

# Remaining Useful Life Determination for the

## Country Club Condominium/Hotel

Hilo, Hawaii  
TMK: (3) 2-1-005: 020

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*Submitted By*

**SSFM INTERNATIONAL, INC.**

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Final Report  
June 2014

## Statement of SSFM International, Inc.'s Quality Process

*It is the policy of SSFM to have a consistent and systematic approach to the development and review of its reports and other project deliverables.*

All projects and products of our service are subject to a quality process and in no case will the quality review be eliminated. The main purpose of this process is to assure:

- ❖ Clarity, completeness, coordination, and accuracy of documents.
- ❖ That the project, study or investigation meets the Client's objectives.
- ❖ That the requirements of our Agreement with the Client have been met, and the Client has received the value of the fee to be paid.

The Preparation of This Report Was The  
Responsibility of and Completed By:

signature 

6/10/2014  
date

The Quality Review of This Report Was The  
Responsibility of and Completed By:

signature 

6/12/2014  
date

## **I. Scope of Work**

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The scope of work is to estimate the Remaining Useful Life (RUL) of the Building Facilities and Physical Plant for the Country Club Condominium Hotel. This report is intended to be used as part of decision making on the future utilization of this property.

The Study was based on the examination of the property through meetings, interviews and on-site inspections by a team of experienced and knowledgeable professionals.

Location and Vicinity Maps, along with aerial views of the property are provided in Appendix A.



Country Club Condominium and Hotel located at 121 Banyan Drive, Hilo, Hawai‘i.

## **II. Existing Conditions**

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This Property is currently being used as Condominium/Hotel. It is a six (6) story concrete and masonry structure, which includes the lobby/office area on the front lower level section and a restaurant-bar section currently not in use. The ground floor level under the rear section of the building is utilized as parking.



The current lease will expire on March 14, 2015. The future use of this property and potential terms and conditions for lease renegotiations will be determined as part of the process with the Hawaii State Department of Land and Natural Resources.

### **BACKGROUND INFORMATION:**

- Name of Property: COUNTRY CLUB CONDOMINIUM HOTEL
- Address: 121 Banyan Drive, Hilo, HI 96720
- TMK of Property: 3-2-1-005:020
- Leased Agreement Info: No. 3269
  - Lessee: COUNTRY CLUB-HAWAII INC. TRUST
  - Duration: Expires on March 14, 2015
- General Description of Property:
  - Number of Buildings: One (1) Six Story Building.
  - Type of Construction: Cast in Place Concrete and Concrete Masonry
  - Year Constructed: 1969
- Grounds Information:
  - Pavement & Parking: Asphaltic Concrete
  - Walkways: Concrete
  - Miscellaneous: Swimming Pool & Grounds Areas
- Utility Type & Construction:
  - Electrical: Typical Pre-Current Building Code; In need of upgrading
  - Plumbing: Cast Iron, Copper & PVC
  - Air Conditioning: 60 ton Trane Chilled Water Unit with Individual In-Room Air Handling Units
- Miscellaneous:
  - Elevators: Two (2), one at the front and another at the rear of this structure.

## **III. Site Visit**

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On March 4, 2014, a site visit was performed by a civil engineer, a structural engineer, a mechanical engineer, an electrical engineer and Mr. Kevin Aoki, Condominium/Hotel Operator, to assess the general condition of the buildings and physical plant components of the Country Club Condominium Hotel.

An interview was first conducted with Mr. Aoki to discuss the history of the property improvements, as well as to gain insight on recent repairs and known issues. After the interview, the site visit and evaluation inspection was performed during which the major building and physical plant components were evaluated.

The condition of the major components observed is documented in Appendix B.

## IV. Discussion

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The structural, electrical and mechanical elements are the most important factors in determining the RUL. The condition of major equipment related to these systems, such as air conditioning equipment, large capacity water heaters, transformers, electrical service components, etc. are also considered, but have less of an impact since they can be replaced with minimal disruption to the use of the building. Items such as furnishings are not considered to impact the RUL. Isolated conditions, including but not limited to the roofing membrane, corrosion of the steel staircase and air conditioning chiller unit, may require repair or replacement to achieve the RUL, but this can be achieved without significantly impacting the current operations and usage of the facility.

The primary objective was to inspect and examine the elements of the building structure and physical plant, including the grounds, which are controlling elements in determining the RUL in terms of a range of years.

Significant Findings are itemized below (See Appendix B for Element Numbers):

- Element No. S 6.a – Steel Stairways were observed with significant rust throughout.
- Element No. E 1 – Electrical System, Wiring & Breakers are out dated. Continued use will require the upgrade of this system to meet current codes.
- Element No. M 1.a & 2.a – Air Conditioning Water Chiller & the Exhaust Fan System were unsatisfactory and not fully functional. Although not a critical element to RUL, replacement of this element would be required with continued use.
- Element No. U 2.a – Boiler System is old and obsolete. Remaining useful life for this would be 2-5 years. Although not a critical element to RUL, replacement of this element would be required with continued use.

In addition, we note the items disclosed as part of the Pre-Inspection Meeting w/ the Lessee and our own visual inspection.

- No noticeable settlement, erosion nor drainage-flooding has occurred.
- There is evidence of Concrete Spalling in various locations including floor slabs, walls, columns and beams. None of which were considered serious and should be repaired with continued use.
- The roof is cast in place concrete and there is evidence of leaking and is in need of re-application of roofing. Roofing is under warranty but the building maintenance supervisor is having trouble getting them to perform the corrective work.
- Plumbing has been operational with no significant problems with exception of normal preventative and repair maintenance.
- Electrical Source by HELCO is satisfactory. The original transformer has been replaced, however, it has not been removed due to its large size.
- Water and Wastewater by the County of Hawaii have performed satisfactorily with no significant disruptions.
- The facility is partially compliant with ADA requirements. Continued use would require an assessment of this element to current standards.
- Elevators were in satisfactory condition. Both elevators are under maintenance contract with Otis Elevators.

## **V. Conclusion**

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Based on the documentation available, meeting with the Lessee and the Site Evaluation/Inspection performed on March 4, 2014, the Remaining Useful Life (RUL) is determined to be **5 - 8 years** assuming the current usage is continued. This RUL is based on deficiencies noted on non-structural elements because, in this Building Physical Plant, the non-structural elements are considered controlling parameters.

## **VI. Conditions and Limitations**

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The scope of work is limited to general visual observation of accessible major structural, architectural, mechanical, electrical, plumbing and sewer components of the facility in order to estimate remaining useful life of the facility. This Evaluation and Inspection was prepared based on examination of available records, interview meetings w/ the Lessee and visual on-site inspection of the Physical Plant & its operation.

This report does not address any furnishings or non-permanent equipment. We have not verified the structural integrity of all members to support present or code required gravity or lateral loads, or performed any testing of the various building components. We did not perform any testing or investigations to confirm the accuracy of any drawings, calculations or documentation provided for review as a part of this evaluation. It is beyond the scope of this report to determine what deficiencies would need to be remediated in order to bring the current facility up to code. This report does not address any other portions or aspects of the existing facility other than those areas mentioned, nor does it provide warranty, either expressed or implied, for any portion of the existing facility.

Remaining Useful Life is the duration for which the facilities will be useful to the business, not how long they will actually last. It is based on many factors and can change over time depending on factors such as improvements made to the property, economic changes and changes to laws. The remaining useful life estimates, assume basic maintenance and isolated critical repairs. The facilities may remain functional past these estimated spans, however, it is expected that widespread, more costly repairs and upgrades would begin to compound and it may no longer be feasible to operate at the status quo.

## **VII. Personal Background**

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### **HUGH Y. ONO. P.E.**

Hugh Ono is a Civil Engineer with background in Construction, Construction Management, Engineering Management and Administration and Building & Grounds Maintenance Management.



**RENEE ISHISAKA, P.E.**

Renee Ishisaka is a Structural Engineer with over 5 years of experience in a wide variety of both design and construction projects. Projects have involved reinforced, prestressed and post-tensioned concrete; structural steel; masonry; and timber construction. Ms. Ishisaka has experience with the following types of projects: Hospitals, Department of Defense projects, airport facilities, commercial/office buildings, residential buildings, educational facilities, and hotels.

**NIMR TAMIMI, P.E.**

Nimr Y. Tamimi, P.E., LEED AP, is a Principal at Engineering Partners Inc. with 26 years of experience as a design mechanical engineer in Hawaii. Mr. Tamimi's experience relevant to this project include the design of new mechanical systems and renovations of existing systems for Hotels, Resorts, Multifamily residential, restaurants, swimming pools, domestic water heating systems, fuel gas distribution systems, and HVAC systems. Included as part of those projects are payback analysis, usable life analysis, due diligence, and trouble shooting.

**CHRISTOPHER LOVETT, P.E.**

Christopher Lovett, P.E., is a Principal at Engineering Partners Inc. with over 16 years of experience in the design, specification and construction of commercial electrical and telecommunications systems. Mr. Lovett's experience ranges from designing power and lighting distribution systems for both medium and low voltages and telecommunications infrastructure design. Projects include extensive Electrical Engineering designs for hotels/casinos, high-rise residential, hospital, educational facilities and commercial/office buildings. Mr. Lovett provides extensive experience in project management, construction administration, scheduling and cost estimating.

# Appendix A

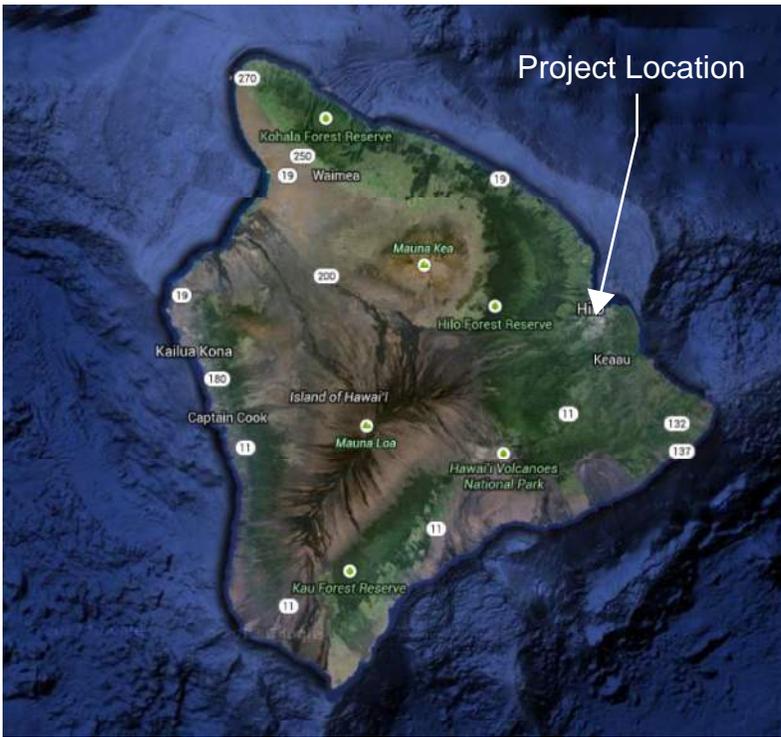


Figure 1: Location Map  
(Images from Google Earth)  
Not to Scale

Figure 2: Vicinity Map  
(Images from Google Earth)  
Not to Scale



**Aerial Views of Country Club Condominium Hotel**



View from South



View from West



View from North



View from East

## Appendix B

Property Name: **COUNTRY CLUB CONDO/HOTEL**  
Date: 10:30am, Tuesday, March 4, 2014

**EVALUATION SITE INSPECTION TEAM:**

\* SSFM INTERNATIONAL - Hugh Ono, P.E. & Renee Ishisaka, P.E.  
\* COUNTRY CLUB CONDOMINIUM HOTEL - Mr. Kevin Aoki, Former Condominium Managing Agent  
\* ENGINEERING PARTNERS, INC. - Nimr Tamimi, P.E. & Chris Lovett, P.E.

Element Codes: G - Grounds; S - Structural, P - Plumbing, M-Mechanical, U - Utility, O - Other/Misc.

Element Code	Element	Location of Deficient Elements Noted:	Description of Finding:	RUL Weight: (1 High to 3 Low)	Estimated Age: If Available (Years)	Condition Rating: A to F	Estimated Useful Life (Years)	Remaining Useful Life (Years)	Photos Referenced:	Comments & Major Deficiencies Noted:
G1	Grounds - Settlement & Erosion	a. Some erosion caused by high surf & wave action at one time	a. Not considered significant	3	N/A	N/A	N/A	N/A	N/A	N/A
G2	Grounds - Drainage & Runoff	a. Parking area in rear of building	a. Minor Ponding noted.	2	45	C	25	10	a. IMG_2453	N/A
G3	Grounds - Parking & Paved Areas	a. Driveway into property is a separate parcel	a. AC Pavement is failing in some locations. Surface is cracked and worn.	2	45	D	25	5	a. IMG_2445	a. Resurfacing is recommended with continued use, however, since this is a separate parcel, there is no control over its condition.
		b. Drop off/parking area in front of Restaurant/Lobby	b. Severe potholes at entrance to drop off area.	2		C	10	b. See IMG_2453	b. Resurfacing or patching is recommended with continued use.	
		c. Parking area behind/beneath building	c. AC Pavement exhibits minor cracking and wear. However, pavement failure was not observed.	2		D	5	c. IMG_2447		
S1	Structural - Foundation	NOT ACCESSIBLE	NO SIGNIFICANT FINDINGS OF SETTLEMENT NOR MOVEMENT.	1	45	B	25	25	N/A	N/A
S2	Structural - Floor Slabs	a. Various locations b. Ledger at Elevator Shaft	a. Spalling at various locations noted. b. Rusting and loose/missing bolts observed at ledgers.	1	45	C	25	15	a. IMG_2494 b. IMG_2507	a,b. Recommend repairs with continued use.
S3	Structural - Walls	a. Various locations including exterior walls (especially near windows), Interior and Exterior Elevator Room Walls and Stairwell Walls	a. Cracking and Spalling at various locations noted	1	45	C	25	15	a. IMG_2523, IMG_2491	a. Recommend repairs with continued use.
S4	Structural - Columns & Beams	a. Various Locations	a. Spalling noted at the upper limits of Concrete Columns.	1	45	D	25	10	N/A	a. Recommend repairs with continued use.
S5	Structural - Roof Framing	a. Reinforced Cast in Place Concrete Roof	a. Cracking and efflorescence due to water infiltration observed.	1	Unknown	D	25	10	a. IMG_2519	a. Recommend repairs with continued use.
		b. Roofing Treatment	b. Evidence of leakage and water damage observed in some locations. Roofing treatment is torn in places and ponding of water was observed.						b. DSCN0465	b. In need of re-application of roofing.
S6	Structural - Stairs	a. Steel Stairways	a. Widespread Rusting observed.	2	45	F	20	8	a. DSCN0471, DSCN0481	a. Replacement or Repair necessary.
S7	Structural - Balconies	a. Typical Balcony - All Rooms	No significant issues noted.	2	45	C	20	10	a. IMG-2522	N/A
P1	Plumbing - Distribution System	a. Building Physical Plant	a. No major problems other than routine repair and maintenance.	2	45	C	20	15	N/A	N/A
P2	Plumbing - Waste System	a. Building Physical Plant	a. No major problems other than routine repair and maintenance.	2	45	C	20	15	N/A	N/A
E1	Electrical - Wiring & Distribution	a. Panel on each floor b. Transformer	a. Operational within Limits. b. Was replaced; original still in place due to difficulty in removal.	2	45	D	15	5	b. IMG_2451, DSCN0451	a. In need of upgrade with continued use. Current system unable to accommodate surge loads.
E2	Electrical - Solar Systems	NONE NOTED	NOT APPLICABLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
M1	Mechanical - Air Conditioning Plant	a. Water Chiller on Roof b. Former Restaurant	a. Replaced in the 1990's Condition is fair and in need of replacement. Not fully operational. b. Air Condition System not in use and unserviceable.	2	40	F	15	0	a. IMG_2489 b. DSCN0457, DSCN0479, DSCN0480	a. Serious Condition and in need of Repairs or Replacement.
M2	Mechanical - Air Conditioning Ducts	a. Exhaust Fans	a. In poor condition	2	45	D	20	2	a. IMG_2469	a. Replacement needed with continued use.
U1	Utility - Electrical Power Supply	a. Transformer - See Item E1b	Electric Service Provided by HELCO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
U2	Utility - Heater & Flue, Commercial Size	a. Boiler/Water Heater	a. Old & Obsolete	2	N/A	D	15	2	a. DSCN0461	a. Boiler needs replacement.
U3	Utility - Wastewater System	a. Building Physical Plant	Provided by COH Wastewater	2	N/A	N/A	N/A	N/A	N/A	a. No Major problems other than routine repair and maintenance.
U4	Utility - Water Supply System	a. Building Physical Plant	Provided by COH DWS	2	N/A	N/A	N/A	N/A	N/A	a. No Major problems other than routine repair and maintenance.
U5	Utility - Gas Supply System	a. Boiler/Water Heater - See Item U2	Service provided by The Gas Company	2	N/A	N/A	N/A	N/A	N/A	N/A
O1	ADA COMPLIANT	a. Building Physical Plant	a. Property is not in compliance with ADA Standards	1	N/A	D	N/A	N/A	N/A	Continued use would need ADA Improvements.
O2	ELEVATOR SYSTEM	2 Elevators one front; other rear	Both in good condition as maintained by OTIS.	3	45	B	15	15	IMG_2461	N/A
O3	Fire Protection	a. No Sprinkler System in place	a. Not Applicable	2	N/A	N/A	N/A	N/A	N/A	N/A
		b. Fire Alarm System	b. Operational			C	10	10	b. IMG_2463, IMG_2450	
O4	Swimming Pool	a. Makai of Building next to Ocean	a. In use and no significant problems.	3	45	C	15	15	a. IMG_2524	N/A

Country Club Condominium/Hotel – Referenced Photos



Photo 1: IMG\_2453 – Parking area at rear of building



Photo 2: IMG\_2445 – Deteriorated pavement at entry parcel



Photo 3: IMG\_2447– Deteriorated pavement at drop off area



Photo 4: IMG\_2494– Concrete slab spalling and efflorescence in stairwell

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Photo 5: IMG\_2507 – Rusting and loose bolt at slab ledger



Photo 6: IMG\_2523– Spalling at Exterior Wall



Photo 7: IMG\_2491 – Spalling and cracking at Elevator Room



Photo 8: IMG\_2519 – Water Damage, cracking and efflorescence at ceiling



Photo 9: DSCN0465 – Roof treatment failure and ponding water



Photo 10: DSCN0471 – Roof stair rusting



Photo 11: DSCN0481– Typical steel stair rusting



Photo 12: IMG\_2522 – Typical Balcony



Photo 13: IMG\_2451 – Electrical transformer



Photo 14: DSCN0451- Old electrical transformer, no longer in use



Photo 15: IMG\_2489 – Air cooled chiller unit



Photo 16: DSCN0457 – Defunct restaurant chiller unit



Photo 17: DSCN0479 – Defunct restaurant equipment



Photo 18: DSCN0480 – Defunct restaurant equipment



Photo 19: IMG\_2569 – Exhaust Fans



Photo 20: DSCN0461 – Heater/Boiler Room



Photo 21: IMG\_2461- Elevator in Lobby



Photo 22: IMG\_2463 – Fire alarm pull box



Photo 23: IMG\_2450- Fire alarm control box



Photo 24: IMG\_2524 – Swimming Pool