frame Construction Manual for One- and Two-Family Dwellings" of American Wood Council. Do not splice structural members between supports.

2. Anchor and nail as shown, and to comply with the ICC IBC, Section 2304, "General Construction Requirements", as amended.

C. Re-treat cut and penetrated lumber in accordance with SECTION 06311 - PRESERVATIVE TREATED LUMBER.

END OF SECTION

SECTION 06200 - FINISH CARPENTRY

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in SECTION 00700.

1.02 SUMMARY

A. Provide all finish carpentry work, complete, including, but not limited to, the following items:

1. Finish carpentry work, blocking, etc.

2. Wood trim.

3. Maintenance of Wood, Plastics and Composites Wood Restoration including restoration of rotted, decayed, damaged or deteriorated wood with epoxy consolidants and wood replacement compound.

a. Removal of exterior finish at areas of wood restoration.

b. Application of borate wood preservative.

c. Application of epoxy consolidants.

d. Application of epoxy filler.

e. Restoration of wood profile.

4. Custom windows and sashes.

5. Rough hardware.

B. Related Work Specified Elsewhere:

1. Wood blocking and concealed framing is specified under SECTION 06100 - ROUGH CARPENTRY.

2. Preservative treatment is specified under SECTION 06311 - PRESERVATIVE TREATED LUMBER.

3. Glazing for custom windows is specified under SECTION 08800- GLAZING.

1.03 REFERENCES

A. "The Secretary of the Interior's Standards of Rehabilitation and Guidelines for Rehabilitating & Reconstructing Historic Buildings," U.S. Dept. of the Interior,

National Park Service, Washington, D.C. 1995 Ed.

B. "Wood-Epoxy Repairs for Exterior Woodwork," by John Leeke, Preservation Consultant, copyrighted 2007

1.04 DEFINITIONS

A. Consolidate: To restore and strengthen rotted or deteriorated wood with liquid epoxy which penetrates the deteriorated wood and hardens it.

B. Consolidant: A liquid compound which consolidates wood.

C. Wood Replacement Compound: A soft plastic mixture of epoxy resin and hardener that adds and/or rebuilds sections of wood.

D. Induction Period: The time to wait after mixing an epoxy resin and hardener together before applying the mixture so that the reaction is induced.

E. Pot Life: The time after mixing epoxy resin and hardener in which it remains workable so that it can be applied.

F. Curing Time: The total reaction time that continues to completion during and after hardening and optimizes most properties.

1.05 SUBMITTALS

A. Submit in accordance with SECTION 01330 - SUBMITTAL PROCEDURES.

B. Manufacturer's Data: Submit manufacturer's product data for all manufactured items including product brochure, technical data, test results, manufacturer's product and application instructions

C. Shop Drawings: Submit shop drawings showing location of each item, dimensioned plans and elevations, materials, large scale details, attachment devices, and other components. Submit shop drawings for the following:

1. Custom window and sash.

D. Samples: Submit 4 each samples of the following:

1. Wood trim with custom profiles.

2. Mock-Up/Test Panels as described below.

E. Certificates: Provide a certificate of treatment showing compliance with the specifications, and a certificate of dryness for all wood specified to be dried after treatment.

F. Craftsman Information: Submit the name of the craftsman that will be performing

this work and the experience level of the craftsman in the use of the product.

G. Safety Data Sheets (SDS): Submit SDS for each material.

1.06 QUALITY ASSURANCE

A. Maintenance of Wood, Plastics and Composites Wood Restoration: It is the specific Intent of this Section that at completion of the Work, all Wood component structures listed in the plan sheet or separate schedules, shall be completely restored to mirror the original wood in appearance and operability.

B. Grading Marks: Factory mark each piece of lumber and plywood with type, grade, mill, and grading agency identification. Certificate of inspection and grading by a recognized agency may be submitted with each shipment in lieu of factory marking, at Contractor's option.

C. Qualifications:

1. Applicator: The applicator should demonstrate successful application of products at other locations or training in the use of the product.

2. Manufacturer Experience: The manufacturer shall have not less than 10 years experience in providing products applied and technical support capability.

3. Manufacturer Qualifications: Required products shall be manufactured or supplied by a single manufacturer.

D. Mock-Up/Test Panel: The craftsman for maintenance of wood, plastics and composites wood restoration shall construct a mock-up or test panel in accordance with the drawings for inspection and approval of the Owner.

E. Maintenance of Wood, Plastics and Composites Wood Restoration Materials:

1. Restored wood shall be capable of being sawn, planed, sanded, nailed with carpentry nails and otherwise worked like wood.

2. Restored wood shall retain paint and / or stain.

3. Where wood replacement compound has been applied, the material shall form a permanent seamless bond with the wood.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the jobsite in manufacturer's original, unopened containers. Storage and Protection:

1. Store unused materials in tightly sealed containers between 55° and 85° F.

2. Avoid contamination of component products by introducing any object which

has been in contact with another product such as gloves or tools.

3. Keep flammable solvents away from the products and in a fireproof cabinet or separate location.

B. Protect finish carpentry materials during transit, delivery, storage, and handling to prevent damage, soiling, and deterioration.

C. Store materials away from threat of termite or other insect infestation.

D. Handle manufactured materials as recommended by the manufacturer.

E. Order: Comply with the manufacturer's ordering instructions and lead time requirements to avoid construction delays for maintenance of wood, plastics and composites wood restoration materials..

F. Waste Management and Disposal: Unused material shall be disposed of by mixing it according to manufacturer's instructions, and after hardening, depositing it with other solid waste.

1.08 PROJECT/SITE CONDITIONS

Project/Site Environmental Requirements:

1. Products are to be applied to a dry substrate with a moisture content of wood below 20%.

2. Weather shall be dry. In the event of rain, work is to be protected from contact with water.

PART 2 - PRODUCTS

2.01 WOOD PRODUCT QUALITY STANDARDS

A. Softwood Lumber Standards: Comply with American Lumber Standards Committee (ALSC) PS 20 and with applicable grading rules of the respective grading and inspection agency for the species and product indicated.

B. Hardwood Lumber Standard: Comply with National Hardwood Lumber Association (NHLA) rules.

2.02 MATERIALS

A. General: Nominal sizes are indicated, except as shown by detailed dimensions. Provide dressed or worked and dressed lumber, as applicable, manufactured to the actual sizes as required by PS 20 or to actual sizes and pattern as shown, unless otherwise indicated.

B. Exterior Finish Carpentry: Douglas Fir, C and Better, vertical grain.

C. Interior Finish Carpentry:

1. Solid lumber shall be milled to profiles indicated of Douglas Fir vertical grain, B and Better, poplar or birch for paint finish.

2. Wood Blocking: Utility grade or better, Douglas Fir/Larch or Hem/Fir.

D. Miscellaneous Materials:

1. Moistureproofing: ASTM D 226/D 226M, Type I, No. 15, asphalt saturated felt or better as accepted by the Architect.

2. Fasteners and Anchorages: Provide nails, screws, and other anchoring devices of the proper type, size, material, and finish for application indicated to provide secure attachment, concealed where possible, and complying with ASTM F 547 and applicable ANSI standards. Provide all fasteners and anchorages with a hot-dipped zinc coating ASTM A 153/A 153M, Class C or D as applicable except that fasteners used with ACQ-C and ACQ-D, CBA-A, CA-B, and borate non-DOT type treated wood shall be G185 or stainless steel. Fasteners at wet areas shall be stainless steel.

3. Wood, Plastics and Composites Wood Restoration Materials: Abatron, Inc., 5501 95th Ave., Kenosha, WI 53144, www.abatron.com Tel: 800/445-1754/Fax: 262/653-2019 or accepted equivalent.

4. Wood Preservative: Bora-Care boron-based concentrated wood preservative.

5. Wood Consolidant: LiquidWood low viscosity, penetrating epoxy compound.

6. Wood Replacement Compound: WoodEpox light-weight, thixotropic epoxy adhesive.

7. Wood and Epoxy Primer: Primkote 8006-1 penetrating primer for wood and epoxy surfaces.

8. Custom Window Hardware: Historic components to match existing as accepted by the Architect.

9. Accessories: Use accessories recommended by manufacturer.

PART 3 - EXECUTION

3.01 INSPECTION

A. Inspect wooden areas to be restored, as identified by the Owner. Report any additions or discrepancies to the Owner and the general contractor.

B. Measure existing double hung wood windows with true divided lights for fabrication of new custom windows and sashes for replacement as indicated.

3.02 PREPARATION

A. Remove paint, dirt wax and debris from work area.

B. Wire brush loose wooden material from surfaces, or use a vacuum for complete cleanliness as necessary.

C. Remove hardware in the way of the repair and bag it for later restoration and reuse, identifying the component that it came from.

D. Protect adjacent surfaces from spills with masking tape and plastic sheeting.

E. Mix materials in accordance with manufacturer's product labels and instructions

F. If deterioration is more than superficial, drill small holes, approximately 1/8-inch in diameter, into areas to be consolidated being careful not to drill completely through the wood.

G. Wear protective clothing, eyewear and gloves as noted in manufacturer's SDS.

H. Apply a wood preservative solution to the decayed wood and allow 48-72 hours to dry.

I. Prior to the application of the epoxy consolidant, test the moisture content of the wood for a moisture content of not more than 20 percent.

3.03 INSTALLATION

A. Discard units of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned or too small to fabricate work with minimum of joints or optimum jointing arrangements, or which are of defective manufacturer with respect to surfaces, sizes or patterns.

B. Install the work plumb, level, true, and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8-inch in 8-feet for plumb and level countertops; and with 1/16-inch maximum offset in flush adjoining 1/8-inch maximum offsets in revealed adjoining surfaces.

C. Scribe and cut work to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.

D. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum lengths of lumber available) to the greatest extent possible. Stagger joints in adjacent and related members. Cope at returns, miter at corners, to produce tight fitting joints with full surface contact throughout length

of joint. Use scarf joints for end-to-end joints. Sand smooth for imperceptible joints. Make exterior joints water-resistant by careful fitting.

E. Anchor finish carpentry work to anchorage devices or blocking built-in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and where prefinished matching fasteners heads are required, use fine finishing nail for exposed nailings, countersunk and filled flush with finished surface, and matching final finish where transparent finish is indicated.

F. Felt Underlayment: Provide building felt underlayment for all exterior siding. Install with 2-inch headlap and 6-inch minimum end laps.

G. Fabricate and install custom windows and sashes to weathertight to match existing.

H. Re-treat cut and penetrated new lumber in accordance with SECTION 06311 - PRESERVATIVE TREATED LUMBER.

3.03 REPAIR/RESTORATION

A. Epoxy consolidation:

1. Mix the two part consolidant according to the manufacturer's instructions allowing 5-10 minutes for an induction period prior to application. Mix only an amount that will be used within 50 minutes.

2. Apply the consolidant according to the manufacturer's instructions.

3. Where only the surface of the wood to be restored is rotted or deteriorated, the consolidant can be applied by brush. More than one application is recommended to thoroughly consolidate the wood. The Pot life of the consolidant is approximately 30-50 minutes after which time another batch should be made, if needed.

4. Where deterioration extends beyond the surface of the wood, pour the consolidant directly into holes drilled into the wood using an applicator such as a plastic bottle with a narrow spout or syringe. Wait for the consolidant to be absorbed into the wood. Follow with additional applications of consolidant until the wood is saturated and no more consolidant is absorbed.

5. Brush out the excess consolidants on the surface of the wood to insure thorough saturation of the wood surface.

B. Wood Replacement Compound Application:

1. Apply mixed compound according to manufacturer's instructions. If pigmentation is desired, then it should be added to the mixture at this time.

2. Apply compound to areas which have been consolidated. Apply compound when consolidant is tacky and not completely hardened.

3. On wood that is sound and wood that has been previously consolidated, apply a primer such as Primkote 8006-1 ™ to the wood and consolidated material prior to the application of the compound.

4. Apply by pressing into place, troweling, or pressing into a form. The repaired area should be slightly overfilled so that it can be sanded or planed after hardening. Apply more compound if there are voids or depressions after smoothing.

5. After hardening for 12 hours or longer, the compound can be sanded, or planed and carved to correspond to the contour of the surrounding wood.

6. After hardening 24 hours, paint or stain as specified by the Owner.

3.04 FIELD QUALITY CONTROL

Hardened consolidant and wood replacement compound should be tack-free and firm to the touch.

3.05 PROTECTION

Protect all repair work from moisture elements until all epoxy work has cured.

3.06 CLEAN UP

Following all applications of epoxy, leave all areas free and clean of epoxy. Discard unused epoxy, containers, tools and towels in accordance with local, state and federal regulations.

END OF SECTION

SECTION 06311 - PRESERVATIVE TREATED LUMBER

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in SECTION 00700.

1.02 SUMMARY

A. Preservative treat all new lumber and plywood unless specified or noted otherwise.

B. Related Work Described Elsewhere: Retreating existing historic wood surfaces is provided under SECTION 06200 - FINISH CARPENTRY.

1.03 SUBMITTALS

A. Submit in accordance with SECTION 01330 - SUBMITTAL PROCEDURES.

B. Manufacturer's Data: Submit manufacturer's technical product information on all products to be used, including recommendations and restrictions on wood species and uses.

C. Manufacturer's Instructions: Submit manufacturer's written instructions for handling, disposing, and field treating treated lumber.

D. Certification: The Contractor shall submit a written certification to the Owner that all wood used and left in place on this job was treated in accordance with these specifications and that all cuts and penetrations made subsequent to the treatment were coated with preservatives in compliance with item entitled "INSTALLATION" hereinbelow.

E. Material Safety Data Sheets (MSDS): Submit MSDS for products used and keep one posted at the project site.

F. Warranty: Submit warranty as stipulated in item entitled "WARRANTY" hereinbelow.

1.04 QUALITY ASSURANCE

A. Preservatives containing arsenic such as Chromated Copper Arsenate (CCA) and Ammoniacal Copper Zinc Arsenate (ACZA) shall not be used.

B. Perma-Clear 65 or other zinc napthanate products shall not be used.

C. Comply with all State OSHL and pollution control regulations of the State of Hawaii and EPA.

D. Do not use treatments containing EPA banned chemicals.

E. Materials shall be specifically recommended by the manufacturer for species of wood, use intended, and exposure indicated.

F. Labeling: Permanent ink stamp or durable tag permanently fastened as stipulated in ICC IBC, as amended.

1.05 WARRANTY

A. The Contractor shall issue to the Owner a written warranty that he will replace all treated wood which is attacked by subterranean termites within a period of 2 years from the date of project acceptance (unless a longer period of time is standard with the manufacturer) up to a total cost of $5,000.00 (unless higher amount standard with the manufacturer) or is attacked by dry wood termites or deteriorates due to dry rot within the first 5 years of the project acceptance date.

B. The Surety shall not be held liable beyond 2 years from the project acceptance date.

PART 2 - PRODUCTS

2.01 GENERAL

A. Wood treated with water-borne preservatives (with the exception of SBX treated wood) shall be air dried or kiln-dried before treatment to an average moisture content of 28 percent or less per AWPA standards. Wood having a moisture content higher than 28 percent is acceptable when treating with SBX materials.

B. Wood shall be treated as noted below.

C. Lumber shall be milled to finish size and shape prior to treating, and it shall be treated before assembly. Plywood may be treated in regular panel sizes.

2.02 MATERIALS

A. Water-Borne Preservatives: Water-Borne Preservatives shall be Preserve ACQ, Preserve Plus ACQ, Wolman E CBA, Hi-Bor SBX, and Timber Saver PT SBX, or accepted equivalent, except as stipulated otherwise in accordance with American Wood Preservers Association (AWPA) Standard P5 - "Standards for Waterborne Preservatives", and permitted by EPA. Preservatives shall be EPA registered. (Hawaii use only treatment is not acceptable).

1. Treatment for ACQ and CBA treated wood shall be as recommended by the manufacturer. Preservatives shall be EPA registered.

2. Water-Borne Preservatives used to coat end cuts and penetrations in SBX treated wood shall be Clear-Bor F.T. or an equivalent solution of 10 percent inorganic boron. The end coating solution must be approved and labeled by the Environmental Protection Agency and must be accepted by the State of

Hawaii, Department of Agriculture, Pesticides Branch, for this purpose. The treatment solution shall have a colorant added which will tint the wood surface to indicate treatment where wood will be unexposed. The Contractor shall be held responsible for all bleed through of dye.

PART 3 - EXECUTION

3.01 WOOD PRESERVATION WITH WATER-BORNE PRESERVATIVES

A. Unless otherwise stipulated, all lumber and plywood shall be pressure treated.

B. Lumber and plywood, except as stipulated in items entitled "WOOD PRESERVATION BY PRESSURE TREATMENT WITH OIL-BORNE PRESERVATIVES" and "WOOD PRESERVATION BY DIP TREATMENT" hereinbelow, shall be treated with ACQ and CBA materials as specified and in accordance with American Wood Preservers Association (AWPA) Standards C2 - "Lumber, Timbers, Bridge Ties and Mine Ties - Preservative Treatment by Pressure Process", C9 - "Plywood Preservative Treatment by Pressure Processes", and C15 - "Wood for Commercial-Residential Construction", or SBX material, using the full cell pressure method in conformance with AWPA Standard C1 - "All Timber Products - Preservative Treatment by Pressure Processes", or C31, "Lumber Used Out of Contact with the Ground and Continuously Protected from Liquid Water - Treatment by Pressure Processes". Lumber and plywood treated with SBX shall attain the following penetration and retention requirements:

1. Lumber:

   a. Penetration Requirement for Lumber Under 5-inch Nominal Thickness: 0.40-inch in heartwood and 90 percent in sapwood.

   b. Penetration Requirement for Lumber 5-inch Nominal Thickness and Over: 0.50-inch in heartwood and 90 percent in sapwood.

   c. Retention requirement for lumber shall be a minimum of 1.50 percent weight/weight or 0.42 pound per cubic foot in an assay zone of 0.0 - 0.6 inch for lumber under 5-inches nominal thickness and 0.0 - 0.75 inch for lumber over 5-inches in nominal thickness.

2. Plywood:

   a. Penetration requirement for plywood shall be identical to that noted in AWPA Standard C9.

   b. Retention requirement for plywood shall be a minimum of 1.27 percent weight/weight or 0.40 pound per cubic foot through the full thickness.

C. Lumber 2-inches or less in thickness and all plywood

shall be dried to a moisture content of 19 percent or less after treatment.

3.02 INSTALLATION

A. Wherever it is necessary to end cut or penetrate into (such as by drilling or notching) treated wood on the job, all such cuts and penetrations shall be treated in accordance with AWPA Standard M4, "Care of Preservative Treated Wood Products", or in accordance with the approved preservative manufacturer's ICC Evaluation Services report requirements, using 2 heavy brush coats of a treating solution as recommended by the manufacturer. Where allowed by preservative manufacturer, spray cut ends and bored holes with "Hudson Bay" type sprayer, 2 coats. Exception, cuts and penetrations made in SBX treated wood 2-inches or less in nominal thickness need not be field treated.

B. Apply treatment to existing wood as recommended by the manufacturer. Inject material into all holes. Spray or paint all surfaces to fully coat the exposed surfaces of the wood.

3.03 CLEAN-UP

Dispose of treated wood in a sanitary landfill or other authorized disposal area. Do not burn treated wood.

END OF SECTION

DIVISION 7 - THERMAL AND MOISTURE CONTROL

SECTION 07312 - WOOD SHAKE ROOFING

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in SECTION 00700.

1.02 SUMMARY

A. Provide wood shake roofing and underlayment as indicated. Provide all nails and fasteners.

B. Related Work Described Elsewhere:

1. Metal flashings associated with roofing are provided under SECTION 07600 - FLASHING AND SHEET METAL.

2. Primer material for pre-priming shakes prior to installation and final finish painting are specified under SECTION 09900 - PAINTING

1.03 SUBMITTALS

A. Submit in accordance with SECTION 01330 - SUBMITTAL PROCEDURES.

B. Manufacturer's Data: Submit manufacturer's product data, specifications, installation instructions, and other data required to demonstrate compliance with the specified requirements.

C. Material List: Submit complete materials list of all items proposed to be furnished and installed under this Section.

D. Samples: Submit 4 samples of wood shakes for acceptance.

E. Safety Data Sheets (SDS) or Material Safety Data Sheets (MSDS): Submit SDS or MSDS for each material as applicable.

F. Warranty: Submit warranty as stipulated in item entitled "WARRANTY" hereinbelow.

G. Receipt of Delivery: 3 copies of the receipt signed by the user's representative, attesting to delivery of extra wood shakes.

1.04 QUALITY ASSURANCE

A. Qualifications of Installers: For the actual cutting, fitting, and installation of the materials of this Section, use only personnel who are thoroughly trained and

experienced in the specialty, working under supervision which has been specifically approved in writing by the manufacturer of the wood shakes used or an approved affiliate member of the Cedar Shake and Shingle Bureau (CSSB).

B. Pre-Roofing Conference: After submittals are received and accepted but before roofing work, including associated work are performed, the Contractor shall hold a pre-roofing conference to review the following:

1. Procedure for on site inspection and acceptance of the roofing substrate and pertinent structural details relating to the roofing system.

2. Contractor's plan for coordination of the work of the various trades involved in providing the roofing system and other components secured to the roofing.

3. Attendees: The pre-roofing conference shall be attended by the Contractor and personnel directly responsible for the roofing installation. Conflicts among those attending the pre-roofing conference shall be resolved and confirmed in writing before roofing work, including associated work, is begun. Prepare written minutes of the pre-roofing conference and submit to the Owner.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Delivery of Materials: All roofing materials shall be delivered to the site in original unbroken manufacturer's wrapping material and containers with the original labels. If any bulk or unlabeled materials are used, a properly attested certificate from the manufacturer stating that such materials comply with the requirements of the Contract Documents shall be furnished to the Owner prior to installation. Store rolled materials on end. Do not stack bundles of shakes more than 3-feet high.

B. Storage of Materials at Job Site:

1. Roofing material in storage shall be raised above the supporting surfaces. Materials which absorb moisture shall not be permitted to be used on the job and shall be removed promptly.

2. If materials are stored on the roof deck, they shall be distributed so that their resultant weight does not exceed the design live load normally of 20 pounds per square foot.

C. Protection: Any work or materials damaged during the handling of roofing materials shall be restored to their original (undamaged) condition or replaced.

D. Replacements: In the event of damage, immediately make all repairs and replacements necessary as accepted by the Architect and at no additional cost to the Owner.

1.06 WARRANTY

A. Contractor's Warranty: The Contractor shall furnish to the Owner a written warranty on the roofing for a 2 year period after the project acceptance date. The warranty shall be signed by the Roofer and the Contractor shall provide the following at no cost to the Owner:

1. Repair of roofing as necessary to seal leaks which are attributable to faulty materials and/or workmanship;

2. Repair or replacement of damage to the building and/or its finishes when occasioned by such leaks; and

3. Inspection of the roofing together with the Owner or his designated representative, on or about the first and second anniversaries of the project acceptance date, and repair or replace roofing as necessary.

B. Manufacturer's Warranty: Manufacturer shall submit a manufacturer's minimum 20 year warranty that shakes are free from manufacturing defects that would reduce the usable life of the shakes as specified.

1.07 EXTRA SHAKES

Provide one percent of wood shakes and trims for use by the Owner for future repair.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Wood Shakes: CSSB, Certi-Split Tapersplit Handsplit Shake, Western Red Cedar, No. 1 Premium Grade, 100 percent edge grain, 18-inch length, 1/2-inch thick at butt end, CCA Certi-Last preservative treated.

B. Hip and Ridge Units: CSSB, Western Red Cedar, Certi-Ridge pre-manufactured units in grade to match wood shakes.

C. Interlayment at Nailers: ASTM D226/D226M, Type II, No. 30, asbestos free, asphalt saturated unperforated roofing felt.

D. Self-Adhering Underlayment at Solid Sheathing: ASTM D1970/D1970M, polymer modified bituminous sheet materials, minimum 40 mils thick as recommended by the roofing manufacturer. Provide with non-slip surface for safety during roofing operations.

E. Nails: Type 316 stainless steel, 6d Box 2 conforming to current adopted ICC IBC as amended and as recommended by the manufacturer.

F. Asphalt Roofing Cement: ASTM D4586/D4586M, Type II.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection: Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

B. Discrepancies: In the event of discrepancy, immediately notify the Architect. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved. Commencement of work constitutes acceptance of the substrate.

3.02 COORDINATION

A. Coordinate schedule for installation of wood shake roofing with schedules for installation of sheet metal flashing, so that the roof deck will have minimum practicable exposure to the weather. Sheet metal flashings shall be on-site ready for installation as wood shake roofing work progresses. Complete installation shall provide for a weathertight assembly.

B. Shakes shall be primed on all surfaces prior to installation. Backside primer shall extend at least two thirds up the back side of the shake. All cut surfaces shall be recoated with primer. Finish paint is provided under SECTION 09900 - PAINTING.

3.03 INSTALLATION

A. General: Install all components of the wood shake roofing in strict accordance with the current recommendations of the manufacturer, CSSB, "New Roof Construction Manual", NRCA, "The NRCA Roofing and Waterproofing Manual", and as specified herein.

B. Underlayment: Install interlayment sheets of underlayment for wood shake roofing at nailers as recommended by the manufacturer to be fully concealed. Install sheet underlayment over the entire plywood roof sheathing starting at eaves with minimum 2-inch head laps and 4-inch end laps. Membrane shall be rolled or squeegeed onto the surface to ensure total adhesion to the substrate. Wrinkles and buckles in the membrane shall be avoided.

C. Roof Application: The beginning or starter course of wood shakes shall be doubled and extend 1-1/2 inches beyond fascia unless indicated otherwise. After applying each course of shakes, an strip of underlayment as recommended by the manufacturer shall be laid over the top portion of the shakes, extending onto the sheathing. Position the bottom edge of the felt above the butt at a distance equal to twice the weather exposure. Lap ends a minimum of 6-inches. Stagger

end laps between succeeding courses a minimum of 72-inches. Fasten felt with nails. Individual shakes shall be spaced 3/8-inch to 5/8-inch apart to allow for expansion. Joints between shakes shall be broken or offset by at least 1-1/2 inches in adjacent courses and shall be kept out of direct alignment in alternate courses.

D. Weather exposure shall be 7-1/2-inches unless indicated otherwise.

E. Ridges: Double at each end of ridge, begin at the ends and meet at the center of the ridge. Flash as detailed on the drawings.

F. Vent Pipe Flashing: Flash as detailed on the drawings. Fasten and seal to wood roofing.

G. Rake Drip Edges: Install over underlayment and fasten to roof deck.

H. Eave Drip Edges: Install beneath underlayment and fasten to roof deck.

I. Nailing: Secure each shake with 2 (only) nails driven at least one-inch from each edge, and one-inch or 2 inches above the butt line of the course to follow. The 2-inch length (6d) normally is adequate but longer nails should be used if shake thickness or weather exposure dictates. Do not drive nailheads into shakes.

3.04 ADJUST AND CLEAN

A. Replace damaged shakes with new to match shakes finished as specified herein.

B. Promptly upon completion of this portion of the work, remove from the site all tools, equipment, surplus materials of this Section, and debris resulting from the shake roofing installation.

END OF SECTION

SECTION 07600 - FLASHING AND SHEET METAL

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in SECTION 00700.

1.02 SUMMARY

A. Provide all labor, materials, and equipment necessary to fabricate and install flashing, counterflashing, metal edging and other related work as shown on drawings and as specified herein.

B. Related Work Described Elsewhere:

1. Coordinate installation of sheet metal work with SECTION 07312 - WOOD SHAKE ROOFING.

2. Sealants are specified under SECTION 07920 - SEALANTS.

1.03 SUBMITTALS

A. Submit in accordance with SECTION 01330 - SUBMITTAL PROCEDURES.

B. Manufacturer's Data: Submit manufacturer's product data on all manufactured items.

C. Shop Drawings: Submit shop drawings with reference made to detail numbers on the contract drawings to the Owner for acceptance. Contract drawings are general in nature. Furnish additional details for all the similar and unusual conditions necessary to fabricate the flashing and sheet metal work. Shop drawings shall show all fasteners and relationship to adjacent work. No fabrication will be permitted before acceptance is secured. Tracing or reproducing drawing details is unacceptable.

D. Warranty: Submit warranty as stipulated in item entitled "WARRANTY" hereinbelow.

1.04 QUALITY ASSURANCE

A. Sheet metal fabrications shall conform to State and local codes, SMACNA (latest edition), and industry standards.

B. Roof penetrations shall be installed weathertight in such a manner to maintain integrity of the roofing.

C. Fastening and cleating shall withstand all positive and negative wind pressures for project site in accordance with current Maui and State of Hawaii ICC IBC, as

amended.

1.05 DELIVERY, STORAGE, AND HANDLING

A. All materials shall be delivered and stored in such a manner as to afford adequate protection. Damaged materials shall not be used and shall be removed from the site.

B. Handle manufactured materials as recommended by the manufacturer.

1.06 WARRANTY

A. The Contractor shall furnish to the Owner a written warranty on the sheet metal for a 2-year period after the project acceptance date. The warranty shall provide for the repair of all leaks as well as repair and replacement of damage to the building and/or its finishes at no cost to the Owner. Where flashing is associated with a system with longer warranty period, flashing warranty shall match applicable system.

B. The Surety shall not be held liable beyond 2 years from the project acceptance date.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Galvanized Steel: Minimum 24 gauge galvanized sheet metal, ASTM A 653/A 653M, G90 hot-dip galvanized, mill phosphatized where indicated for painting.

B. Lead Sheet for Vent Pipe Flashing: ASTM B 749, Type L51121, copper-bearing sheet lead, minimum 2-1/2 pounds per square foot, unless indicated otherwise.

C. Nails and Fasteners: Use the same metal or a metal compatible with the item. Use stainless steel fasteners to fasten dissimilar metals.

D. Bituminous Paint: Cold-applied asphalt mastic complying with SSPC-Paint 12 but containing no asbestos fibers, or cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.

PART 3 - EXECUTION

3.01 INSTALLATION AND WORKMANSHIP

A. Surface to which sheet metal is to be applied shall be even, smooth, sound, thoroughly clean and dry, and free from defects that might affect the application. Report any unsatisfactory surfaces to the Owner. In the absence of such a report, the Contractor shall be held responsible for the finished product.

B. All accessories or other items essential for the completeness of the sheet metal installation, though not specifically indicated on the drawings or specified, shall be provided. All such items unless otherwise indicated on the drawings or specified, shall be of the same kind of materials as the item to be applied. Nails, screws, rivets, and bolts shall be of the type best suited for the purpose intended and shall be of a composition that is compatible with the metal to which it will contact.

C. Except as otherwise indicated on the drawings or specified, the workmanship of sheet metal work, method of forming joints, anchoring, cleating, provisions for expansion, etc., shall conform to the standards details and recommendations of the Sheet Metal and Air Conditioning Contractors National Association's "Architectural Sheet Metal Manual", and shall be subject to the acceptance of the Architect. Exposed edges shall be folded back neatly to form a minimum 1/2-inch hem on the concealed side. Fabricate for waterproof and weather-resistant performance, with expansion provisions for running work, sufficient to permanently prevent leakage, damage, or deterioration of the work.

D. Seams: Straight and uniform in width and height with no sealants showing on the face.

1. Flat-Lock Seams: Finish not less than 3/4-inch wide.

2. Lap Seams: Overlap seams not less than 3-inches.

3. Loose-Lock Expansion Seams: Not less than 3-inches wide, and shall provide minimum one-inch movement within the joint. Joint shall be completely filled with exterior sealant, applied at not less than 1/8-inch thick bed.

4. Flat Seams: Make seams in the direction of the flow.

E. All sheet metal work shall be watertight and wind-tight in compliance with the purpose intended for the items indicated on the drawings or specified herein. Sheet metal shall be held firmly in place and shall not rattle.

F. Cleating: Cleats for sheet metal work shall be provided where required, continuous, unless otherwise indicated on the drawings. Cleats shall be of the same material and weight as the metal being installed. Hook cleating with 3/4-inch minimum hem on concealed side of flashing.

G. Vents Thru Roof (VTR): Provide vent pipe flashing with flashing turned down into vent as indicated.

H. Protection from Contact of Dissimilar Materials: Surfaces in contact with dissimilar metal shall be painted with heavy-bodied bituminous paint or shall be separated by means of moisture-proof building felts.

3.02 PROTECTION

Protect sheet metal work until final acceptance of the work.

3.03 CLEAN-UP

A. Clean exposed sheet metal work at completion of installation. Grease and oil films, handling marks, contamination from steel wool, fittings, and drilling debris shall be removed, and the work scrubbed clean. Exposed metal surfaces shall be free of dents, creases, waves, and scratch marks.

B. At completion of the work, clean-up and remove rubbish and debris from the premises which resulted from this work.

END OF SECTION

SECTION 07920 - SEALANTS

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in SECTION 00700.

1.02 SUMMARY

Completely close with sealant all joints indicated or specified to be sealed to a watertight and airtight condition without staining substrates.

1.03 SUBMITTALS

A. Submit in accordance with SECTION 01330 - SUBMITTAL PROCEDURES.

B. Manufacturer's Data: Submit copies of manufacturer's product data and specifications for type of sealant required, to the Architect for acceptance.

C. Safety Data Sheets (SDS): Submit SDS for each sealant product.

D. Color Samples: Submit 4 sets of color finish samples of sealants.

E. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.

2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

F. Warranty: Submit warranty as stipulated in item entitled "WARRANTY" hereinbelow.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized installer who is approved or licensed for installation of elastomeric sealants required for this Project.

B. Source Limitations: Obtain each type of sealant through one source from a single manufacturer.

C. Preconstruction Compatibility and Adhesion Testing: Submit to sealant manufacturers, for testing samples of materials that will contact or affect sealants. Use manufacturer's standard test method to determine whether priming and other specific joint preparation techniques are required to obtain optimum adhesion of sealants to joint substrates. Testing will not be required if joint-sealant

manufacturers submit joint preparation data that are based on previous testing of current sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

D. Stain-Test Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver sealants to the jobsite in sealed containers labeled to show the designated name, formula, or specification number, lot number, color, date of manufacture, shelf life, curing time, manufacturer's directions, and name of manufacturer.

B. Storage: Carefully handle and store all materials to prevent inclusion of foreign materials. Remove from project site all damaged and deteriorated materials and materials exceeding shelf life.

C. Sealant materials shall be handled in accordance with the manufacturer's specifications and installed prior to expiration of shelf life.

1.06 WARRANTY

Provide a 2-year written warranty from the project acceptance date against leaks, air infiltration, cracks, and other failures of the installation and materials. Where sealant is associated with a system with longer warranty period such as roofing, sealant warranty shall match applicable system.

1. Repair of sealants to seal leaks caused by faulty materials or workmanship;

2. Repair or replace damage to the building or its finishes, equipment or furniture when occasioned by such leaks at no additional cost to the Owner.

3. The Surety shall not be held liable beyond 2 years from the project acceptance date.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Provide sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.

B. Sealants:

1. At Exterior and Interior Vertical and Overhead Moving Joints: One-part polyurethane-based sealant, conforming to ASTM C 920, Type S, Grade NS, Class 25, Use NT. Provide one of the following, or accepted equivalent:

   a. Vulkem 116; Tremco, Inc.

   b. Chem-Calk 900; Bostik Construction Products Div.

   c. Sikaflex 1a; Sika Corp.

   d. DynaTrol 1-XL; Pecora Corp.

   e. NP-1; MasterSeal.

2. At Interior Vertical and Overhead Non-Moving Joints: Non-Elastomeric Sealant; acrylic-emulsion type, conforming to ASTM C 834. Provide one of the following, or accepted equivalent:

   a. AC-20 Acrylic Latex: Pecora Corp.

   b. Tremco Acrylic Latex 834; Tremco, Inc.

   c. Chem-Calk 600; Bostik Construction Products Div.

   d. NP-420; MasterSeal.

3. Bedding Compound: For installation of items indicated to be bedded in sealant, use a preformed butyl-polyisobutylene sealant tape. Size of tape as required for the specific application. Provide one of the following, or accepted equivalent:

   a. Extru-Seal; Pecora Corp.

   b. 440 Tape; Tremco, Inc.

   c. Chem-Tape 40; Bostik Construction Products Div.

C. Primer for Sealants: Non-staining, as recommended by the sealant manufacturer.

D. Sealant Backer Rod: Compressible rod stock of polyethylene foam, polyethylene-jacketed polyurethane foam, butyl rubber foam, neoprene foam or other flexible, permanent, durable, nonabsorptive material conforming with ASTM C 1330 as recommended for compatibility with sealant by the sealant manufacturer to control the joint depth for sealant placement, to break bond of sealant at bottom of joint, to form optimum shape of sealant bead on back side, and to provide a highly compressible backer which will minimize the possibility of sealant extrusion when joint is compressed. Do not use oakum or other types of absorptive materials as

backstops.

E. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer. Provide self adhesive tape where required.

F. Masking Tape: Non-staining, nonabsorbent type compatible with joint sealants and to surfaces adjacent to joints.

PART 3 - EXECUTION

3.01 EXAMINATION

Examine joint widths, surfaces, and backing, and their anchorage to the structure, and conditions under which joint sealer work is to be performed, and notify Contractor in writing of conditions detrimental to proper completion of the work and performance of sealers. Do not proceed with joint sealer work until unsatisfactory conditions have been corrected in a manner acceptable to installer.

3.02 JOINT PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements:

1. Remove foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust; paints, except for permanent, protective coatings tested and accepted for sealant adhesion and compatibility by sealant manufacturer; oil; grease; waterproofing; water repellants; water; and surface dirt.

2. Clean porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.

3. Remove laitance and form release agents from concrete.

4. Steel Surfaces in Contact with Sealant: Scrape and wirebrush to remove loose mill scale. Remove dirt, oil, or grease by solvent cleaning, and wipe surfaces with clean cloths.

5. Clean metal, glass, and other nonporous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.

6. Do not permit solvents to air dry. Wipe surfaces free of solvent using clean, dry white cloth or white lintless paper.

B. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealer manufacturer based on preconstruction joint sealer-substrate tests or prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

D. Examine joint size and correct to achieve depth ratio of 1/2 of joint width with a minimum width and depth of 1/4-inch, maximum width of one-inch unless specifically allowed otherwise by the sealant manufacturer.

3.03 INSTALLATION OF JOINT SEALERS

A. General: Comply with joint sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.

B. Weather Conditions: Do not proceed with installation of sealants under adverse weather conditions. Proceed with the work only when weather conditions are favorable for proper cure and development of high early bond strength.

C. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

D. Installation of Sealant Backings: Install sealant backings to comply with the following requirements:

1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths which allow optimum sealant movement capability.

    a. Do not leave gaps between ends of joint fillers.

    b. Do not stretch, twist, puncture, or tear joint fillers.

    c. Remove absorbent joint fillers which have become wet prior to sealant application and replace with dry material.

2. Install bond breaker tape between sealants and joint fillers, compression seals, or back of joints where adhesion of sealant to surfaces at back of joints would result in sealant failure.

3. Install compressible seals serving as sealant backings to comply with

requirements indicated above for joint fillers.

E. Primer: Immediately prior to application of the sealant, clean out all loose particles from joints. Where recommended by sealant manufacturer, apply primer to joints in concrete, masonry units, wood, and other porous surfaces in accordance with compound manufacturer's instructions. Do not apply primer to exposed finish surfaces.

F. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.

G. Tooling of Nonsag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

1. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

2. Provide flush joint configuration per Figure 5B in ASTM C 1193, where indicated.

3.04 CLEAN-UP

Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

3.05 PROTECTION

Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of project acceptance. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

END OF SECTION

DIVISION 8 - DOORS AND WINDOWS

SECTION 08800 - GLAZING

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in SECTION 00700.

1.02 SUMMARY

A. Provide all historic glass and glazing materials to complete all glazing work as shown and as specified herein.

1.03 SUBMITTALS

A. Submit in accordance with SECTION 01330 - SUBMITTAL PROCEDURES.

B. Manufacturer's Data: Submit copies of manufacturer's product specifications, and instructions for handling, storing, installing, cleaning, and protecting each type of glass and glazing material.

C. Samples: Submit 4 each minimum 4-inch x 4-inch samples of each type and thickness of glass.

1.04 DELIVERY, STORAGE AND HANDLING

A. Deliver products to the site in unopened containers, labeled plainly with manufacturers' names and brands. Store glass and setting materials in safe, dry locations and do not unpack until needed for installation.

B. Comply with manufacturer's instructions for shipping, handling, storing, and protecting glass and glazing materials. Exercise exceptional care to prevent edge damage to glass.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Glass: All glass products shall be Bendheim "Light Restoration Glass "Antique Window Glass, 3/32-inch thick unless indicated otherwise or accepted equivalent.

B. Glazing Compound for Exterior Glazing: Linseed oil type to match existing.

PART 3 - EXECUTION

3.01 GENERAL

A. Perform all glazing in strict accordance with applicable provisions of the "Glazing Manual" and "Sealant Manual" published by the Glass Association of North America (GANA).

B. Verify that openings for glazing are correctly sized, within tolerance, and glazing recesses are clean, free of obstructions, and ready to receive glazing.

3.02 INSTALLATION

Glass shall be set true and tight by skilled glaziers. Provide rust resistant glass glazing points. Glazing compound shall be neatly and cleanly run with corners carefully made, using putty knife for all work.

3.03 PROTECTION AND REPLACEMENT

Glass shall be immediately protected against damage. Glazed openings shall be identified with suitable warning tapes, cloth or paper flags, or other acceptable method that will not damage glazing or surrounding materials. At completion of work, imperfect glass which cannot be properly cleaned shall be replaced in kind. Broken, chipped, abraded, cracked or otherwise damaged glass must be replaced subject to the acceptance of the Owner.

3.04 CLEANING AND WASHING

A. At the completion of construction, the Contractor shall clean and wash all of the glass provided by him, removing all labels, dirt, putty stains, paint, etc., and shall leave the glass perfectly cleaned and polished.

B. Glass to be cleaned according to:

1. GANA Glass Informational Bulletin GANA 01-0300 - Proper Procedures for Cleaning Architectural Glass Products.

2. GANA Glass Informational Bulletin GANA TD-02-0402 - Heat-Treated Glass Surfaces Are Different.

C. Do not use scrapers or other metal tools to clean glass.

END OF SECTION

DIVISION 9 - FINISHES

SECTION 09200 - PLASTER

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in SECTION 00700.

1.02 SUMMARY

Complete all plaster work as indicated or required by the drawings and as specified herein. Work shall include, but not be limited to Portland cement plastering and preparation of existing stone substrate.

1.03 SUBMITTALS

A. Submit in accordance with SECTION 01330 - SUBMITTAL PROCEDURES.

B. Manufacturer's Data: Submit manufacturer's data consisting of manufacturer's product specifications and installation instructions for each product, including data showing compliance with the requirements.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer.

B. Store materials inside, under cover, and in manner to keep them dry, protected from weather, direct sunlight, surface contamination, aging, corrosion, and damage from construction traffic and other causes.

1.05 PROJECT CONDITIONS

A. Environmental Requirements, General: Comply with requirements of referenced plaster application standards and recommendations of plaster manufacturer for environmental conditions before, during, and after application of plaster.

B. Protect contiguous work from soiling, spattering, moisture deterioration, and other harmful effects that might result from plastering.

PART 2 - PRODUCTS

2.01 PORTLAND CEMENT PLASTER MATERIALS

A. Base Coat Cements: Portland cement, ASTM C150/C150M, Type I or Type II.

B. Finish Coat Cement: Portland cement, ASTM C150/C150M, Type I.

C. Factory-Prepared Finish Coat: Manufacturer's standard product requiring addition of water only; white unless otherwise indicated.

D. Lime: Special hydrated lime for finishing purposes, ASTM C206, Type S.

E. Sand Aggregate for Base Coats: ASTM C897.

F. Aggregate for Finish Coats: ASTM C897, manufactured or natural white sand.

G. Plaster Additive: Gibco "PRF" chemical compound additive or accepted equivalent. Use 3 ounces of additive for each 100 pounds of Portland cement.

H. Fiber: ASTM C1116/C1116M, alkali-resistant fibers as recommended by the plaster manufacturer.

2.02 MISCELLANEOUS MATERIALS

Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set.

2.03 PORTLAND CEMENT PLASTER MIXES AND COMPOSITIONS

A. General: Comply with ASTM C926 for Portland cement plaster base and finish coat mixes as applicable to plaster bases, materials, and other requirements indicated.

B. Portland Cement Plaster Base Coat Mixes and Compositions: Proportion materials for respective base coats in parts by volume for cementitious materials and in parts by volume per sum of cementitious materials for aggregates to comply with the following requirements for each method of application and plaster base indicated. Adjust mix proportions below within limits specified to attain workability.

1. Fiber Content: Add fiber to following mixes after ingredients have mixed at least 2 minutes. Comply with fiber manufacturer's directions but do not exceed 2 pounds per cubic foot of cementitious materials. Reduce aggregate quantities accordingly to maintain workability.

2. Three-Coat Work Over Existing Stone: Base coats as indicated below:

Scratch and Brown Coats: Super Mortar Cement, pre-mixed or job-mixed Portland cement, sand, lime, plaster additive in proportions accepted by the Architect. Provide fiber content as specified.

C. Factory-Prepared Portland Cement Finish Coats: Add water only; comply with finish coat manufacturer's directions.

2.05 MIXING

Mechanically mix cementitious and aggregate materials for plasters to comply with applicable referenced application standard and with recommendations of plaster

manufacturer.

PART 3 - EXECUTION

3.01 PREPARATION

Prepare existing stone substrate for bonding of plaster work.

3.02 PLASTER APPLICATION, GENERAL

A. Tolerances: Do not deviate more than 1/8-inch in 10-feet from a true plane in finished plaster surfaces, as measured by a 10-foot straightedge placed at any location on surface.

B. Sequence plaster application with the installation and protection of other work so that neither will be damaged by the installation of the other.

C. Plaster flush with metal frames and other built-in metal items that act as a plaster ground, unless otherwise indicated.

D. Apply thicknesses and number of coats of plaster as indicated or as required by referenced standards.

3.04 PORTLAND CEMENT PLASTER APPLICATION

A. Portland Cement Plaster Application Standard: Apply Portland cement plaster materials, compositions, and mixes to comply with ASTM C926.

B. Number of Coats: Apply Portland cement plaster, of composition indicated, to comply with the following requirements:

1. Use 3-coat work over prepared existing stone.

2. Finish Coat: Floated finish unless otherwise indicated; match existing for texture.

C. Moist-cure Portland cement plaster base and finish coats to comply with ASTM C926, including recommendations for time between coats and curing in "Annex A2 Design Considerations".

3.05 CUTTING AND PATCHING

A. Cut, patch, point up, and repair plaster as necessary to accommodate other work and to restore cracks, dents, and imperfections. Repair or replace work to eliminate blisters, buckles, excessive crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to the substrate has failed.

B. Sand smooth-troweled finishes lightly to remove trowel marks and arrises.

3.06 CLEANING AND PROTECTION

A. Remove temporary protection and enclosure of other work. Promptly remove plaster from door frames, windows, and other surfaces that are not to be plastered. Repair floors, walls, and other surfaces that have been stained, marred, or otherwise damaged during the plastering work. When plastering work is completed, remove unused materials, containers, and equipment and clean floors of plaster debris.

B. Provide final protection and maintain conditions, in a manner suitable to installer that ensure plaster work's being without damage or deterioration at time of project acceptance.

END OF SECTION

SECTION 09900 - PAINTING

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in SECTION 00700.

1.02 SUMMARY

A. The work includes painting and finishing of exterior and interior items and surfaces throughout the project, whether scheduled or not, except as otherwise indicated. Painting shall include new work and existing new surfaces made bare or damaged during construction and all existing exterior surfaces unless indicated otherwise. Surface preparation, priming, and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of the work and is included in this Section.

B. "Paint" as used herein means all coating systems materials, including primers, enamels, sealers, stain, varnish, and fillers, and other applied materials whether used as prime, intermediate, or finish coats, except as specifically noted herein.

C. Paint all exposed surfaces whether or not colors are designated in "schedules". Where items or surfaces are not specifically mentioned, paint these the same as adjacent similar materials or areas. If color or finish is not designated, the Owner will select these from standard colors available for the materials systems specified.

D. Related Work Specified Elsewhere:

1. Coordinate the pre-priming of wood shakes provided under SECTION 07312 - WOOD SHAKE ROOFING.

2. Lead-based paint control measures are specified in SECTION 13283 - LEAD-BASED PAINT CONTROL MEASURES.

1.03 PAINTING NOT INCLUDED

The following categories of work are not included as part of the field-applied finish work, or are included in other sections of these specifications.

1. Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under the various sections for miscellaneous metal, hollow metal work, and similar items. Also, for fabricated components such as shop-fabricated or factory-built mechanical and electrical equipment or accessories.

2. Concealed Surfaces (Present and Future): Unless otherwise indicated, painting is not required on surfaces in concealed areas and generally inaccessible areas.

3. Finished Metal Surfaces: Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, and similar finished materials will not require finish painting, unless otherwise indicated.

1.04 SUBMITTALS

A. Submit in accordance with SECTION 01330 - SUBMITTAL PROCEDURES.

B. Schedule of Finishes: Submit sets of the proposed painting finish schedule to the Owner for acceptance. The schedule shall indicate the wet film thickness (mils) at which the proposed paints/coatings will be applied that are necessary to achieve the final dry film thickness indicated on the Schedule of Finishes under item entitled "SCHEDULE OF FINISHES" hereinbelow.

C. Color Samples: Submit the following to the Owner for acceptance:

1. Four sets of each color finish sample.

2. After the color finish sample has been accepted, one set of color finish samples painted onto 8-1/2 inch x 11-inch cardboard shall be submitted. The cardboard shall be divided into 3 horizontal strips and painted as follows:

a. Prime 3 strips.

b. First coat bottom 2 strips.

c. Second coat bottom strip.

D. Schedule of Operations: Before work on the project is commenced, submit complete sets of a work schedule showing Contractor's sequence of operations and dates.

E. Warranty: Submit warranty as stipulated in item entitled "WARRANTY" hereinbelow.

F. Certifications: Submit copies of asbestos-free, lead-free, zinc-chromate-free, strontium-chromate-free, cadmium-free, and mercury free paint certificates.

G. Manufacturer's Product Data Sheets: Submit copies of the manufacturer's product data sheets for the primers, paints, coatings, solvents, sealing and patching materials, sealants and caulking, and other materials being used. Data sheets shall indicate thinning and mixing instructions, required film thickness (mil) and application instructions.

H. Manufacturer's Safety Data Sheets (SDS): Submit copies of the manufacturer's safety data sheets for coatings, solvents, and other hazardous materials.

I. Comprehensive Spray Plan: Where the Contractor proposes to employ airless spraying, submit a Comprehensive Spray Plan, including the following information

for acceptance:

1. Documentation that the individual spray applicator(s) on the project have completed an accepted "Spray Applicator Certification Program".

2. The overspray protection methods proposed.

3. The spray application instructions and recommendations of the paint manufacturer he proposes to use.

J. Certificate of Public Liability and Property Damage Insurance.

1.05 ANALYZING AND TESTING

A. All paints and their applied thickness shall be subject to testing whenever the Architect deems necessary to determine conformation to the requirements of these specifications. Should testing by a laboratory be required, the laboratory shall be selected by the Owner and the cost of testing shall be borne by the Contractor. However, should test results show that the paint is in compliance with this specifications, the cost will be borne by the Owner.

B. All rejected material shall be removed from the job site immediately. Surfaces painted with the rejected material shall be redone at no additional cost to the Owner.

C. Where the required paint thickness is deficient, the affected surface(s) shall be recoated as necessary to provide the required paint thickness at no additional cost to the Owner.

1.06 QUALITY ASSURANCE

A. Painting Terminology: Refer to ASTM D 16, "Standard Terminology for Paint, Related Coatings, Materials, and Applications".

B. Gloss/Sheen Levels: ASTM D 523, "Specular Gloss", as follows:

Description	Units at 60 Degrees	Units at 85 Degrees
Matte or Flat	0 to 5	10 max
Velvet	0 to 10	10 to 35
Eggshell	10 to 25	10 to 35
Satin	20 to 35	35 min
Semi-Gloss	35 to 70	
Gloss	70 to 85	
High Gloss	more than 85	

C. Where the Contractor proposes to employ airless spraying, the applicator(s) shall have completed an accepted "Spray Applicator Certification Program" conducted by the Painting Industry of Hawaii.

D. As a minimum, the certification shall include material and equipment selection, use and maintenance, hands-on application, and safety training.

1.07 WARRANTY

A. The Contractor shall warrant that the work performed under this Section conforms to the contract requirements and is free of any defect in the materials used and workmanship performed by the Contractor. Such warranty shall continue for a period of 2 years from the project acceptance date and the Contractor shall remedy any such defect which is discovered during that period at no cost to the Owner.

B. The Owner will notify the Contractor in writing within a reasonable time after discovery of any failure or defect.

C. Should the Contractor fail to remedy any failure or defect described in Paragraph A above within 10 working days after receipt of notice thereof, the Owner shall have the right to repair or otherwise remedy such failure or defect and charge the Contractor for the cost of same.

1.08 SPECIAL REQUIREMENTS

A. Codes: The Contractor shall comply with the State OSHL (Occupational Safety and Health Law) and all pollution control regulations of the State Department of Health.

B. Safety methods used during coating application shall comply with SSPC-PA Guide 3.

C. Protection:

1. Persons:

a. The Contractor shall take all necessary precautions to protect public pedestrians, including tenants from injury.

b. The Contractor shall provide, erect, and maintain safety barricades around scaffolds, hoists, and wherever Contractor's operation create hazardous conditions in order to properly protect the public and workmen.

2. Completed Work: The Contractor shall provide all necessary protection for wet paint surfaces.

3. Protective Covering: The Contractor shall provide and install protective covering over equipment, floor, and other areas that are not scheduled for treatment. Protective covering shall be clean, sanitary drop cloth or plastic sheets. Paint applied to surfaces not scheduled for treatment shall be completely removed and surfaces shall be returned to original condition. Where paint application will be performed by use of airless spraying, the Contractor shall ensure that protective enclosures are erected to prevent the

escape of overspray from the work area.

4. Safeguarding of Property: The Contractor shall take whatever steps may be necessary to safeguard his work and also the property of the Owner and other individuals in the vicinity of the work area during the execution of this Contract. Contractor shall be responsible for and make good on any and all damages and for losses to work or property caused by his or his employee's negligence. Where the damaged property cannot be cleaned and restored to its original condition (i.e. prior to being damaged) it shall be replaced with a new product of equal quality. No proration or use of "used" products will be permitted.

   a. The Contractor shall assume that cars will not be temporarily relocated from parking areas during spray painting work.

   b. Paint overspray shall not carry more than 5 linear feet beyond the building eave line nor within 10 linear feet of pedestrians or property and surfaces not scheduled to be painted. Spray painting shall immediately cease when overspray carries beyond these specified limits and will not continue until protective barriers are erected to properly contain the overspray and damages caused by the overspray have been corrected.

   c. The Contractor shall be assessed $500.00 for each incidence of property or personal damage caused by overspray until such time that a satisfactory settlement has been agreed upon by the damaged party and corrective action has been completed. All corrective action shall be settled within 24 hours from the time the damage is discovered. Should the Contractor fail to take corrective action in a timely and expeditious manner, the Owner will contact the Contractor's Insurance company to seek resolution on the matter.

   d. The Owner will withhold payment due the Contractor until damages have been corrected or damage claims resolved. The amount of payment withheld shall be equal to a minimum of $2,000.00 plus the estimated cost of corrective action as determined by the Owner.

5. Fire Safety: The Contractor shall direct his employees not to smoke in the vicinity and to exercise precautions against fire at all times. Waste rags, plastic (polyester sheets), empty cans, etc., shall be removed from the site at the end of each day.

D. Right of Rejection: The Architect will have the right to reject all work which is not in compliance with the plans and specifications. Rejected work will be redone at no additional cost to the Owner. In addition, the Owner will have the right to require the immediate removal of any paint applicator who demonstrates negligence, lack of competence or repeated non-compliance with the contract requirements.

E. Sequence of Operations: The sequence of operations shall divide the surfaces into work areas and present a schedule for:

1. Surface preparation and spot prime.

2. Prime coat.

3. First finish coat.

4. Second finish coat.

F. Inspection and Acceptance: The Contractor shall obtain written acceptance from the Owner upon completion of each phase of work (phases of work are surface preparation and spot prime, prime, first finish coat, and second finish coat) before proceeding into the next phase of work. The Contractor shall give the Owner one day (24 hours minimum) advance notice of completion of any phase of work for a work area only when he deviates from the previously submitted work schedule. The Contractor shall provide necessary access to areas to be inspected. Failure to obtain acceptance of any phase of work for a work area may result in redoing the operation at no cost to the Owner.

G. Sample Panels: Prior to commencing with the work, the Contractor shall prepare a sample panel(s) of approximately 10 square feet and sample wood shakes (minimum 4 each) indicative of the specified surface preparation and required number of paint coats to be applied for acceptance by the Owner. The intent of this requirement is to ensure adequate coverage/thickness and/or hiding value of the paint and proper hue. The location where the sample panel(s) is to be prepared will be selected by the Owner.

H. Work Incidental to Painting: Shrubbery and plants shall be trimmed 6-inches back from surfaces to be painted and protected from damage.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Deliver paint materials to the job site in original unopened containers with original labels intact.

B. No paint material, empty cans and paint brushes and rollers, drop cloths and rags, may be stored in buildings, but shall be stored in separate storage facilities away from the buildings. Receiving, opening, and mixing of painting materials shall be done in this area.

C. The Contractor may furnish a job site storage facility. Such facility shall comply with requirements of the local Fire Department. The storage area shall be kept clean and facility shall be locked when not in use or when no visual supervision is possible.

D. Ensure the safe storage and use of paint materials and the safe storage or disposal of waste at the end of each work day.

E. Handle manufactured materials as recommended by the manufacturer.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Asbestos Prohibition: All paint shall be asbestos-free.

B. Lead Prohibition: All paint shall be lead-free.

C. Mercury Prohibition: All paint shall be mercury-free.

D. Chromate Prohibition: All paint shall be free of zinc-chromate and/or strontium-chromate.

E. Cadmium Prohibition: All paint shall be cadmium-free.

F. Material shall be equal in quality to that specified under the Schedule of Finishes and any given finish shall be as labeled by one manufacturer.

G. All materials shall be delivered to the job site in undamaged original containers bearing the manufacturer's label and shall be stored in such a manner as to prevent damage. All rejected materials shall be removed from the job site immediately.

H. Paints shall be as manufactured by Benjamin Moore, Dupont, Dutch Boy, Henkel, Glidden, Glidden Professional, Olympic Stain, Pervo, PPG Protective & Marine Coatings, Pittsburg, Rust-Oleum, Sherwin-Williams, or accepted equivalent.

I. Thinning of paint shall be done using material recommended by the manufacturer. Mix proprietary products according to manufacturer's printed specifications. Compound thinner, mineral oil, kerosene, refined linseed oil, or gasoline shall not be used for thinning.

J. Except for metal primers, all paint shall contain maximum amount of mildewcide per gallon of paint permitted by the mildewcide manufacturer without adversely affecting the quality of the paint.

K. The supplier shall submit a signed certificate indicating the amounts of mildewcide added by both the paint manufacturer and the paint supplier. Mercurial fungicide shall not be used.

2.02 SCHEDULE OF FINISHES

A. The Schedule of Finishes is made for the convenience of the Contractor and indicates the types and quality of finishes to be applied to the surfaces. Refer to Finish Schedule for symbols indicating location for various finishes. Provide additional systems for surfaces to be painted not listed hereinafter.

B. All paints unless otherwise noted, are the products of Benjamin Moore and are so named to establish desired quality and standard of materials. Painting materials, equal to those mentioned by trade name under the various treatments may be used,

provided they meet with the acceptance of the Owner.

C. Treatments shall be applied on exposed surfaces of designated materials, in conformity with instructions of the paint product used.

D. Exterior Painting: Spread rates are approximate.

1. Plaster:

Prime Coat: N068 Super Spec Masonry Interior/Exterior Acrylic High Build Masonry Primer
1.2 mils DFT @ 425 sf/gal

2nd and 3rd Coats: N448 Ultra Spec Ext Satin Finish
1.5 mils DFT @ 403 sf/gal/coat

2. Typical Coating System for Steel: Follow SSPC-SP-1 for solvent cleaning, for maximum protection follow SSPC-SP-10 near white metal blast.

Producer	Coat	Products	DFT (mils)	Minimum Time to Recoat	Maximum Time to Recoat
Corotech	1st	V175*	1.5-2.1	2 hours	2 weeks exterior 3 months interior
Corotech	2nd	V150	2.2-2.8	8 hours	4 weeks
Corotech	3rd	V500	2.3-3.3	8 hours	3 days

* for galvanized surfaces

3. Wood (except shakes):

Prime Coat: N023 Fresh Start Multi-Purpose Latex Primer
1.2 mils DFT @ 425 sf/gal

2nd and 3rd Coats: N448 Ultra Spec Ext Satin Finish
1.5 mils DFT @ 403 sf/gal/coat

4. Wood Shakes:

Prime Coat: N024 Fresh Start Primer
1.8 mils DFT @ 500 sf/gal

2nd and 3rd Coats: N448 Ultra Spec Ext Satin Finish
1.5 mils DFT @ 403 sf/gal/coat

E. Interior Paints: Use low VOC/low odor paint to maximum extent possible. Spread rates are approximate.

1. Plaster:

Prime Coat:	N372 Eco Spec WB Interior Latex Primer 1.2 mils DFT @ 577 sf/gal
2nd and 3rd Coats:	N374 Eco Spec WB Interior Latex Eggshell Finish 1.4 mils DFT @ 412 sf/gal/coat

2. Wood Surfaces for Paint:

Prime Coat:	N372 Eco Spec WB Interior Latex Primer 1.2 mils DFT @ 577 sf/gal
2nd and 3rd Coats:	N376 Eco Spec WB Interior Latex Semi-Gloss Finish 1.5 mils DFT @ 428 sf/gal/coat

2.03 COMPATIBILITY OF PAINTING SYSTEMS AND SUBSTRATES

A. The Contractor shall ensure that painting systems specified are compatible with existing painted surfaces. Alkyd paints shall not be applied over existing latex coating. Alkyd paints shall not be used over cementitious surfaces. Latex paints shall not be applied directly over alkyd paints without proper conditioner and accepted by the Architect.

B. Field Tests for Alkyd or Latex Paints: The Contractor shall perform the following field tests for compatibility of substrates to new paint systems prior to ordering paint:

1. Latex films will dissolve when wiped with rubbing alcohol; alkyd films will not.

2. When sanded, latex films will "clog" sandpaper; alkyd films will sand clean.

3. Alkyds will soften after applying a 10 percent solution of Drano in water; latex films will not soften.

4. Alkyds will burn when exposed to a flame; latex film will not burn.

5. Paints which do not respond to 2 or more of these tests are probably epoxy, urethane, or other type of coating.

6. Provide a packaged swab test in accordance with the package directions.

7. Existing paint identified or suspect of having lead-containing paint shall be tested in a manner that does not produce airborne or uncontrolled lead debris.

C. Should there be any discrepancies between the specified Schedule of Finishes and the existing paint systems, the Contractor shall notify the Owner in writing of any incompatible systems specified and submit a revised Schedule of Finishes for acceptance when necessary. With the acceptance of the revised Schedule of Finishes, the Contractor shall make any corrections and/or revisions necessary to resolve the discrepancies and/or inconsistencies. The Contractor shall not proceed with any painting systems that are incompatible, although specified otherwise, until all incompatible conditions detrimental for the proper application and performance of the painting systems have been corrected. The failures due to the application of the incompatible paint systems shall be corrected at no additional cost to Owner. Proceeding with the work shall imply acceptance of the specified Schedule of Finishes and the compatibility with the existing painted surfaces by the Contractor.

PART 3 - EXECUTION

3.01 SURFACE PREPARATION

A. General:

1. Surface preparation shall be in accordance with the Painting and Decorating Contractors of America, "Architectural Specification Manual", methods are applicable to all substrates.

2. Scrub surfaces with stiff nylon bristle brush and Trisodium Phosphate (TSP) solution at rate of 3/4 cup TSP per gallon of warm water to remove accumulated film of wax, oil, grease, smoke, dust, dirt, chalky, or other foreign matter which would impair bond or bleeding through new finish. Thoroughly sponge wipe surfaces with clean water. Allow surfaces to thoroughly dry before priming, painting, calking, or sealing.

   a. Following sponge wiping, the surfaces shall be allowed to dry for a minimum of 24 hours.

   b. Wood surfaces shall have a maximum moisture content of 12 percent when measured with an electronic moisture meter.

3. Cracks and openings found at joints and where different materials abut each other (e.g. CMU/concrete, CMU or concrete/wood, etc.) shall be sealed with a caulking compound compatible with the substrate and primer/paint. The caulking shall be applied and allowed to set in accordance with the manufacturer's recommendations and instructions.

4. Mildew Removal: Remove all mildew and sterilize the surface to be painted using one of the following methods:

   a. Apply a treatment solution composed of the following ingredients and in the noted proportions to the affected surface using a sponge of low-pressure sprayer:

2/3 cup TSP
One quart household bleach
3 quarts warm water

Note: Household bleach shall not be mixed with ammonia or any detergents or cleaners containing ammonia as this will create a poisonous gas.

Scrub the surface as necessary to completely remove the mildew.

b. Apply a commercial mildew treatment solution such as Purex, Jomax Remover or equal in strict accordance with the manufacturer's recommendations and instructions.

c. Following treatment, the surface shall be cleaned with potable water and allowed to thoroughly dry before priming, painting or the applying of sealing and caulking compounds.

B. The Painting Contractor shall be wholly responsible for the finish of his work and shall not commence any part of it until surfaces are in proper condition. If Painting Contractor considers any surfaces unsuitable for proper finish of his work, he shall notify the Owner of this fact in writing and he shall not apply any material until the unsuitable surfaces have been made satisfactory, or until the Owner has instructed him to proceed. Major defects shall be restored by the proper trades. In general, follow paint manufacturer's directions for surface preparation for the paint to be applied.

C. Remove all hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for the complete painting of the items and adjacent surfaces. Following completion of painting of each space or area, reinstall the removed items by workmen skilled in the trades involved.

D. Puttying of nail holes, cracks, and blemishes shall be done after priming coat has become hard and dry and before second coat is applied.

E. Surfaces adjacent to areas being finished shall be protected and left clean of paints, stains, etc. Clean drop cloths shall be used until completion of job.

F. Unprimed galvanized metal shall be washed with a solution of chemical phosphoric metal etch and allowed to dry.

G. Metal surfaces shall be made clean and free of any defects or condition that may produce unsatisfactory finish. Touch-up any chipped or abraded places on surfaces that have been shop coated with the proper primer.

H. Plaster Surfaces:

1. Surface Cleaning: Surfaces shall be dry. Remove loose dirt and dust by brushing with a soft brush or rubbing with a dry cloth prior to application of the first coat material.

2. Repair of Minor Defects: Prior to painting, repair joints, cracks, holes, surface irregularities, and other minor defects with patching plaster or spackling compound and sand smooth.

I. Plywood and Wood Surfaces:

1. Surface Cleaning: Surfaces shall be free from dust and other deleterious substances and in a condition accepted by the Owner prior to receiving paint or other finish. Do not use water to clean uncoated wood.

2. Knots and Resinous Wood: Prior to application of paint, treat knots and resinous wood with an application of surface sealer.

3. Open Joints and Other Openings: Fill with whiting putty. Sand smooth after putty has dried.

4. Checking: Where checking of the wood is present, sand the surface, wipe, and apply a coat of pigmented orange shellac. Allow to dry before paint is applied.

5. Wood Shakes: Shakes shall be primed on all sides prior to installation. Priming may be factory or shop applied. Primer shall extend minimum two thirds up back side of shake. Re-prime/re-paint shakes trimmed during installation.

J. Existing Surfaces: Prepare existing surfaces as stipulated below except where surfaces are identified or suspect of having lead-containing paint shall be prepared under SECTION 13283 - LEAD-BASED PAINT CONTROL MEASURES.

1. General:

a. Remove from surfaces to be repainted all foreign matter such as nails, screws, staples, tape, and gum.

b. Remove all loose, blistered, scaled, crazed, or chalky finish to an existing tight and firm finish.

c. Remove all mildew as specified under surface preparation above.

d. Where the existing finish remains tight and firm, prepare the surface by lightly sanding. Where paint has been removed, sand the edges of scarred areas to a smooth feathered edge.

e. Wash all surfaces with a solution of TSP and water or other appropriate solution to remove any accumulated film of wax, oil, grease, smoke, dust, dirt, chalking, or other foreign matter which would impair the bond of, or bleed through the new paint finish. After washing, rinse potable water and allow to thoroughly dry for a minimum of 24 hours. Any lifting of the paint or scarring caused by this rinsing operation shall be resanded to a feathered edge.

f. Adhesion Test Requirements for Previously Painted Surfaces: The Contractor is required to perform an adhesion test on all previously painted surfaces adjacent to finishes which exhibit delamination or peeling. The purpose of these tests is to verify or quantify the amount of stripping that will need to be performed prior to paint application. Tests performed shall conform to ASTM D3359. Previously painted areas tested and classified as 2B or less shall be stripped bare prior to application of primers and finishes. The Contractor must continue testing (extending in a radial manner) until a sound substrate (3B or better) is detected.

2. Galvanized Metal to be Repainted:

a. Remove all rust, loose mill scale, and loose and blistering paint by power tool chipping, de-scaling, sanding, wire brushing, and grinding down to bare metal (with only tightly adhering surface rust, mill scale, and paint which cannot be removed with a dull putty knife remaining) in accordance with Steel Structures Painting Council (SSPC) Standard SP 6, "Commercial Blast Cleaning". Care shall be taken so that the surface is not burnished during cleaning.

b. Completely wipe all surfaces with mineral spirits or other appropriate solution as required to remove accumulated film of wax, oil, grease, smoke, dust, dirt, chalky, or other foreign matter which would impair the bond of, or bleed through the new paint finish.

c. Allow the surfaces to thoroughly dry and immediately spot prime bare metal areas with the specified primer and feather out onto adjacent paint.

3. Plaster to be Repainted:

a. Fill and repair defects to existing plaster with patching compound. All patching shall be done in accordance with the manufacturer's recommendations and instructions.

b. Spot prime areas where substrate or fill material is exposed with the specified primer and feather out onto adjacent paint.

4. Wood to be Repainted:

a. After cleaning and/or washing of the surface with water, the wood shall not be primed, painted or sealed unless it has been allowed to thoroughly dry for a minimum of 24 hours and until the moisture content of the wood is less than 15 percent when measured with an electronic moisture meter.

b. Fill holes (nail, tack, staple, etc.), cracks, open joints, and other imperfections with appropriate compound and allow to set (door and trim included). Seal and caulk all openings which will permit the entrance of water. Sealing and caulking compounds shall be compatible with the substrate and primer/paint and shall be applied and allowed to set in accordance with the manufacturer's recommendations and instructions.

c. Spot prime areas where bare wood or fill material is exposed with the specified primer and feather out onto adjacent paint.

K. High Pressure Water Washing:

1. High pressure water washing may be used in lieu of brush washing to remove loose paint material, chalking, dirt, and debris from exterior surfaces to be painted. It shall be performed by skilled mechanics experienced in the use and operation of the sprayer equipment.

2. High pressure water washing does not replace proper preparatory work such as sanding of the substrate prior to painting. Surface contaminants and loose paint material remaining after the surface has been pressure washed shall be removed by other means as necessary to properly prepare the surface.

3. The pressure rating of the sprayer equipment in addition to the nozzle type and size shall be of the proper type to clean the surface without damaging the substrate. Any damage shall be repaired and/or restored to its original condition at no cost to the Owner.

4. Proper precautions shall be taken to prevent over-spray and water infiltration into the building through doors, windows, vents, louvers, and other building openings. Water and debris entering the building shall be cleaned-up immediately and any damaged area resulting therefrom shall be repaired and/or restored to its original condition at no cost to the Owner.

5. In removing mildew, high pressure water washing shall only be used to wash the surface after it has first been sterilized with a mildew treatment solution as specified above.

6. High pressure water washing shall not be used for interior surfaces or exterior wood. High pressure water washing of exterior porous surfaces such as plaster will not be permitted except where cracks and openings have been sealed to prevent water infiltration.

3.02 PAINT APPLICATION

A. General:

1. Apply coating materials in accordance with SSPC-PA 1. SSPC-PA 1 methods are applicable to all substrates, except as modified herein. Thoroughly work coating materials into joints, crevices, and open spaces. Touch-up damaged coatings before applying subsequent coats.

2. Work shall be done in a workmanlike manner by skilled and experienced mechanics and shall conform to the best painting practices.

3. Materials shall be applied in accordance with the manufacturer's specifications and the finished surfaces shall be free from runs, sags, drips, ridges, waves, laps, streaks, brush marks, and variations in color, texture, and finish (glossy or dull). The coverage shall be complete and each coat shall be so applied as to produce a film of uniform thickness. No paint, varnish or enamel shall be applied until the preceding coat is thoroughly dry and acceptance.

4. No exterior painting of unprotected surfaces shall be done in rainy, damp weather. Coats shall be applied only to surfaces that are thoroughly dry.

5. Mixing shall be done outside the building.

B. Application:

1. Paint application shall be by brush, roller, airless spray painting, or combination thereof or as required by manufacturer.

2. Where airless spraying is provided, a nozzle of the proper size in accordance with the paint manufacturer's recommendations to properly apply the paint shall be used.

3. Spray painting method shall be used only under accepted conditions. Spraying shall be done only when there is no wind, or under very low wind velocity. When wind velocity increases, all spraying operation shall be stopped. Before start of spraying, all surfaces that do not require painting shall be completely masked and protected. Adequate drop cloths shall be provided over floors, adjacent sidewalks, and over all cars parked nearby that may be stained or damaged from the spray work.

4. Drying Time: Allow time between coats, as recommended by the coating manufacturer, to permit thorough drying. Provide each coat in specified condition to receive the next coat.

5. Primers and Intermediate Coats: Do not allow primers or intermediate coats to dry more than 30 days, or longer than recommended by the manufacturer, before applying subsequent coats. Follow manufacturer's recommendations for surface preparation if primers or intermediate coats are allowed to dry

longer than recommended by manufacturers of subsequent coatings. Each coat shall cover the surface of the preceding coat or surface completely, and there shall be a visually perceptible difference in shades of successive coats.

6. Finished Surfaces: Provide finished surfaces free from runs, drops, ridges, waves, laps, brush marks, and variations in selected colors.

C. Colors: Each coat shall be tinted a different shade from the preceding coat. Colors shall be in accordance with the color schedule on the drawings or as selected by the Architect.

D. Finish Film Thickness: Apply primer, intermediate, and finish coats to not less than 1.5 mils dry film thickness, 4 mils wet unless recommended otherwise in writing by the manufacturer, for each coat and in accordance with the manufacturer's recommendations. Verify mil thickness by use of a suitable wet film gauge. Use a Tooke or other dry film gauge to test for total dry film thickness.

3.03 MISCELLANEOUS

A. Installation of Removed Items: After completion of final paint coat, removed items shall be reinstalled.

B. At the completion of other trades, touch-up damaged surfaces.

3.04 CLEAN-UP

A. During the progress of the work, all debris, empty crates, waste, drippings, etc., shall be removed by the Contractor and the grounds about the areas to be painted shall be left clean and orderly at the end of each work day.

B. Upon completion of the work, staging, scaffolding, containers, and all other debris shall be removed from the site. All paint, shellac, oil or stains splashed or spilled upon adjacent surfaces not requiring treatment (hardware, fixture, floor) shall be removed and the entire job left clean and acceptable.

END OF SECTION

SECTION 13281 - ASBESTOS ABATEMENT MEASURES

PART 1 – GENERAL

1.01 GENERAL

1.02 SUMMARY OF WORK

The scope of work covers the proper handling of abatement of, and proper disposal of Asbestos Containing Materials (ACM) and presumed ACM at the Kaahumanu Church in Waikapu, County of Maui, Hawaii to prepare for the historic restoration and building renovation. The Contractor will also provide specific operational procedures outlined in the Asbestos Hazardous Abatement Plan.

It is the responsibility of the Contractor to conduct a Hazardous Materials inspection and laboratory analysis for the presence of suspected ACM prior to any disturbance work related to this project. The Contractor is responsible for verifying site conditions, material quantities and locations of ACM prior to any disturbance work. The Contractor shall furnish all operational procedures, labor, materials, services, insurance, and equipment to complete the abatement and disposal. It is the Contractor's responsibility to use appropriately trained and certified personnel for the testing of, monitoring of and abatement of ACM. All tests will be submitted to a State of Hawaii registered asbestos laboratory to carry out the laboratory analysis.

Procedures and personal protective equipment (PPE) are required to protect workers, the environment, and occupants of the building and/or surrounding areas from contact with airborne asbestos fibers. It is the Contractor's responsibility to establish proper operational procedures outlined in the Asbestos Hazard Abatement Plan prior to the start of any disturbance or abatement related work. If the scope should change to include different materials or if materials are found during the renovation which were not previously sampled during a survey, such materials should be assumed to be ACM unless testing proves otherwise.

1.03 REFERENCES

A. American Industrial Hygiene Association (AIHA)

1. AIHA Z9.2 (2018) Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems

B. ASTM International (ASTM)

1. ASTM C 732 (2017) Aging Effects of Artificial Weathering on Latex Sealants
2. ASTM D 522/D522M (2017) Mandrel Bend Test of Attached Organic Coatings

3. ASTM D 1331 (2020) Surface and Interfacial Tension of Solutions of Surface-Active Agents

4. ASTM D 2794 (2019) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)

5. ASTM D 4397 (2016) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications

6. ASTM E 84 (2021) Standard Test Method for Surface Burning Characteristics of Building Materials

7. ASTM E 96/E 96M (2016) Standard Test Methods for Water Vapor Transmission of Materials

8. ASTM E 119 (2020) Standard Test Methods for Fire Tests of Building Construction and Materials

9. ASTM E 1368 (2014) Visual Inspection of Asbestos Abatement Projects International Safety Equipment Association (ISEA)

C. American National Standards Institute/International Safety Equipment Association (ANSI/ISEA)

1. ANSI/ISEA Z87.J (2020) Occupational and Educational Personal Eye and Face Protection Devices

D. National Institute for Occupational Safety and Health (NIOSH)

1. 42 CFR 84 Approval of Respiratory Protective Devices

E. Occupational Safety and Health Administration (OSHA)

1. 29 CFR1910.1000 Air Contaminants

2. 29 CFR 1910.1001 Asbestos

3. 29 CFR 1910.1200 Hazard Communication

4. 29 CFR 1915 Subpart Z Toxic and Hazardous Substances

5. 29 CFR 1926.21 Safety Training and Education

6. 29 CFR 1926.51 Sanitation

7. 29 CFR 1926.55 Gases, Vapors, Fumes, Dusts, and Mists

8. 29 CFR 1926.59 Hazard Communication

9. 29 CFR 1926.65 Hazardous Waste Operations and Emergency Response

10. 29 CFR 1926.103 Respiratory Protection

11. 29 CFR 1926.200 Accident Prevention Signs and Tags

12. 29 CFR 1926.1101 Asbestos

F. State of Hawaii Administrative Rules (HAR)

1. HAR11-58.1 Solid Waste Management Plan

2. HAR11-262.1 Hazardous Waste Management: Standards Applicable to Generators of Hazardous Waste

3. HAR11-263.1 Hazardous Waste Management: Standards Applicable to Transporters of Hazardous Waste

4. HAR11-273.1 Hazardous Waste Management: Standards for Universal Waste Management

5. HAR11-451 State Contingency Plan

6. HAR11-501 Asbestos Requirements

7. HAR11-502 Asbestos Containing Materials in Schools

8. HAR11-503 Fees for Asbestos Removal and Certification

9. HAR11-504 Asbestos Abatement Certification

10. HAR12-149 Hazard Communication

11. HAR12-151 Hazardous Waste Operations and Emergency Response

12. HAR12-202 Health Standards, Toxic Materials and Harmful Physical Agents

13. HAR12-203.1 Hazard Communication

14. HAR12-206 Asbestos

G. State of Hawaii Revised Statutes (HRS)

1. HRS 342P Asbestos and Lead

H. U.S. Department of Transportation (DOT)

1. 49 CFR107 Hazardous Materials Program Procedures

2. 49 CFR171 General Information, Regulations and Definitions

I. 49 CFR 172 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans U.S. Environmental Protection Agency (EPA)

1. EPA 340-1-90-0J8 Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance

2. EPA 340-1-92-013 Guide to Normal Demolition Practices Under the Asbestos NESHAP

3. EPA 560/5-85-024 (1985) Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book)

4. 40 CFR 6J-SUBPART A General Provisions

5. 40 CFR 6J-SUBPART M National Emission Standard for Asbestos

6. 40 CFR 260-268 Various Hazardous Waste Standards

7. 40 CFR 273 Standards for Universal Waste Management

8. 40 CFR 763 Asbestos

J. Underwriters Laboratories (UL)

1. UL 586 (2009) Standard for High-Efficiency, Particulate, Air Filter Units

1.04 DEFINITIONS

A. ACM: Asbestos Containing Materials

B. Amended Water: Water containing a wetting agent or surfactant with a maximum surface tension of 0.00042 psi when tested in accordance with ASTM D 1331.

C. Area Sampling: Sampling of asbestos fiber concentrations which approximates the concentrations of asbestos in the theoretical breathing zone located: in the work area, entrance to the work area, negative air machine and/or any adjacent surrounding areas.

D. Asbestos: The term asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, and actinolite asbestos and any of these minerals that has been chemically treated or altered. Materials are considered to contain asbestos if the asbestos content of the material is determined to be at least one percent.

E. Asbestos Control Area: That area where asbestos removal operations are performed which is isolated by physical boundaries which assist in the prevention of the uncontrolled release of asbestos dust, fibers, or debris.

F. Asbestos Fibers: Those fibers having an aspect ratio of at least 3:1 and longer than 5 micrometers as determined by National Institute for Occupational Safety and Health (NIOSH) Method 7400.

G. Asbestos Permissible Exposure Limit: 0.1 fibers per cubic centimeter (f/cc) of air as an 8-hour time weighted average measured in the breathing zone as defined by 29 CFR 1926.1101 or other Federal legislation having legal jurisdiction for the protection of workers health.

H. Background/Baseline Air Sampling: The ambient airborne asbestos concentration in an uncontaminated area as measured prior to any asbestos hazard abatement efforts. Background concentrations for other (contaminated) areas are measured in similar but asbestos free locations.

I. Contractor: The Contractor is that individual, or entity under contract to perform the herein listed work.

J. Competent Person: A person meeting the requirements for Competent Person as specified in 29 CFR 1926.1101 including a person capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, and is specifically trained in a training course which meet the criteria of EPA's Model Accreditation Plan (40 CFR 763) for project designer or supervisor, or its equivalent, and is appropriately certified by the State of Hawaii.

K. Encapsulation: The abatement of an asbestos hazard through the appropriate use of chemical encapsulants.

L. Encapsulants: Specific materials in various forms used to entrap asbestos fibers chemically or physically in various configurations to prevent these fibers from becoming airborne. There are four types of encapsulants as follows which must comply with performance requirements as specified herein.

1. Removal Encapsulant (can be used as a wetting agent)

2. Bridging Encapsulant (used to provide a tough, durable surface coating to asbestos containing material)

3. Penetrating Encapsulant (used to penetrate the asbestos containing material encapsulating all asbestos fibers and preventing fiber release due to routine mechanical damage)

4. Lock-Down Encapsulant (used to seal off or "lock-down" minute asbestos fibers left on surfaces from which asbestos containing material has been removed).

M. Friable Asbestos Material: One percent asbestos containing material that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

N. Glove-bag Technique: Those asbestos removal and control techniques put forth in 29 CFR 1926.1101 Appendix G.

O. HEPA Filter Equipment: High efficiency particulate air (HEPA) filtered vacuum and/or exhaust ventilation equipment with a filter system capable of collecting and retaining asbestos fibers. Filters shall retain 99.97 percent of particles 0.3 microns or larger as indicated in UL 586.

P. Industrial Hygienist Technician (IHT): A qualified person who supports the daily monitoring of Contractor activities. Specifically trained in a training course which meet the criteria of EPA's Model Accreditation Plan (40 CFR 763) for asbestos project monitor, or equivalent, and is appropriately certified by the State of Hawaii.

Q. Negative Pressure Enclosure (NPE): That engineering control technique described as a negative pressure enclosure in 29 CFR1926.1101.

R. Nonfriable Asbestos Material: Material that contains asbestos in which the fibers have been immobilized by a bonding agent, coating, binder, or other material so that the asbestos is well bound and will not normally release asbestos fibers during any appropriate use, handling, storage, or transportation. It is understood that asbestos fibers may be released under other conditions such as demolition, removal, or mishap.

S. Personal sampling: Air sampling which is performed to determine asbestos fiber concentration within the breathing zone of a specific employee, as performed in accordance with 29 CFR 1926.1101

T. Private Qualified Person (PQP): A qualified person hired by the Contractor to perform the herein listed tasks.

U. Qualified person (QP): A Registered Architect, Professional Engineer, Certified Industrial Hygienist, consultant, or other qualified person who has successfully completed training and is therefore certified by the State of Hawaii Department of Health as an Asbestos Building Inspector, Contractor/Supervisor Abatement Worker, and Asbestos Project Designer; and has successfully completed the National Institute of Occupational Safety and Health (NIOSH) 582 course "Sampling and Evaluating Airborne Asbestos Dust" or equivalent. The QP must be qualified to perform visual inspections as indicated in ASTM E 1368.

V. Time Weighted Average (TWA): The TWA is an 8-hour time weighted average airborne concentration of asbestos fibers.

W. Wetting Agent: A chemical added to water to reduce the water's surface tension thereby increasing the water's ability to soak into the material to which it is applied. An equivalent wetting agent must have a surface tension of at most 0.00042 psi when tested in accordance with ASTM D 1331.

1.05 REQUIREMENTS

A. General Requirements

1. It is the Contractor's/abatement Contractor's responsibility to ensure that all asbestos abatement work is performed in accordance with the State of Hawaii regulations and all other applicable Federal, State, and local government regulations. Where conflict or any inconsistency among requirements exists, the more stringent requirements shall apply. The Contractor shall assume full responsibility and liability for compliance.

2. It is the Contractor's responsibility to coordinate and schedule all work at Kaahumanu Church with the property and project owner's representative. If applicable, the Contractor shall notify building occupants and workers of the presence of asbestos in the building in accordance with State of Hawaii Department of Health regulations and all other applicable Federal, State, and local government regulations and ordinances. No unauthorized visitors shall be allowed in the asbestos abatement control area.

3. It is the abatement Contractor's responsibility to dispose of all materials related to the asbestos abatement work in accordance with the State of Hawaii regulations and all other applicable Federal, State, and local government regulations and ordinances.

4. If the scope of work should change to include different materials or if materials are found during the renovation which were not previously sampled during previous surveys, such materials should be assumed to contain asbestos unless testing proves otherwise.

5. All asbestos removal work shall be supervised by a designated Competent Person as specified herein.

B. Insurance

Purchase and maintain in force, at Contractor's own expense, such insurance, satisfactory to the property and project owner's representative.

C. Permits, Licenses and Notices

Obtain the necessary permits and licenses in conjunction with asbestos removal, encapsulation, hauling, and disposition, and furnish notification of such actions required by Federal, State of Hawaii, and applicable local agencies prior to the start of work. The Contractor shall provide notification to the State of Hawaii Department of Health and applicable local agencies at least 10 working days prior to renovation and demolition work where ACM will be disturbed.

D. Material Ownership

Except for items or material indicated to be reused, salvaged, or otherwise indicated to remain property of the property owner. All materials from the abatement and asbestos work shall become the property of the abatement Contractor and shall be properly removed from the site and legally disposed of, in accordance with applicable Federal, State and State laws, regulations and ordinances.

E. Documentation and Recordkeeping

Maintain copies of all permits, licenses, State of Hawaii personnel certifications, medical clearances, laboratory qualifications, notices, equipment and material manufacturer's data, plans, procedures, reports, logs, field monitoring data and results, air sample results, transportation and waste disposal records that may be required to show compliance with specifications and applicable Federal, State, and local government regulations.

F. Medical Requirements

Before exposure to airborne asbestos fibers, Contractor shall provide workers with a comprehensive medical examination as required by 29 CFR 1926.1101 or other pertinent State or local directives. This requirement must have been satisfied within the 12 months prior to the start of work on this contract. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation. Specifically identify x-ray films of asbestos workers to the consulting radiologist and mark medical record jackets with the word "ASBESTOS."

G. Medical Recordkeeping

Maintain complete and accurate records of employees' medical examinations, medical records, and exposure data for a period of 50 years after termination of employment and make records of the required medical examinations and exposure data available for inspection upon request by Occupational Safety and Health (OSHA), or authorized representatives of them, or an employee's physician upon the request of the employee or former employee.

H. Abatement Contractor Personnel Training

1. It is the responsibility of the abatement Contractor to have all personnel trained in the proper handling of materials and wastes that contain asbestos in accordance with 40 CFR 763. All trained personnel shall understand the health implications and risks involved, the usage and limits of the respiratory equipment and understands the results of monitoring of airborne quantities of asbestos as related to health and respiratory equipment as indicated in 29 CFR 1926.1101 on an initial and annual basis.

2. It is the responsibility of the abatement Contractor to have all personnel involved in the asbestos control work trained and certified in accordance with United States Environmental Protection Agency (USEPA) Asbestos Hazard Emergency Response Act (AHERA) training criteria or State training criteria whichever is more stringent. The abatement Contractor shall document the training by providing, the dates of training, the training entity, the course outline, the names of instructors, and the instructors qualifications if requested by the property owner/representative.

3. It is the responsibility of the abatement Contractor to furnish each employee with the appropriate respirator for the tasks at hand, proper respirator training and an annual fit testing which is administered by the PQP as required by 29 CFR 1926.1101. Fully cover engineering and other hazard control techniques and procedures.

I. Respiratory Protection Program

Establish, implement, and maintain records of the respirator program as required by ANSI Z88.2, 29 CFR1926.1101, and 29 CFR1926.103.

J. Air Sampling

Contractor shall perform appropriate personal and area air monitoring sampling in accordance with 29 CFR 1926.1101, every work shift in each work area during which abatement activities occur to determine the appropriate respiratory protection is being worn and utilized.

K. Hazard Communication

Adhere to all parts of 29 CFR1926.59 and maintain a copy of the Safety Data Sheets (SDS) for all materials brought to the project site.

L. Asbestos Hazard Abatement Plan

It is the responsibility of the abatement Contractor to have a detailed plan of the safety precautions: lockout, tagout, tryout, fall protection, and confined space entry procedures, proper work equipment and proper work procedures to be used in the control, removal, and/or demolition of materials containing asbestos.

The plan, not to be combined with other hazard abatement plans, shall be prepared, signed, and sealed by the PQP. Such plan shall include, but not be limited to the: specific personal protective equipment to be used the location of asbestos control areas, decontamination area, storage area, changing rooms, removal means and methods, interface between other trades, scheduling of asbestos related work, proper asbestos disposal plan, type of wetting agent, the type of asbestos sealer to be used, the location/s of local exhaust equipment, the planned air monitoring strategies, a detailed emergency response plan and a detailed description of the means and methods that will be employed to control and minimize environmental contamination.

M. Testing Laboratory

Use appropriately accredited and certified asbestos testing laboratories. The testing laboratory firm shall be independent of the asbestos Contractor and shall have no employee or employer relationship which could constitute a conflict of interest.

PART 2- MATERIALS, TOOLS AND EQUIPMENT

2.01 MATERIALS

A. All materials shall be delivered to the project site in the original packages, containers, or bundles bearing the name of the manufacturer, the brand name and product technical description, with Safety Data Sheets (SDS) as applicable.

B. Materials used for asbestos abatement work shall comply with current USEPA regulations.

C. No damaged or deteriorating materials shall be used. If material becomes contaminated the material shall be decontaminated or disposed of as asbestos-containing waste material. The cost to decontaminate and dispose of this material in accordance with applicable Federal, State, and local government regulations shall be at the expense of the Contractor. Replacement materials shall be stored outside the contaminated control work area until abatement is completed.

D. Fire retardant polyethylene sheet shall be in roll size to minimize the frequency of joints, with factory label indicating no less than six (6) mil thickness.

E. Polyethylene disposable bags shall be no less than six (6) mils thick.

F. A commercial grade duct tape (or equivalent) capable of sealing joints in adjacent polyethylene sheets and for the attachment of polyethylene sheets to finished or unfinished surfaces must be capable of adhering under both dry and wet conditions.

G. Any planking, bracing, shoring, barricades and/or temporary sheet piling, necessary to appropriately perform work activities shall conform to all applicable Federal, State of Hawaii, and local government regulations.

2.02 TOOLS AND EQUIPMENT

A. The abatement Contractor is responsible for having all proper tools and equipment that are suitable for asbestos abatement work and in good working order.

2.03 PERSONAL PROTECTION EQUIPMENT

A. The abatement Contractor shall provide authorized personnel with sufficient sets of disposable protective full body clothing consisting of coveralls, footwear, gloves, and head protection that is impenetrable by asbestos fibers for entry into asbestos control area. Make sleeves secure at the wrists, make foot coverings secure at the ankles, and make clothing secure at the neck using tape.

B. Provide eye protection to workers and authorized personnel engaged in asbestos abatement operations when the use of a full-face respirator is not required.

C. The abatement Contractor shall provide authorized personnel the appropriate respiratory protection equipment and tools that are suitable for asbestos abatement work.

D. Protective clothing and equipment shall be worn by authorized personnel in the asbestos control area from the start of the abatement until the work area has received final clearance.

E. It is the abatement Contractor's responsibility to provide proper training and enforcement in the use of required personal protective equipment and respiratory protection in the work area.

PART 3 – EXECUTION

3.01 EXECUTION

3.02 WORK AREA PREPARATION

A. Personal Decontamination Unit

A three-stage decontamination system consisting of a clean room; airlock; shower/washroom; airlock; and a dirty/equipment room which complies with 29 CFR 1926.51(f)(4)(ii) through (V). Abatement personnel will keep all street clothing and street shoes in a clean area. Decontamination units shall be physically attached to the asbestos control area.

1. All personnel leaving the work area will use the HEPA vacuum to remove gross amounts asbestos debris from the disposable protective clothing prior to removing the protective clothing. Abatement personnel will continue to "Don" respirators while removing and placing all protective clothing in double bagged impermeable asbestos bags or a proper container for disposal as asbestos waste specified in the abatement Contractor's Asbestos Hazardous Abatement Plan.

2. All personnel will proceed from the equipment/dirty room to the shower/washroom. This is where personnel will "Doff" their respirators and proceed to shower/wash off. All shower/wash water will be filtered through approved water filtration equipment to remove asbestos contamination. Dispose of filters and residue as asbestos waste and discharge clean water to the sanitary system.

3. All personnel will proceed to the clean room. This is where personnel will be able to change into proper clothing to return to the worksite or street clothing.

B. Warning Signs and Labels

Install warning signs at all approaches to asbestos work control area in accordance with current OSHA, EPA, and state regulations. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide labels and affix to all asbestos materials, scrap, waste, debris, and other products contaminated with asbestos.

1. Warning Sign: Provide vertical format conforming to 29 CFR1926.200, and 29 CFR 1926.1101 minimum 20 by 14 inches displaying the following legend in the lower panel:

Legend	Notation
Danger	1-inch Sans Serif Gothic or Block
Asbestos	1-inch Sans Serif Gothic or Block
Cancer and Lung Disease Hazard	1/4-inch Sans Serif Gothic or Block
Authorized Personnel Only	1/4-inch Gothic
Respirators and Protective Clothing are Required in this Area	1/4-inch Gothic

Spacing between lines shall be at least equal to the height of the upper of any two lines.

2. Warning Labels: Provide labels conforming to 29 CFR 1926.1101 of sufficient size to be clearly legible, displaying the following legend:

   DANGER

   CONTAINS ASBESTOS FIBERS

   AVOID CREATING DUST

   CANCER AND LUNG DISEASE HAZARD

   BREATHING ASBESTOS DUST MAY CAUSE SERIOUS BODILY HARM

C. Local Exhaust System

Where needed, provide a local exhaust system in the asbestos control area in accordance with AIHA Z9.2 and 29 CFR1926.1101 that will provide at least four (4) air changes per hour inside of the negative pressure enclosure. Local exhaust equipment shall be operated 24 hours per day, until the asbestos control area has passed final air clearance. The asbestos control area shall be leak proof to the filter and equipped with HEPA filters. Maintain a minimum pressure differential in the control area of minus 0.02 inch of water column relative to adjacent, unseated areas. Provide continuous 24-hour per day monitoring of the pressure differential with a pressure differential automatic recording instrument. In no case shall the building ventilation system be used as the local exhaust system for the asbestos control area. Filters on exhaust equipment shall conform to AIHA Z9.2 and UL 586. The local exhaust system shall terminate out of doors and remote from any public access or ventilation system intakes.

D. Tools

Vacuums shall be leak proof to the filter and equipped with HEPA filters to collect asbestos-containing dust and debris. Install filters on vacuums that conform to AIHA Z9.2 and UL 586. Do not use power tools to remove ACM unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation systems. Remove all residual asbestos from reusable tools prior to storage or reuse.

The Abatement Supervisor or Competent Person, and Industrial Hygienist Technician (IHT) will visually inspect the entire work area enclosure daily before the start of each work shift and at the end of each shift. If corrections or modifications are needed to the enclosure personnel will make the needed adjustment before starting any asbestos removal work.

3.03 REMOVAL OF ASBESTOS-CONTAINING MATERIALS

A. Perform asbestos related work in accordance with 29 CFR 1926.1101, 40 CFR 61- SUBPART M, and as specified herein. Use wet removal procedures and negative pressure enclosure techniques. Personnel shall wear and utilize protective clothing and equipment as specified herein. No eating, smoking, drinking, chewing gum, tobacco, or applying cosmetics shall be permitted in the asbestos work or control areas. Shut down the building heating, ventilating, and air conditioning system, cap the openings to the system, prior to the commencement of asbestos work. Disconnect electrical service when wet removal is performed and provide temporary electrical service with verifiable ground fault circuit interrupter (GFCI) protection prior to the use of any water. If an asbestos fiber release or spill occurs outside of the asbestos control area, stop work immediately, and correct the situation prior to resumption of work.

B. Perform work without damage or contamination of adjacent work. This includes inadvertent spill of dirt, dust, or debris in which it is reasonable to conclude that asbestos may exist. When these spills occur, stop work immediately. Then clean up the spill. If a visual inspection with the PQP, Abatement Supervisor, Competent Person, and IHT is acceptable work may proceed.

C. To the extent feasible furniture and equipment will be removed from the area of work by the State before asbestos work begins. Where furniture and equipment will remain, cover, and seal furnishings/equipment with two layers of 6-mil plastic sheet or remove from the work area and store in a location on site approved by property owner.

D. Precleaning: Wet wipe and HEPA vacuuming of surfaces potentially contaminated with asbestos shall be done by only certified personnel wearing the proper protective clothing. This may be completed prior to establishment of an enclosed work area.

E. Asbestos Control Area Requirements

1. Negative Pressure Enclosure

It is the responsibility of the asbestos Contractor to cover and seal all openings in the work areas where there is a possibility of asbestos airborne fibers to be released. Negative pressure enclosure consists of, but not limited to the use of protective covering of uncontaminated walls and ceilings with a continuous membrane of two layers of minimum 6-mil plastic sheeting sealed with tape to prevent water or other damage. Two layers of 6-mil plastic sheeting over floors and extend a minimum of 12 inches up walls. Seal all joints with tape. Install negative air machines in the asbestos control area. All personnel, equipment, tools, supplies and debris will enter and exit the work area through the decontamination system only. Negative

air machine filters shall be monitored, replaced, or maintained to ensure the efficiency of the negative pressure system.

F. Removal Procedures

1. It is the responsibility of the abatement Contractor to adequately wet the asbestos material with a fine spray of amended water or wetting agent prior to and during removal, cutting, or other handling to reduce the emission of airborne fibers. Remove material and immediately place in 6 mil plastic disposal bags. Once the bag is filled with debris an identification tag will be placed into the bag and it shall be sealed using the "goose neck "with duct tape method. This bag will then be placed into a second bag to be seal following the same method. Remove ACM in a gradual manner, with continuous application of the amended water or wetting agent in such a manner that no asbestos material is disturbed prior to being adequately wetted. ACM shall be containerized while wet. At no time shall the asbestos material be allowed to accumulate or become dry. Handling of ACM shall comply with 40 CFR 61-SUBPART M.

2. All large components removed intact will be wrapped in two layers of 6-mil plastic sheeting, label, and secure with tape for disposal.

3. Do not use the following work practices during removal:

    i. High-speed abrasive disc saws not equipped with point-of-cut HEPA ventilation or HEPA filtered exhaust air enclosures.

    ii. Blow with compressed air to remove asbestos-containing materials.

    iii. Dry sweeping or other dry methods during removal or clean-up.

G. Air Sampling

Sampling of airborne concentrations of asbestos fibers shall be performed in accordance with 29 CFR J926.1101 and as specified herein. Sampling performed in accordance with 29 CFR 1926.1101 shall be performed by the IHT. IHT shall provide personal and area sampling as indicated in 29 CFR 1926.1101 and governing environmental regulations. In addition, provided the same type of work is being performed, provide area sampling at least once every work-shift close to the work inside the enclosure, outside the clean room entrance to the enclosure, and at the exhaust opening of the local exhaust system. If sampling outside the enclosure shows airborne levels have exceeded background or 0.01 fibers per cubic centimeter(f/cc), whichever is greater, stop all work, and correct the condition(s) causing the increase, before resumption of abatement work. Where alternate methods are used, perform personal and area air sampling at locations and frequencies that will accurately characterize the evolving airborne asbestos levels.

H. Sampling After Final Clean-Up (Clearance/Post Abatement Sampling)

It is the abatement Contractor's responsibility to ensure that following the final cleanup the IHT along with the PQP and/or Abatement Supervisor shall perform a visual inspection in accordance with ASTM E 1368 to ensure that the asbestos control and work area is free of any accumulations of dirt, dust, or debris. The abatement Contractor will then encapsulate the work area to seal any remaining airborne debris to the surfaces of the work area. The abatement Contractor will allow adequate time for the encapsulant to dry. Once dried the IHT will begin collection of clearance/post abatement area air testing of asbestos fibers as defined in the EPA 560/5-85-024 and establish an airborne asbestos concentration of less than 0.01 fibers per cubic centimeter(f/cc). A written report signed and dated by the IHT, Abatement Supervisor and PQP shall document that the asbestos control area is free of dust, dirt, and debris and all waste has been removed. The asbestos fiber counts from these samples shall be less than 0.01 fibers per cubic centimeter(f/cc) or be not greater than the background, whichever is greater. Should any of the final samples indicate a higher value, the abatement Contractor shall take appropriate actions to re-clean the area and shall repeat the sampling and analysis at the abatement Contractor's expense.

Prior to removal of plastic barriers and after pre-clearance clean-up of gross contamination, the IHT and PQP shall conduct a visual inspection of all areas affected by the removal in accordance with ASTM E 1368. Inspect for any visible fibers.

3.04 CLEAN-UP AND DISPOSAL

A. Perform prompt clean-up and disposal of asbestos-contaminated wastes and debris in impermeable bags or containers.

B. Maintain surfaces of the asbestos control area free of accumulations of asbestos fibers. Give meticulous attention to restricting the spread of dust and debris; keep waste from being distributed over the general area. Use HEPA filtered vacuum cleaners. Do not use dry sweeping or other dry methods to clean up asbestos- containing dust and debris. Remove signs after asbestos removal is complete, all asbestos waste is removed from the worksite, and final clean-up is completed. Prior to the removal of the protective sheeting the abatement Contractor will remove or seal the negative air filters and remove the negative machine from the work area. Once the negative air machines have been removed the abatement Contractor will remove all protective sheeting from the ceilings, walls, and floors. Abatement Contractor will then proceed to deconstruct the decontamination unit. All debris will be placed and sealed in two (2) 6-mil plastic bags and disposed of as asbestos waste. Abatement Contractor will reestablish HVAC, mechanical, and electrical systems in proper working order. Visually inspect all surfaces within the work area for residual material or

accumulated dust/ debris. Abatement Contractor shall re-clean all areas to ensure that there is no showing of dust or residual materials.

C. Disposal of Asbestos

1. It is the responsibility of the abatement Contractor to collect the asbestos waste, the asbestos contaminated water, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing which may produce airborne concentrations of asbestos fibers and place in sealed fiber-proof, waterproof, non-returnable containers (e.g., double plastic bags 6 mils thick, cartons, drums, or cans). Wastes within the containers must be adequately wet in accordance with 40 CFR 61- SUBPART M.

2. Clearly label waste disposal bags and containerized asbestos in accordance with current OSHA, EPA, and state regulations. Provide label with the following information:

   DANGER

   CONTAINS ASBESTOS FIBERS

   AVOID CREATING DUST

   CANCER AND LUNG DISEASE HAZARD

   BREATHING ASBESTOS DUST MAY

   CAUSE SERIOUS BODILY HARM

   The name of the waste generator and the location at which the waste was generated shall be clearly indicated on the outside of each container.

3. Prevent contamination of the transport vehicle (especially if the transport vehicle is a rented truck likely to be used in the future for non-asbestos purposes). These precautions include lining the vehicle cargo area with plastic sheeting (like work area enclosure) and thorough cleaning of the cargo area after transport and unloading of asbestos debris is complete. Dispose of waste asbestos materials at a USEPA or State-approved asbestos landfill facility. For temporary storage, store sealed impermeable bags in asbestos waste drums or skids. Procedure for hauling and disposal shall comply with 40 CFR 61-SUBPART M, State of Hawaii, and other local standards. Sealed plastic bags may be dumped from drums into the burial site unless the bags have been broken or damaged. Damaged bags shall remain in the drum and the entire contaminated drum shall be buried. Uncontaminated drums may be recycled. Workers unloading the sealed drums shall wear appropriate respirators and personal protective equipment when handling asbestos materials at the disposal site.

4. Asbestos Disposal Quantity Records

Contractor is responsible for recording and maintain records of the amount of ACM removed and released for disposal. A copy of waste manifests shall be given to the project owner upon completion of the abatement work.

SECTION 13283 - LEAD BASED PAINT CONTROL MEASURES

PART 1 – GENERAL

1.01 GENERAL

1.02 SUMMARY OF WORK

The scope of work includes preparation, safe handling of, abatement of, and disposal of lead- containing paint (LCP) and lead-based paint (LBP) at the Ka'ahumanu Church in Waikapu, County of Maui, Hawai'i, to prepare for the historic restoration and building renovation project. The Contractor will also provide specific, detailed procedures in the Lead Work Plan.

It is the responsibility of the Contractor to conduct a Hazardous Materials inspection and laboratory analysis at the Ka'ahumanu Church to identify suspected lead-containing and lead-based paint materials, condition of paint, and determine lead concentrations in paint prior to any disturbance work related to this project. The Contractor is responsible for conducting a lead risk assessment and verifying site conditions, severity of lead hazards, material quantities and locations of lead-based paint hazards prior to any disturbance work. The Contractor shall furnish all operational procedures, labor, materials, services, insurance, and equipment to complete the inspection, risk assessment, abatement, and disposal. It is the Contractor's responsibility to use appropriately trained and certified personnel when conducting the lead inspection, risk assessment, and abatement work. All tests will be submitted to an accredited lead testing laboratory to carry out the laboratory analysis.

It is the intention of the Project and/or Property Owner to have any Contractor who disturbs lead paint, do so in a manner that generates the least exposure to the worker, building occupants, and the environment. When handling paint with lead, Contractor shall follow lead-safe work practices and comply with all applicable Federal, State of Hawaii, and local regulations. Safeguards, precautions, and preventive measures shall be utilized to prevent exposure of any individual to lead particulates.

If the scope should change to include untested painted materials or if materials are found during the renovation, which were not previously sampled, such materials should be assumed to be lead containing unless testing proves otherwise.

Lead abatement work consists of, but not be limited to, the following:

1. Preparation of the abetment work area, and
2. Abating lead hazards, and
3. Following applicable Federal, State of Hawaii and local regulations, and
4. Applying new paint as specified, and
5. Post-abatement sampling and testing, and
6. Cleanup, and
7. Achieving clearance, and
8. Testing of the debris waste stream to determine non-hazardous and hazardous waste, and
9. Handling, removal, transportation, and disposal of non-hazardous waste and hazardous waste.

1.03 REFERENCES

A. American Society of Safety Professionals (ASSP)

1. ANSI/ASSP Z9.2 (2018) Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems

B. U.S. Environmental Protection Agency (EPA)

1. 40 CFR 61-SUBPART A General Provisions
2. 40 CFR 260-268 Various Hazardous Waste Standards
3. 40 CFR 273 Standards for Universal Waste Management
4. 40 CFR 745 Lead-Based Paint Poisoning Prevention in Certain Residential Structures
5. Title 15 Chapter 53 Toxic Substances Control Act

C. Hawaii Occupational Safety and Health (HIOSH)

1. Title 12 Chapter 148.1 Lead
2. Title 12 Chapter 202-33.1 Lead

D. Occupational Safety and Health Administration (OSHA)

1. 29 CFR 1910.1000 Air Contaminants
2. 29 CFR1910.1025 Lead (General Industry)
3. 29 CFR1910.1200 Hazard Communication
4. 29 CFR 1915 Subpart Z Toxic and Hazardous Substances
5. 29 CFR1926.21 Safety Training and Education
6. 29 CFR 1926.55 Gases, Vapors, Fumes, Dusts, and Mists
7. 29 CFR1926.59 Hazard Communication
8. 29 CFR1926.62 Lead (Construction Industry)
9. 29 CFR1926.65 Hazardous Waste Operations and Emergency Response
10. 29 CFR1926.103 Respiratory Protection
11. 29 CFR 1910 (General Industry)

E. State of Hawaii Administrative Rules (HAR)

1. HAR11 41 Lead-Based Paint Activities
2. HAR 11-58.1 Solid Waste Management Plan
3. HAR 11-260-280 Various Hazardous Waste Management Standards
4. HAR 11-451 State Contingency Plan

F. State of Hawaii Revised Statutes (HRS)

1. HRS 321-11 (27) Lead Accreditation Program
2. HRS 342P Asbestos and Lead

G. Underwriters Laboratories (UL)

1. UL 586 (2009) Standard for High-Efficiency, Particulate, Air Filter Units

1.04 DEFINITIONS

Abatement: Measures designed to permanently eliminate lead-based paint hazards.

Action Level: Employee exposure, without regard to use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air averaged over an 8-hour period.

Area Sampling: Sampling of lead concentrations within the lead control area and inside the physical boundaries, which is representative of the airborne lead concentrations, but is not collected in the breathing zone of personnel.

Certified Industrial Hygienist (CIH): A person retained by the Contractor who is certified as an industrial hygienist and who is trained in the recognition and control of lead hazards in accordance with current federal, State, and local regulations.

Competent Person (CP): A person employed by the Contractor who is trained in the recognition and control of lead hazards in accordance with current Federal, State, and local regulations and has the authority to take prompt corrective actions to control the lead hazard. The CP must be a Certified Industrial Hygienist (CIH) certified by the American Board of Industrial Hygiene or a Certified Safety Professional (CSP) certified by the Board of Certified Safety Professionals or a licensed lead-based paint abatement Supervisor/Project Designer in the State of Hawaii.

Contaminated Area: An area for removal of contaminated personal protective equipment (PPE).

Decontamination Area: Area that encompasses a clean clothing storage area, and a contaminated clothing storage and disposal area, with a wash area in between.

Eight-Hour Time Weighted Average (TWA): Airborne concentration of lead to which a person is exposed, averaged over an 8-hour workday.

High Efficiency Particulate Air (HEPA) Filter Equipment: HEPA filtered vacuuming equipment with a UL 586 filter system capable of collecting and retaining lead contaminated particulates. A high efficiency particulate filter demonstrates at least 99.97 percent efficiency against 0.3 micron or larger size particles.

Lead: Metallic lead, inorganic lead compounds, and organic lead soaps. Excludes other forms of organic lead compounds.

Lead-Based Paint (LBP): Paint or other surface coating that contains lead in

excess of 1.0 milligrams per centimeter squared or 0.5 percent by weight.

Lead-Based Paint Hazards: Paint-lead hazard, dust-lead hazard, or soil-lead hazard. Any condition that causes exposure to lead from lead-contaminated dust, lead-contaminated soil, lead-based paint that is deteriorated or present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects.

Lead-Containing Paint (LCP): Paint confirmed to contain lead (at concentrations less than .5%).

Lead Control Area: A system of control methods to prevent the spread of lead dust, paint chips or debris to adjacent areas that may include temporary containment, floor or ground cover protection, physical boundaries, and warning signs to prevent unauthorized entry of personnel. HEPA filtered local exhaust equipment may be used as engineering controls to further reduce personnel exposures or building/outdoor environmental contamination.

Lead Permissible Exposure Limit (PEL): Fifty micrograms per cubic meter of air as an 8- hour time weighted average as determined by 29 CFR 1926.62. If an employee is exposed for more than 8-hours in a workday, determine the PEL by the following formula: PEL (micrograms/cubic meter of air) = 400/No. hrs worked per day

Personal Sampling: Sampling of airborne lead concentrations within the breathing zone of an employee to determine the 8-hour time weighted average concentration. Samples must be representative of the employees' work tasks. Breathing zone must be considered an area within a hemisphere, forward of the shoulders, with a radius of 6 to 9 inches and centered at the nose or mouth of an employee.

1.05 REQUIREMENTS

A. General Requirements

1. It is the Contractor's/Abatement Contractor's responsibility to ensure that the lead abatement work is performed in accordance with the State of Hawaii regulations and all other applicable Federal, State, and local government regulations. Where conflict or any inconsistency among requirements exists, the more stringent requirements shall apply. The Contractor shall assume full responsibility and liability for compliance.

2. It is the Contractor's responsibility to coordinate and schedule all work at Ka'ahumanu Church with the property and project owner's representative. No unauthorized visitors shall be allowed in the lead control area.

3. It is the abatement Contractor's responsibility to dispose of all materials related to the lead abatement work in accordance with the State of Hawaii regulations and all other applicable Federal, State, and local government regulations and ordinances.

4. All lead abatement work shall be supervised by a Designated competent person as specified herein.

B. Insurance

1. Purchase and maintain in force, at Contractor's own expense, such insurance, satisfactory to the property and project owner's representative.

C. Permits, Licenses, and Notices

Obtain the necessary permits and licenses in conjunction with lead abatement work, and furnish notification of such actions required by Federal, State of Hawaii, and applicable local agencies prior to the start of work. When required, provide to the Hawaii State Department of Health written notice of on-site project activity involving lead disturbance at least 10 working days prior to commencement work.

D. Material Ownership

Except for items or material indicated to be reused, salvaged, or otherwise indicated to remain as property of the owner, all materials and debris associated with the lead abatement work shall become the property of the Abatement Contractor and shall be properly removed from the site and legally disposed of, in accordance with applicable Federal and State laws, regulations, and ordinances.

E. Documentation and Recordkeeping

Maintain copies of all permits, licenses, State of Hawaii personnel certifications, medical clearances, laboratory qualifications, notices, equipment and material manufacturer's data, plans, procedures, reports, logs, field monitoring data and results, air sample results, and transportation and waste disposal records that may be required to show compliance with specifications and applicable Federal, State, and local government regulations.

F. Medical Requirements

Before disturbance and exposure to airborne lead particulates, Contractor shall provide workers with a comprehensive medical examination and medical surveillance as required by 29 CFR 1926.62 or other pertinent

State or local directives. Maintain complete and accurate medical records of employees for the duration of employment plus 30 years.

G. Abatement Contractor Personnel Training

1. It is the responsibility of the Abatement Contractor to have all personnel trained that will perform lead-based paint activities and operations in accordance with 29 CFR 1926.21, 29 CFR 1926.62, 40 CFR 745 and State and local regulations.

2. It is the responsibility of the Abatement Contractor to have all personnel involved in the lead abatement work be trained and certified in accordance with EPA training criteria or State of Hawaii training criteria, whichever is more stringent. The Abatement Contractor shall document the training by providing, the dates of training, the training entity, the course outline, the names of instructors, and the instructors qualifications, if requested by the property owner/representative.

3. It is the responsibility of the Abatement Contractor to furnish each employee with the appropriate respirator for the tasks at hand, proper respirator training and an annual fit testing as required by 29 CFR1926.62. Fully cover engineering and other hazard control techniques and procedures.

H. Respiratory Protection Program

It is the responsibility of the Abatement Contractor to establish, implement, and maintain records of the respirator program as required by 29 CFR 1926.55, 29 CFR 1926.62 and 29 CFR 1926.103. Respiratory protection is required when there is a possibility of disturbance of lead-containing or lead-based paint materials, whether intentional or accidental.

I. Air Sampling

Contractor shall perform appropriate personal and area air monitoring sampling in accordance with 29 CFR 1926.62, every work shift, in each work area, during which abatement activities occur to determine the appropriate respiratory protection is being worn and utilized. Sufficient area monitoring shall be conducted.

J. Hazard Communication:

Adhere to all parts of 29 CFR 1926.59 and maintain a copy of the Safety Data Sheets (SDS) for all materials brought to the project site.

K. Lead Work Plan:

It is the responsibility of the Abatement Contractor to have a detailed job-specific work plan in place for the lead-based paint activities and operations specified herein:

1. The lead work plan will include a sketch showing the location, size, and details of lead work areas, critical barrier placement, physical boundaries, and details of the decontamination facility or area, and mechanical ventilation system.

2. The lead work plan will also include a brief description of the equipment, materials, work practices, control methods, and responsibilities for each lead disturbance activity.

3. The lead work plan will also address areas for eating, drinking, smoking, hygiene facilities, and sanitary procedures, for abatement personnel.

4. The lead work plan will also include the interface of trades, sequencing of lead- related work, wastewater collection, dust and debts containing lead, air testing and monitoring, pre/post abatement sample collection, respirators, personal protective equipment, and a detailed description of the method of containment to ensure that lead is not released outside of the lead control work area.

5. The lead work plan will also Include site preparation, cleanup, and clearance procedures, occupational and environmental testing, training and strategy, sampling and analysis strategy and methodology, frequency of sampling, duration of sampling, and qualifications of the personnel.

6. The lead work plan will also include a detailed emergency response plan. The plan, not to be combined with other hazard abatement plans, shall be prepared, signed, and sealed by a certified Lead Project Designer in the State of Hawaii.

7. In occupied buildings, the plan must also include an occupant protection program that will describe the measures that will be taken during the lead-based paint activities and operations to protect the building occupants.

L. Testing Laboratory

Use appropriately accredited and certified lead testing laboratories. The testing laboratory firm shall be independent of the Contractor and shall

have no employee or employer relationship which could constitute a conflict of interest.

M. Competent Person (CP) Responsibilities

1. Verify and document the training of all on-site personnel.

2. Responsible for development and implementation of Lead Work Plan, occupant protection plan (if applicable), abatement documentation and reporting, and supervision of lead-based paint activities and operations.

3. Continuously inspect the lead control area for conformance with the approved plan.

4. Perform (or oversee performance of) air sampling. Recommend upgrades or downgrades (whichever is appropriate based on exposure) on the use of PPE (respirators included) and engineering controls.

5. Ensure work is performed in strict accordance with specifications.

6. Implement safeguards, precautions, and other preventive measures to minimize any hazardous exposure to individuals and to the environment.

7. Ensure that the Abatement Contractor has completed the work in all designated lead work areas.

8. Supervise final cleaning of the lead control work area.

PART 2 - MATERIALS, TOOLS, AND EQUIPMENT

2.01 MATERIALS

A. All materials shall be delivered to the project site in the original packages, containers, and/or bundles bearing the name of the manufacturer, the brand name and product technical description, with Safety Data Sheets (SDS) as applicable.

B. Materials used for lead abatement work shall comply with current USEPA regulations.

C. No damaged or deteriorating materials shall be used. Replacement materials shall be stored outside the contaminated lead control area until abatement is completed.

D. Fire retardant polyethylene sheet shall be in roll size to minimize the frequency of joints, with factory label indicating no less than six (6) mil thickness.

E. Polyethylene disposable bags shall be no less than six (6) mils thick.

F. A commercial grade duct tape (or equivalent) capable of sealing joints in adjacent polyethylene sheets and for the attachment of polyethylene sheets to finished or unfinished surfaces must be capable of adhering under both dry and wet conditions.

G. Any planking, bracing, shoring, barricades and/or temporary sheet piling, necessary to appropriately perform work activities shall conform to all applicable Federal, State of Hawaii, and local government regulations.

H. Chemical paint stripper must not contain methylene chloride and be formulated to prevent stain, discoloration, raising of the substrate materials.

I. Chemical paint stripper neutralizer must be compatible with the substrate and suitable for use with the chemical stripper that has been applied to the surface.

J. Detergents or cleaning agents must not contain trisodium phosphate and have demonstrated effectiveness in lead control work.

2.02 TOOLS AND EQUIPMENT

A. The Abatement Contractor is responsible for having all proper tools and equipment that are suitable for lead abatement work and in good working order.

B. All handheld power tools will be equipped with HEPA filtered vacuum attachments.

2.03 PERSONAL PROTECTION EQUIPMENT

A. The Abatement Contractor shall provide authorized personnel with sufficient sets of disposable protective full body clothing consisting of coveralls, footwear, gloves, and head protection that is appropriate for use in the lead control area. Make sleeves secure at the wrists, make foot coverings secure at the ankles, and make clothing secure at the neck using tape.

B. Provide eye protection to workers and authorized personnel engaged in lead abatement operations when the use of a full-face respirator is not required.

C. The Abatement Contractor shall provide authorized personnel the appropriate respiratory protection equipment and tools that are suitable for lead abatement work.

D. Protective clothing and equipment shall be worn by authorized personnel in the lead control area from the start of the abatement until the work area has received final clearance.

E. It is the Abatement Contractor's responsibility to provide proper training and enforcement in the use of required personal protective equipment and respiratory protection in the work area.

PART 3 - EXECUTION

3.01 EXECUTION

3.02 POTENTIAL LEAD HAZARDS

A. The disturbance of lead-containing painted materials may cause lead-containing dust to be released into the atmosphere, thereby creating a potential health hazard to the Abatement Contractor personnel, the building occupants, and the public. Inform all workers, supervisory personnel, subcontractors, consultants, and authorized visitors who will be at the worksite of the seriousness of the hazard and of proper work procedures which must be followed.

B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified lead-containing materials, take appropriate continuous measures as necessary to protect all workers and the public from the potential hazard of exposure to respirable airborne lead dust.

3.03 LEAD CONTROL AREA

A. Establish a lead control area to contain operations. Demarcate and provide a physical boundary around the lead control area to ensure that lead will not escape outside the lead control area. If the lead abatement work will create airborne dust, create a full containment with critical barriers, HEPA filtered exhaust, and negative pressure enclosure and decontamination facility/area.

B. Control lead levels outside the boundary to less than the action level always.

C. Provide warning and danger signs at approaches to lead control areas and at the boundary. Signs must comply with requirements of 29 CFR

1926.62.

D. Prohibit unauthorized personnel from accessing the lead control area.

E. PPE is required for all abatement workers and authorized personnel within the lead control area. Use of respiratory protection appropriate for the airborne lead levels encountered is required in the lead control area.

F. Use 6-mil polyethylene sheeting to cover ground underneath the work area.

G. Use 6-mil polyethylene sheeting to cover any surfaces and equipment that will not be painted, disturbed, or utilized during the disturbance of lead-containing materials.

H. At the beginning of each workday, the Abatement Contractor, the CP, and the industrial hygienist technician will inspect and ensure that all doors, windows, and other openings of the affected work area are closed or sealed as required to maintain the lead control area.

I. Decontamination and Exit Procedures for Personnel

1. Personnel leaving the lead control area will vacuum themselves off with a HEPA-filtered vacuum equipment using UL-586 HEPA filters.

2. Remove protective clothing in the designated contaminated changing area and place in impermeable disposal bags.

3. Shower or wash off.

4. Proceed to the clean room. This is where personnel will be able to change into proper clothing to return to the worksite or into street clothing.

5. Provide suitable eye wash station within the work area for quick drenching or flushing of the eyes where eyes may have been exposed to injurious or corrosive materials.

3.04 HEATING, VENTILATING, AND AIR CONDITIONING (HVAC) SYSTEMS

A. Shut down, lock out, and isolate HVAC systems that supply, exhaust, or pass through the lead control work areas. Seal intake and exhaust vents in the lead control area with 6-mil plastic sheet and tape. Seal seams in HVAC components that pass through the lead, control area.

3.05 LOCAL EXHAUST SYSTEM

A. Where needed, provide a local exhaust in the lead control area in

accordance with the Lead Work Plan. Local exhaust equipment must be operated 24-hours per day, until the lead control area is removed and must be leak proof to the filter and equipped with HEPA filters. Maintain a minimum pressure differential in the lead control area of minus 0.02 inch of water column relative to adjacent, unseated areas.

B. Provide continuous 24-hour per day monitoring of the pressure differential with a pressure differential automatic recording instrument. The building ventilation system must not be used as the local exhaust system for the lead control area. Filters on exhaust equipment must conform to ASSP Z9.2 and UL 586. Terminate the local exhaust system out of doors and remote from any public access or ventilation system intakes.

3.06 WORK PROCEDURE

A. Perform lead abatement work in accordance with the approved job-specific Lead Work Plan. Provide methodology for removing lead in the Lead Work Plan. Use procedures and equipment required to limit occupational exposure and environmental contamination with lead when renovation work is performed in accordance with 29 CFR 1926.62 and as specified herein.

B. The Abatement Contractor shall minimize dust emissions when disturbing lead- containing materials. Visible emissions are permitted during the abatement phase of work.

C. Manual or power sanding, grinding, abrasive or sand blasting of interior or exterior painted surfaces is not permitted.

D. Open flame burning or torching is prohibited.

3.07 PERSONAL AIR SAMPLING

A. The Abatement Contractor or Contractors' representative shall perform personal air sampling for lead in accordance with 29 CFR 1926.62. The Abatement Contractor or Contractors' representative shall perform daily air monitoring to determine employees' exposure to lead as so not to exceed the action level (30 ug/m3 averaged over an 8-hour day). Provided that the Abatement Contractor has two (2) consecutive days below the action level and maintain the same: material removal, personnel, means and methods of removal a Negative exposure assessment may be implemented.

3.08 REGULATED AREA AIR SAMPLING

A. Contractor will undertake regulated air monitoring (low or high-volume

personal pumps) during the first three (3) days of activities that impact LBP to confirm that emissions and releases do not exceed Federal, State of Hawaii and local regulations. In the event of unacceptable results, the Contractor shall immediately to initiate corrective action including but not limited to stopping work and modifying the paint removal or containment systems and practices.

3.09 CLEANUP AND CLEARANCE

A. Maintain surfaces of the lead control area free of accumulations of dust and debris. Restrict the spread of dust and debris; keep waste from being distributed over the work area or general areas outside the work area. Do not dry sweep or use pressurized air to clean up the area.

B. At the end of each shift and when the lead operation has been completed, clean the controlled area of all visible contamination by vacuuming with a HEPA filtered vacuum cleaner, wet mopping the area and wet wiping the area as indicated by the Lead Work Plan. Reclean areas showing dust or debris. After visible dust and debris is removed, wet wipe and HEPA vacuum all surfaces in the controlled area. If adjacent areas become contaminated at any time during the work, clean, visually inspect, and then wipe sample all contaminated areas. The CP must then perform a visual inspection of the entire work area and certify in writing that the area has been cleaned of lead contamination before clearance testing.

C. Clearance wipe sampling will be performed by the CP after the work area is found to be visually clean.

D. Do not remove lead control area boundaries and warning signs until clearance certification is obtained.

3.10 DISPOSAL

A. Contractor to remove, handle, store, transport, and properly dispose of both non- hazardous and hazardous lead chips, debris, and wastes accumulated from the project, in accordance with Federal, State of Hawaii, and local regulations.

B. Contractor shall perform Toxicity Characteristic Leaching Procedure (TCLP) of each waste stream that contains lead-based paint to characterize the waste and assure the proper handling and disposal of the waste.

C. Contractor shall clearly label waste disposal bags in accordance with current OSHA, EPA, and State of Hawaii regulations. Name of the waste generator and location at which the waste was generated shall be

cleared indicated on the outside of each disposal container.

D. Contractor responsible for recording and maintaining records of the amount of hazardous lead waste removed and released for disposal. A copy of waste manifests shall be given to the project owner upon completion of the abatement work.