

Hawaii Modernism Context Study



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Fung Associates, Inc



Hawaii Modernism Context Study

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**MODERNISM IN HAWAII, 1939-1979
WITH EMPHASIS ON 1947-1967
TABLE OF CONTENTS**

	Page
Acknowledgements and Contributors	
1 Executive Summary	1-1
Modernism Time Chart	1-5
2 Introduction	2-1
2.1 Background	2-2
2.2 Objectives	2-2
2.3 Methodology	2-3
2.3.1 Scope of Project	2-3
2.3.1.1 Background Research/Data Collection	2-3
2.3.1.2 Data Analysis	2-4
2.3.1.3 Limitations	2-4
2.4 Project Team	2-5
3 Architectural History	
3.1 National Context	
3.1.1 The Birth of Modern Architecture	3-1
3.1.2 Modern Architecture in the U.S.	3-3
3.1.3 War-Time and Postwar Development	3-6
3.1.4 The Triumph of the International Style	3-9
3.1.5 Alternative Trends	3-12
3.1.6 Popular and Utilitarian Forms	3-14
3.1.7 Modernism in Hawaii	3-17
3.2 Hawaii Overview	3-24
4 Modern Resources	
4.1 Specific Building Types	
4.1.1 Low and Mid-Rise Commercial and Office Buildings	4-1
4.1.2 Shopping Centers, Malls and Supermarkets	4-10
4.1.3 Low Rise, Walk Up Apartments	4-14
4.1.4 Low and Moderate Income Housing	4-24
4.1.5 High Rise Buildings	4-28
4.1.5.1 High Rise Apartments	4-30

4.1.5.2	High Rise Office Buildings	4-36
4.1.6	Educational Buildings	4-39
4.1.7	Government Buildings	4-41
4.1.8	Hotels and Resorts	4-43
4.1.9	Religious Buildings	4-45
4.2	Impact of Technology and New Materials in Modernism	
4.2.1	Air Conditioning	4-51
4.2.2	ByPass Sliding Aluminum Doors	4-52
4.2.3	Commercial Storefront Doors	4-53
4.2.4	Brise-soleils	4-53
4.2.5	Canec	4-54
4.2.6	Concrete Masonry Units (CMU), Concrete Block, Cinder Block, Hollow Tile	4-54
4.2.7	Jalousie Windows	4-57
4.2.8	Precast Concrete	4-58
4.2.9	Prestressed Concrete	4-59
4.2.10	Terrazzo	4-60
4.3	Urban, Suburban and Resort Planning and Development	
4.3.1	Urban Planning	4-61
4.3.2	Suburban Development	4-66
4.3.2.1	Niu Valley	4-68
4.3.2.2	The Resource	4-71
4.3.3	Resort	4-74
4.4	Transportation, Public Works and Engineering Development	
4.4.1	World War II	4-81
4.4.2	Highways and Roads	4-82
4.4.3	Signals	4-86
4.4.4	Parking	4-87
4.4.5	Fueling	4-88
4.4.6	Car Disposal	4-88
4.4.7	Water	4-89
4.4.8	Food Control	4-89
4.4.9	Waste Disposal	4-92
4.4.10	Sewage	4-93
4.5	Landscapes, Parks and Public Spaces	
4.5.1	Landscape Architecture	4-95
4.5.2	Landscape Architecture's Early Years	4-96
4.5.3	Innovations of the 1920s and 1930s	4-98
4.5.4	The Postwar Years and Modernism	4-100
4.5.5	American Landscapes in the Postwar Era	4-103
4.5.6	Landscape Architecture in Hawaii	4-107

4.5.7	Public Parks	4-107
4.5.8	Beach Parks	4-108
4.5.9	Zoo	4-108
4.5.10	Recreation and Playgrounds	4-109
4.5.11	Beautification & Memorials	4-110
4.5.12	Golf Courses	4-110
4.5.13	Expansion	4-110
4.5.14	Street Trees	4-111
4.5.15	Parks Department	4-111
4.5.16	City and County Parks and Recreation Buildings	4-113
4.6	Influential Architects/ Designers	4-117
5 Evaluating Eligibility		5-1
5.1	Properties Identified in the Report as Having High Preservation Value	5-3
6 Recommended Future Studies		
6.1	Inventory	6-1
6.2	Expanded Contexts and Documentation	6-3
6.3	Oral History	6-3
6.4	Education	6-4
7 Bibliography		7-1
8 Appendices		
A. Styles		
	Mid Century Modern	A-1
	International Modernism or Bauhaus Modernism	A-2
	Miesian	A-4
	Neo-Formalism	A-6
	Brutalism	A-8
	Organic	A-10
	Neo-Expressionist or Expressionist Modern	A-12
	“Contractor” Modern or Hawaii Ranch House	A-14
	Pop Architecture	A-16
	Regional Modernism	A-18
	A-Frame	A-20
	Utilitarian Vernacular	A-20

B. Historic, Social and Cultural Influences of the Mid-Twentieth Century in Hawaii

B.1	Hawaii and “Recent Past”	B-1
B.2	Hawaii before World War II	
B.2.1	The Kingdom of Hawaii	B-3
B.2.2	The Early 20 th Century	B-5
B.3	World War II and After	
B.3.1	The War Years	B-9
B.3.2	Post War Developments	B-12
B.4	Hawaii in the 1950s	
B.4.1	Labor and Politics	B-13
B.4.2	The Move toward Statehood	B-15
B.5	The 1960s and Statehood	
B.5.1	Economic and Social Change	B-17
B.5.2	The New Role of Government	B-21
B.5.3	The Image of Hawaii	B-22
B.6	The Conflicted 1970s	
B.6.1	War and Resistance	B-24
B.6.2	Historic Preservation	B-25
B.6.3	The Hawaiian Renaissance	B-27
B.7	Envisioning the Recent Past	B-28

LIST OF FIGURES

All photos are taken by Don Hibbard and Fung Associates, Inc. unless noted otherwise

3 – Modern Resources		Page
3.2 Hawaii Overview		
3-1	State of Hawaii Map	3-24
3-2	Church of the Crossroads	3-25
3-3	Topping Residence	3-26
3-4	Thurston Memorial Chapel	3-26
3-5	Board of Water Supply Administration Building	3-26
3-6	Soto Zen Temple	3-27
3-7	Bachman Hall	3-28
3-8	Laupahoehoe School	3-28
3-9	Liberty Bank Building	3-28
3-10	St. Luke's Episcopal Church	3-29
3-11	United Chinese Society Building	3-29
3-12	Concrete Pagoda	3-29
3-13	Kinkaku-Ji	3-29
3-14	First United Methodist Church	3-30
3-15	University of Hawaii, East-West Center	3-32
3-16	Queen Emma Gardens	3-32
3-17	IBM Building	3-32
3-18	320 Ward Ave.	3-32
3-19	Mauna Kea Beach Hotel	3-32
3-20	Financial Plaza	3-33
3-21	Marco-Polo	3-33
3-22	First Hawaiian Bank, Kapiolani Branch	3-34
3-23	First Hawaiian Bank, Mapunapuna Branch	3-34
4.1.1 Low and Mid-Rise Commercial and Office Buildings		
4-1	Hawaiian Life Building in 2006	4-2
4-2	Kenrock Building	4-2
4-3	Boysen Paint Store	4-2
4-4	Flamingo's	4-3
4-5	Seaboard Finance Building	4-3
4-6	Medical Arts Building	4-3
4-7	Occidental Life Insurance Building	4-4
4-8	1365 Nuuanu Ave.	4-4
4-9	Professional Building	4-4
4-10	Varsity Building	4-4
4-11	Plumbers and Fitters Union Building	4-5
4-12	1165 Bethel St.	4-5
4-13	Yee Mun Wai Ltd. Building	4-5
4-14	Trophy House	4-5
4-15	1269 King St.	4-5

4-16	Corner of King and Pensacola	4-5
4-17	1026 S. King St.	4-6
4-18	1125 S. King St.	4-6
4-19	View of Liliha Street, Between Vineyard and Entrance to the Lunalilo Freeway	4-6
4-20	Close up view of Liliha Street, between Vineyard and Entrance to the Lunalilo Freeway	4-6
4-21	1408 Liliha St.	4-7
4-22	Lung Kong Kung Shaw Society Hall	4-7
4-23	1436 Liliha St.	4-7
4-24	Ushijima Store	4-8
4-25	Continental Hawaii Building	4-8
4-26	Kamamalu Building	4-8
4-27	King Center	4-9
4-28	C.Q. Yee Hop Plaza	4-9
4-29	Gold Bond Building	4-9
4-30	Ward Plaza	4-9
4.1.2 Shopping Centers and Mall		
4-31	Ward Warehouse	4-10
4-32	Ward Warehouse	4-10
4-33	May's	4-10
4-34	Aiea Shopping Center	4-11
4-35	Aiea Commercial Center	4-11
4-36	Waimalu Shopping Center	4-11
4-37	Westgate Shopping Center	4-12
4-38	Foodland Supermarket	4-12
4.1.4 Low and Moderate Income Housing		
4-39	Current Palolo Housing	4-25
4.1.5 High Rise Building		
4-40	Ala Moana Building	4-29
4-41	Sheraton Waikiki	4-29
4.1.5.1 High Rise Apartments		
4-42	Oahuan Tower	4-30
4.1.5.2 High Rise Office Buildings		
4-43	Kamamalu Building	4-36
4.1.7 Government Buildings		
4-44	Aliiimoku Hale	4-41
4.1.8 Hotels		
4-45	Hawaiiana	4-43
4-46	Breakers	4-43

4-47	Hyatt Regency Waikiki	4-44
4-48	Queen Kapiolani	4-44
4.1.9 Religious Buildings		
4-49	St. Elizabeth's Episcopal Church	4-45
4-50	St. First Presbyterian Church	4-45
4-51	St. Pius X Catholic Church	4-46
4-52	Kilohana Methodist Church	4-46
4-53	Community Church of Honolulu	4-46
4-54	Wesley Methodist Church	4-47
4-55	St. Augustine's Roman Catholic Church	4-47
4-56	Manoa Valley Church	4-47
4-57	Nuuanu Congregational Church	4-48
4-58	St. Anthony Catholic Church	4-48
4-59	Kalihi Union Church	4-48
4-60	Star of the Sea Catholic Church	4-48
4-61	Waikeola Church	4-48
4-62	Central Baptist Church	4-49
4-63	Mystical Rose Oratory	4-49
4-64	Temple Emmanu-El	4-49
4-65	Seicho No IE	4-50
4.2.5 Brise-soleils		
4-66	Piikoi Parkway Building Door	4-53
4.2.7 Concrete Masonry Units (CMU), Concrete Block, Cinder Block, Hollow Tile		
4-67	Waimea Bay Restroom	4-55
4-68	Swanzy Beach Park	4-56
4-69	1422 Heulu Street Apartment	4-56
4.2.9 Precast Concrete		
4-70	C.S. Wo Building	4-58
4.2.10 Prestressed Concrete		
4-71	Diamond Head Apartment	4-59
4.3.1 Urban Planning		
4-72	1940 Zoning Map	4-62
4-73	Iolani Palace	4-63
4-74	Hawaii State Capitol Building	4-63
4-75	City Hall and the Federal Building, known as the old Federal Post Office	4-63
4-76	Mission House Museum	4-64
4-77	Kawaiahao Church	4-64
4-78	YWCA	4-64
4-79	Aliiolani Hale	4-64
4-80	Current Iolani Barracks	4-65

4-81	Alii Place	4-65
4.3.2.1 Niu Valley		
4-82	Niu Valley Sub-division Map	4-69
4-83	295 Panino St., Built in 1968	4-70
4-84	283 Panino St., Built in 1965	4-70
4-85	255 Panino St., Built in 1966	4-70
4-86	239 Panino St., Built in 1966	4-70
4-87	235 Panino St., Built in 1965	4-70
4.3.2.2 Resource		
4-88	Current Niu Valley Middle School	4-71
4-89	Niu Valley Middle School Plot Plan	4-72
4-90	Niu Valley Center	4-73
4-91	5633 Halekamani St., Built in 1957	4-73
4-92	5639 Halekamani St., Built in 1957	4-73
4.4 Resource		
4-93	Garbage Incinerators at Kapalama and Kewalo	4-82
4-94	Likelike Highway – Kaneohe Side	4-83
4-95	Pali Highway in 1957	4-85
4-96	Stepped Landscape	4-86
4-97	Newly Completed University Ave.	4-86
4-98	Kahekili Highway	4-87
4-99	Double deck Parking Structure	4-88
4-100	Marks Garage	4-88
4-101	Ulehawa Stream Channel Outlet Structure Features a Unique Design of By-pass	4-92
4-102	Kaupuni Stream Channel Construction	4-92
4-103	Waimalu Pump Station	4-95
4-104	Wainae Sewage Plant	4-95
4.5 Landscapes, Parks and Public Spaces		
4-105	Fern Playground	4-109
4-106	Ka Pa o Lono Park	4-109
4-107	War Memorial at Waialua Beach Park	4-110
4-108	Waikiki Zoo Entrance	4-113
4-109	Kahana Bay Comfort Station	4-113
4-110	Nuuanu Valley Comfort Station	4-114
4-111	Liliuokalani Gardens Comfort Station	4-114
4-112	Pavilion at Ala Wai Park	4-114
4-113	Thomas Square Comfort Station	4-114
4-114	Kahaluu Community Park Restroom and Office	4-114
4-115	Kualoa Beach Park Restroom	4-115
4-116	Swanzy Beach Park Comfort Station	4-115
4-117	Punaluu Beach Park Comfort Station	4-115
4-118	Dole Playground	4-116
4-119	Dole Playground	4-116

4.6 Influential Architects/Designer		
4-120	Buck Toy Society Hall	4-117
4-121	Canterbury Place	4-118
4-122	Diamond Head Vista Apartment	4-119
4-123	Waikiki Trade Center	4-119
4-124	Hawaiian Telephone Building	4-119
4-125	Waipio Soto Zen Mission	4-121
4-126	Neal Blaisdell Center	4-126
4-127	Bachman Hall	4-127
4-128	Thurston Memorial Chapel	4-127
4-129	Liliha Library	4-127
4-130	United Methodist Church	4-128
4-131	ILWU	4-128
4-132	1100 Alakea	4-129
4-133	National Cemetery of the Pacific Punchbowl	4-129
4-134	Former Chinese Consulate	4-132
8. Historic, Social, and Cultural Influences of the Mid-century in Hawai'i		
B.1 Hawaii and "Recent Past"		
B-1	1930's-40s Waikiki	B-2
B-2	1960's Waikiki	B-2
B.5 Hawaii in the 1950's		
B-3	1956 Downtown Honolulu	B-19



Hawaii Modernism Context Study

I. Executive Summary

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1 Executive Summary

This report presents historical research on the built environment in Hawaii during the “Modern” period of 1939 to 1979, with an emphasis on the years between 1947 to 1967. The study summarizes information about the architectural history, leading practitioners, urban planning, significant historic and cultural influences, and relationship to national and international movements specific to the resources of the Hawaiian Islands.

The framework provided in this study for the identification and evaluation of buildings, structures and landscapes associated with the modern movement in Hawaii may be utilized by Hawaii’s preservation professionals to advance the dialogue with the community about significant buildings, districts, sites and structures. Additional recommendations for future efforts that strive to preserve modern era resources are included in this report.

Hawaii experienced profound changes between 1939 and 1979 primarily from America’s entry into World War II and resulting effects from that historic event. The territory emerged as the fiftieth state and political power shifted from a Republican run government to Democratic one. Concurrently, Hawaii’s main industry transitioned from large-scale agriculture to tourism. The population boom spurred related development so extensive that the only period in Hawaii’s history which may have experienced more dramatic change was the half century or so after the initial introduction of western culture.

In this study, Hawaii’s modern architecture, engineering and design are placed within both a local and national context. The influences of Gropius, Mies van der Rohe, Le Corbusier, Mendelsohn, Saarinen, and Frank Lloyd Wright are noted. A range of forms are identified, including streamlined moderne and art deco through Miesian International Style, Modern Expressionism, mid-century modern, Brutalism, Neo- Formalism, Metabolism, as well as Googie, Tiki, contractor modern or ranch house, and other popular variations. Hawaii examples of the various styles are presented along with an overview history.

The resources in Hawaii that are the subject of this report included several building types developed through urban, resort and suburban planning efforts or public works projects. The context report also addresses the development of parks and landscape design, and the utilization of modern materials and technologies including air conditioning, aluminum doors, jalousie windows, brise-soliels, concrete masonry units (CMU), pre-cast and pre-stressed concrete, canec and terrazzo. Over fifty prominent architects, artists and designers are profiled. Works by nationally known architects such as I.M. Pei, Edward Killingsworth, Minoru Yamasaki, Skidmore Owings Merrill, John Carl Warnecke, Cesar Pelli, and Roger Lee are highlighted.

Private residences are not directly addressed in this study because of their wide variety and enormous numbers, and the fact that government control over this resource is negligible. The topic is briefly examined under subdivision planning. From the case study of Niu Valley, it appears a large number of post-war tract houses no longer retain their integrity, but without an intensive inventory effort, it will be difficult to develop a useful context for this property type.

In addition to examining modern architecture in Hawaii, major highway projects such as the Pali, Likelike, Lunalilo and Kahekili Highways are discussed along with the interstate highway program in Hawaii. The report summarizes highway projects on the neighbor islands the development of the Wailuku-Lahaina highway, Hilo-Hamakua highway, Queen Kahaamanu Highway, and the realignment of Kauai's belt road. The disposal of garbage, as embodied in incinerators and sanitary landfills, is also considered as is the development of parking structures to accommodate the increased number of automobiles. Other automobile-related property types such as service stations, junk yards and artificial reefs are also addressed. Other public utilities which needed to expand to meet growing population needs, such as sewers, water supply, and flood control are also examined in this report.

Parks projects, including the development of public golf courses, botanical gardens and street planting programs are also addressed, and a brief look at landscape trends from a national and Hawaii perspective is included.

Summary of Types of Buildings

LOW AND MID-RISE COMMERCIAL AND OFFICE BUILDINGS

Low rise business buildings and apartments are identified as the modern resource most endangered, as many sit on lands which can be developed more intensely. Some of the acclaimed buildings from this time period such as the Garden Court office building have already been demolished to allow for denser developments. These buildings often reflect distinctive Mid-Century Modern features such as contrasting textures, decorative sun screens or other features to distinguish these rentable spaces.

SHOPPING CENTERS, MALLS AND SUPER MARKETS

Shopping centers are identified as an endangered resource since this building type is often changed through remodeling. While individual shops and interiors of shopping centers should be accepted as modified through time, exterior integrity should be the issue. A number of the smaller shopping centers in Hawaii display high degrees of Mid-Century Modern elements especially in the use of new structural technology such as folded plate or thin-shell concrete roofs.

LOW RISE, WALK-UP APARTMENTS

Numerous examples of this building type are excellent Mid-Century Modern resources that use concrete masonry units as decorative screens and for structure. There are also numerous examples of quickly constructed housing that result from the post-World War II population boom. Zoning laws which periodically change and the potential for higher density make a number of these resources endangered. Thus, attention was given to distinguishing some high preservation resources in this building type.

LOW AND MODERATE INCOME HOUSING

There are 47 housing projects that date from the period 1952-1979 due to the serious housing shortage from population growth after World War II. While the history of public housing in Hawaii during this period is documented in this report, an inventory was not conducted and thus it will be difficult to make any preservation recommendations for this building type. It should be noted that there are three separate projects designed by master architects C.W. Dickey, John Warnecke and Cesar Pelli.

HIGH RISE BUILDINGS

The boom in population caused high rise development almost exclusively in Waikiki and Downtown Honolulu due to zoning laws, scarcity of land and the passage of the condominium law. The high rise building type has many examples that are often called concrete boxes. A regional modern feature is lanai, many of which have subsequently been enclosed. Some of the high end office buildings in downtown endeavored to capture the latest design trends such as the Brutalistic Bank of Hawaii building and plaza.

EDUCATIONAL AND GOVERNMENT OFFICE BUILDINGS

Notable government buildings were developed at this time including the impressive State Capitol building. There are also government buildings rendered in a more straight-forward modern style but are associated with the expansion of the government work force to meet the needs of Hawaii's growing population. The State Historic Preservation Division has the most authority over properties under the administration of the state and county governments, providing for more opportunities for preservation planning for these properties.

HOTELS AND RESORTS

This time period sees a dramatic explosion in the tourist industry and thus this building type. While some buildings in Waikiki represent the "mass not class" mentality, there are numerous developments which tried to capture the sense of place that is Hawaii, often a romanticized version of Hawaii perpetuated in the memories of the military personnel who spent time in Hawaii. A number of these low rise hotels are threatened by the zoning and development issues.

















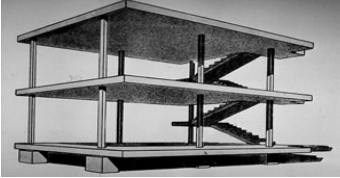













RELIGIOUS BUILDINGS

While there are a number of outstanding religious structures in Hawaii utilizing the new technology of the era, there are also numerous humble chapels throughout Hawaii. One of the consequences of suburbanization is a need for smaller churches to accommodate smaller congregations spread throughout the state. On the other end of the spectrum are the churches symbolic of their community and beliefs which are highly expressionistic, such as Buddhist temples which were allowed to flourish after World War II.





CITY AND COUNTY PARKS AND RECREATION BUILDINGS

These modest structures, especially park rest rooms, are highlighted as a building type. Many of these types are well designed and reflective of the islands, but easily overlooked because of their modest scale and function.






















Event Chart: Modernism

	1910	1920	1930	1940	1950	1960-70		
	<p>←.....DE STIJL.....→ ←.....ART DECO.....→ ←.....STREAMLINE MODERNE / ART MODERNE.....→</p> <p>←.....INTERNATIONAL STYLE.....→ ←.....PLURALISM.....→ ←.....BRUTALISM.....→</p> <p>←..STRUCTURALISM.. ←...METABOLIST MOVEMENT (JAPAN)</p>							
Continental U.S. / Europe	<p>1910 Adolf Loos: Steiner House, Vienna</p> 	<p>1920 Ludwig Mies van der Rohe: Project for a glass office building, Berlin</p> 	<p>1928-29 Le Corbusier: Villa Savoye, Poissy43e</p> 	<p>1930 Albert Kahn: Ford Motor Company Assembly Plant, Richmond, California</p> 	<p>1943-59 Frank Lloyd Wright: The Solomon R. Guggenheim Museum, New York City, NY</p> 	<p>1950-56 Le Corbusier: Chandigarh</p> 	<p>1956-62 Eero Saarinen: TWA Terminal, Kennedy Airport, New York</p> 	<p>1962 Louis Kahn: National Assembly Building, Dacca</p> 
	<p>1911-14 Walter Gropius: Fagus Factory, Alfeld an der Leine</p> 	<p>1929 Ludwig Mies van der Rohe: Barcelona Pavilion, International Exposition of 1929, Barcelona</p> 	<p>1930-32 Le Corbusier: The Swiss Pavilion, Cite Universities, Paris</p> 	<p>1933 Century of Progress Exposition, Chicago</p> 	<p>1947-48 Alvar Aalto: Baker House, MIT, Massachusetts</p> 	<p>1952 SOM: Lever House, New York City, New York</p> 	<p>1958-60 Louis Kahn: Richard Medical Research Building, Philadelphia</p> 	<p>1963- Joseph Esherick et al.: Sea Ranch Sonoma County, California</p> 
	<p>1914 Le Corbusier defined free plan with his Dom-ino houses</p> 	<p>1923 Le Corbusier's Towards a New Architecture published</p>	<p>1924-25 Gerrit Thomas Rietveld: Schroder House, Utrecht</p> 	<p>1934 Frank Lloyd Wright: Fallingwater Mill Run, Pennsylvania</p> 	<p>1947-52 Le Corbusier: Unite d'habitation, Marseilles</p> 	<p>1953-55 Le Corbusier: Notre Dame du Haut, Ronchamp</p> 	<p>1958 Ludwig Mies van der Rohe: Seagram Building, New York City, New York</p> 	
	<p>1925-26 Walter Gropius: Bauhaus, Dessau</p> 	<p>1925-26 Walter Gropius: Bauhaus, Dessau</p>	<p>1925-26 Walter Gropius: Bauhaus, Dessau</p>	<p>1937 Frank Lloyd Wright: Taliesin West, Scottsdale, Arizona</p> 	<p>1946 Richard Neutra: Bailey House Santa Monica, CA</p> 	<p>1954 Edward D. Stone: American Embassy, New Delhi</p> 		
		<p>1926 Le Corbusier: 5 points d'une architecture nouvelle</p> <ul style="list-style-type: none"> - stilts - roof garden - free plan - continuous windows - free façade 		<p>1939 Alvar Aalto: Finnish Pavilion, World's fair of 1939, New York</p> 	<p>1948 W. S. Arrasmith: Greyhound Bus Terminal, Ohio</p> 	<p>1956-59 Le Corbusier: Monastery of Sainte-Marie de la Tourette, Eveux</p> 	<p>1959 Louis Kahn: Salk Institute of Biological Studies, La Jolla California</p> 	

Event Chart: Modernism

	1910	1920	1930	1940	1950	1960-70
	<p>←.....DE STIJL.....→ ←.....ART DECO.....→ ←.....STREAMLINE MODERNE / ART MODERNE.....→ ←.....PLURALISM.....→ ←.....BRUTALISM.....→ ←..STRUCTURALISM.. ←...METABOLIST MOVEMENT (JAPAN)</p>					
Asia		<p>1923-1924 Kikuji Ishimoto, first Japanese architect to study at the Bauhaus</p>			<p>1951 Junzo Sakakura: The Museum of Modern Art, Kamakura, Japan</p>  <p>1959 Le Corbusier (collaborated with Kunio Maekawa, Junzo Sakakura & Takamasa Yoshizaka): National Museum of Western Art, Tokyo, Japan</p> 	<p>1960 World Design Conference in Tokyo: Metabolist Movement Manifesto</p> <p>1964 Kenzo Tange: Saint Mary's Cathedral (Tokyo Cathedral), Tokyo, Japan</p>  <p>1970 Osaka Exposition</p> <p>1972 Kisho Kurokawa: The Nakagin Capsule Tower</p> 

Event Chart: Modernism

	1910	1920	1930	1940	1950			
	<p>←.....DE STIJL.....→ ←.....ART DECO.....→ ←.....STREAMLINE MODERNE / ART MODERNE.....→ ←.....PLURALISM.....→ ←.....BRUTALISM.....→</p>							
Hawaii	<p>1919 Pope & Burton: Hawaiian Temple of the Church of Jesus Christ of the Latter Day Saints</p> 		<p>1934 Claude Stiehl: Church of the Crossroads</p> 	<p>1938 Dahl & Conrad: Topping Residence</p> 	<p>1941 Pope & Burton: Beretania Street Church of Jesus Christ of the Latter Day Saints</p> 	<p>1950 Howard Redfearn: Kealakekua Public Library</p> 	<p>1952 Hego Fuchino: Nuuanu Soto Zen Mission</p> 	<p>1953 Alfred Preis: First United Methodist Church</p> 
			<p>1936 C. W. Dickey: Waikiki Theater (no longer extant)</p> 	<p>1939 Thompson & Thompson, Harry Sims Bent:: Ala Moana Park</p> 	<p>1949 Vladimir Ossipoff: Bachman Hall at UH</p> 	<p>1951 Vladimir Ossipoff: Hawaiian Life Building</p> 	<p>Alfred Preis: Laupahoehoe School</p> 	<p>George Sui: Lum Sai Ho Tong</p> 
			<p>Aug-37 Honolulu Academy of Arts Exhibition on Modernism in Hawaii</p>			<p>Lemmon & Freeth: Occidental Life Insurance</p> 	<p>Alfred Preis: ILWU Memorial Association</p> 	<p>Wimberly & Cook: Ala Wai Apartments</p> 
			<p>Harry Sims Bent: Mother Waldron Playground</p> 				<p>Edwin Bauer: St. Elizabeth's Church</p> 	
							<p>Lemmon, Freeth & Haines: Waikiki Public Library</p> 	<p>Kenneth Sato: Waiola Congregational Church</p> 
								<p>Ushijima Store, island of Hawaii</p> 

1950

1960-70

←.....BRUTALISM.....

.....STRUCTURALISM.....

.....METABOLIST MOVEMENT (JAPAN).....

Hawaii

1954
Clifford Young: United Chinese Society Hall



Law & Wilson: Holy Nativity



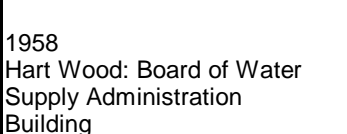
1955
Gardner Dailey: Princess Kaiulani Hotel



Lemmon, Freeth & Haines: Sinclair Library



Law & Wilson: Bulk Sugar Plant



1958
Hart Wood: Board of Water Supply Administration Building



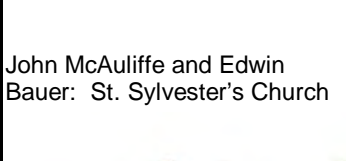
1959
Statehood

Arrival of first jet passenger airplane

1960
Vladimir Ossipoff: Pacific Club



Donald Wolbrink: Kaanapali Master Plan



John McAuliffe and Edwin Bauer: St. Sylvester's Church



Wimberly & Cook: Windward Shopping Center



1961
Wong & Wong: Chinese Consulate



1962
Vladimir Ossipoff: IBM Building



George McLaughlin: St. Augustine's Catholic Church



Alfred Preis: Arizona Memorial



1963
Vladimir Ossipoff: Outrigger Canoe Club



I. M. Pei: East-West Center



Roehrig, Onodera & Kinder: Liberty Bank at Queen and Ward



Edward Killingsworth: Kahala Hilton



1964
Minoru Yamasaki: Queen Emma Gardens



1965
Wong & Wong: Community Church of Honolulu



Skidmore, Owings, Merrill: Mauna Kea Beach Hotel



Peter Hsi: C.Q. Yee Hop Plaza



1966
Stephen Oyakawa: Liliha Library



Shizuo Oka: Hawaii County Building



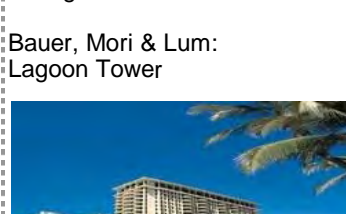
Takashi Anbe: City Bank Building



1967
Vladimir Ossipoff: Thurston Memorial Chapel



Edwin Murayama: Na Hale, Maui Community College



Bauer, Mori & Lum: Lagoon Tower



1968
Wimberly, Whisenand, Allison, Tong & Goo: Kona Hilton



Roger Lee: St. Stephen's Catholic Church



Stephen Oyakawa: Lihue Public Library



Robert Katsuyoshi: MOA Hawaii



Leo S. Wou: Financial Plaza of the Pacific



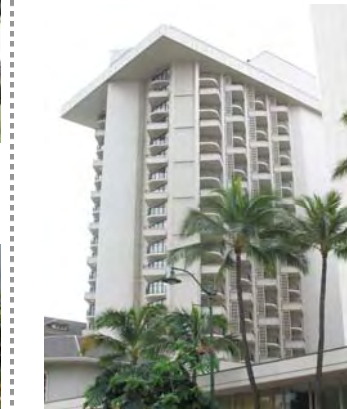
1969
John Carl Warnecke, Belt, Lemmon & Lo: Hawaii State Capitol



Au, Cutting, Smith & Associates: Ward Plaza



Wimberly, Whisenand, Allison, Tong & Goo with Roehrig, Onodera & Kinder: Surfrider Hotel



Ernest Hara: Queen Kapiolani Hotel



1971
Wimberly, Whisenand, Allison, Tong & Goo: Sheraton Waikiki



Wimberly Allison Tong and Goo: Maui Land and Pineapple Headquarters



Aotani & Oka: Keahole Airport





Hawaii Modernism Context Study

2. Introduction

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2 Introduction

Historic resources built prior to the 1930s throughout the State have been fairly well documented and inventoried. However, as tens of thousands of resources mature into the legal definition of “historic,” preservationists are faced with a deluge of undocumented resources that need to be considered. It is important to note that while the legal definition of “historic” has been 50-years or older, this is an arbitrary time frame established to ensure that enough time has passed in order to evaluate the property’s significance. Age may not be relevant while looking at the historic resources of the recent past.

Most of Hawaii’s built environment dates from the study period and the increase of population and density throughout that period had a major impact on what kinds of architecture were practiced. As the population grew and the concepts of highest and best use were introduced, density impacted lot sizes thus the movement from courts to walk up apartments to high rise apartments. Nationally, as well as in Hawaii suburbanization and the consequential support for commercial establishments, schools and other infrastructure necessities developed in vast numbers at this time.

A National Trust publication titled “Preserving Resources from the Recent Past” by Jeanne Lambin cites the following as the greatest threats to the preservation of recent past resources:

- Lack of Appreciation. Victorian era or plantation worker housing was once disparaged, and preservationists continue to debate the worthiness of recent past resources. Some of these resources replaced what preservationists fought to keep. Also, because it is familiar to all, it does not seem special and is often poorly understood.
- Alteration, Demolition and Development Pressure. Changing times and tastes have been the demise of many Modernist masterpieces especially in conjunction with the lack of appreciation. “Highest and best use” is often the dominant concept of a developer, which “necessitates” the demolition of a small walk up structure for a high rise or the replacement of a 900 sf single wall constructed ranch house with a two-story 3000 sf Spanish-Mission McMansion.
- The “50-year rule” and other local age restrictions. This is a guideline includes provisions for exceptional significance, most people disregard any property younger than 50-years simply because it is a clear boundary.

This project collected historical research on the built environment in Hawaii roughly during the “Modern” period of 1939 to 1979, with an emphasis on the years between 1947 to 1967. The report contains summary information about the architectural history, leading practitioners, urban planning, significant historic and cultural influences, and relationship to national and international movements specific to the resources of the Hawaiian Islands.

- As the focus is on the built environment, discussion on the following will be included: Principal types, styles, time periods and methods of construction
- Principal architects, landscape architects, artist, builders, craftsmen or designers.
- Impact of the architectural characteristics
- Relationship of cultural influences
- Relationship to environment

2.1 Background

As early as 1978, preservationists expressed concern about the multitude of resources that were constructed after World War II. Though there has been some progress with efforts to preserve resources built in the 1950s, there is still much concern over the enormous number of properties and their rate of attrition.

A 1989 article on “Preserving What’s New” noted that “There were approximately fifteen hundred McDonald’s restaurants constructed to the original design between the early 1950s and late 1960s, and fewer than five survive today [1989].” The author also believes that “there is an inverse relationship between the rate of change and the time it takes for something to be considered historic.”

The historic context for recent past resources was identified as a need in Hawaii through a series of meetings conducted by Historic Hawaii Foundation. Historic Hawaii Foundation was the lead organization for this project and the National Trust for Historic Preservation was the cooperating organization providing project funding as well as project assistance. The National Trust has established a program targeting mid-century Modernism known as “Modernism + Recent Past Program” in an effort to increase awareness of the recent past.

2.2 Objectives

The purpose of a Modern context statement is to provide a framework for the identification and evaluation of buildings, structures and landscapes associated with the modern movement and recent past in Hawaii. Although this is not a survey or inventory of these numerous properties, a few examples are identified in the report.

An important goal of this project is to use this report as a reference and a guide to assist Hawaii’s preservation professionals in the identification, evaluation and preservation of significant buildings, districts, sites and structures associated with this time period; and will initiate a dialogue with the community about preservation goals that will affect what the future Hawaii should look like.

The information specific to property types and styles will provide future reviewers and surveyors with a consistent framework to contextually identify and evaluate resources from this period. Another objective of the report is to provide recommendations for future efforts for the preservation of modern era resources.

2.3 Methodology

A historic context statement is a document used in planning for a community's historic resources and their preservation and integration into the future physical and cultural fabric. It identifies the broad patterns of historic development of the community and identifies historic property types such as buildings, sites, structures, objects or districts, which may represent these patterns of development and provides the framework for evaluating historic significance and integrity. It is a technical document with guidelines set forth in *National Register Bulletin 24: Guidelines for Local Surveys* and *NRB 16B: How to Complete the National Register Multiple Property Documentation Form* which describes the unifying thematic framework by grouping information around a common theme, geography and time period.

2.3.1 Scope of Project

The methodology of work for this project falls into three major categories: background research, data analysis, and community input as discussed below.

2.3.1.1 Background Research/Data Collection

The first phase of the project involved the collection and review of documentation including the following.

- Review of existing information including documents and publications by team members and surveys done for other projects provided by Mason Architects.
- Archival research at the Hawaii State Archives, Hawaii State Library, Department of Accounting and General Services plan files, Department of Permitting and Planning plan files and records, City and County Municipal Reference Library and Archives was done to determine dates, names of architects, owners and other factual information.
- Research to understand the broader national and regional historic context of Modernism.
- Review of national standards and other modern context studies such as context statements from Aspen, Colorado; San Francisco, California; and Riverside, California.

2.3.1.2 Data Analysis

Though the team is familiar with resources in Hawaii, some field work was done for the purposes of identification, historic assessment, and documentation of basic character defining architectural features, as well as identification of unique features. It also served as a way for the team to put the resources in context.

- Photographs were taken from previous studies as well as the current field work. Research data was compiled and analyzed against national standards such as National Register criteria for eligibility and integrity, taking local schools of thought and local resources into consideration.
- The team consulted with a larger preservation group of experts and stakeholders organized by Historic Hawaii Foundation to have input on the analysis, as well as the input of Christine Madrid French director of the National Trust for Historic Preservation's Modernism Program Initiative.

2.3.1.3 Limitations

This context study is not intended to be a comprehensive history of Hawaii during this period, but rather a framework for determining the relative significance of properties and for evaluating their eligibility. While the team has made an effort to be as comprehensive as possible, it should be noted that the scope of work called for a "fifty-page" narrative and thus there were items discussed and noted to be possible future projects. The following were excluded by mutual agreement:

- Military history of Hawaii, though briefly noted, will be left to federal agencies to compile.
- Previous studies are mentioned as resources and not summarized, unless part of an overall summary.
- Comprehensive inventories are not included in this study, but critical ones are mentioned as recommended future studies.
- Neighbor Island travel was not included, however, census studies in the time period indicate that Honolulu's population was growing while the neighbor islands lost population and did not regain their 1940 population numbers until well into the 1970s. Thus the majority of development and built environment was on Oahu in this time period.
- This context study is focused on architectural or design significance rather than cultural significance.

2.4 Project team:

- **Louis Fung**
Mr. Louis Fung, a Historic Architect, is the Principal of Fung Associates, Inc. (FAI). He has been a design professional since 1986 with comprehensive experience in architecture, historic preservation, and planning. He is responsible for all projects under Section 106/110 and Historic American Building Survey Historic American Engineering Record and meets the Secretary of Interior's Professional Qualifications Standards as a Historic Architect. His experience in architecture includes design, construction documents, construction inspection and management of multi-disciplinary designs. He has participated in a wide range of private, military, commercial and government projects.
- **Don Hibbard**
Prior to coming to FAI in 2004, Dr. Don Hibbard was the administrator of the Hawaii State Historic Preservation Office and served as Deputy State Historic Preservation Officer. He is the author of several books on Hawaii's architectural history, and is most recently completing *The Buildings of Hawaii*, an architectural guidebook and history of Hawaii's built environment, which is part of the Society of Architectural Historians' Buildings of the United States series. During the past two years Dr. Hibbard has been heavily involved with architectural inventory surveys, the nomination of properties to the National Register of Historic Places, and preparation of Historic American Building Survey (HABS) and Historic American Engineering Record (HAER) reports. He has also coordinated consultation and written Memorandum of Agreements (MOA) and Programmatic Memorandum of Agreements (PMOA) for agency compliance with Section 106. Dr. Hibbard is completely familiar with historic preservation procedures and various environmental agencies/groups, having over thirty years of field experience in Hawaii. Dr. Hibbard meets the Secretary of Interior's Professional Qualification Standards as an Architectural Historian.
- **William Chapman**
Dr. William Chapman is Professor and Director of the Historic Preservation Program at the University of Hawaii at Manoa (D.Phil, Oxford; M.S., Historic Preservation, Columbia) and a member of Historic Places Review Board. He is an anthropologist and historic preservationist with considerable research and teaching experience in international preservation. A former Fulbright scholar (Italy 1985, Thailand 1999, Cambodia 2002), Dr. Chapman has worked in England, Southeast Asia, the Pacific Islands, the Caribbean, India, and throughout the continental United States. He was formerly Historian, Mid-Atlantic Region, National Park Service, and a faculty member at the School of Environmental Design, the University of Georgia. He has received numerous historic preservation awards and recognitions. Dr. Chapman authored several books and many articles on historic preservation-related topics, which have appeared in the Bulletin of the Association for Preservation Technology, Winterthur Portfolio, Places, Perspectives in Vernacular Architecture, Archaeology, and numerous other journals.

- **Tonia Moy**
Before joining FAI in January 2004, Ms. Tonia Moy was the Architecture Branch Chief of the State Historic Preservation Division (SHPD). Ms. Moy was previously a Trustee of The Historic Hawaii Foundation. She is knowledgeable in applicable building codes, land use ordinance and other related rules and regulations, especially those that pertain to historic preservation. Ms. Moy meets the Secretary of Interior's Professional Qualification Standards as an Architectural Historian. Her experience with historic preservation procedures and various environmental agencies/groups is a tremendous asset for projects of this nature. Ms. Moy was appointed an Associate in 2006 at FAI and has managed all historic projects and many of the residential projects.
- **Mayu Ohama**
Ms. Mayu Ohama joined FAI in 2005 as an intern architect and historic preservation specialist. Ms. Ohama's previous experiences include working for other historic architects in Hawaii and on the mainland. She brings fresh insight and global perspective to historic preservation in Hawaii.



Hawaii Modernism Context Study

3. Architectural History

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3.1 National Context

3.1.1 The Birth of Modern Architecture

Modern architecture has its origins in both changing technology and in the “re-envision-ing” of the social role of architecture in the mid 20th century. The foundations of the modernist movement were in Europe, although many of the technical innovations came from the experimentation of North American designers and builders. Some historians see technological improvements as the driving force behind the new architecture: the development of iron and then steel, followed by increased application of reinforced concrete. Other scholars see the aesthetic revolt against the excessive decoration of the late Victorian period as the key to understanding “modernism.” A few emphasize the simple practicalities of the new architecture — a style of building that emphasizes simplicity and functionality over sentimentality and historical or cultural reference.

The Industrial Revolution lay at the heart of the modern movement. Although most scholars now question historian Nicholas Pevsner’s emphasis on the importance of Joseph Paxton’s iron and glass exhibit hall for London’s Great Exhibition of 1851, few doubt the significance of iron and steel for new directions in building technology during the late 19th century. Iron served as a new supporting material for mill buildings and urban shops and warehouses, offering greater strength and allowing for wider spans and openings. James Bogardus’s innovative cast-iron facings for New York commercial buildings anticipated the curtain walls of mid-20th-century skyscrapers, permitting tall and wide windows and allowing daylight to penetrate deep into compact urban structures. The introduction of steel framing by architects William Le Baron Jenny, Daniel Burnham and others, particularly in Chicago during the 1890s, allowed another progression of technology. These innovations would be critical to the birth of modernism, providing the foundations for changes in aesthetic ideals.

Modernism’s aesthetic revolt had its origins in a number of late 19th and early 20th-century trends. In Great Britain, designers such as Charles Rennie Mackintosh and Edwin Lutyens moved to simplify architectural forms, drawing on both the fanciful work of romantic illustrators, such as Aubrey Beardsley, and deeper vernacular traditions. The Art Nouveau movement, led by practitioners such as Victor Horta in Brussels and Antonio Gaudi in Barcelona, further broke the monopoly of classicism and historicist design, offering alternatives to traditional design strategies and simplifying exterior surfaces and interior plans. Otto Wagner and the Vienna Secession movement were among the innovators in Europe; Louis Sullivan and his onetime employee Frank Lloyd Wright offered alternatives to a few receptive American clients. Wright had a profound impact on European architects following the publication of one hundred of his works in what became the *Wasmuth Portfolio* in 1910 and 1911.

World War I and the turmoil surrounding the Bolshevik Revolution of 1917 would further disrupt older architectural traditions. The prewar “Futurism” movement in Italy encouraged more radical experimentation with structures and forms. In post-revolutionary Soviet Union, artists and architects attempted to create a new bold architecture in keeping with socialist ideals; this short-lived movement was “Constructivism,” an architecture that seemed to return to the roots of building technology. Futurism devolved into the stark simplicity of mid 20th-century “stripped classicism,” a style of building embraced by the Fascists in the 1920s and 1930s. In Russia, a

new, state-led conservatism would replace Constructivist innovations with a resurgent Neoclassicism in Moscow and other Russian cities, which came at times to resemble the architecture of Fascist Italy and Spain. (Many U.S. projects of the 1930s, executed in the different political climate of Roosevelt's New Deal, had much the same character, with their emphasis on simple forms and overall formality and symmetry.)

In Germany, however, the group known as the Deutscher Werkbund (The German Work Federation) broke with these trends. The Deutscher Werkbund attempted to incorporate ideals of artisanship exemplified in the British and American Arts and Crafts movement to create a new kind of building that brought crafts techniques into line with industrial production. The Dutch movement "De Stijl" (meaning literally, "the style") further promoted simplicity and the use of industrial forms. Both of these movements helped to lay the groundwork for new kinds of architecture in the post-World War I period.

Germany provided the most concentrated example of postwar innovation. The Staatliches Bauhaus, known simply as Bauhaus, was the center of the progressive Weimar Republic's experiment in modern design. Located in three different German cities — Weimar, Dessau and finally Berlin — the industrial and art school gained from the leadership of three pivotal figures in modern architecture: Walter Gropius, Hannes Meyer and Ludwig Mies van der Rohe, directors from 1919 to 1933, when the school finally closed. New German ideas had a prominent place at the 1929 International Exposition in Barcelona, introducing the outside world to the new aesthetics of machine-like design. The Bauhaus also made significant contributions to several German cities, before repression by the Nazis. This included as many as 4000 buildings for Tel Aviv during the 1930s. Combining architecture with furniture and fabric design, the school emphasized machine-made products and standardization of techniques and materials.

Modernism had another champion: the widely influential Swiss architect Charles-Edouard Jeanneret, known to the world as Le Corbusier, or "the crow," or more charitably, "the raven." Working independently, Le Corbusier developed a stark and uncompromising architecture that emphasized industrial components and broad expanses of white surfaces. Widely controversial, he developed prototypes such as the Dom-ino House and put forward provocatively visionary ideas such as the replacement of Paris by a grid of high-rise buildings — a proposal that uncannily anticipated the efforts of Urban Renewal in the U.S. during the 1950s and 1960s. With a few highly influential projects, such as the Swiss Pavilion (Pavillon Suisse) at the Cite Universaire of 1930-32 and the much photographed 1928-31 Villa Savoye in suburban Poissy, Le Corbusier's ideas found expression in the Congress International d'Architecture Moderne (CIAM), begun in 1928. Made up of architects from throughout Europe, the CIAM laid out the principles of modern design, promulgating these in a collected volume known as the Athens Charter in 1943.

Although the Bauhaus and CIAM promoted orthodoxy, the early 20th-century Expressionist Movement offered an alternative. Among the most notable practitioners in this genre were Erich Mendelsohn and Bruno Taut, whose Einstein Tower (1919-22) and *Alpine Architecture* (a visionary work published in 1917), respectively, exemplified surrealistic inventiveness and the incorporation of unusual materials and forms. With close alliances to literature and films, especially Robert Weine's famous *The Cabinet of Dr. Caligari*, released in Germany in 1920,

Expressionism celebrated naturalistic forms, unusual massing and radical experimentation. Joined for a short time by architects Walter Gropius and Ludwig Mies van der Rohe, Expressionist architects championed reinforced concrete as a uniquely plastic building material, but also employed brick, glass and steel in unusual ways. Although suppressed by the rise of Fascism and the Nazi Party, Expressionism remained a powerful stimulant for architects of the modern period. Later designers, such as Hans Scharoun in Germany and Bruce Goff in the U.S. employed Expressionist ideas in their well-known work of the 1950s and 1960s. Expressionism also resurfaced in Pop-Art, and in later “Fantasy” and “Googie” Architecture.

3.1.2 Modern Architecture in the U.S.

Architects in the United States were slow to accept the new European initiatives. Most architecture schools still taught using the methods of the Paris-based Ecole de Beaux Arts, concentrating on traditional forms and ornamentation. Certain design innovations, however, began to break the wall of conservatism. Inspired in part by the powerful movie industry, both Art Deco and Art Moderne began to have an impact on the North American streetscape, offering a new both “Jazz Age” and “streamlined” view of the future. The Art Deco style took its name from the Exposition Internationales des Arts Decoratifs et Industriels Moderne (Exposition of Modern Decorative and Industrial Arts) held in Paris in 1925. “Modern” or “Moderne” was a variant on this title.

With its staccato patterns and references to ancient Egyptian, Neoclassical and Aztec and Mayan architecture and design, the Art Deco Style was popular for a wide variety of commercial buildings, particularly buildings associated with the new automotive culture of the U.S. In 1929, the powerful Chrysler Motor Corporation would employ the Art Deco style with dramatic results in its own New York City headquarters building. Other Art Deco inspired buildings served as highway cafes and shopping centers. Movie theaters especially employed the style as did movie sets for many Hollywood films. Reinforced by films of the late 1920s and the Great Depression of the early 1930s — the Busby Berkeley musical “extravaganzas,” especially the “Gold Digger” films, featured Art Deco motifs as a form of escapism — the Art Deco style proved to be an inexpensive way to create a sense of dash and excitement in an otherwise depressed era.

The Moderne Style, a more streamlined and horizontal form of modern architecture, frequently substituted for Art Deco. The Zigzag Moderne, with its regular patterns of geometrical ornament, similarly matched Art Deco in popular design. Known variously as Streamlined, Deco, Zigzag and Modernistic, these new styles helped open the way for more abstract and functional architecture in many American cities. The resort city of Miami Beach thrived on the combined effects of Art Deco and Modernistic buildings, providing a rich fantasy land for northern vacationers, as did Los Angeles, the originator of America’s increasingly influential film industry.

The government-backed architecture of the Depression Era closely aligned with the Art Deco and Art Moderne styles. Inspired in part by the Stripped Classicism of Mussolini’s Fascist designs and by Italian Futurism (see above), the many simplified classical style buildings sponsored through the Works Progress (later Works Projects) Administration (WPA) and

Public Works Administration (PWA) included many features redolent of more the popular architectural designs of Deco, Zigzag and Streamlined Modern. Post offices, railway stations, fire-stations, police stations and schools funded by the federal government embraced the simplicity of the stripped-down designs, both for aesthetic and economic reasons. Bridges, dams and other purely functional structures followed the same general pattern, also employing — as did other public buildings of the era — a bounty of reinforced concrete in their construction. Not expressly “modern” these many buildings helped set the stage for later acceptance of more radical European design ideals.

More high-minded architects both imitated and helped inspire some of these forms. Foremost among these was Frank Lloyd Wright, who disdained both European modernism and popular commercial architecture, but managed still to incorporate both Modernistic and Art Deco features into many of his buildings. Among these was the influential Barnsdall House in Los Angeles (called Hollyhock House) of 1919-20, with its famous Aztex or Zapotec motifs, and the Millard House (called La Miniatura) of 1923, with its distinctive “zigzag” decoration. Although Wright moved on from these projects to what became his mature “Organic Style,” both Art Deco and Modernistic motifs continued to recur in his work, notably in the curving forms of his 1944-51 Johnson Wax Headquarters Tower in Racine, Wisconsin and his Price Tower in Bartlesville, Oklahoma, built in 1956.

There were other American innovators in addition to Wright. Bertram Goodhue managed to convey a modern starkness in his 1914 plan for the mining town of Tyrone, New Mexico as did California-based Irving Gill in his Dodge House of 1914-16. Both architects built upon vernacular traditions of the Southwest, giving them a distinctly modern feel. Gill’s Horatio West Court in Santa Monica (1919) and his Cossitt House in San Diego (1918) demonstrate his affinities to the Cubist movement, while at the same time showing a loyalty to the more traditional Mission Revival so popular at the time in California.

In the next decade, Austrian-born Rudolph Schindler and his compatriot Richard Neutra pushed the Spanish Eclectic Revival Styles of Southern California to new limits, providing Americans a first glimpse of exciting trends in Europe. Schindler’s house for himself, completed in 1923, and his Lovell Beach House of 1926 were clear frontrunners of modernism, showing a debt to both European innovations and simple functionalism. Similarly, Neutra’s Jardinette Apartments of 1928 and Lovell House of 1929 both employed features common to Le Corbusier’s work in France and helped to popularize the new design trend. His work continued unabated during the 1930s and 1940s, serving as the inspiration for many of the more common contractor-built apartment blocks and commercial buildings of the post-World War II era in particular.

On the East Coast, European designs began to gain slow acceptance in the late 1920s and early 1930s. The well-publicized Tribune Tower competition of 1922 introduced many Americans to the work of European architects, including proposals by Gropius, Bruno Taut and Czech architect Alfred Loos. (None were successful and the winning design was a Neo-Gothic building by John Mead Howells and Raymond Hood; Finnish architect Eliel Saarinen’s modernist design came in second.) The Philadelphia Savings Society Building (PSFS) by Swiss architect William Lescaze and his partner George Howe, completed in 1932, would be the first truly “International Style” building in the U.S. Thirty stories high, the building divided into

clear functional areas and featured a smooth face of glass, polished limestone and granite. Office windows formed horizontal strips, only intermittently interrupted by vertical columns. The rear service core had a covering of glazed and unglazed black brick, emphasizing its function. The building was also air-conditioned, which allowed for windows to remain closed.

The pivotal event in the spread of newer, mostly European architectural ideas was the “International Style” exhibit held at the newly founded Museum of Modern Art in New York in 1932. The occasion of the first use of the term, the exhibit featured the work of both European and American architects who exemplified, in the eyes of curators Philip Johnson and historian Henry Russell Hitchcock, the best aspects of the modern architectural movement. Although the title suggested that the movement was primarily an aesthetic one, many of the featured architects objected to the term, believing their work as “outside” of style and more in the way of an honest response to new social and economic conditions. The exhibit nonetheless gave a nod of acceptance to the new movement and sped the acceptance of new architectural ideas in the U.S.

A more immediate cause of acceptance was the influx during the 1930s of several prominent modern architects. Fleeing Nazi Germany, Walter Gropius, Marcel Breuer and then Ludwig Mies van der Rohe, all prominent members of the Bauhaus, took academic positions at American universities; Gropius and Breuer at Harvard and Mies van der Rohe at the Illinois Institute of Technology in Chicago (IIT). Other Bauhaus trained architects and designers taught at Columbia University and Washington University in St. Louis and their influence extended well beyond their teaching. Gropius, Mies van der Rohe and Marcel Breuer all had private practices, and set examples through their well-publicized work.

Throughout this period, American Frank Lloyd Wright continued to make his own mark on the architectural landscape. Rejecting the European-led International Style, Wright maintained a practice from his combined home and atelier Taliesin, in Wisconsin. There he trained a new generation of architects in his own brand of Organic Architecture. With only a few clients and often strapped for funds, Wright managed to keep his name before the public, completing the celebrated Kaufman House, known popularly as Falling Water, in 1934-37, and starting a western branch of his home and school, to be called Taliesin West, at Scottsdale, Arizona, beginning in 1937. Wright also experimented with compact, standardized dwellings he called Usonian Houses and published visions of his new low-density settlement called Broadacre City. As an architectural maverick, Wright was an object of both derision and esteem. Nonetheless, he offered a striking alternative for many younger architects who would hold Wright up as a kind of model of the “architect-as-hero”— an image perpetuated in novelist Ayn Rand’s highly popular *The Fountainhead*, published in 1942 (with eventually over 6.5 million copies sold worldwide).

The 1939 World’s Fair in New York was probably the most popular vehicle of new architectural ideas. Held outside the city on an over 1200-acre site and visited by over 40 million people over nearly two years of existence, the World’s Fair caught the imagination of many Americans. New architectural designs, such as modernist architect Alava Aalto’s Finnish Pavilion, introduced visitors to the new architecture of Europe, while other exhibits, such as those in the Transportation Zone, laid out the possibilities for new cities; one of the most popular exhibits in the zone was design Norman Bel Geddes’s “Futurama,” which featured a

ride over an immense model of a section of the U.S. showing modern divided highways, clean city centers and model suburban homes.

A final impetus in the move toward modernism by U.S. architects was the growing importance of industrial design. Building on a long history of utilitarianism, factory owners began to expand plants along even more ambitious lines in the post-World War I era. German-born architect Albert Kahn's work was among the most admired. In addition to hundreds of factories in the Soviet Union, Kahn contributed substantially to the U.S.'s industrial buildings, beginning as early as 1902. His factory designs included work for the Packard Automobile Company, for General Motors, the Fisher Body Company, Kresge, the Detroit Free Press, Ford and Dodge. By 1938, Kahn had designed, according to some estimates, as many as 20 percent of the factories in the U.S. Highly innovative and open to new engineering ideas, Kahn was hugely influential throughout the country. He was notable especially for replacing older wood members with steel and concrete and with the development of slender "flared mushroom" columns combined with concrete slab floors and ceilings to provide more reliable support.

3.1.3 War-time and Postwar Developments

World War II put a stop to some development but encouraged the introduction of even greater efficiencies. The war required new construction of all kinds: wharfs, dry-docks, hangers, runways, barracks, schools recreation buildings, swimming pools, warehouses, both officer and enlisted housing, administration buildings detention centers, jails, brigs, hospitals, libraries, officers and enlisted personnel clubs and many other kinds of structures. While the WPA and PWA had anticipated some of the wartime needs through projects in the 1930s, most bases and naval stations were not prepared for the wartime buildup and the new demands on facilities. Wood barracks and officer housing, metal aircraft hangers and warehouses answered some of these needs. Tents and other temporary structures offered alternatives.

World War II was a time of maximum efficiency and organization — despite frequent jokes to the contrary — especially on the industrial front. While there was certainly waste, the Navy Seabees and Army Corps of Engineers did all they could to stretch materials and limit costs. Mostly built by private contractors, new housing alone had to meet the temporary needs of up to 6 million military personnel. (The prewar Army had only 200,000 soldiers.) The Army's two construction divisions, the Quartermaster General and the Army Corps of Engineers, for example, laid out five principles to guide mobilization construction plans: speed, simplicity, conservation of materials, flexibility and safety. Based on these principles, construction divisions drew up standardized building plans for simple wood-frame structures. Built in assembly-line fashion, the standardized units included inexpensive and prefabricated materials. A single package could meet the needs of a 125-man company, complete with barracks (with central heating, interior showers and latrines), mess halls, and recreation buildings and supply buildings.

In all the Army developed over 300 different standardized designs. Many followed prewar conventions, consisting of wood-frame walls gable roofs and double-hung windows. Other buildings were more innovative, especially warehouses and hangers. In 1941, the U.S. Navy commissioned a lightweight building produced by the George A. Fuller Company that could be easily assembled and shipped anywhere on short notice. The final design was a 16 by 36 foot

structure, with steel framing, pressed wood lining, sheet metal side walls and plywood ends. This could be set on grade or on wood pilings. There was also an all-wood “Pacific Hut,” produced for use in the Pacific Theater. Named after the site of their manufacture in Rhode Island, Fuller’s Quonset huts became synonymous with World War II — much as did the Willys Company’s ubiquitous Jeep also introduced that year. The Army and Navy oversaw the construction of as many as 170,000 Quonset huts during the war years. The new building transformed the appearance of American military and naval facilities, creating virtual cities of semicircular structures laid out in seemingly endless rows. Sites as remote as Tinian and Guam became enormous expanses of Quonset huts, as did significant parts of the Territory of Hawaii, where the military build-up was particularly significant. Rural sugar fields quickly became the sites of tent and Quonset hut cities, dramatically transforming the character of the islands.

The war effort resulted in over \$23 billion of direct government expenditures and many more billion in associated private investment. The wartime program included military camps, factories to produce munitions, planes and vehicles, test facilities, and housing for defense workers. Typically, industrialists joined with the government for many of these projects and even at the local level private contractors did much of the work (see above). Architects, many in the private sector and some in the military, contributed to the projects, learning to both stretch and substitute materials to meet wartime needs. Both engineers and architects also experimented with new materials and techniques to gain greater efficiencies.

The results of the wartime buildup were multiple. Many civilian workers traveled to new places in order to work in the war effort. Women took on jobs they had never done before. Housing was often at a premium, due to scarcity and the growth of new centers of manufacture. Many of the new plants were in coastal areas to cut down on shipping time and costs. These included many new munitions factories — fully 34 new plants were under construction by the end of 1941 — as well as clothing factories, automobile and truck manufactories and especially shipyards. Construction of the million square-foot Pentagon began in 1941, before the U.S. entered the war. This effort alone employed hundreds of workers and eventually housed over 40,000 War Department employees.

There were a number of innovative new buildings as a result of the effort. The Navy created a total of 17 new hangars for its blimp fleet, anticipating the need to patrol for submarines. These measured 1000 feet long and 300 feet wide and were the equivalent of 18 stories high. Lacking sufficient steel for the structures, the engineers devised a way to build most in wood. In Hawaii, Navy engineers developed the largest fuel storage facility ever made. Carved out of the mountains of Red Hill on Oahu, 20 domed cylinders measuring 250 by 100 feet provided storage for over 6 million gallons of fuel. There were also innovations in the construction of military airports and airstrips. Portable runways and hangars aided the effort, especially once the Pacific War was underway.

On the civilian front, workers faced round-the-clock work shifts. Factories and familiar landmarks had new coverings of camouflage paint and nets. Florescent lighting won respect and acceptance due to its cheaper operating costs and better light quality — an important factor for night shifts as well as for workers during the day, since many factories were either windowless or had received a coat of blackout paint over their windows. Workers lived in new housing tracts, such as that developed by Henry Kaiser in Vanport, Oregon in 1942 to provide

housing for 40,000 shipyard workers and their families. At Oak Ridge, Tennessee, the Army Corps of Engineers allocated \$1 billion to house some 47,000 workers working on the production of uranium for the then secret development of the atomic bomb.

The relocation of more than 15 million Americans to war production centers constituted the greatest internal migration in the nation's history. Between 1940 and 1944 more than 500,000 people moved to Los Angeles alone. Many of these worked in new aircraft plants on the city's outskirts. Developers built residential projects near these plants, hastening the decentralization of Los Angeles. Not only housing but highways changed as well. Los Angeles built many new roads and exploited its existing buses and trolley cars to their fullest. In Detroit, civil engineers devised the first tri-level highway interchange, built in 1942 near the Willow Run bomber plant outside Detroit to accommodate the thousands who commuted to work there.

Architects and designers played an important part in many of these innovations. The government commissioned Frank Lloyd Wright, Walter Gropius and Richard Neutra to design defense housing. Their projects were among the first to employ flat roofs, slab-on-grade construction and large windows, introducing Americans to European ideas that had seemed distant before. Several contractors, such as Henry Kaiser in the west and Levitt and Sons on the East Coast, revamped their approaches to housing, developing new efficiencies of scale in purchasing and construction. Some of these developments extended into the late war and postwar period as well. Levitt used his experience to construct several large "Levittowns" immediately after the war. Henry Kaiser did the same in Southern California. (In the 1960s, he would extend his methods to Hawaii as well.) All of these developments provided housing for many of the war's veterans and their families, eager to settle into homes and make up for lost time.

Several experimental efforts, such as inventor Buckminster Fuller's Dymaxion House, begun in collaboration with Beech Aircraft Company in Wichita, Kansas, in 1944, never found acceptance. Other projects, such as that of the Lustron Corporation, which manufactured prefabricated steel houses from military surplus, were short-lived; the company began in 1947 and was out of business by 1950. But all of these projects indicated openness to new ideas and techniques and application of wartime experience. In Los Angeles Charles and Ray Eames worked on molded plywood furniture as a direct result of their designs for the Navy. Zenith Plastics also took the Eames brothers' designs into new territory, creating the first plastic chair.

The war generated a lasting legacy in the form of new buildings, new ways of designing and building and new building types. People also were used to moving from place to place and became accustomed to utilitarian structures and surroundings. The end of the war — in 1945 — marked a time of new beginnings as well. Many factory workers preferred to stay where they were; California experienced an enormous boom in population, and once faraway places, such as Hawaii, attracted new populations, particularly of former service personnel seeking new lives. The suburbs developed in unparalleled proportion, providing housing and schools for veterans and their families and also for civilian workers eager to settle down. New highways, including the beginning of the national System of Interstate Highway and Defense Highways, inaugurated by President Dwight D. Eisenhower in 1956, began also to transform the countryside as well as linking new communities. Inspired in part by Germany's successful "autobahn," together with the prewar Pennsylvania Turnpike (started in 1940), the new highway system further underwrote the automobile industry in the postwar period. America's towns and

cities were soon well on their way to becoming the kinds of disbursed settlements we know today, while urban centers were soon to experience the jolt of economic divestment. This was Wright's Broadacre City come to life, but without the authority and aesthetic sensibility of the architect.

3.1.4 The Triumph of the International Style

Americans in the late 1940s and 1950s were open to new architectural ideas, but slow to reinvest in new institutional and corporate buildings. Many of the first larger buildings were continuations of prewar projects. W.S. Arrasmith's celebrated design for the Greyhound Terminal in Cleveland, completed in 1948, adhered to a predilection for Streamlined Modern that had been evident in his prewar terminal buildings as well. Similarly, Frank Lloyd Wright's iconic Guggenheim Museum, first unveiled in 1943, went through several minor modifications until its completion in 1959. Modernistic traits show up as well in Wright's Research Tower for the 1930s Johnson Wax Company Headquarters in Racine, completed in 1951 and in his Price Tower of a few years later (see above). However, with his Marin County Civic Center in San Rafael, California, begun in 1957, and his Gammage Auditorium in Tempe, Arizona, one of his last projects before his death in 1959, he showed a creative affinity for older classical forms — although in a distinctly modern vocabulary.

Wright was openly opposed to the new direction of postwar architecture and pressed for a uniquely American solution to the country's needs. He was bitter about his rejected design for the new Air Force Academy, criticizing the winning design by the Chicago firm of Skidmore Owings and Merrill (SOM) as lacking in romance and imagination. Wright continued to experiment and to promote the idea of affordable, yet elegant housing for the middle classes, partnering with contractor Marshall Erdman — builder of the Unitarian Society of Madison, one of Wright's earlier projects — to manufacture prefab houses. Like Wright's proposed "Mile-high Tower" for Chicago (also known as Illinois Sky-City), the Marshall Erdman Prefab Houses project came to little, with only a handful of projects completed between 1957 and 1960, when the business ceased.

Some of the most prestigious new buildings of the postwar period were those designed by the very architects that Wright opposed. In 1953, Walter Gropius, fresh from completion of the Harvard University Graduate Center (1949-50) and by then a teacher of many young and ambitious architects, unveiled his design for the Boston Back Bay Development Center. An integrated grouping of low-rise industrial style buildings, punctuated by two glass and concrete towers, Gropius's design was harbinger of the new movements in both planning and architecture. Not content to work within the preexisting grid of Boston's Back Bay, Gropius created a separate "campus" with walkways, parks and parking structures. Never built, the proposed development set new standards that other architects would soon emulate.

Among the first of the new commercial complexes was Lever House in New York City, designed by the young firm of SOM in 1953. Like the proposed Boston Back Bay Development Center, Lever House is a combination of a low-rise podium combined with a tall steel and glass tower. Lever House would be the first New York skyscraper designed around an urban plaza, and again like Gropius's earlier project, conspired to break the constraints on Manhattan's grid of streets. Not to be outdone, Ludwig Mies van der Rohe, the inspiration for

the partners of SOM, designed the nearby Seagram Building, a bronze and glass tower again set in a public plaza. Completed in 1958, the building was in part the brainchild of Seagram heir Phyllis Lambert and would become probably the most notable of “Miesian” buildings in the U.S. Philip Johnson, onetime curator at the Museum of Modern Art and a later student of Walter Gropius at Harvard, collaborated on the design.

Mies had been active in Chicago as well. Still teaching at IIT (Illinois Institute Technology), he had designed his first tall apartment building for the city in 1949. A year later he was involved in one of his most important commissions, the twin towered Lake Shore Drive apartments overlooking Lake Michigan and the Illinois River. Mies's midcentury designs drew heavily upon his work with the Bauhaus in the 1920s and early 1930s. He was particularly enchanted with the idea of a unifying “grid,” based on his own system of ideal proportioning. He also celebrated the industrial “I” beam, using it both as the basis for his glass curtained walled buildings' frames and as a unifying exterior embellishment — a new kind of “classical order” as both Mies and architectural historians have recognized.

In the early 1960s, Mies's glass boxes proliferated in the major cities of the U.S. Mies's own work included the IBM Plaza in Chicago (1966), Lafayette Towers Apartments in Detroit (1956), Highfield House in Baltimore (1964), S.R. Crown Hall at IIT (1950-56), and the University of Chicago, School of Social Administration (1962). Other projects in the Miesian style included the California College of Arts, San Francisco Campus, begun in 1951 and designed by SOM, the Chase Manhattan Bank in New York, designed by Gordon Bunshaft of SOM (1961), and the U.S Air Force Academy, again designed by the SOM team, with Walter Netsch designing the strikingly symbolic Chapel (1956-1962). Sixth Avenue in New York became in the process a canyon of gray and black tinted skyscrapers, most with foreboding concrete plazas beneath.

Not all modern architecture was in a style that imitated Mies. The team of Stafford, Morin and Longwood completed the International Style Eugene City Hall in 1964. Employing concrete, steel and glass curtain walls, the architects managed to create a more domestic and friendly version of modern architecture for West Coast consumption. Similarly, Italian-born architect Pietro Belluschi fitted the modest 12-story Equitable Life Assurance Building in Portland, Oregon with a glass curtain wall that seemed not to intimidate so much as Mies's Chicago and New York City slabs. In New York itself, an international team created in the late 1940s and early 1950s the campus of the new United Nations Secretariat buildings using a range of modernist idioms. Principal among the designers were Le Corbusier, his admirer Brazilian architect Oscar Neimeyer and American architect Walter K. Harrison, who coordinated the efforts.

The architecture of glass and steel found its complement in the more sculptural forms employed by Le Corbusier. Active in the rebuilding of Europe with such important commissions as the Unite d'Habitation in Marseilles, Le Corbusier began to explore the use of reinforced concrete to greater effect. In the U.S., he designed the Carpenter Center for Harvard University (1961-64) again employing concrete panels and a complex circulation system of ramps and overlooks. The beginning of his more mature work at Chandigarh in India (built between 1950 and 1956) and his stark and sculptural Notre Dam du Haut in Ronchamp (1953-55) and Monastery of Sainte-Marie de la Tourette in Eveux (1956-59), the Carpenter

Center provided a striking alternative to Mies's glass and steel structures. It also anticipated one of the later movements that moved self-consciously away from the International Style — late 1960s and 1970s "Brutalism."

In addition to Le Corbusier, other European architects left their mark on American building in the late 1950s and early 1960s. Foremost among these was Finnish architect Eero Saarinen, son of Eliel Saarinen of the Chicago Tribune contest. Saarinen was born in Finland, but spent his youth at the Cranbrook Academy outside of Detroit, where his father taught art. Educated in France at the Architecture School at Yale, the younger Saarinen made his first mark designing furniture. In 1940, he received a first commission for the Crow island School in Winnetka, Illinois. Saarinen returned from service in U.S. Army intelligence (OSS, the Office of Strategic Services) to receive an important commission from General Motors for a new Technical Center, a project he completed in 1956. He soon afterward designed headquarters for a number of U.S. corporations, including John Deere (1963), IBM (1957-61) and CBS (1965). He also designed buildings for several U.S. colleges and universities, including Vassar and Yale. While his early work was much akin to that of Mies van der Rohe, he soon moved on to far more expressive and fanciful forms. These included his bird-like TWA Terminal at New York's Idlewild (now Kennedy) Airport (1962), Dulles Airport outside of Washington, D.C. (1958-62) and the soaring Gateway Arch at St. Louis (1961-66), probably his best remembered work.

All broadly "International Style" in character, Saarinen's buildings introduced a new heroic spirit somewhat at odds with the former vision of "architecture as machine." His work also recalled early modernism's Expressionist movement as well as hinting at Le Corbusier's more "brutal" designs. Other architects similarly tested the envelope of the new orthodoxies. Finnish architect Alvar Aalto brought a kind of timeless vernacular quality to his Baker House dormitory for MIT in 1947-48. Mies's one-time student Bertrand Goldberg offered an alternative, far more sculptural version of his master's Lake Shore Drive apartments in his Marina City project of 1959-64. Works such as these suggested new directions in modern architecture away from the glass box toward more dynamic molded forms. In retrospect, despite its enormous impact, the heyday of International Style as conceived by Walter Gropius and Mies van der Rohe during their Bauhaus days lasted no more than a few short years.

Nothing better illustrates the shortcomings of the pure Bauhaus designs than the private housing market of this period. Mies himself designed the purely geometric Farnsworth House in Plano, Illinois in 1951. Gropius's student Philip Johnson created his own Glass House on his estate in New Canaan in 1949. However, modernist houses such as these and Richard Neutra's Bailey House in Santa Monica, constructed in 1946, appealed more to connoisseurs of modernism. Most home owners preferred more traditional forms — a point later made by writer Tom Wolfe in his attack on modernism, *Bauhaus to Our House*. There were exceptions of course. Joseph Esherick's shingle-covered Cary House in Mill Valley, California and Pierre Koenig's famous Los Angeles Stahl House had more popular appeal, the Stahl House, perhaps because of its dramatic hillside setting. Both designed in 1960, these became prototypes for high-end houses in Palm Springs and in other parts of the country, becoming part of what later writers have characterized variously as "Mid-Century Modern," "California Modern" and "Tropical Modern." (The Cary House was also the progenitor of the so-called "Shed" style, later explored by Charles Moore and other architects.) Charles Eames's modest

house in Pacific Palisades of 1949 likewise piqued the public's imagination due to the simplicity of its industrial parts and its overall modesty.

3.1.5 Alternative Trends

By the mid 1960s, the simple box forms of the full-blown Miesian style had fallen into disrepute. In part because of their simplicity of design, the glass enclosed skyscrapers of the 1950s and early 1960s offered little in the form of innovation. Already, by 1960, architects were looking for ways out of the cage of industrial looking designs toward new forms of inspiration. Among the most prolific of American architectural adventurers was Louis Kahn. Estonian born and American educated, Kahn was an architectural educator long before establishing his own distinct style. Adhering to International Style orthodoxy into the 1940s, Kahn had an opportunity to spend a year at the American Academy in Rome, a move that dramatically changed his aesthetic directions. Kahn's buildings of the late 1950s and early 1960s moved away from the stark glass boxes of the International Style toward a new, volumetric architecture based on simple massed forms. His work also celebrated the distinct character of materials, whether brick, ceramic or concrete. The Richards Medical Research Laboratories at the University of Pennsylvania (1957-65), the Salk Institute in La Jolla, California (1959-65) and the First Unitarian Church in Rochester, New York (1959-69) established Kahn's reputation as an innovator and helped point new directions in modern architecture. His National Assembly Building in Dacca extended the impact of his work abroad.

Kahn's example opened the door for other experiments in modernism. Kevin Roche and John Dinkaloo further explored the honest expression of masses in materials in their designs for the Ford Foundation Center in New York City (1968) and the Knights of Columbus Building in New Haven, Connecticut (1969). Furthering the direction of architects such as Kahn and Roche-Dinkaloo, the Structuralism movement, engendered in part by Dutch writer and architect Aldo van Eyck's influential publications, attacked the simple Functionalist rationale of European Modernism, as expressed through the still active CIAM. Structuralism, also known as the Structuralist movement, called for a new architecture based on the inherent logic of forms. Louis Kahn's Kimball Art Museum in Fort Worth (1967-72) would embody these ideals as would the work of Junzo Sakakura and Kenzo Tange in Japan and John Habraken in the Netherlands. Le Corbusier himself produced several buildings in the Structuralist mode including some of his earlier projects. His collaboration with Japanese architects Kunio Maekawa, Junzo Sakakura and Takamasa Yoshizakai on the National Museum of Western Art in Tokyo, built in 1959, had clear Structuralist affinities.

The most dramatic break from the glass box was a countermovement known as Brutalism. Given this name by British architectural critic Reyner Banham in 1966, Brutalism used repetitive angular forms, rough blocky outlines, often incorporating dark foreboding interiors. Brutalist architects, such as Alison and Peter Simpson in the United Kingdom and Robin Gibson and Ken Wooley in Australia, insisted on the movement's adherence to architectural honesty and practicality, citing the style's "non-romantic" qualities and its visual excitement. U.S. based architects, beginning with Harvard's Walter Gropius, saw aesthetic values in Brutalism, emphasizing concrete and stone surfaces with clear sculptural values.

Brutalism relied on various exterior materials, but tended to revert to molded concrete precisely for its bold and harsh textures. Practitioners took their lead from Le Corbusier's postwar housing projects as well as his famous monastery of Sainte-Marie de la Tourette. Boston's City Hall, designed by Gerhardt Kaffmann and N. Michael McKinnell, exemplified the Brutalist spirit, providing an intimidating, block-like structure at the center of an open paved square. The structure is suggestive of a Renaissance palazzo, but it also conjured up images of Piranesi's nightmarish prisons. Louis Kahn's architecture incorporated many Brutalist features, notably his library for Phillips Exeter Academy of 1965-71. Brutalist architecture was especially popular on university campuses. Notable examples are Paul Rudolph's Architecture School Building at Yale (1963) and the J. Edgar Hoover Building in Washington, D.C., designed by Charles F. Murphy and Associates in 1964 (and inaugurated in 1975). Never widely popular with the public, Brutalism seemed to reflect the strident emotions of the late 1960s and early 1970s. However, many "softer" designs reflecting both Brutalist and other aesthetic directions have been more widely accepted; good examples are the Washington, D.C. Metro stations with their Neoclassical features.

Brutalism found its equivalent in the more "polite" architecture of New Formalism, which represented an effort to bring greater elegance to otherwise International Style buildings and provide greater "formality" through the reinstatement of traditional hierarchies in plans and facades. The principal adherents of New Formalism were Edward Durell Stone, Phillip Johnson and Japanese-American architect Minoru Yamasaki. All came to the style through different intellectual routes and different projects. Stone's architecture drew deeply from his exposure to Indian and Middle Eastern Architecture. His U.S. Embassy in New Delhi of 1954 set his career on a new trajectory and gave him wide recognition, including a cover on *Time* magazine. Stone's architecture typically employed lavish materials such as marble to create an overall effect of timelessness or "romantic historicism." Stone's architecture, as represented in prominent projects such as New York's Gallery of Modern Art for A&P Supermarket magnate Huntington Hartford (1964), the Kennedy Center for the Performing Arts in Washington, D.C. (1962) and Fort Worth City Hall (1967) reintroduced a kind of Beaux Arts formality back to architecture.

Phillip Johnson's long career took him through several architectural modes or styles. His design for the New York State Theater (now David H. Koch Theater) at Lincoln Center in 1964 marked a departure from his earlier Miesian vocabulary, just as it had for Edward Durell Stone; Johnson had helped tap Stone for the design of the Museum of Modern Art — a clearly international Style design — in 1939. Johnson's Amon Carter Museum in Fort Worth (1961), Kreeger Museum in Washington, D.C. (1967) and New York State Pavilion for the 1964 New York World's Fair all shared New Formalist elements: regularly spaced columns, a central entrance, smooth wall surfaces and an overall monumentality. Minoru Yamasaki's buildings of the same period melded New Formalist motifs with International Style. His IBM Building in Seattle (1963), Century Plaza Hotel in Los Angeles (1966) and World Trade Center Towers (1971-72) borrowed from Gothic, Middle Eastern and Classical ideals and combined International Style grids and curtain walls. Many of Chinese-American architect I.M. Pei's buildings similarly drew from multiple phases of the Modern movement, often with a New Formalist flavor.

Other late modern movements included a recurrence of Expressionism and the visionary movement known as Metabolism. An outgrowth in part of Le Corbusier's late architecture and in part a re-exploration of themes developed at the beginning of the 20th century, Expressionism — sometimes called Neo-Expressionism — was resurrected by Mexican architect Luis Barragan and German theorist Matthias Goeritz in their collaborative Torres de Satelite (1957-58), a grouping of monumental sculptural towers in Naucalpan, Mexico. Eero Saarinen's 1962 TWA Terminal at Idlewild Airport (now JFK) also exemplified the short-lived Neo-Expressionist movement as did Jorn Utzon's highly controversial, but clearly distinctive, Sydney Opera House of 1957-73.

Metabolism as an architectural movement had its greatest impact through a series of visually exciting proposals published in both popular magazines and architectural journals. Several Japanese architects led the Modernism movement: Takashi Asada, Kisho Kurokawa, Kiyonori Kikutake and writer Noboru Kawazoe, who was inspired by the work of Kenzo Tange. These Metabolists put forward revolutionary designs for new urban constructs. They presented their manifesto at the World Design Conference, held in Tokyo in 1960. Completed works included Tange's Saint Mary's Cathedral (1964) and Kurakawa's Nakagin Capsule Tower (1970-72), both in Tokyo. Moshe Safdie's Habitat for the Montreal World's Fair in 1967 and the British Archigram movement also had close ties to the Metabolist vision.

3.1.6 Popular and Utilitarian Forms

Many Americans of the 1960s found themselves out of step with the new architecture of the times. Brutalism gained few adherents, and both Expressionism and Metabolism remained unpopular among the working and middle classes. The same was true of planning initiatives. New highways, the beginnings of mega malls and the refrains of urban renewal made many Americans question the direction architecture and planning were taking during the last part of the 20th century. The first rumblings of a national historic preservation movement were symptomatic in themselves of a growing disenchantment among some members of the public.

For most Americans, architecture was something left to experts and not subject to question by the lay public. Architects reinforced this idea, by distancing themselves from the needs of everyday people as they became embroiled in battles of architectural movements and political ideology. Nonetheless, a few architects responded to popular interests. Other buildings, often by non-architects, also contributed new, whimsical constructions to the changing environment of America's cities, towns and open spaces.

A prevalent style during post Second World War movements was "Googie" architecture transformed everyday forms, including those engendered by various phases of the modern period, into fanciful structures aesthetically aimed at "everyman" Connected in large part to popular interests in space travel — and in UFO's! — This style was sometimes described as Exaggerated Modern — the Googie appellation seems to have been specific to Southern California. Googie transformed the roadways of parts of the country with eccentrically designed service stations, restaurants, billboards and motels in popular motifs. Often, Googie designs appropriated direct symbols from other contexts: concrete *tipis* for cabin courts; space needles for viewing platforms and revolving restaurants; products, such as syrup bottles or hotdogs, for fast food stores — a "subset" of Googie, sometimes referred to as

Programmatic Architecture. Big Boy, Paul Bunyan, Aunt Jemima and Santa's Land all caught the eyes of passing motorists, adding to the jumble of auto-dealerships and other new businesses at the edges of U.S. towns and cities.

Saarinen's TWA terminal flirted with the Googie idea but most American architects remained oblivious to this kind of popular architecture. The exception was Robert Venturi, whose book *Complexity and Contradiction in American Architecture*, published in 1966, suggested that popular forms (as well as older styles of architecture) had an important place in the built world. Googie architecture sometimes imitated "high-style" designs as well. Typically, roofs swept upward, geometric shapes took new forms, and both neon lighting and glass and steel became sculptural elements in the fantastic designs of usually anonymous designers. These new popular forms referred to as Commercial Architecture, Novelty Architecture, Fantasy Architecture and simply "Pop" Art and Architecture transformed the edges of cities and penetrated into the centers as well. McDonald's "golden arches" pointed the way to new kinds of commercial development; Capitol Records' famous circular tower — located at the edge of Hollywood Boulevard in Los Angeles and designed by Welton Becket and Associates in 1955 — gave powerful expression to the growing power and influence of popular culture.

One of the great examples of this new, "metaphorical" or "programmatic" architecture was the architecture and interior design associated with what we know now as "Tiki Culture." The Tiki style is credited to restaurateur Ernst Raymond Beaumont-Gannt, also called Donn Beach or even more commonly "Don the Beachcomber." Tiki was further popularized in late 1930s and 1940s Hollywood with its evocation of distant tropical places. Joined in the prewar period by Oakland-based Trader Vic's, Donn's original idea gained greater traction in the postwar period in large part because of the America's wartime experience in the Pacific. James Michener's *Tales of the South Pacific* and the subsequent Broadway show *South Pacific* helped popularize the style. Tiki lounges sometimes imitated traditional dwellings of Pacific Island peoples; the Bali Hai in New Orleans featured a Yapese ceremonial house with imitation grass roof and coconut decorations. Although architects and builders in the U.S.'s tropical outreaches — the postwar island possessions of Micronesia and the territories of Guam and Hawaii — sometimes based their structures on specific indigenous traditions, most of Tiki was clearly generic in character. The style fulfilled a fantasy of exotic places, just as did films and songs. Tiki — along with such Hollywood mainstays as Grauman's Egyptian (1924) and Chinese Theaters (1926) and Wilshire Boulevard's Brown Derby restaurant (1926) — also helped lay the ground work for attractions such as Disneyland and many other theme parks of the late 20th century.

Although popular images dominated the commercial strips of America's highways, other kinds of buildings began to proliferate in suburban areas. The 1950s and 1960s were the decades of the ubiquitous "Ranch House" and "Tract House." Identified also as the American Ranch or Western Ranch, the Ranch House emerged as a housing type of choice in the 1950s. With its one-story elevation, easy access to the rear yard and relatively inexpensive construction costs, the Ranch House became a favorite style among the growing population of Southern California and large housing developments throughout the country. Derived in part from Craftsman-era bungalows and in part from Spanish-period haciendas, the Ranch House epitomized the casual, semi-outdoor lifestyle of the West Coast. Architects Cliff May and

William Wooster helped promote the Ranch House ideal in issues of *Sunset* magazine and through May's book *Western Ranch Houses*, published in 1958.

The Ranch House eventually took on distinct regional styles during the 1960s. The East Coast featured the "Colonial Ranch," a stylistic variant that competed with well accepted traditional forms such as the "Cape Cod" cottage style. Both Ranch Houses and Cape Cod Cottages became standard options for tract house builders throughout the country, including Levitt and Sons on the East Coast and builders such as Henry Kaiser in California (see above). By the late 1950s, the "split-level ranch" offered yet another choice. Efficient, cheap to build and employing standardized components, the suburban tract house became the housing form of choice for many Americans during this era, as new areas developed and cities lost their traditional populations causing of the growth of the suburbs.

Not all builders were content with this model. California builder Joseph Eichler attempted to improve on the suburban tract home through more comprehensive planning and the introduction of clearly "modernist" features in his housing units. Between 1950 and 1974, he developed nine large communities in both Northern and Southern California, totaling 11,000 houses in all. Eichler's houses typically incorporated open floor plans, "cathedral" ceilings, sliding glass doors and clean, simple lines into their designs. Industrialist, shipbuilder and developer Henry Kaiser applied some of Eichler's concepts in his owned planned communities, including that of Panorama, California and Hawaii Kai in Hawaii.

By the 1960s, a few more experimental architects had begun to look again at single houses, offering in part an alternative to tract housing. The most famous of these ventures was Sea Ranch in Gualala, California, about 100 miles south of San Francisco. Located in a large natural reserve, Sea Ranch took advantage of its setting, providing unobstructed views from each house and blending with the terrain. Laid out by landscape architect Lawrence Halprin, Sea Ranch employed a number of architects, including Joseph Esterick, Charles Moore and William Turnbull to create a distinct collection of private houses. Much of Sea Ranch's architecture draws from vernacular traditions of the west, including shed roofs, shingle and vertical board siding and informal relationships among forms. Originally conceived in 1963 by architect and planner Al Boeke, Sea Ranch would eventually expand to over 1800 dwellings.

While intended for relatively affluent clients — in fact most of Sea Ranch's houses are second homes — the Sea Ranch project helped open the door for more experimental dwellings. These would range from high-end one-of-a-kind custom houses, to imported Japanese "kit" houses, to naïve, self-built houses by artists and individualists. The 1960s marked as well the reintroduction of Buckminster Fuller's geodesic dome — a form inaugurated at Black Mountain College in North Carolina in the late 1940s and employed at a number of expositions and for commercial uses during the 1950s and early 1960s — as a popular housing type among "counter-cultural" builders beginning in the mid-1960s.

By the 1960s, America's cultural landscape had changed radically from prewar years. The Inter-State Highway System had expanded greatly along with networks of secondary roads leading to suburbs, shopping centers and a growing number of "business malls" and "industrial parks" located far from city centers. The 1960s marked the full blown emergence of the shopping mall as the focus of retail life for many Americans. Growing out of early clustered

plazas of the 1920s and 1930s, the first full-fledged suburban shopping center debuted in Seattle, Washington in 1950. The Northgate Center was anchored by a single department store and included a range of retail and food services. It became the model for many other open-air shopping facilities during the 1950s and early 1960s. Developer Victor Gruen conceived the idea of enclosing malls, beginning with the Southdale Center in Edina, Minnesota in 1956. Hundreds of other malls followed in the late 1950s and early 1960s.

While Victor Gruen's shopping malls were transforming the nation's retail experience, other kinds of buildings were filling in the gaps between suburban housing tracts, older urban centers and the new satellite office and commercial centers of "exurbia." Filling stations, fast-food stores, motels and low-rise apartments and, eventually, "townhouses" grew up along roadsides radically altering the appearance of the U.S. countryside. Standardized building types began to emerge to answer these new needs. The Butler Manufacturing Company established in 1910 introduced prefabricated metal grain bins and storage buildings, and a new line of steel frame structures in 1939. In the postwar period, Butler and many competitors replaced earlier one-of-a-kind utilitarian buildings with standardized versions. Other innovations, such as "mansard" roofs which masked rooftop equipment, spread rapidly McDonald's introduced its new "mansard" design in 1969 and it was soon utilized in home and apartment construction.

By the early 1970s, American architecture consisted of a few prestigious buildings for corporations, universities or other institutions and a plethora of popular and utilitarian designs for the general public. Many architectural "consumers" obviously preferred the familiar forms of the roadside strip. House owners also leaned toward traditional designs, a preference underwritten by mostly conservative bank lending officers. By the 1970s, these preferences were prevalent in commercial architecture and subdivisions, which led to its impact on the design of larger buildings. Post Modernism, a movement linked to literature and film, had translated to architecture. Robert Venturi, Michael Graves and Charles Moore all flirted with architectural forms that connected with the past — whether a Classical past or vernacular one. Venturi's second important book *Learning from Las Vegas*, published in 1972, cited the importance of ornament for "meaning" and "association" and the need for architects to better answer to the needs and expectations of the public. By the late 1970s, Venturi's appeal had found wide acceptance. When architect Richard Meier and other members of The New York Five — the others were Peter Eisenman, Michael Graves, Charles Gwathmey and John Hejduk — began their exploration of early modernism, it was difficult to know if this was a return to the roots of the 20th century's most important architectural movement or simply another aspect of late 20th century, post-modern perplexity.

3.1.7 Modernism in Hawaii

Modernism had an immense impact in Hawaii, which a small Polynesian kingdom, a short-lived "republic," and after 1898, a territory of the U.S. Although of great strategic importance — a fact made especially clear by the Japanese attack on Pearl Harbor in 1941 — Hawaii was in an architectural vacuum during the early part of the 20th century. A few nationally recognized architects had completed notable structures in Hawaii: the New York firm of Warren and Wetmore had designed the Royal Hawaiian Hotel in the 1920s and New Yorker Bertram Goodhue had been responsible for proposing designs in the "Spanish Colonial Revival" idiom

he had helped popularize at the San Diego Panama-Pacific Exposition in 1915. Goodhue had designed the Honolulu Academy of Arts, a building many see as contributing to Hawaii's strong regional character. However, most of the buildings of the prewar era were fairly representative versions of mainland buildings, leaning toward "tropical styles" and conventions of the Ecole de Beaux Arts.

In the late 1930s, a few harbingers of modernist buildings began to appear in Honolulu. Improvements at the Army's Schofield Barracks, a WPA project, incorporated Art Deco and utilitarian features that hinted at modernism. The public park at Ala Moana Beach, also a WPA project, incorporated a range of Moderne and Art Deco features, giving it a modern feel. (A few movie theaters and some commercial street fronts also had modernistic qualities that contributed a new feeling to urban areas.) World War II, however, would change Hawaii's position in the world and infuse it with "national" significance. Military construction was a large part of this transition. Acres of temporary housing, tents and Quonset huts changed the rural character of Hawaii overnight. There were massive fortification projects, an expansion of the airfields and projects of national significance such as the fuel storage tanks at Red Hill.

The war brought Hawaii's role to the forefront of the American perspective place in the national picture. Hawaii was very much a subject of world news throughout the war. Hundreds of thousands of U.S. service personnel spent time in Hawaii or passed through on their way to other sites and campaigns in the Pacific. The war acquainted Hawaii's builders with new techniques of construction. Continuing a longstanding proclivity for utilitarianism — the islands' many sugar and pineapple plantations were anything if not paragons of frugality — the military's construction techniques set the standard for postwar developments. Cheap imported materials, standardized components and projected, relatively short building life-spans became the standard for many postwar Hawaii builders as Hawaii faced its new role as a fully integrated state in the union.

Modernism as an architectural movement got a slow start after the war. A few buildings of the late 1940s and early 1950s showed a clear influence of modernist ideals. Russian-born Vladimir Ossipoff's Liberty Bank and Office Building of 1952 had a stark white-walled appearance reminiscent of early Le Corbusier's architecture. Other good examples of early modernism include the Delagado Apartments, designed by architect Cyril Lemmon in 1948, and the Rosalei Apartments, designed by Morrison and McDonald, built in 1955. Sinclair Library at the University of Hawaii, designed in 1955 by the firm of Lemmon, Freeth and Haines, and the Princess Kaiulani Hotel on Waikiki, by architect Gardner Daily dating to 1955, are other good examples of modernism "come to Hawaii." Several smaller hotels and apartment units exhibited the characteristic of modernism; the Hale Croton built in 1952, built by contractor C.H. Ching; the Ala Wai Apartment Building, also dating to 1952; and the White Sands Hotel, planned in 1957 and completed the following year.

All of these modernist buildings had simple spatial grids and consisted of reinforced concrete slabs supported by concrete posts. Typically CMU, or concrete tiles (blocks) served as infill for walls. Hawaii's warm climate and the high cost of importing materials caused local architects and builders to shy away from the Miesian formula of steel framed, curtain-walled buildings, in favor of concrete for both structural systems and facings. Many experimented with different patterns for CMU walls. Stacked, indented (or protruding), split faces and pierced blocks were

popular with “high end” architects and contractors, giving these earliest buildings a strong sense of “newness” and novelty. A few architects also used angular splayed and battered walls, lending their otherwise modest buildings a sense of unusual grandeur. A good example is the 1962 Waikiki Bellevue Apartment Building, on Ala Wai Boulevard, with its dramatically cantilevered lanais and parking area.

The proclivity for concrete construction predisposed Hawaii’s architects toward both New Formalism and Brutalism once these styles became popular in the 1960s. Vladimir Ossipoff’s 1962 IBM Building on Ala Moana Boulevard has clear affinities with buildings such as Edward Durell Stone’s American Embassy in New Delhi, with its formal pierced “screen” of lace-like concrete panels. Similarly, Roehrig, Onodera and Kinder’s Liberty Bank on Queen Street, also from the early 1960s, suggests the kind of abstract classicism of Lincoln Center for the Performing Arts, one of the true icons of the New Formalism. Chinese American architect I.M Pei’s several buildings for the newly established East West Center are comparably “formalist,” as is Edward Killingsworth’s 1964 Kahala Hilton, with its rectilinear outer frame and formal entranceway and lobby areas. In downtown the twin marble towers of the Topa Financial Center, built in 1968-71, also embody New Formalist ideals.

Expressionism as a style also found its place in Hawaii due to the widespread use of concrete. Alfred Preis’s award-winning Arizona Memorial of 1962 has both New Formalist and Expressionist qualities as does George McLaughlin’s St Augustine’s Catholic Church in Waikiki of the same year and Wimberly and Cook’s Windward Shopping Mall of around the same time. Combinations of Expressionism and New Formalism, grafted on a basic core of International Style architecture, also included Minoru Yamasaki’s Queen Emma Gardens (1964), Wong and Wong’s Community Church of Honolulu (1965), Skidmore, Owings and Merrill’s Mauna Kea Beach Hotel (1965) and Stephen Oyakawa’s Liliha Public Library (1966). The distinctive Waikiki Cove Apartment Building of 1959 and Peter Hsi’s C.Q. Yee Hop Plaza of 1966 demonstrate opposite ends of the same trends, with the Cove’s curving walls and large “portholes” harkening back to the first Expressionists and Hsi’s block-like commercial building suggesting early Bauhaus designs. A late example of Expressionism would be Roger Lee’s St. Stephen’s Catholic Church in Kaneohe of 1968.

Because of its strong ties to Asia, some of Hawaii’s first modernist buildings suggest strong links to Chinese and Japanese designs of both the prewar and postwar periods. Clifford Young’s United Chinese Society Building of 1954, with its symmetry and solid massing, is more like a Chinese building of the immediate prewar period than a western example of modernism. The University’s Bilger Hall of 1951 by Mark Potter, and Keller Hall, designed in 1959 by Clifford Young, has some of the character of a Chinese or Japanese administrative or commercial building. Both UH structures suggest the factory-like appearance of early Bauhaus designs. Wong and Wong’s Chinese Consulate of 1961 similarly blended Asian and western themes, this time with a nod to New Formalism.

Many of Hawaii’s new International Style buildings of the 1950s and 1960s had distinctive “local” features. These included “lava-rock” walls, inset tiles and murals of local scenes. Good examples include the 1955 Hawaiiana Hotel on Waikiki, a two-story walk-up, with a prominent lava-rock wall on the street side, co-joined with a “butterfly” roof and other newer details. The Eddtide Hotel Annex built in 1959-60 had a similar display of dark stone, whereas the Kaiulani

Court Apartment, built in 1946, relied on an intricate balustrade of trees and flowers to convey a sense of Hawaii's tropical environment. Other modern buildings often had elements of "Hawaiiana." The Delagado Apartments, despite their International-Style starkness also featured a rock wall at the garden level as did many other buildings of the era. Sinclair Library at the University of Hawaii, designed by Cyril Lemmon in 1951, used sandstone at its entrance for the same effect and incorporated many "traditional Hawaiian" details such as green-stained concrete floors and *koa* wood accents. The Princess Kaiulani Hotel, despite its modernist, late International Style tower, still included a ranged of double-pitched roof cottages along its principal Kalakaua Avenue frontage.

A number of architects and developers took the idea of "Hawaiian" features further. Hart Wood, noted for his "regionalist" style buildings before the war, combined International-Style and Beaux Arts formality in his Board of Water Supply Administration Building of 1958; the entrance displays a curved roof reminiscent of Chinese or Japanese design and other materials reflected longstanding local practice. Similarly, Vladimir Ossipoff introduced a distinctive blend of traditionalism and local character in his Bachman Hall for the University of Hawaii (1949) and for his design the new facilities for the long-standing Pacific Club (1960). His later design for the Robert Thurston Memorial Chapel for Punahou School (1966) continued this direction. Ossipoff's private houses, notably the Liljestrand House of 1952 set the standards for what some now call "Kama'aina Style" (also called "Tropical Modern") — a unique blend of Modern, Hawaiian, Asian and possibly "Wrightian" elements — that celebrated Hawaii's gentle climate and relaxed form of life.

A few architects took the idea of "place-making" very seriously. While ostensibly linked to the national "Tiki Culture," the products of this exploration went far beyond the simple atmospheric qualities of Tiki to approach a genuine effort to create a new regionalism. Law and Wilson's 1954 Holy Nativity Church seems to recall Maori men's houses as do Wimberly and Cook's 1950 McInerney Store and the Waikiki-Kapahulu Public Library designed in 1951 by the firm of Lemmon and Freeth. Wimberly and Cook's Canlis Restaurant on Kalakaua Avenue (designed in part by the Seattle-based firm of Terry and Moore) similarly recalled Pacific Island architecture. The firm's 1956 Waikikian Hotel is probably Hawaii's most ambitious example of regional style. It's dramatic parabolic roof and "canoe-prow" decoration, the Waikikian exemplify the merger of "modern" and Pacific-style architecture. Alfred Preis's Honolulu Zoo of 1962 showed a similar sensitivity to Polynesian architectural precedence.

Tiki took on more obvious overtones at other hotels. The Coco Palms on Kauai, which began in 1953, and Henry Kaiser's Hawaiian Village Hotel, which opened in 1955, were clearly "Tiki" in spirit. Developer Clinton Murchison's International Market Place began as a collection of grass huts by Don the Beachcomber himself in 1955 and still stands in much altered form in Waikiki today.

The mainland modernist style known as Brutalism had an enormous impact in Hawaii. Relying mostly on concrete for its surface form, Brutalism took several directions. Alfred Pries's rough cast stone and concrete walls for his First Methodist Church on Beretania Street, completed in 1954, demonstrated a uniquely "Hawaiian" application of Brutalist vocabulary along with Vladimir Ossipoff's understated Outrigger Canoe Club of 1963. Leo S. Wou and developer Victor Gruen's Financial Plaza of the Pacific, of 1968, is a good example of the opposite

extreme. Wou and Gruen's complex includes an imposing, block-like bank complex stepping to two towers, one 12 and one 21 stories high, which together dominate the site on Bishop Street. Brutalism, sometimes softened by smooth walls at other times embellished with exterior grids became a dominant theme in the late 1960s. This was particularly true for the new large resorts: the Mauna Kea, by Skidmore Owings and Merrill (1968), the Kona Hilton (1968), Surfrider Hotel (1969) and Sheraton Waikiki (1971), by Wimberly, Whisenand, Allison, Tong and Goo and the Queen Kapiolani Hotel by John Hara (1969). All of these buildings may be labeled by as Late International Style.

Few of these buildings were "pure" examples of any style. The Queen Kapiolani's entrance betrays a New Formalist range of columns; smooth textured walls and a pink color scheme soften the Sheraton tower, matching the Royal Hawaiian below. Other buildings, however, came close to "mainstream" or "high" Brutalism; Au, Cutting, Smith and Associates' Ward Plaza (1969), the late 1970s Royal Hawaiian Shopping Center (1979) and the Federal Building at the corner of Punchbowl and Ala Moana Boulevard, designed by Architects Hawaii and completed in 1977. The imposing Hawaii State Capitol of 1969, designed by mainland architect Carl Warnecke and local firm Belt, Lemmon and Lo, has many Brutalist affinities despite its high level of symbolism and its overall New Formalist character.

A persistent theme in Hawaii's architecture from the prewar period and one not commonly found in other states is a recurrence of Asian themes. Architects in Hawaii frequently incorporated Chinese or Japanese inspired details into their designs. Sometimes these were almost abstract as in the entrances to Ossipoff's Liberty Bank Building (1952) and Hart Wood's Board of Water Supply Administration (1958). At other times the references were overt and almost "kitschy" from an outsider's point of view. The latter included the 1957 Lum Sai Ho Tong building in Chinatown, a kind of modern rendition of a Chinese Taoist temple, the 1956 Buck Toy Club Building, located nearby on Vineyard Boulevard and designed by local architect Ray Akagi.

There were other overtly Asian designs as well. These included the 1 ½-scale version of the Sanju Pagoda, designed by architect Robert Katsuyoshi in 1966 for the Kyoto Gardens of Honolulu Memorial Park off Nuuanu Avenue and the sprawling concrete replica of the Byodo-In Temple, built in Kaneohe in 1968 by Katsuyoshi. The Soto Zen Mission of Hawaii's Indian style mission, on Nuuanu Avenue, although built in 1952, is another example of borrowed Asian traditional architectural motifs along with the pagoda in Maui's Jodo Mission Cultural Park, built in 1968. Asian-influenced architecture is displayed in the Wong and Wong's 1961 Chinese Consulate and the late 1970s Korean Studies Building at the University of Hawaii, which reflects Seoul's 14th-century Yi dynasty palaces, designed by In-guk Chung and Sang-gi La, with Paul Rognstad assisting. The East West Center's 1962 Thai pavilion (*sala*) added to Hawaii's collection of architectural "exotica." (It was replaced in 2009).

Asian architectural ideas showed up in more subtle ways. Some of the postwar architects had experience in Japan; many of them found Japanese aesthetic ideals and utilitarian efficiencies appealing. It is difficult to determine how much of this reflected modernist architecture's long-standing infatuation with things Japanese; Frank Lloyd Wright celebrated Japanese design in his work and became a noted collector and dealer of Japanese wood-block prints (*moku hanga* in Japanese). The Museum of Modern Art's display of a Japanese

traditional house in 1955 had a big impact on the design world and underlined modernisms deeper links to the simplicity of Japanese design. Architects working in Hawaii in the 1950s often brought some of Japanese design into their work as well. The 1964 Ilikai Hotel on Ala Moana Boulevard had sliding *shoji* type screens dividing rooms, as did many of the other new condominiums of the late 1950s through 1970s. Local Japanese restaurants and department stores also gave Hawaii a distinctly Asian flavor as did the continuing existence of Chinatown near the center of Honolulu. While clearly “modernist” in its overall architectural directions, Hawaii remained a distinct Pacific and Asian place; these influences continue to today.

Much of Hawaii’s architecture in the 1950s through early 1970s was not high-end design but contractor-built for pressing local needs. Two-story walk-up apartments proliferated along Kapiolani Boulevard and along Date Street and University Avenue, providing housing for Honolulu’s workers and for many veterans returning to study at the University of Hawaii after the war. Many of these had stark modernist CMU walls, metal or jalousie windows and included the ubiquitous lava-rock form and garden wall to give each a local flavor. Postwar housing also followed a uniform pattern. Many efficiencies of the plantation era housing continued in new subdivisions. Hicks Homes, established in Hawaii in 1951 began to appear in Aina Haina and soon set the standard for low-cost tract housing throughout Hawaii. By the time of his death in 1958, some 10,000 Hicks Homes had been constructed on three islands. Other large and small-time builders followed this example, creating duplexes and single homes and modest walk-up apartments throughout Hawaii. Henry Kaiser, with the beginnings of his development of Hawaii Kai in 1959, added significantly to Hawaii’s inventory of newer, single-story houses and made the modern Ranch House the new standard for single-homes.

Military surplus played a part in post war expansion as well. The Army auctioned off old Quonset huts and barracks and some found reuse as apartments, garages and warehouses. Now largely replaced by a successor generation of prefabricated buildings, these remnants of Hawaii’s World War II experience still appear in industrial areas and side streets of Honolulu. Although zoning — and eventually greater wealth — would eventually tame some of the informality of Honolulu’s streetscape, much of postwar Honolulu still had the character of a “wild west” town, with temporary buildings, mixed use and little development of public amenities. As the car replaced streetcars, trains and busses, this informality extended to the outer reaches of old Honolulu and into new parts of Maui, Kauai and the big island of Hawaii. Once a neat and reasonably well managed territory in the middle of the Pacific Ocean, Hawaii was becoming much like California.

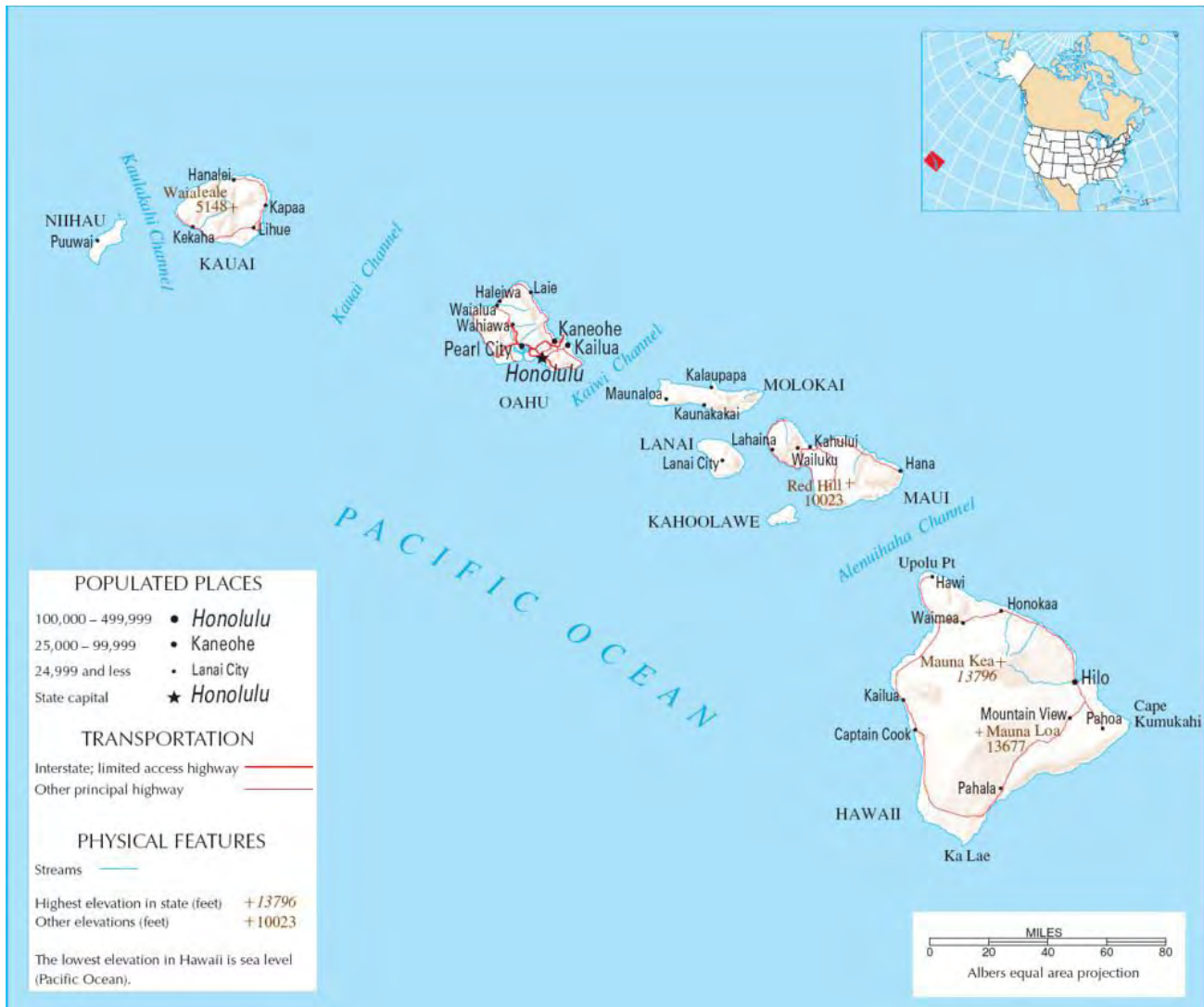
New connections caused Hawaii to become more like other places; the move to statehood in 1959 further amplified this trend. Hawaii’s distance from manufacturing, lessened, the impact of some mainland trends. Steel buildings in Hawaii were scarce due to expense. Large expanses of glass found little favor in Hawaii the despite the growing advent of air-conditioning tried to maintain some relationship to its naturally gentle climate. (The 1955 Sinclair Library at the University of Hawaii relied on windows and cross ventilation, although by the time Moore Hall was added to the campus in 1971, when artificial cooling became accepted and the windows were sealed.) Hawaii’s condominiums and single houses were also small by mainland standards, in part because of the added expense of material and in part because of longstanding cultural preferences; few sugar workers lived in large houses

and many wealthier residents were accustomed to spending much of their time in outdoor spaces.

Given its environment and the emphasis on small places and Japanese influences, it is surprising how little Frank Lloyd Wright's architectural ideas impacted Hawaii. Ossipoff's buildings have some affinities with Wright's single houses although Ossipoff denied any direct influence. The many older buildings of Hawaii's early 20th-century "regionalist" movement reflected Wright's earlier Prairie Style houses with their wide roofs and generous overhangs. Many architects of the 1950s and 1960s admired Wright's work and this was true in Hawaii. Both Sinclair Library and Frank Haines's 1951 Occidental Life Insurance Building on Beretania Street have "Wright-like" massing, a bold juxtaposition of surfaces and anchoring tower-like features. Occidental Life, with its narrow masonry units and strong horizontal pattern, also suggest Wright's interest in surface pattern. "Wrightian" ideas such as stacked masonry units and narrow courses of both brick and CMU also entered into the world of contractor buildings. Wright's corner windows were also popular features of track houses and small apartments; although the source of this fashion has multiple influences.

One of the great additions to Hawaii's landscape during the modernist period was Buckminster Fuller's geodesic dome for Henry Kaiser's Hawaiian Village Hotel. Built in 1957 by a crew working two 11 hour shifts, the 48-foot tall dome took only a weekend to complete. The Kaiser dome was an unprecedented addition to Waikiki that served as a prototype for Fuller's later domes in Oklahoma City, Virginia Beach, and Fort Worth and his later geodesic "globe" at the 1964 New York World's Fair. It was the first all aluminum building in Hawaii. The site the dome later became the regular venue for Don Ho and other local entertainers offer it was used for the Hawaii opening of Mike Todd's popular cinema extravaganza *Around the World in Eighty Days*,. In 1964 it was in the background of Elvis Presley's *Blue Hawaii*. The Kaiser Dome was demolished in 1999 to make way for another hotel tower. It represented an important moment in Hawaii's recent history and one much missed by fans of modernism.

3.2 Architecture: Hawaii Overview



3-1 State of Hawai'i Map

(http://www.washingtonstatesearch.com/United_States_maps/Hawaii/Hawaii_map.html)

The modern movement in architecture with its rejection of the past and emphasis on regularity, clean lines, and minimal applied adornment, easily found its way into Hawaii's built environment during the 1930s but was softened by its integration with the islands' regional idiom. Pope & Burton's temple for the Church of Jesus Christ of the Latter Day Saints (1919) at Laie on the island of Oahu provided the islands with an early, pre-Bauhaus glimpse of the new rationalistic architecture. The temple would prove to be the exception, rather than the norm, as Hawaii immersed itself in a regionalist/modern frame of mind.

The Honolulu Academy of Arts, anticipating the arrival of a Museum of Modern Art exhibition on "Modern Architecture in England," mounted a show in August 1937 that examined modern architecture in Hawaii. It intended to stimulate public dialogue on the place of modern architecture within the context of Hawaii living, the exhibit displayed photographs, plans, and drawings of recent works by several Honolulu architects, including the Board of Water Supply Pumping Stations (1934-1937) by Hart Wood, C. W. Dickey's Waikiki Theater (1936), Claude Stiehl's Church of the Crossroads (1934), (Photo 3-2) as well as residences by Albert Ely Ives, Vladimir Ossipoff, and Ray Morris. The reporter covering the show noted,



3-2
Church of the Crossroads
Claude Stiel, 1934, 1212 University Ave.
(2006)

In architecture Honolulu, with the rest of the world, is swinging eagerly into the modern trend. . . . Perhaps the reason why Honolulu (unlike many other places) has not become an "architectural battle ground" during the introduction of modern ideas for housing is due to the thoughtful and clever application by local men of contemporary building techniques which are particularly adapted to Hawaii.

Modern houses must be functional as well as beautiful. Building problems in the islands differ vastly from those in England or in New York. . . . These problems have been met and ably solved by our local specialists and certainly everyone will agree that the results are extraordinarily satisfying. The low sloping roofline of early Hawaiian homes has been used advantageously; simplicity has been the keynote. The easy charm of semi-outdoor living (from house to garden) has been worked out by means of delightful patios and open lanais.

The arrival of a new, modern, tropical style of architecture was reiterated in the February 12, 1938, *Star-Bulletin's* special section, "Grow with Honolulu, Invest in a Home." Residential commissions of Stiehl and Alvin Shadinger, and Dickey's Wilcox Memorial Hospital illustrated this twelve page insert, and articles written by Connie Conrad, Morris, Dickey, and Wood

discussed the current scene. By far the most prolific modern-design firm was Dahl & Conrad who handled many walk-up apartments and duplexes in Waikiki in a modern vocabulary. The firm's Topping residence (1938) (see Photo 3-3) garnered much acclaim, with its flat roofed rectilinear massing, large expanses of glass, and circular, central patio. It was the first completely air conditioned house in Hawaii. Dahl & Conrad's allure was heightened in June 1939, when Alfred Preis, an Austrian fleeing Hitler, joined their firm bringing the latest in European design trends to the islands.

Waikiki became the hub of modernism in the city as Kalakaua Avenue assumed a sleek look thanks to Dickey's mildly deco Waikiki Theater (1936) and numerous moderne and art deco shops designed by Dahl & Conrad, Stiehl, and Ives. The fascination with the modern idiom as a tool to glorify the island's up-to-date, yet tropical situation, was briefly interrupted by World War II, but continued to be refined until the mid-1960s, with Vladimir Ossipoff's Thurston Memorial Chapel (1967) (Photo 3-3) being one of the last structures built in this spirit. After World War II, the relationship between regionalism and modernism in Hawaii subtly shifted. In the 1930s, modern elements were but one of a variety of garbs in which to cloak an architectural response to the islands, but by the 1950s the buildings were now decidedly modern in character, and regional appropriateness was a design consideration. A shift in emphasis had occurred.

In the immediate post-war period Hawaii's architectural scene changed and was marked by the death of C.W. Dickey, the father of regional design in Hawaii in 1942. Other talented regional designers, most notably Claude Stiehl, Harry Bent, and Bjarne Dahl had departed the islands by 1942 and never returned. Dahl's partner Connie Conrad entered his family's jewelry business, while Roy Kelley shifted his interests from architecture to apartment and hotel development. Of the 1920s generation of architects only Hart Wood, and Hego Fuchino maintained prominent



3-3
Topping Residence
Dahl & Conrad, 1938, Diamond Head Cir.
(2011)



3-4
Thurston Memorial Chapel
Vladimir Ossipoff, 1967, 1601 Punahou St.
(2006)



3-5
Board of Water Supply Administration Building
Hart Wood, 1958, 630 S. Beretania St.
(2006)

practices during the 1950s. Although both contributed magnificent Hawaiian-modern buildings in Wood's Board of Water Supply Administration Building (1958) (Photo 3-4) and Fuchino's Soto Zen Temple on Nuuanu Avenue (1952) (Photo 3-5) and Waipahu Hongwanji (1952), the stage was set for a younger generation to assume leadership for the next phase in the development of Hawaii's architectural design.

Vladimir Ossipoff came to the fore as the preeminent architect of the post-war period with a design staff that at one time included Ed Sullam, Tom Wells, Sid Snyder, and John Tatom. George Wimberly, who had come to Hawaii in 1940 to work for the Pacific Naval Airbases Contractors, opened a partnership in 1946 with Howard Cook, whom he met at Pearl Harbor during the war. He eventually headed one of the premier hospitality and leisure oriented architectural firms in the world, Wimberly Allison Tong & Goo (WATG). Cy Lemmon, who worked with C. W. Dickey in 1928 and Louis Davis in 1930-31, returned to Hawaii in 1946 after ten years in India. He started Lemmon & Freeth in 1951, which became Lemmon Freeth & Haines two years later, when the talented Princeton and MIT graduate Frank Haines became a partner. In 1973, the firm became Architects Hawaii, which for a number of years was the largest architectural firm in the State. Newcomers to Hawaii, Richard Dennis, Frank Slavsky, Edwin Bauer, Phil Fisk, and Robert Law also added to the design synergy of the times, as did Johnson & Perkins, and Alfred Preis, who previously worked for Claude Stiehl and Dahl & Conrad, respectively. A number of Hawaii born architects and engineers entered Hawaii's architectural milieu during the 1950s, including Clifford Young, Takashi Anbe, Shizuo Oka, Robert Katsuyoshi, Stephen Oyakawa, Don Chapman, Ed Aotani, Alfred Yee, and Howard and Robert Wong. They joined Ray Akagi, Bill Merrill, Kenji Onodera, George Hogan, Ted Vierra, and Ernie Hara, all of whom had worked in various architectural offices in the 1930s.

All these architects worked within the vocabulary of the modern movement whose presence had to be acknowledged, yet at the same time, the magnificence of Hawaii and its culture was too compelling to ignore. These men, many of whom were trained in a beaux arts tradition with its emphasis on history and applied ornament, found themselves now stripped of their basic tools, yet they remained highly cognizant of architecture's symbolic role and community dialogue. They strove to develop distinctive forms, which incorporated a Hawaiian atmosphere within a modern framework.

The surface remained of primary importance and highly textured buildings characterized the 1950s in Hawaii, in contrast to the corporate glass and concrete austerity associated with much of the modern movement in the United States. Lava rock, sandstone, and coral veneers grounded buildings to the land and a variety of contrasting materials differentiated a façade's elements providing a high level of visual delectation. The Canlis' Charcoal Broiler Restaurant (1953) by Wimberly & Cook in Waikiki, as well as Ossipoff's Bachman Hall (1949) at the



3-6
Soto Zen Temple
Hego Fuchino, 1952, 1708 Nuuanu Ave
(2006)

University of Hawaii (Photo 3-6), and the Laupāhoehoe School on the island of Hawaii (1952) designed by Preis (Photo 3-7), all followed modern lines while celebrating Hawaii through their use of local materials and flowing indoor-outdoor relationships. Ossipoff's buildings for the Pacific Club (1960) and Outrigger Canoe Club (1963) took the sensibility of graceful, modern outdoor living to a pinnacle within the realm of non-residential architecture.

While applied ornament was avoided in most buildings, it still was acceptable in those associated with various ethnic groups composing Hawaii's multi-cultural society. Liberty Bank (1952) (see Photo 3-8), St. Luke's Episcopal Church (1952) (see Photo 3-9), the United Chinese Society Building (1954) (Photo 3-10), and the Chinese Consulate (1961), as well as a number of Chinese temples and society halls, drew in a modern manner upon architectural references from peoples' former homelands. Buddhist temples continued to flourish in updated garb, the Indian forms introduced in 1918 by the Honpa Hongwanji in Nuuanu. Concrete versions of pagodas (Photo 3-11), the Kinkaku-Ji (Photo 3-12), or Golden Pavilion, and Byodoin Temple further perpetuated the belief that Hawaii was where East and West indeed met.

The visitor industry's "Tiki Culture," offered another venue for applied ornament, responding to a romantic image of Hawaii promoted by the Hawaii Visitors Bureau and fostered by the numerous military personnel passing through the Islands during World War II. Thus modern, concrete, high-rise compositions such as the Kona Hilton (1968), Kauai Surf (1960), and Princess Kaiulani (1955) hotels offered reminders of an earlier Hawaii on their floors, light fixtures, elevator doors, and a variety of other surfaces. Similarly, the Hilton Hawaiian Village's Rainbow Tower (1968) derived its name from the 286 foot high tile murals adorning its walls, and the Waikikian Hotel (1956) facilely combined a hyperbolic paraboloid roof, with tiki, traditional Hawaiian tapa motifs, and spiral stairs sans risers. Thatched roofed visitor



3-7
Bachman Hall
Vladimir Ossipoff, 1949, 2444 Dole St.
(2006)



3-8
Laupāhoehoe School
Alfred Preis, 1952,
35-2065 Old Mamaloha Highway
(2004)



3-9
Liberty Bank Building
Vladimir Ossipoff, 1952, 99 N. King St.
(2006)



3-10
St. Luke's Episcopal Church
Lemmon & Freeth, 1952, 45 N. Judd St.
(2006)



3-11
United Chinese Society Building
Clifford Young, 1954, 42 N. King St.
(2006)



3-12
Concrete Pagoda
Robert Katsuyoshi, 1966, 22 Craigsid Pl.
(2006)



3-13
Kinkaku-Ji
Robert Katsuyoshi, 1966, 22 Craigsid Pl.
(2006)

accommodations also appeared at Kaiser's Hawaiian Village (1955), Kona Village Resort (1965), and the Coco Palms Hotel (1956-1965).

Religious architecture also assumed a strong regional tinge. The precepts laid down by Hart Wood in the 1922 Christian Science Church now came to the fore as innumerable churches and temples ventilated their naves with sidewalls of sliding glass doors, and lava rock became a popular exterior wall treatment. Glued Laminated timber (Glulam), a technological innovation of the 1950s, allowed arches to span great widths without the need for supporting columns making for broader, even more open worship spaces. Law & Wilson's Church of the Nativity in the new suburb of Aiea (1954), Alfred Preis' First United Methodist Church (1953) (Photo 3-13), and Wong & Wong's Community Church of Honolulu (1965) all stand as fine examples of the period.



3-14
First United Methodist Church
Alfred Preis, 1953, 1020 S. Beretania St.
(2006)

In residential design a regional modernism set the tone for high-end houses. Following World War II, architects such as Vladimir Ossipoff, Johnson & Perkins, Dennis & Slavsky, and Ed Sullam, among many others, reinterpreted the lanai in terms of the modern movement. The Honolulu Academy of Arts celebrated this new form as early as 1949, opening an exhibition of five lanai constructed at full scale in the academy's courtyards. *Architectural Record* in its October and November 1950 issues and the November 1952 issue of *L'Architecture d'Aujourd'hui* featured the architecture of Hawaii and emphasized the "all-pervasive lanai" as a defining feature of the islands' domestic design. As late as September 1976, *Sunset* magazine's lead article, "Hawaii's Lanai Idea—The Room with the Missing Wall," continued the national media's enchantment with Honolulu living spaces that were not only unenclosed but in most instances unenclosable.

Single-wall residences, often pre-fabricated, became the norm for the middle economic levels. The term single wall residence refers to dwellings which do not utilize studs, as their interior and exterior walls are formed by the same board. In the 19th century such walls were usually board and batten, but in the early twentieth century factory milled tongue and groove lumber proved more effective. The term single wall appears to have originated in California, as in most areas of the United States box frame is the name commonly applied to this construction method. Emerging from a plantation tradition of economic construction, single family, single-wall residences started to appear in Honolulu neighborhoods during the 1930s. In the post-war period, with the rapid development of new subdivisions, especially on Oahu, single wall construction was frequently employed as an economical and quick means of construction. Relying heavily on standard plans and off-site fabrication C. Q. Lum had built over 7,000 houses by 1962, while Harold Hicks had constructed over 10,000 by 1966.

Walk-up apartments begun to appear in response to the housing demand. During the 1930s, modern style apartment buildings including many designed by Dahl & Conrad or Claude Stiehl, appeared in Waikiki. Following the war, the intense need for reasonably priced housing led to

the construction of three and four story buildings in other parts of the city, as lots were consolidated to accommodate the larger structures that increased urban density.

The post-war period also saw the advent of high-rise buildings. By 1955 the Aloha Tower was no longer the tallest building in Hawaii. Tall buildings began to redefine Honolulu's skyline, initially in Waikiki with the Biltmore (1955), Princess Kaiulani (1955) and Reef (1956) hotels and Rosalei Apartments (1955), then in other areas with the Ala Moana Tower (1961) at Ala Moana Center and Hawaii National Bank (1962) in the business district. With the islands' land constraints, and the high demand for Waikiki and downtown properties, land prices skyrocketed, which in turn led to the appearance of ever more high-rises as owners sought to amortize their initial land purchases. Honolulu engineer Alfred Yee's pioneering work in pre-stressed concrete in high-rise construction further facilitated the skyward trend in building.

As Hawaii moved from a rural based society to an urban one, its built environment also began to metamorphasize, forsaking the regionalism of the Big Five dominated years, for the glass and concrete of Walter Gropius, Le Corbusier, and Mies van der Rohe. The *Honolulu Advertiser*, in an effort "to stimulate wider public interest in the appearance of Honolulu," ran a series of articles in the beginning of 1966 on buildings which the Hawaii Chapter of the AIA selected as "representative of good contemporary architecture." (Advertiser, January 16, 1966, A-14) The AIA selected nine Honolulu buildings presenting a broad spectrum of situations: the University of Hawaii's East-West Center (Photo 3-14), Queen Emma Gardens (Photo 3-15), Chinese Consulate General, IBM Building (Photo 3-16), 320 Ward (Photo 3-17), Outrigger Canoe Club, McInerney Building, Arizona Memorial, and Kahala Hilton. All followed modern lines and were discussed in terms of the appropriate manner they fulfilled their functions. The Outrigger Canoe Club was extolled as one of Hawaii's most significant buildings as "there is never a feeling of being 'in a building'" (Advertiser, February 20, 1966) and Tommy Wells' two-story office building, 320 Ward, with its landscaped courtyards received praise for introducing light, air, and "pleasant access to the various small offices." Concerns over the high-rise's impact on the character of Honolulu were expressed and Minoru Yamasaki's Queen Emma Gardens and Ossipoff's IBM Building were set forth as examples of tall buildings that addressed the needs of Hawaii. Such aesthetic contemplations and regionalist refrains were shortly overwhelmed by the ensuing building boom of the 1970s-1980s.

Low-rise offices such as 320 Ward's larger, lush iteration, Garden Court (1969), designed by Honolulu-born architect Donald Chapman, and single story commercial enterprises such as Ossipoff's McInerney Store (1957) and Wimberly & Cook's Canlis' Charcoal Broiler Restaurant (1953) in Waikiki ultimately yielded to larger scale, mega-revenue generating developments. Even the highly touted signs of mid-1950s progress, such as the twelve-story Waikiki Biltmore and the eighteen-story Hawaii National Bank, suddenly imploded, giving way to newer, taller structures.

Although one third of the nine buildings presented by the *Advertiser* in 1966 were by mainland architects, the number of high profile, nationally known firms to obtain commissions in Hawaii in the last half of the twentieth century were rather limited. Buckminster Fuller led the way with his geodesic dome (1957) at Kaiser's Hawaiian Village, and then the flush of statehood brought I.M. Pei's East-West Center (1963), Minoru Yamasaki's Queen Emma Gardens

(1964), Edward Killingsworth's Kahala Hilton (1965), Skidmore, Owings & Merrill's Mauna Kea Beach Hotel (1965), and Cesar Peli's Kukui Gardens (1970), with the latter two receiving national AIA honor awards. Paul Rudolph, the former chairman of Yale's Department of Architecture, was commissioned to design a visual arts center at the University of Hawaii in 1965, but the building was never realized. A similar fate befell the I.M. Pei designed Metropolitan Tower project of 1960. The state hired John Carl Warnecke to design its new State Capitol Building (1969) and the University of Hawaii's Campus Center (1973). These two Warnecke commissions brought a



3-15
University of Hawai'i, East-West Center
I.M. Pei, 1963, 1601 East-West Road
(2006)



3-16
Queen Emma Gardens
I.M. Pei, 1964, 1511 Nuuanu Ave.
(2006)



3-17
IBM Building
Vladimir Ossipoff, 1952, 1240 Ala Moana Blvd.
(2011)



3-18
320 Ward
Tommy Wells, 1962, 320 Ward Ave.
(2008)



3-19
Mauna Kea Beach Hotel
Laurence Rockefeller, 1965,
62-100 Mauna Kea Beach Dr., Island if Hawaii
(2004)

number of talented architects from his San Francisco and Washington D.C. offices to Hawaii, some of whom decided to stay, including Tom Creighton, Steve Au, Charles Sutton, Ted Candia, and Gus Ishihara. Other Bay area architects attracted to Hawaii included University of Berkeley professor Roger Lee, who crossed the Pacific to design St. Stephen's Roman Catholic Church in Nuuanu (1968) as well as several apartment buildings, and Leo S. Wou, who was brought in to do the Financial Plaza (1968) (Photo3-18).

The upward spiral of buildings generated in the 1970s frequently assumed the form of concrete slabs and boxes, with few exceptions. At the start of the period the S-shaped Marco Polo (1971) moved outside the box, at least in footprint, and the Davies Pacific Center's (1972) lower level perpetuated the open flow of the Financial Plaza, while Warner Boone's visually enticing buildings stand as some of the most inspired, graceful and distinctive high-rises of the period. Smaller scale commercial buildings too often followed the austere lines of the high-rise boxes, with Kawaiahao Plaza (1978) and a number of First Hawaiian Bank's branches (Photo 3-19 and 20) rising above the ordinary.



3-20
Financial Plaza
Leo S. Wou, 1968, 130 Merchant St.
(2006)



3-21
Marco-Polo
Charles "Ty" Sutton and Lemmon, Freeth,
Haines, Jones and Farrell, 1971,
2333 Kapiolani Blvd.
(2006)



3-22
First Hawaiian Bank, Kapi'olani Branch
Karl R. Klager, 1977, 1580 Kapiolani Blvd.
(2006)



3-23
First Hawaiian Bank, Mapunapuna Branch
Haydn H. Phillips, 1969, 1000 Mapunapuna St.
(2006)



Hawaii Modernism Context Study

4. Modern Resources

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4.1 Specific Building Types

4.1.1 Low and Mid-Rise Commercial and Office Buildings

Many of the remaining one to six story commercial and office buildings today are perhaps the most endangered building type of the post-World War II period. They stand on business zoned lands capable of supporting greater densities than the current structures provide. As a result, a large number of these structures have already disappeared from the landscape, especially in Waikiki.

Most of the post-World War II, low-rise commercial or office buildings are of masonry construction, often concrete block, with the wood State Savings Plaza (1973) in Kaneohe designed by Johnson-Reese & Associates being a rare exception to this rule. All are modern in style, displaying an assortment of variations related to the movement, ranging from the vestigial rounded corners of streamline moderne to mid-century modern to formalism and expressionism. Most fall under the stylistic classification of mid-century modern, but some employing folded plate roofs or curvilinear roof forms that are expressionist in character, while others with a strong sense of symmetry and pronounced columns represent formalist ideas.

Distinctive architectural features include such elements as flat roofs, thin, flat cantilevered concrete canopies or awnings, strong right angles and simple cubic forms, rounded corners, aluminum framed store fronts and entry doors, and projecting vertical elements, which often carried the name of the building. Exterior walls may be smooth concrete, painted concrete block, or clad with veneers such as lava rock, sandstone or thin slabs of Arizona sandstone. Sometimes the formwork is left evident in the concrete walls, and frequently a combination of materials, including veneers and tiles, may be employed to provide character to the surface of the building. To provide relief and the contrast of light and shadow to a flat masonry wall upper stories may have boxes which enframe the windows. Elements less frequently observed, but typical of the period include façade covering metal mesh sunscreens, pergolas, planters, and cantilevered or slanted display windows, the latter supposedly so positioned to reduce glare. Signage, either base mounted or bolted to a surface, was often applied to the buildings and usually used sans serif typefaces or script lettering. Neon signs, which are now rare to find, also were employed.

An examination of Kapiolani Boulevard highlights some of the resources as well as concerns confronting those wishing to preserve small commercial buildings of the post-war period. As early as January 1948 *Paradise of the Pacific* referred to Kapiolani Boulevard as Honolulu's "Miracle Mile," because of its similarities to the highly successful two-mile stretch of Wilshire Boulevard in Los Angeles, for which the name was originally coined during the late 1920s and early 1930s. Although Kapiolani Boulevard was completed in 1931, it was not until the conclusion of World War II, when many of the wetlands bordering the road between Atkinson Drive and Sheridan Street were filled and curbs and sidewalks installed, that Kapiolani Boulevard truly developed as a commercial corridor. The new, highly modern, post-war buildings well entitled the new thoroughfare to the "Miracle Mile" sobriquet. Here retail store after retail store with individual store parking lots on the front, side or rear, catered to automobile customers rather than the more traditional pedestrian traffic. Using simple signage, and longer buildings oriented to the street with simplified ornamentation recognizable

at thirty miles per hour rather than a pedestrian pace, these buildings were a distinct departure from the traditional downtown stores, while retaining their traditional function as independent, stand alone, retail enterprises.

During the late 1940s and early 1950s such architects as Vladimir Ossipoff, Alfred Preis, Wimberly & Cook, Lemmon & Freeth, and Johnson & Perkins, designed almost a dozen modern style buildings along the boulevard. However, with the exception of Ossipoff's Hawaiian Life Building (1951) (Photo 4-1) and Lemmon & Freeth's Boysen Paint Store (1949) (Photo 4-2) and Kenrock Building (1950, 1951, 1958), none of these architect-designed buildings remain. They are joined by another fifteen or so later fifties and sixties low rise buildings that lie scattered along the two mile stretch of Kapiolani Boulevard between King Street and Kalakaua Avenue. Intermixed with more recent high rises these less massive structures present no coherent temporal whole. A number of the buildings, although still recognizable as mid-century modern in style, have lost their integrity through alterations, remodelings and changes in fenestration. A few should be considered to have high preservation value, including Flamingo's (1955, 871 Kapiolani Blvd) (Photo 4-4) designed by Milton Akiyama, and the superbly rendered, four story Seaboard Finance Building (1956, 1349 Kapiolani Blvd.) (Photo 4-5), the work of C. W. Dickey's successor firm, Merrill, Simms, & Roehrig.

The latter, built by the third largest finance company in the United States at the time of its completion, was completely air conditioned, featured fluorescent lighting, and was considered to be of "modern Hawaiian style" by the *Honolulu Advertiser*, with its koa interior, lava rock corner, and dark tinted plate glass windows, the earliest known use of this material in Hawaii. The newspaper described the novel window material as, "a new type of glare reducing glass . . . [which] gives the effect of a person wearing dark glasses. Looking from the inside, glare and heat are reduced. From the outside the glass appears very



4-1
Hawaiian Life Building in 2006
Vladimir Ossipoff, 1951, 1311 Kapiolani Blvd.
(2006)



4-2
Kenrock Building
Lemmon, Freeth & Haines, 1958, 1400 Kapiolani Blvd.
(2011)



4-3
Boysen Paint Store
Lemmon, Freeth & Haines, 1958, 1659 Kapiolani Blvd.
(2011)

dark, almost opaque, eliminating the need for blinds.”

In addition to the Kapiolani Boulevard corridor, a number of low-rise retail and office buildings lie scattered around the city, serving as strong individual architectural statements of the design of the period. A few of these received recognition from the Honolulu Chapter of the AIA or appeared in national architectural magazines. These include: the Medical Arts Building (1950, addition, 1954) (Photo 4-6) at King and Victoria streets, designed by Kenji Onodera with Ernest Hara handling the addition; I.L.W.U. Memorial Association Building on Atkinson Drive (1952) designed by Alfred Preis; Occidental Life Insurance Building (1951, addition 1967) (Photo 4-7) at Beretania and Piikoi by Lemmon, Freeth & Haines; Piikoi Parkway (1956) at Piikoi Street and Waimanu designed by Clifford Young, and 320 Ward (1962) by Tom Wells, which has undergone an exterior remodeling but its interior court remains intact, if unmaintained.

The roman brick Pacific Development Company Building (1954) at Pensacola and Waimanu streets designed by civil engineer Chan Jay Kim, the single story office building at 920 Sheridan Street (1953) designed by Ray Akagi, and the Kenneth Sato designed Miyamoto Buildings (1953, 1954) at 1331 Nuuanu, all feature canted display windows with planter boxes incorporated into them. The neighbor of the Miyamoto Building at 1365 Nuuanu Avenue (1951) (Photo 4-8), is also worthy of notice, as is the Nuuanu Clinic (1956) designed by Lemmon, Freeth & Haines and the Pang-Chock Clinic (1958) at Nuuanu and Vineyard, which was designed by Clifford Young and incorporates a number of elements similar to the Piikoi Parkway Building. Other examples include the reinforced concrete Professional Center Building (1956) (Photo 4-9) at King and Kaheka streets designed by Ernie Hara, and the five story Varsity Building (1963) (Photo 4-10) on University Avenue, designed by Wimberly & Cook to house the First National Bank. The former, with its awning windows and aluminum panels, is the



4-4
Flamingo's
Milton Akiyama, 1955, 871 Kapiolani Blvd.
(2011)



4-5
Seaboard Finance Building
Milton Akiyama, 1956, 1349 Kapiolani Blvd.
(2011)



4-6
Medical Arts Building
Kenji Onodera, 1950, 1010 S. King St.
(2011)

earliest known curtain wall building in Hawaii. The presence of the panels, which were originally colored, marked the first use of this material west of the Rockies.

The Varsity Building was one of several circular buildings constructed in Hawaii during the 1960s along with the fourteen story Waikiki Circle Hotel (1963), the American Security Bank's Waipahu branch (1963), the twenty one story Holiday Village Apartments (1967) at 750 Amana Street, developed by Condominium Hawaii, and the sixteen story Jade Apartments (1966) in Kaimuki. Chaminade College's single story Mystical Rose Chapel (1966) also follows a circular plan, as does the Bank of Hawaii's branch single story building at Kahala Mall (1964) designed by Raymond Shaw. Hale Aloha's four cylindrical dormitories at the University of Hawaii designed by Stephen Oyakawa appeared in 1973.

In downtown Honolulu several post-war buildings with rounded corners remain in use on Bethel Street, including the four story Plumbers and Fitters Union Building (Photo 4-11) at Hotel street and three story 1165 Bethel Building (Photo 4-12) at Chaplain Lane. The former features sun shades at the top of its windows, while the latter has a modest folded plate entry. Similarly, the Yi Mun Wai Ltd. Building (Photo 4-13) with Central Pacific Bank (1955), designed by Ernest Hara, stands at Smith and King streets. In addition a number of



4-7
Occidental Life Insurance Building
Lemmon, Freeth & Haines, 1951, 1163 S. Beretania St. (2006)



4-8
1365 Nuuanu Building
Clifford Young, 1958, 1365 Nuuanu St. (2011)



4-9
Professionals Building
Ernie Hara, 1956, King St. and Kaheka St. (2011)



4-10
Varsity Building
Wimberly & Cook, 1963, 1110 University Ave. http://oahucentraloffice.com/?page_id=38

one and two-story renditions of this last gasp of the streamline moderne sensibility may be observed at a number of corners along South King Street. The Trophy House (1957) (Photo 4-14) designed by T. S. Nishida stands at the corner of Cedar and King, while a block away 1269 King Street (1955) (Photo 4-15) designed by engineer Harry Makino, turns the corner at Birch Street. Closer to town an intact Coca Cola sign surmounted on the rounded corner of the two story building (1951) (Photo 4-16) at the corner of Pensacola adds additional fifties flair to the street. Other noteworthy low rise post-war buildings along this main thoroughfare include the medical building at 1026 S. King (1951) (Photo 4-17), which modestly gives a final bow to the art deco movement, and the stores of 1125 S. King Street (1948) (Photo 4-18) whose



4-11
Plumbers and Fitters Union Building
1955, 1107 Bethel St.
<http://maps.google.com/maps?q=1109+Bethel+Street,++Honolulu,+HI+96813>



4-12
1165 Bethel St.
1960, (2011)



4-13
Yi Mun Wai Building with Central Pacific Bank
Ernie Hara, 1955, 50 N. King St.
(2011)



4-14
Trophy House
T. S. Nishida, 1957, 1301 S. King St. (2011)



4-15
1269 King
Harry Makino, 1955, 1269 S. King St.
(2011)



4-16
Corner of King and Pensacola
1951, 1103 S. King St. (2011)

store fronts slant inward to converge on a driveway in the middle of the building's facade.

Low-rise commercial buildings also remain in certain suburban communities that possessed established pre-war commercial cores such as Kaneohe, Kailua, Pearl City, and Waipahu, all of which expanded in the post-war period. However, as in the case of Kapiolani Boulevard, extensive remodeling of buildings and construction of newer facilities have resulted in these structures standing as isolated moments in time. Similarly other commercial areas of Honolulu such as Waikiki, Moiliili-McCully, Manoa, and Ward Avenue have had comparable attrition. The post-war face of Keeaumoku Street, which developed as a commercial corridor during the 1950s, has been completely obliterated. The block on Liliha Street between Vineyard and the entrance to the Lunalilo Freeway, with its wide array of modern forms, may be one of the few groupings of post-war low-rise commercial buildings to remain intact, and efforts should be exerted to retain this block of time. (Photo 19 and 20) Here a variety of modern forms and materials may be observed, with the rounded corners of the two story commercial building at 1386 Liliha (1958) designed by Ray Akagi, and the three story commercial and residential building at 1408 Liliha Street (1960) (Photo 4-21) designed



4-17
1026 S King
1951, 1026 S. King St.
(2011)



4-18
1125 S. King
1948, 1125 S. King St.
(2011)



4-19
View of Liliha Street, between Vineyard and entrance to the Lunalilo Freeway
(2011)



4-20
Close up view of Liliha Street, between Vineyard and entrance to the Lunalilo Freeway
(2011)

by Takashi Nakamura standing on either side of Vineyard Boulevard. Immediately next door to the latter is the former American Security Bank (1960) designed by Edwin Bauer in an inspired moderne manner, which in turn is bordered by the Lung Kong Kung Shaw Society Hall (1951) (Photo 4-22) at 1428 Liliha with its heavily framed upper story windows and first story, reinforced concrete corner poured to resemble clapboard siding. The three story commercial-residential complex at 1436 Liliha (1963) (Photo 4-23), designed by Walter Wong, features a metal screened upper two stories and splitfaced brick-sized concrete block storefronts on the first story. In the rear is a parking lot bordered by apartments on three sides. The balustrades of the apartments' lanai/walkway are embellished by decorative blocks and splitfaced brick-sized concrete block.

Kaimuki and sections of Kapahulu Avenue also retain a strong 1950s sensibility, and a priority should be placed on their preservation. For information on the buildings in these areas see the Kapahulu Projects Collection and the Kaimuki Projects Collection developed by the Historic Preservation Program at the American Studies Department at the University of Hawaii at Manoa, which may be found at the Hawaiian Collection at the University of Hawaii Library. The collections remain unprocessed as of May 2011.

On the neighbor islands, mid-century modern style, low-rise retail stores are fairly scarce, as the downtown commercial cores saw limited new development, the result of reduced populations and the emergence of new shopping centers. On the Kona coast of the island of Hawaii the single wall Ushijima Store (1953) (Photo 4-24) at Kawanui stands out as a local adaptation of modernist thought with its canted windows and modest art deco embellishment, and several 1950s buildings can be found in Kainaliu, as well as Teshima's Restaurant in Honalo. The building occupied by the Kahului Florist at Main Street and Central Avenue in Wailuku remains recognizable as a modernist statement at the corner of Main



4-21
1408 Liliha St.
Takashi Nakamura, 1960, 1408 Liliha St.
(2011)



4-22
Lung Kong Kung Shaw Society Hall
George Sui, 1951, 1428 Liliha St.
(2011)



4-23
1436 Liliha St.
Walter Wong, 1963, 1436 Liliha St.
(2011)

Street and Central Avenue, despite the current occupant's efforts to make it otherwise.

In addition to low-rise buildings, a number of mid-rise buildings were constructed in Honolulu starting in the mid-1950s. The Continental Hawaii Building (Photo 4-25) at the corner of King and Kalakaua (1955) designed by Edwin Bauer, well reflects the rising demand for office space in Honolulu, and is an excellent example of the mid-century modern genre with the nicely articulated verticality of the end bay carrying the building name and accommodating the stairs and elevators balanced by the horizontal thrust of the enframed aluminum awning windows of the offices. Originally conceived to be a two or three story building, the owners decided to increase the height to six stories before plans were finalized. Another mid-rise office building, the Kamamalu Building (1957) (Photo 4-26) at King and Richards streets designed by Wimberly & Cook, most likely will be preserved as it stands within the Capital Historic District and any building projected to take its place would have less square footage under roof because of the district regulations. Originally built for the Hawaiian Trust Company, this eight story plus penthouse building was the largest office building in Hawaii at the time of its completion. Other mid-rise buildings of the period include the five-story-plus-penthouse King Center (1960) (Photo 4-27) at 1451 South King Street, designed by Takashi Anbe with its free standing expressionist portico and metal screened façade, and Vladimir Ossipoff's IBM Building (1962) with its distinctive sun screen, while Peter Hsi's five story C. Q. Yee Hop Plaza (1965) (Photo 4-28) in Chinatown and Gold Bond Building (1966) (Photo 4-29) on Ala Moana Boulevard stand as two of the later mid-century modern style mid-rises to be constructed.

As the 1960s advanced, the number of low- or mid-rise commercial buildings declined, but did not disappear, although economics seemed to dictate larger scale structures. Examples which readily come to mind include the three story Ward Plaza (1969) (Photo 4-30) complex designed by



4-24
Ushijima Store
Musaki Funai, 1953, 79-7300 Mamalahoa Hwy,
Island of Hawaii
(2004)



4-25
Continental Hawaii Building
Edwin Bauer, 1955, 1521 S. King St.
(2011)



4-26
Kamamalu Building
Wimberly & Cook, 1957, 1010 Richards St.
(2011)

Au, Cutting, Smith and Associates, and the four-story Kawaiahao Plaza (1978) designed by James Tsugawa, which because of its location within the Capital Historic District was restricted from going any higher. Both these buildings present modern clean-line designs which completely differ from the commercial designs of the early 1950s-1960s period through their use of precast concrete members colored with aggregate and wide expanses of glass to capture the eye. Gone are the multiplicity of textures and materials, as well as any dramatic visual gestures.



4-27
King Center
Takeshi Anbe, 1960, 1451 S. King St.
(2011)



4-28
C.Q. Yee Hop Plaza
Peter Hsi, 1965, 111 N. King St.
(2006)



4-29
Gold Bond Building,
Peter Hasi, 1966, 677 Ala Moana Blvd.
(2006)



4-30
Ward Plaza
Au, Cutting, Smith and Associates, 1969, Ward Ave.
(2006)

4.1.2 Shopping Centers, Malls, and Super Markets

As a closely related successor to low rise retail stores, the shopping center and mall were a direct response to the automobile. These properties went beyond the construction of a single outlet with its own parking lot by clustering a number of shops together in a single building or several similarly designed buildings, all served by a common parking lot. Usually of masonry construction, these retail conglomerates normally rose only a single story in height, although a few of the smaller complexes included a second floor, which was often dedicated to office use. Ward Warehouse (1974) (Photo 4-31 and 32) is an exception with regards to both materials and scale, although it was designed more as a regional mall feeding off the proximity of Ala Moana, rather than as a community shopping center. Similarly, Ala Moana Shopping Center, as well as Pearl Ridge, Kahala and Kaahumanu malls all included more than one level.

Many of the community shopping centers were designed in rather dramatic eye catching ways to attract persons in automobiles. As a result a number of the complexes feature an expressionist style with their folded plate and curvilinear rooflines. Others assume the regularity associated with formalism. The centers serve a larger area than just a neighborhood, instead drawing clientele from an entire community or a district, and in the case of Ala Moana Center and Kaahumanu Mall, the entire island.

The earliest known shopping center in Hawaii was May's (1929) (Photo 4-33), which was situated on either side of Pensacola Street between Beretania and Young streets, and was indeed the progenitor of this section of Pensacola Street. The Ewa part of the Spanish Mission style shopping center designed by Ralph Fishbourne still runs along Pensacola, but the Diamond Head side, which included May's Groceteria, was demolished in 1963 to make way for Hawaii's first Safeway store and a branch of First Hawaiian Bank. Despite the presence of this very early shopping complex,



4-31
Ward Warehouse
Au, Cutting, Smith & Haworth, Ltd., 1974,
1050 Ala Moana Blvd.
(2008)



4-32
Ward Warehouse
Au, Cutting, Smith & Haworth, Ltd., 1974,
1050 Ala Moana Blvd.
(2008)



4-33
May's
Ralph Fishbourne, 1929, Pensacola St.
(2006)

most of Hawaii’s shopping centers and malls appeared in the post-war period.

Some of the earliest post-war shopping centers to appear in Hawaii were Aina Haina Shopping Center (1952) designed by Paul Windisch; Waialae Shopping Center (1955) laid out by Victor Gruen and designed by Rothwell & Lester, which became Kahala Mall (1969), the State’s first completely air conditioned, indoor mall; Moanalua (1954) designed by Associated Architects, Preis, Fisk, Johnson & Perkins, Ossipoff with site planning by Harland Bartholomew; Kailua Shopping Center (1954) designed by Richard Dennis; the Pearl City Shopping Center at Kamehameha Highway and Waimano Home Road (1957) designed by John Graham; and Kamehameha Center in Kalihi (1959). The major retail opening of the 1970s was Pearl Ridge (1972, 1976), the state’s largest indoor mall. None of these retain their historic integrity, as is the case for most of the shopping centers erected on Oahu and also the neighbor islands. The expansion of retail space, as well as a perceived need to be up-to-date has led to extensive remodelings, often on more than one occasion, to these shopping complexes. As a result, very few shopping centers appear to retain sufficient integrity to meet the criteria for listing in the Hawaii or National Registers of Historic Places. Thus the few complexes that do retain their integrity should be considered to have high preservation value. The Aiea Shopping Center (1965) (Photo 4-34), designed by Ernie Hara, at Moanalua Road and Aiea Heights Drive with its folded plate canopies and three tiers stepping down a 5.5 acre site, is one of the still intact shopping centers. The smaller Aiea Commercial Center (1965) (Photo 4-35), also designed by Hara, at Moanalua Road and Kauhale Street also retains its original design features including a folded plate canopy and aluminum store fronts, as does the Waimalu Shopping Center (Photo 4-36) with its distinctive concrete barrel-vaulted roof, and its echoing canopy, rendered in corrugated metal, designed by Kenneth Sato and constructed in three increments between 1960 and 1963. The Niu Center (1964) designed by Edwin Bauer, also retains a high degree of integrity, as does the



4-34
Aiea Shopping Center
1965, Erine Hara, Moanalua Rd.
(2011)



4-35
Aiea Commercial Center
1965, Erine Hara, Moanalua Rd.
(2011)



4-36
Waimalu Shopping Center
98-042 Kamehameha Hwy.
(2011)

Westgate Center (1964) (Photo 4-37) designed by Richard Mastushita. The Windward City Shopping Center (1958) has been typically altered; however, the Foodland Supermarket (1958) (Photo 4-38) designed by Wimberly & Cook, with structural engineer Richard R. Bradshaw, which anchors the complex, remains intact with its concrete shell roof, and should be considered to possess high preservation value. When built it was the largest concrete shell in the territory, with Honolulu Construction & Draying pouring approximately a half acre of concrete, three inches thick in the center, and nine inches thick at the buttresses to form this unusual roof. It received national attention through an article appearing in *Architectural Record*.

Supermarkets typically served as anchors for community shopping centers. Although supermarkets existed in the islands as early as 1928, when Piggly Wiggly first established itself in Hawaii, these retail outlets are primarily associated with the post-World War II period. Piggly Wiggly was a national chain, which started in 1916 in Memphis, Tennessee, and is considered to be the first self-service grocery store in America. Not one to hide its aspirations, the company's slogan was, "Piggly Wiggly All Over the World," and the market's customers found upon entering the store that instead of a clerk to assist them there were shopping baskets, open aisles with shelves of food, and check out stands. In the late 1930s Theo Davies bought out Piggly Wiggly in Hawaii.

While supermarkets increased in number throughout the mainland during the 1930s, it was not until after World War II that supermarkets developed on a large scale basis in Hawaii. Foodland opened in May 1948, and Albert and Wallace Teruya started Times in 1949. Star Market opened its Moiliili store in 1954. Chun Hoon in Nuuanu built a new store along supermarket lines, which opened in December 1954. In 1963 the national chain Safeway made its appearance in the islands. With lower payroll and handling costs, coupled with volume purchasing and high turnover in sales, the supermarket was able to cut prices and take over the retail grocery business. By 1957 supermarkets accounted for close to fifty percent of all retail food business in America.

While many supermarkets anchored community shopping centers, Holiday Mart (1964) at Makaloa and Kaheka streets is credited with spurring development of the twenty-nine acre area surrounding Kaheka Street from the *mauka* side of Kanunu Street down to Kapiolani Boulevard. In 1962 this area, which had been primarily occupied by the Kapiolani Drive-In Theatre, was declared an improvement district by the City and County and named the



4-37
Westgate Shopping Center
Richard Mitsunaga, 1964, Waipahu
(2011)



4-38
Foodland
Wimberly & Cook, 1958,
45-480 Kaneohe Bay Dr., (2011)

Kapiolani Business District. The district received \$3.3 million dollars worth of improvements including streets, sidewalks and curbing, street lighting, sewers, water systems, and underground power conduits. Despite these improvements, the owner of the property, Kapiolani Boulevard Lands, could not find buyers for its vacant, subdivided lots, thus it stood undeveloped until 1964 when Edwin Yee acquired almost an entire block and built Holiday Mart. The presence of this large discount store served as a catalyst for further development of the area with high rise apartments and office buildings.

4.1.3 Low Rise, Walk Up Apartments

During World War II Hawaii was confronted with a serious housing shortage, and with the end of the war the high demand for housing did not disappear, as returning servicemen started families of their own and many newcomers decided to make Hawaii their home, resulting in a dramatic increase in Honolulu's population. An indication of the extent of the housing shortage is revealed by the opening of Roy Kelley's 192 unit Ala Wai Terrace Apartments (1948, no longer extant), with its six four-story buildings on Hobron Lane, just off Ala Moana Boulevard. Not only were all the apartments immediately occupied, but the Kelleys had an enviable waiting list of 300 applicants. With such housing demand many new residential subdivisions were developed and, single family houses were supplanted by apartment buildings within the urban core, where zoning allowed.

Prior to the war, apartments were primarily located in Waikiki, where they accommodated budget-conscious visitors as well as the more transient residential population. These walk-up apartments were frequently of masonry construction, although frame structures also were built, and most were two stories in height, with some going to a third story. Perhaps the Seaside Apartments (1939) designed by Dahl & Conrad and standing at 413 Seaside Avenue, although now used for commercial purposes, may be the best extant example of a pre-war Waikiki garden court apartment.

Post war walk-up apartments began to appear in other parts of the city including Makiki, Moiliili-McCully, University, and Pawaa, all of which were zoned apartment on the City and County Planning Commission's 1940 zoning map. By the end of the 1950s apartments also began to appear in Pearl City, Aiea, Waipahu, Wahiawa, and Kailua. These buildings usually have a rectangular footprint, although occasionally employ an L shape. They range in height from one to four stories, are more often than not constructed of concrete block, and their units are single stacked, with access deriving from a walkway/lanai which runs the length of one side of the building on each story. Steps at one or both ends of the building access the walkway. Sometimes, in addition to the front walkway/lanai, each dwelling unit has a rear, private lanai. The buildings feature flat, or low pitched gable or hip roofs with broad eaves, and any embellishment usually occurs in the end walls and/or lanai balustrades. End walls, which typically face the street, assume a number of different appearances. Veneers, such as black lava rock, brown basalt, and sandstone, are utilized on a number of buildings; others employ decorative block to provide a visual accent, while the Hawaiian Holiday Apartment (1962) at 1420 Wilder Street features a concrete mural by Hon Chew Hee on its face. Lanai balustrades also utilize a variety of materials and assume different forms ranging from steel pipe with wood rails, to sheet metal or wrought iron or extruded aluminum, but most commonly combine such masonry components as brick, hollow tile and decorative blocks. The vertical circulation is another opportunity for embellishment, which often provides a vertical thrust to the otherwise horizontal composition. Jalousie windows prevail, while aluminum by-pass sliding doors to access rear lanai supplant hinged solid core doors as the decades advance. A few of the low-rise apartments of the period, such as the four story apartments at 1335 Wilder (1966) designed by Walter Wong, the Makiki Apartments (1963) at 1122 Wilder, designed by Howard Wong, the Oahuan Apartments (1956) at 1700 Makiki Street designed by Edwin Bauer, and the Kilsby Apartments at 1350 Kinau, are laid out to include a landscaped

courtyard. Parking, if any, is usually in front or to one side, but by the 1960s was frequently placed at ground level underneath the elevated building.

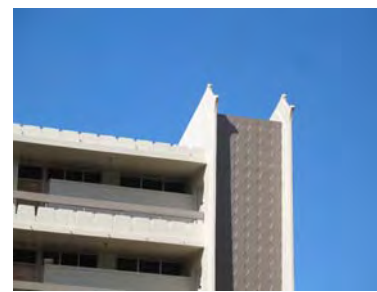
The placement of parking under the apartments partially resulted from a series of zoning code amendments passed by the City Council during the period 1961-1963. With the adoption of the 1961 Comprehensive Zoning Code through CPC Resolution 937, parcels zoned Apartment District C with a minimum lot size of 7,500 square feet, could be developed with low rise apartments. The buildings were not allowed to exceed three stories or 36 feet in height, and their square footage could not exceed the square footage of the lot on which they were constructed. Developers had to provide one parking space for every unit in the building, as well as provide either ten feet side lot setbacks for two story structures, or 15 feet side lot setbacks for three story complexes. In addition a 20 feet front and rear yard setback was required. Dissatisfied by the fact that these regulations fostered having almost all the unbuilt area of a property devoted to parking, the City and County amended the CZC over the next two years to better regulate on-site parking. As a result of these changes, by 1963 parking was no longer allowed in the set back areas, which were reduced to ten feet on all sides, and a 1963 amendment required a planting area, at least five feet wide be placed between the curb and any on-site parking, with vehicles entering or exiting the property from a driveway at the end of the planting strip. The set back and density requirements essentially limited apartment buildings constructed on a minimum size 7,500 square foot lot to about a dozen units and a two story height. When the new no set-back parking regulations were added, apartment buildings using available space around the building for parking were essentially restricted to only six units. To ameliorate this situation and to provide an incentive to place parking under buildings, the City allowed the developer an additional story, if parking was placed under the building.

When evaluating the historic preservation value of these low rise apartments, distinctive design elements should be given high consideration. Only five low-rise apartments from the 1950s-1960s were given recognition by the Hawaii chapter of the AIA. All five are grouped around Pualei Circle and include: Diamond Head Gardens (1960) at 3045 and 3055 Pualei Circle, Diamond Head Alii (1961) at 3027 Pualei Circle, Diamond Head Surf (1959) at 3810 Leahi, and Diamond Head Lanai (1963) all designed by Lemmon, Freeth, Haines & Jones, and the Gregg Apartments (1964) at 3006 Pualei Circle, by Lemmon, Freeth, Haines & Jones, Joseph Farrell, Associate. The units in these buildings appear as if they might be larger than typically seen in walkup apartments, and the siting of this cluster of apartment buildings around a circular drive, lined with now-mature trees, results in a pleasant neighborhood ambiance. These should all be considered to have high preservation value, as should the four four-story buildings which make up the Killingsworth, Brady & Smith designed Kahala Beach Condominiums (1967) at 4999 Kahala Avenue.

In order to better comprehend the nuances of this building type, a non-comprehensive, non-systematic, inventory concentrating primarily on the Makiki-Pawaa areas was undertaken over the course of several days. Based on the impressions obtained during this windshield survey, we offer the following examples and rankings for comparative purposes, when consultants or SHPO staff need to evaluate the preservation value of low-rise apartments.

Extraordinary examples of low rise apartments include:

Name	address	TMK	year built	Designer
Makiki Bel Air	1543 Makiki St	2-4-009:002	1964	Robert Matsushita



An excellent example of a very cleanly designed apartment utilizing an expressionist vocabulary. The lanai balustrade design is noteworthy as are other concrete accents, including the pedestrian entry with its plantings. The patterned concrete block used to accent the vertical circulation towers is distinctive and not commonly used and is echoed in the *mauka* boundary wall. Also the decorative block used to screen the street employs an uncommon design.

Name	address	TMK	year built	Designer
Oahuan	1700 Makiki St.	2-4-024:014	1956	Edwin Bauer



A very good example of a courtyard apartment complex, which includes a pool in the middle, reminiscent of the Edwin Bauer designed Breakers and Hawaiiana hotels. The shoji motif in the second story lanai balustrade is noteworthy, as is the use of basalt in the end wall and entry.

Name	address	TMK	year built	Designer
Makiki	1122 Wilder Ave	2-4-030: 052	1963	Howard Wong



An excellent example of an apartment with a landscaped interior courtyard, a smaller version of a design Donald Chapman would later employ in the Garden Court Office Building. In addition, it uses decorative block as a visual accent and screen, and employs splitface brick-size block in its entry and planter boxes. The script lettering is also typical of the period, as is the entry steps' handrail.

Name	address	TMK	year built	Designer
	1422 Heulu St	2-4-024: 015	1959	Ed Aotani



Very clean design employing a concrete block which emulates clapboard as a significant design element, enhancing the overall composition. The pergola-like cut outs in the roof, the zig-zag pattern produced by advancing and receding concrete blocks in the side walls, and distinctive light fixtures further contribute to the high quality of design and attention to detail.

Name	address	TMK	year built	Designer
Hawaiian Holiday	1420 Wilder Ave	2-4-024: 031	1962	City Mill



A unique instance in which a commissioned work of art by an internationally known Hawaii artist, adorns the end wall of an apartment building. The use of lava rock accents is also noteworthy, as are the lanai's wood balustrades.

Very Good:

Name	address	TMK	year built	Designer
	1335 Wilder	2-4-21: 1, 59	1965	Walter Wong



Features a garden courtyard, hidden from the street by a wood screen. Combines a variety of materials, including wood, decorative blocks in the lanai railing, scored poured concrete and concrete block. The end wall is articulated with the cantilevered extension of the floor slabs and box framed louvered openings.

Name	address	TMK	year built	Designer
Punahou Terrace	1630 Makiki St	2-4-024: 025	1958	Miyamasa & Mori



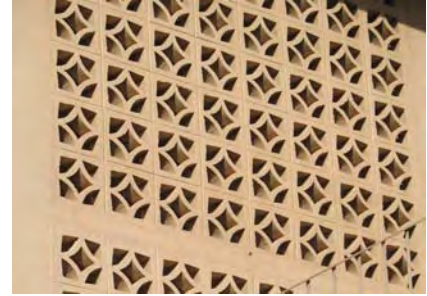
Well composed complex of apartments featuring black lava rock veneered end walls.

Name	address	TMK	year built	Designer
Teruya Apts	1327 Pensacola	2-4-012: 016	1962	Takashi Nakamura



Splendidly articulated lanai balustrade in brick and decorative block.

Name	address	TMK	year built	Designer
Maile Terrace	1327 Makiki St	2-4-009: 008	1970	Frank Haines



Handsomely designed apartment with cantilevered steps and overhanging flat roof. Sandstone end wall and decorative blocks used in the lanai balustrades contribute visual allure.

Name	address	TMK	year built	Designer
Takara Apts	1303 Dominis	2-4-025:050	1966	Stephen Oyakawa



A distinctively designed, L-shaped apartment with cantilevered steps, lanai, and overhanging flat roof. This poured in place concrete building features balcony-like lanai for each of its units, and all horizontal lines have a beveled lower edge with a simple geometric pattern.

Name	address	TMK	year built	Designer
Kilsby	1350 Kinau St	2-4-011: 022	1953	



A strong composition of crisp right angle elements, this apartment features its original awning windows, raked concrete walls, and interior courtyard with metal steps with circular landings.

Good:

Name	address	TMK	year built	Designer
Janda	1659 Liholiho St.	2-4-O29: 054	1961	C. J. Kim



A distinctive treatment of its concrete block end wall with the inclusion of a vertical concrete element with exposed lava rock, reminiscent of Alfred Preis's First Methodist Church, and also the enhancement of the vertical circulation through a simple wood screen.

Name	address	TMK	year built	Designer
Savannah	1442 Liholiho St	2-4-020: 048	1964	Robert A. Miller



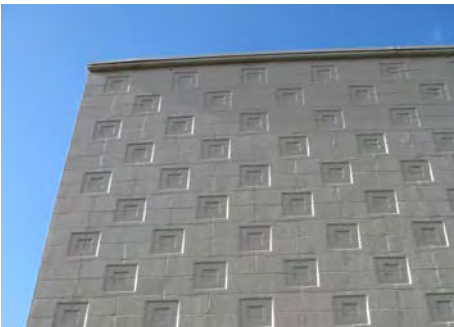
A small apartment building, nicely proportioned and accentuated by its broad overhanging roof and lanai. Decorative block adds an appealing accent.

Name	address	TMK	year built	Designer
Punakiki	1510 Dominis	2-4-023: 055	1961	George Izata



A modestly designed, concrete block apartment building which relies on the use of decorative block in its lanai railings and end wall for visual appeal. The overhanging flat roof contributes an element of drama to the composition.

Name	address	TMK	year built	Designer
Shinshu Kyokai	1641 S Beretania	2-8-001: 043	1961	Robert Katsuyoshi



L-shaped Shinshu Kyokai Mission dormitory with distinctively patterned concrete block end wall, and wood slat louvered openings

Name	address	TMK	year built	Designer
Makiki Palms	1505 Kewalo	2-4-021: 040	1959	Ernest Hara



A modest, L-shaped, two-story apartment, lushly landscaped with palms and featuring an Arizona sandstone privacy wall.

Name	address	TMK	year built	Designer
Pawaa Garden	1627 Young St.	2-8-1: 25, 26	1960	Tyler Harr



Two buildings echoing each other across a parking lot. Distinctive end wall using an uncommon patterned concrete block. Wood railings affixed to pipes add to the special appearance of the buildings.

All of the above warrant being considered of high preservation value. For examples of apartments in Waikiki of high preservation value see Mason Architects' *Photo Essay of 1950s Buildings in Waikiki and Honolulu*.

In addition to apartments constructed with design qualities comparable to the above examples, a large number of buildings which are essentially masonry boxes with limited design embellishment were constructed. In a November 23, 1966 editorial entitled, "Tomorrow's Slums, Now?" the *Honolulu Advertiser*, after attending a session of the Chamber of Commerce's conference on planning at which Oahu Development Conference planner William A. Grant spoke, opined,

It comes as something of a shock to realize that nearly one-quarter of Oahu's population now lives in small apartment buildings.

It is disturbing not because small apartments are necessarily bad in themselves but because so many of them are ill-planned and ugly. A drive down Kapiolani Boulevard past McCully St. provides one easy example. . . .

The practical problems of the small businessman——ranging from small available lot space to need for faster return on his investment——are considered much more difficult [than those faced by big businessmen and corporations].

For one thing, a number of the small developers have the idea that building tomorrow's slums today is both good business and a valuable service to the community. . . .

The problem of the small apartment is not necessarily that of the individual apartment unit but the relation of such units to each other and other buildings.

The *Advertiser* and Grant may have realized they had slightly over-stated their case, and hence the need to raise concern for the conglomerate of apartments rather than simply the individual building. Certainly in the area along Kapiolani Boulevard past McCully some individual apartments should be considered of high preservation value on the basis of their extraordinary design, such as the vaguely Wrightian Fukumoto Apartments (1948) at the corner of University Avenue and Kapiolani, designed by Yoshio Kunimoto, and the apartments at 2459 Kapiolani Boulevard (1958) designed by Stephen Oyakawa,

However, many of "tomorrow's slums" should at this point in time be considered of low preservation value. They should be photographically documented, but not necessarily preserved. Although they are significant as reflective of their period's design, materials, craftsmanship, and methods of construction, and also are associated with the development histories of the areas in which they stand, they remain in sufficient quantity, that their attrition will not dramatically diminish our memory or understanding of the story they tell. As this resource type dwindles in number, these more common and straight-forward examples should be re-evaluated on a neighborhood by neighborhood basis.

4.1.4 Low and Moderate Income Housing

The Hawaii Housing Authority administers forty seven housing projects which date from the period 1952-1979. Of this number nine were built in the 1950s, 20 during the 1960s and 18 in the 1970s. No pre-World War II project remains standing.

During the Great Depression the Public Works Administration, in an effort to stimulate employment and also improve living conditions of low income families, developed and operated housing projects in selected localities throughout the nation. In response to this federal program, the Territorial Legislature established the Hawaii Housing Authority (HHA) through Act 190, SL 1935. With the passage of the federal Housing Act of 1937 (Public Law 412 – 75th Congress), public housing projects began to be developed in Hawaii, with the two pre-World War II projects being the Kalakaua Homes (1941) designed by Ray Morris and C. W. Dickey's red-tile roofed Kamehameha Homes (1940). Two other projects, Mayor Wright Homes in Honolulu and Lanakila Homes in Hilo, were deferred because of the outbreak of World War II.

With the coming of World War II Hawaii was confronted with a serious housing shortage, as Honolulu saw an influx of over 100,000 civilian defense workers, while a lack of building materials and laborers brought residential construction to a virtual halt; only 137 building permits were issued during 1942 for houses. The housing situation became more acute in 1943, as workers continued to come to the islands, and in 1944 the military further compounded the problem by permitting families to join war workers.

Four evacuation camps, which the Office of Civilian Defense had erected in Palolo and Kalihi valleys in case of another Japanese attack, were turned over to the HHA and converted into wartime public housing for several hundred families. The HHA also developed public housing areas in Palolo, Kapalama, and Lanikila during 1944 and 1945, and the Federal Public Housing Authority opened Kalihi War Homes with its 248 units in February 1945. The Federal Public Housing Authority started to build another 1,000 dwelling units in Manoa, but these were not completed until 1946, after the war was over. Members of a Congressional subcommittee, which came to investigate Honolulu's housing situation in March 1945, learned of "hot bed apartments" where as many as eighteen men occupied one room in three shifts. The subcommittee found that adequate housing had not been provided for approximately 60,000 of the 107,679 civilian newcomers who came to Hawaii during the war (Allen, pages 353-364).

With the conclusion of World War II, three of the evacuation camps, Kalihi Evacuation Camp, Kalihi School Camp, and Palolo School Camp, were closed as they were deemed unsatisfactory for occupancy. The Palolo Evacuation Camp adjacent to the 362 unit emergency housing project in Palolo remained in operation. In 1946 the HHA secured financial assistance from the federal government to provide 350 units in Halawa and 250 units at Hilo's Lyman Field. These utilized surplus Army and Navy barracks and were primarily for the families of veterans. In 1948 and 1949 these activities were expanded and Red Hill and Manana were developed.

The federal Housing Act of 1949 reactivated the federal slum eradication and low rent housing program, which had been halted by the war. As a result the 150 unit Lanakila Homes in Hilo

opened in the fall of 1951, and Mayor Wright Homes, which had been designed by C. W. Dickey prior to the war, was completed in 1952, as was the strictly territorial funded Puahala Homes, which was comprised of 28 four and five bedroom units. At this time the housing situation in Honolulu remained critical. Housing starts were not keeping pace with the rising population, and the cost of dwellings escalated, pricing a number of people out of the market. In 1950-51, 40 percent of the residential building permits issued were for dwellings costing over \$13,000; however by the following year that number jumped to 82 percent of the permits.

In 1954 the HHA opened the 400 unit Kalihi Valley Homes on February 26, and the 134 unit Kuhio Homes. Both projects consists of units in two story, reinforced concrete buildings, similar to Palolo Homes (Photo 4-39). In 1952 the HHA gradually demolished the World War II frame buildings and replaced them with concrete structures, a project that lasted until 1957 resulting in 532 temporary units replaced by 424 permanent units designed by Law & Wilson.

During 1956 Governor Samuel King found Hawaii's housing situation to be "critical" and a year later raised his assessment to "acute." In his annual report to the Secretary of the Interior he noted, "most recent studies indicate that population growth in Honolulu is exceeding dwelling unit additions, and the full impact of the arrival of families of the Army's 25th Infantry Division, which came to Schofield Barracks during the latter part of 1954, is now being felt." (Annual Report, 1956, page 48) At that point in time Honolulu's vacancy rate was 1.5 percent. In addition to having to absorb the military families into the housing market, the HHA was also confronted with people being relocated as a result of the construction of the Lunalilo Freeway, urban redevelopment projects, and the expansion of the airport. The latter displaced 520 families who were living in converted barracks and Quonset huts. To further compound the problem, the 982 Manoa emergency wartime housing units, which the federal government had transferred to the HHA on July 1, 1953, had to be vacated, the structures demolished, the 94 acre parcel restored and returned to the property owners by June 30, 1958. By that date the HHA only partially fulfilled this commitment, returning 44 acres and receiving a one year extension to vacate the final 284 families, which was accomplished.



4-39
Current Palolo Housing
1950s, Law & Wilson, Palolo Valley
(2011)

To address the need for low income housing, HHA constructed Kaahumanu Homes (1959) on eight and a half acres adjoining Kamehameha Homes, placing 152 units in fourteen buildings. In addition, Puahala was expanded to one hundred units, Kalihi Kai was constructed with its initial 152 units completed by 1959, and Halawa Kai started. In addition Punchbowl Homes, designed as senior citizen housing, opened its 96 one bedroom units in December 1960. By the end of June 1961, 4,387 families lived in public housing in Hawaii, with over a thousand more on a waiting list.

The HHA's major project of the early 1960s was the replacement of the Kalihi War Homes with two 16 story buildings which comprised Kuhio Park Terrace. Sited on 26 acres in Kalihi, construction commenced in 1963, and the first tenants moved into the 614 unit complex in early 1965.

The 1960s was also characterized by the expansion of HHA activities on the neighbor islands and into more rural areas. The 82 unit Kahekili Terrace opened in February 1966, the first federally funded low income housing project on Maui. The 18 unit David Malo Circle followed shortly thereafter. During 1966, housing projects on Kauai opened in Hanamaulu, Eleele, and Kapaa, while Wahiawa Terrace opened in October 1966 in rural Oahu. Other projects followed, including those in Waimanalo (1967), Halawa (1969), and Kaneohe (1969). In the city, Makua Alii elderly housing (1969) designed by Frank Slavsky, Kalanihulia elderly housing (1969) and Paokalani elderly housing (1970) all were opened. Makua Alii received a U. S. Department of Housing and Urban Development Award for Design Excellence, as well as a similar award from the Hawaii Chapter of the AIA.

At the end of the decade, HHA was also given the responsibility for public teacher housing and constructed eight teacher cottages on Molokai (1968) and two at Weliweli in Koloa on Kauai (1969).

In addition to the various publicly supported low income housing projects, the private sector also provided low-income housing. The 54 unit Kalihi Garden Apartments (1960) on Wilcox Lane at the makai end of Gulick Avenue, the earliest known private venture of this type in Hawaii, opened on January 1, 1960 and within fifteen days was completely rented. Offering two bedroom apartments at \$90, \$92.50, and \$95 a month, the pair of three story, walk-up buildings were priced just slightly above public housing and attracted families from the government complexes.

Throughout the 1950s and 1960s a housing shortage persisted in Hawaii, with a vacancy rate of approximately only three percent characterizing the 1960s. During this decade, escalating land costs were pricing more and more people out of the housing market. In 1968 two major, moderate income housing projects were undertaken on Oahu. Both were aided by low rate Federal Housing Authority (FHA) mortgage insurance, a federal program authorized in 1961 by the passage of Section 221 (d)(3). Through this cooperative venture the private developers paid the prevailing interest rate on their construction loans, but after completion of the project the Federal National Mortgage Association purchased the loan at below market interest rates, thus allowing for lower rents to be charged the apartments' tenants. At that time, to qualify as a moderate income household, income could be no more than \$7,200 for a single person, \$8,700 for a couple, and \$10,250 for a family of three or four persons.

The initial project undertaken as Moanalua Hillside (1968), in the Red Hill area, included 144 one-bedroom units in two six story buildings and 556 two-bedroom units in twenty three two and three story structures. Designed by John Carl Warnecke & Associates the concrete block apartment buildings were among the first island dwellings to utilize precast, prestressed concrete floor and roof systems. The other major project, Kukui Gardens (1970), in downtown Honolulu, was undertaken by the non-profit Clarence T. C. Ching Foundation, and added 822 moderate income apartments to Hawaii's housing stock. It was designed by Cesar Pelli, who

at that time worked for the Honolulu office of DMJM, and won a National AIA Design Award. At the time of their construction, the projects were the two largest FHA moderate income housing projects in the nation. Other projects followed, including the 149 unit Kilohana project in Kaneohe, and Hale Ola in Pearl City with its 150 units.

Time did not allow for more in depth study or a field survey of the various post-World War II housing projects

4.1.5 High Rise Buildings

The modern movement not only affected architectural design, but also some aspects of its vocabulary. In keeping with the temper of the times, the old fashioned, romantic term “skyscraper” was discarded during the mid-1950s and replaced by the more sleek, scientific-sounding, modern name, “high rise”.

Due to their size, high rise buildings are a conspicuous part of Hawaii’s built environment. Built in part as a response to ever-escalating land values and demands for commercial and dwelling space, high rise buildings stand as one of the foremost tangible images of the enormous growth and development that Hawaii has undergone in the modern period. In addition, skyscrapers have traditionally conveyed iconic messages of status and power, and during the last half of the twentieth century the modern style high rise became closely associated with the global presence of imperial America in Hawaii and around the world. Of all building forms, the high rise is probably the first to come into the general public’s mind when discussing architecture in Honolulu during the post-statehood period. And most of the discussions are not favorable, as the form embodies the antithesis of all that came before their advent and all the changes for the worse that have come after.

The high rises erected during the period 1955-1979, like most modern construction of the period, rejected historicism and ornament. Apartments frequently were characterized by the design of their lanai, while commercial office buildings relied on their materials and fenestration for definition, with a number employing pre-cast, recessed windows and in some instances sun screens. Others utilized the curtain wall. The high rises in Hawaii followed a rectangular footprint, and often were characterized as concrete boxes. During the 1970s a number of more sculptural high rises appeared following an expressionist approach, as can be especially seen in the work of Warner Boone. Other buildings such as Takashi Anbe’s HGEA Building (1970) at 888 Mililani Mall and Ernest Hara’s Queen Kapiolani Hotel (1969) at 150 Kapahulu Avenue followed the classical spirit of formalism, and an occasional building, such as the Financial Plaza of the Pacific (1969), probed the design tenets of brutalism.

The Emporis website defines a high rise building as being twelve stories or higher, and lists 440 high rise buildings in Honolulu. For the period 1939-1979, the site identifies 266 buildings (1948-1959, ten buildings; 1960s, 99 buildings, and 1970s 157 buildings) and also includes another 68 buildings for which no date is ascribed, although many of these undated buildings are also from the period of study. Thus a large majority of Honolulu’s high rise buildings were erected between 1948 and 1979, with at least a third of the city’s high rises constructed during the decade of the 1970s.

The fourteen story, 189 feet tall Tripler Army Hospital upon its completion in 1948 supplanted Aloha Tower (1926) as the tallest building in Hawaii. In 1955, a succession of three new twelve story buildings, the Rosalei Apartments, Princess Kaiulani Hotel, and Biltmore Hotels began the redefinition of Waikiki’s skyline, with each one successively laying claim to being the tallest privately owned building in the Territory of Hawaii. The press proclaimed the new high rise hotels to be “an outstanding addition to the development of Waikiki and the growth of the tourist trade,” [*Honolulu Advertiser*, June 11, 1955, Special Kaiulani Section, 1] which represented, “faith in Hawaii, not only in its future, but its present role in the world of tourism”

[*Star Bulletin*, June 11, 1955, magazine section, p 14.]. As early as 1960 “alarmed cries that Waikiki and Honolulu are becoming ‘skyscraper alleys’” were being heard around the islands. The *Honolulu Star Bulletin* viewed the advent of taller buildings as inevitable as, “the sudden urge for the clouds is purely economic. You cannot afford to build a hot dog stand on land that costs \$35 to \$40 per square foot.” (July 31, 1960 page 21)

With its completion in 1960 the 25 story, 300 feet high Ala Moana Building, capped by LaRonde revolving restaurant, became the State’s highest building, but was supplanted at the end of the decade by the 33 story 1350 Ala Moana (1968) (Photo 4-40) designed by Minoru Yamasaki, and then the Sheraton Waikiki (1968) (Photo 4-41) whose 29 stories rose 315 feet in the air. Two years later the 38 story Ala Moana Hotel (1970) assumed the title of tallest building in Hawaii with a height of 397 feet. It appeared it would maintain this distinction as the City capped building heights at 350 feet. However, this limit was raised to 400 feet in 1993, and the First Hawaiian Center (1996) was authorized to exceed the limit at 429 feet.



4-40
Ala Moana Building
1960, 1441 Kapiolani Blvd.
(2011)



4-41
Sheraton Waikiki Hotel
Wimberly, Whisenand, Alison, Tong and Goo,
1971, 2255 Kalakaua Ave.
(2006)

4.1.5.1 High Rise Apartments

The inception of cooperative apartment buildings led to the development of high rise apartment buildings in Hawaii. This form of real estate tenure can be traced back to sixth Century B.C. Rome, but was not a common way to hold property in the United States, with Florida and New York City (where approximately seventy percent of the apartments are coops) being two of the few places in the United States, other than Hawaii, with cooperative apartments. In 1953 Hawaii lawmakers authorized cooperative land tenure, having found it appealing as land prices were constantly increasing, and space decreasing. This form of ownership allowed individuals to purchase rather than rent an apartment that would belong to them. While opening up the possibility of home ownership to more people, this form of ownership also placed real estate developers on a sounder fiscal footing which made possible easier financing and construction of high rise apartments in Hawaii.

To build a cooperative apartment a developer formed a non-profit corporation which would own the proposed building as well as legal control of the land on which it was to be built. The developer obtained commitments and partial financing from persons who purchased shares in the non-profit, which allowed the developer to obtain financing with which to construct the building. Usually the shares were sold out before the structure was completed. Rather than purchase real estate, a coop buyer purchased stock in a non-profit company which owned all the units in the building. Ownership of shares entitled a stockholder to enter into a proprietary lease to the unit they occupied. Each owner also possessed an equal interest in the common elements of the building, such as the stairs, elevator, roof, halls, grounds, etc., and the non-profit company managed the upkeep of these areas and collected maintenance fees. As the non-profit owned all the units, with all residents being shareholders, the board and membership decided if proprietary leases to units could be sold and to whom they might be sold. Also, since the non-profit was responsible for the property's master mortgage, should one of the shareholders or the corporation default on their mortgage or tax payments, the other shareholders would be responsible for any shortfalls.

The earliest cooperative apartments constructed in Hawaii were both low and high rise buildings, with the four story, fifty six unit Ululani Apartments (1954) on the slopes of Punchbowl at Iolani, Prospect and Miller streets designed by Law & Wilson being the earliest known coop to be proposed in Hawaii and the six story, 89 units Diamond Head Ambassador (1959) by the Kapiolani Park. Following shortly thereafter, the first high rise cooperative apartment, the Rosalei (1955) rose in Waikiki. Standing twelve stories it featured double stacked units off a central corridor, with all apartments having an outset lanai. In comparison, the twelve-story Oahuan Tower (1957)



4-42
Oahuan Tower
Edwin Bauer, 1957, 1710 Makiki St.
(2011)

(Photo 4-42) designed by Edwin Bauer and the first high rise apartment outside Waikiki, facilely adapted the typical walk-up design with its lanai-corridors to a high rise situation by simply adding more floors.

Much of the early cooperative apartment construction transpired in Waikiki and Makiki. In Waikiki the new apartments were primarily high rise, as is well indicated by the fact that in 1950 there were 17.4 hotel rooms for every apartment unit, but in 1960 that ratio had dropped to 2.6 to one.

The failure of the proposed Hawaiian Monarch coop, which was to be located behind the International Market Place, dampened enthusiasm for coops in general. As a result in 1961, the Hawaii State Legislature passed the first horizontal property regime (later condominium) law in the United States. Congress in 1959 had laid the practical financial ground work for this law, when it authorized the Federal Housing Administration to insure mortgages for individual condominium units. This Congressional action responded to a condominium law passed in Puerto Rico in 1958, which the Hawaii law closely followed. Puerto Rico was familiar with the condominium concept, as it had been in use in South America since its formulation in Brazil in 1925. Hawaii's new law allowed residents to own individual units in a larger complex, with sole responsibility for their unit's mortgage, and, as a result condominiums supplanted cooperatives as a means for individual apartment unit ownership in Hawaii. In time a number of coops converted into condominiums; however, a little over 50 cooperative apartments from the period 1954-1961 remain in Honolulu.

The 12 story Sandalwood (1964) at 910 Ahana Lane in Pawaai Kai, developed by Howard Ferguson and designed by Bassetti Morse and Tatom holds the distinction as Hawaii's first approved residential condominium. It also was the first constructed using the domino slab system developed by Alfred Yee using pre-stressed, one and two-story high, load bearing interior and exterior wall panels, which eliminated the need for structural columns, reducing the construction costs to \$13/square foot, as opposed to the \$15/square foot cost of conventional construction methods. Other condominiums quickly followed, including the 12 story 1001 Wilder (1964), which failed to generate interest as a proposed coop, but was able to pre-sell sufficient apartments as a condominium to have Equitable Life Assurance Society agree to provide the necessary financing. This was the first time in the United States that an insurance company agreed to offer financing on individual apartment units.

To aid the financing of condominiums the 1964 Hawaii State Legislature passed Act eight which allowed developers to pre-sell condominium units and present owners with a deed. This became a useful and common practice in Hawaii, allowing developers to generate additional revenues to build their projects. By June 1965 *Hawaii Business and Industry* noted:

The success story of condominiums in Hawaii can be visibly affirmed by anyone surveying the Honolulu skyline: most of the high rise apartment buildings in various stages of completion are condominiums. Since on most of them no construction starts until the building is substantially pre-sold, each one that actually comes up is an automatic success story: in

some cases, like the Sandalwood, appreciation as high as 25 percent of the purchase price occurred between the time of buy and the time the unit was constructed—as evidenced by one case where an early buyer sold out an apartment before even moving in, and realized a \$6,000 profit. (page 37)

The idea of condominiums as an abode and as an investment opportunity immediately took hold in Hawaii, and was more popular here than in any other state which authorized condominium developments. During the first four years after passage of the condominium law 80 projects received necessary reports from the Hawaii Real Estate Commission, and at the end of 1966 115 condominium apartment projects had been approved or proposed. One indication of the high demand for condominiums during the 1960s is revealed by the 230 unit Marine Surf (1968) at 364 Seaside Avenue in Waikiki being sold out in two days. The FHA and Hawaii Real Estate Commission eventually warned prospective buyers that high pre-sale numbers were often skewed by real estate speculators who would frequently buy multiple units in a condominium project in hopes of reselling them at a profit when the project was completed.

All of the high rise condominium projects constructed in the first ten years following the passage of the condominium law were built in a modern style, and the design of many of them did not transcend their popular characterization as concrete boxes. Some, however, transcend the ordinary including:

Minoru Yamasaki's 33 story 1350 Ala Moana (1968), as well as his moderate income housing project (now a condominium) Queen Emma Gardens (1964);

John Russell Rummell & Associates' 13 story Royal Vista Apartments (1968) at 1022 Prospect Street with its articulated structural members and serated plan;

Dennis Mann Johnson Mendenhall's 25 story 500 Ala Wai Plaza (1970) designed by Cesar Pelli with its distinctive glass vertical circulation tower;

the 36 story Marco Polo (1971) by Charles Sutton and Lemmon, Freeth, Haines, Jones & Farrell featuring a hula curve;

the 12 story Manoalani (1967), designed by Johnson & Perkins with large lanai and 23 bedroom units and ten, two floor, four bedroom units;

the 19 story Pomaikai (1968) at 1804 Ala Moana designed by Sam Chang, with only two apartments per floor, with each apartment having three lanai;

the clean line, 11 story Angaroa High Rise (1972) at 1545 Nehoa designed by Roger Lee; and

Tom Wells' Palo Alto on Punahou Street with its ivy clad walls.

These all should be considered to have high preservation value.

In addition to evaluating high rise buildings for their architectural distinctiveness, they may also be evaluated within the context of their development. Several major developers were responsible for the construction of a number of projects. Three of the most important developers, in terms of the number of successful projects they undertook were: Edwin Yee, who founded and operated Condominium Hawaii, the most prolific developer of residential condominiums in Hawaii during the 1960s. Yee, who initially studied architecture before transferring into business, first became involved with apartment construction projects when he undertook Atkinson Towers Cooperative Apartments (1959). In 1963 he moved into condominium development with the three story, 30 unit Waikiki Parkway at 1660 Kalakaua. This project was followed by three other low-rise condominium projects, the Gregg Apartments (1964) and Diamond Head Gardens (1964) both on Pualei Circle, and the four story Continental Apartments (1964) at 909 Kaheka Street.

Yee's approach differed from many condo developers by starting construction prior to offering units for sale, using the profits he made on his last venture to fund the start up of his next. He felt seeing the building under construction boosted buyer confidence and facilitated sales. With the capital accumulated from the low rise developments, the company moved into high rise construction, concentrating its efforts in Makiki and the Kapiolani Business District (where Yee had developed Holiday Mart), but also constructed the Ala Wai Manor (1965) on McCully Street along the Ala Wai.

In Makiki the company built the 11 story Consulate Apartments (1965), 13 story Hale-O-Kalani Apartments (1965) (1702 Kewalo), and 13 story Punahou Gardens (1966) at Wilder and Poki. The latter was comprised completely of studio units. In the Kapiolani Business District, on the streets surrounding Holiday Mart, the company built Holiday Manor (1966) at Kalakaua and Kanunu, designed by Lemmon, Freeth, Haines & Jones with 221 studio units. This was the first multi-story condominium devoted exclusively to studio apartments and its success was followed by the circular shaped, 21 story Holiday Village (1967) on Amana, which also contained only studio units. It sold out in five days. By 1967 with the completion of Holiday Village, Condominium Hawaii had added over 1,250 units to Honolulu's housing inventory over the course of four years.

The company's decade concluding project was the Kahala Towers (1968) with their 13 and 27 story buildings standing above the H-1 freeway at Kilauea and Waialae avenues.

The second major player in the condominium development field of the 1960s was Oceanside Properties, which was owned and operated by Hal Hansen. The company relied on Hal's brother- the architect Arthur B. Hansen, to design their apartments. Their projects include Oceanside Manor (1963) at 3015 Kalakaua Avenue; the 18 story Makiki Towers (1965), the tallest building in Makiki at the time of its completion; the 14 story Marina Towers (1967) at Ala Wai and Lipepe in Waikiki; the 32 story Alii Towers on Hobron Lane; 27 story Kapiolani Manor (1968, 1970) at 1655 Makaloa, which was built in two phases; Kapiolani Terrace (1973) at 1560 Kanunu Street, and the Maui Sands in Lahaina.

Bruce Stark entered on the condominium development scene with the 14 story Parkview (1967) at Makee and Kaniloa in Waikiki, and followed this with the 13 story Royal Vista at 1022 Prospect (1968) designed by John Russell Rummell and Associates. During the 1970s he is best known for a number of projects which he developed with Warner Boone as the project architect. These include such projects as Yacht Harbor Towers (1973), Diamond Head Vista (1975), Canterbury Place (1976), Discovery Bay (1977), Royal Iolani (1978), and Admiral Thomas (1978). Other projects he and Boone collaborated on include Waikiki Trade Center (1980) and Waterfront Towers (1990).

High rise condominiums may also be considered significant for their associations with the post-Statehood development of residential neighborhoods such as Makiki, the Kapiolani Business District, and Waikiki. In 1967 the City and County of Honolulu's Building Department issued more building permits for apartment units than single family dwellings. The 133 permitted apartment buildings totally 3,159 units accounted for slightly over fifty percent of the state's new housing units, when compared to the 3,005 permits issued for single family dwellings that year. Most of the new condominium units were purchased by persons who had relocated to Hawaii from the mainland. As such, high rise condominiums might be evaluated for their associations with the expansion of Hawaii's post-Statehood population and the emergence of the high rise apartment as a ubiquitous building type in Honolulu.

A subset of the condominium context might consider the significance of a high rise condominium in terms of the construction methods and materials associated with the building's development. For example, the Sandalwood Apartments' use of the domino slab system, or the Alexander Arms (1970), designed by Peter Hsi, which utilizes precast concrete panels that were epoxied together, eliminating the use of mortar and shortening the on-site construction schedule.

Other high rise condominiums may be primarily significant for reasons other than architecture, engineering, or community development, such as the 13 story Punahou Circle Apartment at 1617 Beretania (1965) designed by Park Associates, where young Barack Obama lived from 1971 to 1979.

When evaluating whether a high rise condominium meets the criteria for listing in the Hawaii and National Registers of Historic Places, the enclosing of lanai by individual owners is an issue evaluators will need to consider. Most all condominiums, especially those with inset lanai, have experienced some unit owners expanding their interior floor space by enclosing the lanai. A judgment regarding at what point this alteration might be considered sufficient to compromise a building's integrity will need to be addressed.

As a side note, the 1961 condominium law not only facilitated the construction of high rise apartment buildings, but also townhouse developments, as first demonstrated by Henry Kaiser in Hawaii Kai where he constructed a group of eleven townhouses varying in size with four, six or eight connected units on Kawaihae Street (1963). He also placed 22 lots on the market with single story duplex and quadraplex units, with each unit sold individually under the condominium law. The first approved condominium in Hawaii was 100 Wells-Kanoa (1962), a

five unit commercial building in Wailuku, Maui, which had been constructed and leased prior to the passage of the condominium law with the understanding the offices would be converted upon passage of the law.

Although high rise condominiums are expensive propositions to maintain, this building type may be one of the least endangered, simply by the character of its ownership arrangement. While single owner high rise hotels and office buildings from the 1950s and 1960s have been imploded to make way for more ambitious structures, to date the multiple owners of no high rise condominium apartment building have reached a consensus to demolish their domicile.

The Website Hawaii Condo Guide includes an extensive listing of Hawaii condominiums, with links to data sheets that include the date of construction.

In addition, the website HI Condos includes a list of approximately 100 of Honolulu's 1,000 plus condominiums, which they consider to be premier properties, with links to individual data sheets, which include year built. Condo.Com has a listing of over 100 Honolulu condominiums with links to information sheets which include date of construction.

4.1.5.2 High Rise Office Buildings

Most of Honolulu's early high rises served residential and hotel purposes, with low and mid rise structures addressing the city's office needs. In 1957, upon its completion, the eight story-plus-penthouse Hawaiian Trust Company Building at King and Richards street, designed by Wimberly and Cook, and now renamed the Kamamalu Building, was the largest office building in the Territory of Hawaii. The reinforced concrete, completely air conditioned building featured a two story, lava rock base that proclaimed a Hawaii sensibility, while its cast stone tower rose above the city in a modern manner. Five years later, the Downtown Improvement Association, declared the recently completed, nine story Bethel-Pauahi Building (1962), designed by Ernest Hara, to be the largest office building in downtown Honolulu constructed for use by individual tenants.



4-43
Kamāmalu Building
Wimberly & Cook, 1957, 250 S. King St.
(2011)

Starting in the 1960s with the Ala Moana Building (1960), office buildings started to go high rise. By the middle of 1962 the eighteen story First National Bank (1962) opened as the first downtown high rise office building. Also that year the Bishop Insurance Building (1962) at Bethel and King was completed, and the five story Investors Finance Building (1963) with its sunken plaza at the corner of Bishop and Hotel streets, designed by Ernest Hara, broke ground.

Fueled by an unprecedented demand for office space, the result of the doubling of people in Honolulu employed in such office using activities as financial, business, and professional services between 1954 and 1964, approximately \$24,000,000 was expended on constructing new office space in the downtown area during the period 1955-1965, thanks in part to the efforts of the Downtown Improvement Association. Confronted with the decentralizing tendencies of the automobile, the decline of Honolulu harbor's downtown piers as major activity generators, and a concern over the impending loss of the downtown's retail prominence with the opening of Ala Moana Center (1959), this organization was formed in 1958 to be a strong advocate for the retention of downtown as Hawaii's business and government center. Over the course of the organization's thirty eight year existence, over twenty five new office buildings appeared in downtown and office space grew from less than 1 million square feet to 11 million square feet, which in 1996 represented sixty percent of all of Oahu's office space.

The office buildings constructed in the late 1950s and early 1960s were almost all low to mid rise in height. It was not until 1965, when the City Council eased the legal restrictions on building heights in the downtown area, in return for more open space at street level, the skyline of downtown Honolulu changed dramatically. Owners within the rezoned area, bounded by Nuuanu and Punchbowl, Beretania and the waterfront, quickly grasped the impetus to develop skyward, with the Financial Plaza of the Pacific (1968) leading the way.

The first business condominium project in the world when it was constructed, requiring five property owners to pool their individual ownerships, the Financial Plaza included the 21 story Castle & Cooke Tower, twelve story American Savings and Loan Association Building and the five story Bank of Hawaii Building. Designed by Leo S. Wou, 43% of the property was placed in open space, which was designed by San Francisco landscape architect Lawrence Halprin. The project was one of the first in Hawaii to incorporate outdoor sculpture in its design, and provided advocates for downtown rejuvenation with a new tool, by facilitating the consolidation of lots for a common good.

While no other property owners in the downtown availed themselves of the possibilities of consolidating their resources through the condominium approach, many did take advantage of the new height limits offered by the City. During the later 1960s the ten story City Bank (1966) at Queen and Richards and nine story plus penthouse HGEA Building (1970) at Queen and Mililani streets both designed by Takashi Anbe; as well as the six story Campbell Estate Building (1967) designed by Leo Wou added to the milieu of downtown office towers. In March 1968 *Hawaii Business and Industry* magazine found that the new high rise offices were filled as, “businessmen seem ready and willing to pay the price for the better addresses,” which were rented for 50 to 60 cents a square foot. In comparison, in the 30 to 35 cent range there was “plenty of space available in the downtown area, and at 20 to 25 cents, about the lowest price range——there is an abundance of older buildings that have vacancies.” (page 17)

Encouraged by the market demand for high end office space, the first of Amfac’s twin twenty story towers (completed 1972) commenced construction in 1969 as did the Hawaiian Telephone Building (1970). Shortly thereafter the fourteen story Bishop Trust Building (1970) designed by William F. Cann, and the Davies Pacific Center (1972), designed by Francis Donaldson and Au, Cutting and Smith appeared on the scene, and later in the decade 1164 Bishop (1975) developed by Grosvenor International, Pioneer Plaza (1978), and the first of the pair of 30 story, mirrored towers at Grosvenor Center (1979, 1981) designed by Architects Hawaii appeared. Several of these structures utilized curtain wall construction, but the majority of these new high rises, beginning with City Bank and the Financial Plaza of the Pacific, incorporated pre-cast, and frequently pre-stressed components as an integral part of their design and construction. Rising from podiums and plazas these buildings not only transformed the city’s skyline, but also the character of its pedestrian environment, adding open space and landscape elements.

Outside the central business district high rise office buildings appeared in Waikiki, as well as along such thoroughfares as Kapiolani Boulevard, Ala Moana Boulevard and King Street. In Waikiki the distinctive designs of Bill Mau’s twenty story Waikiki Business Plaza (1965), designed by Edwin Bauer, with its 35 feet high corner waterfall and Top of Waikiki revolving restaurant; as well as the 14 story Bank of Hawaii (1967) with its eye-catching, pre-cast scalloped sunscreens, augmented the growing number of high rise apartments and hotels in the district. American Savings and Loan’s 17 story Pan Am Building (1968), designed by Hogan & Chapman at Kapiolani and Kaheka, and the twelve story Atlas Insurance Building (1967) on King Street, designed by Ernest Hara, provided other major office spaces outside the downtown area. However, at the end of 1968 70% of Oahu’s office space remained in the

downtown business district, a number which would only slightly dwindle in the ensuing decades, and the “death of downtown” no longer was a concern.

4.1.6 Educational Buildings

As with other governmental agencies the Territorial Department of Public Instruction (DPI) had to frantically try to keep pace with Hawaii's growing post-war population. Beyond addressing the needs resulting simply from in-migration, the department was confronted with the post-war baby boom, which further exacerbated the need for additional classrooms not only in Hawaii but across the nation. On top of these factors, the territory had a younger population than much of the nation, as in 1950, 23 percent of the United States' population was of school age, while in Hawaii that figure stood at 27 percent.

In 1950, looking at the birth statistics since the end of the war, the DPI projected a steady increase in enrollment at the rate of 4,500 more pupils each year for the next six years. During 1951-1952, approximately forty babies a day were born in Hawaii, which translated into an incoming kindergarden class of over 14,500 in 1956-1957. In December 1951 total public school enrollment was at 96,837. As the DPI annual report for 1957 noted, the increasing enrollment problem was "aggravated by the fact that the increase has been concentrated on the island of Oahu, while the enrollment of the other islands has changed very little by comparison."

Until the formation of the State Department of Education, the design and construction of school buildings was the responsibility of the various counties' departments of public works. Once built, the Department of Public Instruction staffed and operated the schools. Because of the tremendous demand for more classrooms during the 1950s, the Territorial Legislature appropriated extra funding to assist the Counties, and the school building budget was further augmented by the Impact Aid Laws (P.L. 81-815 and P.L. 81-874) passed by Congress in 1950, which provided moneys to communities whose school populations were affected by the presence of military and other federal installations. No conditions were placed on these federal moneys to impinge on the educational policies of a community until 1964 when the Civil Rights Act prohibited providing such aid to segregated schools. Of the \$20,261,318 expended on public school construction in Hawaii between 1953 and 1957, \$5,270,649 was federal funds. The impact of this additional source of funding was significant, and the 1954-1955 annual report aptly noted, "Without this federal aid, the public schools would have been seriously handicapped in carrying out an educational program for the youth of the Territory." (page 5)

To accommodate the expanding student body, older schools were expanded and new campuses were developed. The new buildings were of masonry construction, with a number built of red brick, but as time went on concrete block became the primary material. Initially designs were similar to California, where school buildings were modern style, single story buildings, their height dictated by a concern for earthquakes. By the mid-1950s Hawaii had moved beyond this model and as a cost savings action began to erect two-story, "double decker," classroom buildings. The annual report for 1958 set forth the new Ewa Beach Elementary School as a "Dream School."

In 1958 public school enrollment stood at 130,158, and the four counties were building a classroom every three days. In the 1958-1959 Annual Report, the Superintendent of Public Instruction looked into the future and predicted, "Hawaii's boom in school buildings will cost

more than \$60 ½ million in the next six years to house new students at the present rate of 4,000 a year.” (page 3)

4.1.7 Government Office Buildings

By far the most impressive government building erected during the period 1939-1979 was the Hawaii State Capitol (1969) designed by John Carl Warnecke and Belt, Lemmon & Lo. It is already listed in the National Register of Historic Places as part of the Capital Historic District. A modern iteration of the classical tradition, this building is infused with the character of Hawaii, with its coconut palm columns, the encircling pool representing the ocean, the volcanic-clad conical-shaped legislative chambers, and the open, sky blue-tiled rotunda ceiling. As the seat of the new State's government, a symbol of Hawaii's new status as one of the fifty states, it over shadows any other architectural efforts undertaken by the government in the period 1939-1979.

Several other government buildings should be considered to have exceptionally high preservation value: Hart Wood's impeccably designed Board of Water Supply Administration Building (1958) with its Asian accents seamlessly blending with a modern sensibility, Shizuo Oka's Hawaii County Building (1966) with its courtyard and use of lava rock expressing a strong regionalist tenor, Island of Hawaii State Building designed by Takashi Anbe, the District Office on Kauai and State Building on Maui. Other government buildings of the period in Honolulu, all rendered in a more straight-forward modern style, are associated with the expansion of the government work force to meet the needs of Hawaii's growing population. These include Hart Wood's four-story Liliuokalani Building (1950) which housed the Territorial Welfare Department; the no longer extant Keelikolani Building (1951) designed by R. E. Windisch, Edwin Bauer, and Wimberly & Cook; Law & Wilson's mid-rise, AliiAIMOKU Hale (1959) (Photo 4-44), built for the Territorial Department of Highways; and the four story State Department of Health Building, Hale Kinau (1961). These new offices were all low rise, with the tallest being the five story AliiAIMOKU Hale with its vertically thrusting sun screen fins.

In addition to the opening of the State Capitol Building in 1969, the State's presence also was asserted in the three neighbor island County seats as State office buildings opened in Hilo, Wailuku and Hilo during that year, all following a fairly austere formalist style, with pronounced concrete piers and flat roofs. Anbe, Aruga & Associates Hilo building won one of seven nationwide awards given by the Office of Civil Defense's "Builders with Fallout Shelter" program, for "demonstrating architectural excellence along with prudent regard for the presence of the nuclear threat in the world."

During 1975-1976 all three levels of government undertook major office construction projects in Honolulu, with each flexing its disregard for the



4-44
AliiAIMOKU Hale
Law & Wilson, 1959, 869 Punchbowl St.

other. The City and County erected its fifteen story Municipal Building immediately outside and looking down upon the County's low rise zoned Capital Historic District that included the State's newly constructed Kalanimoku Building, which ignored the historic district's height regulations. Down Punchbowl Street from the other two new buildings, the sprawling, Prince Kuhio Federal Building designed by Architects Hawaii disrupted the previously uninterrupted mauka-makai vista that the State Capitol enjoyed.

4.1.8 Hotels and Resorts

Hotels were among the earliest post-statehood forms to dramatically change the skyline of Honolulu as well as extol the splendor of Hawaii in their design. While many hotels of the 1950-1980 periods followed the fast and functional approach, addressing the “mass not class” need for reasonably-priced visitor shelter, others consciously strove to convey a special sense of being in Hawaii. The low rise, courtyard hotels designed by Edwin Bauer with their swimming pools nestled in landscaped courtyards presented a hospitable charm within a modern Hawaii context, as is still well reflected in the Hawaiiiana (1955) (Photo 4-45), Breakers (1954) (Photo 4-46), and White Sands hotels in Waikiki. The Hawaiian King (1962), designed by George Lee follows similar lines of thought. These hotels should be considered of high preservation value, and the Hawaiiiana and Breakers should be given special attention considering their close proximity to redevelopment efforts which have been undertaken in their vicinity in the past few years.

On the neighbor islands the tropical ambiance of cottage style hotels flourished as exemplified by the Kona Village Resort (1966), Hotel Molokai (1966, 1967), and Coco Palms Hotel (opened 1953, expanded between 1956-1965, presently closed), while the Hotel Hana Maui (1947, 1985)

presented a casual informality within an atmosphere of refined sophistication. George “Pete” Wimberly was among the first to translate a Hawaii atmosphere into concrete on the neighbor islands with the Sheraton Maui (1963) and Kona Hilton (1968) hotels. The former remains a shell of its original design, while the latter still retains a high degree of integrity. Uncle Billy’s Hilo Bay Hotel (1965-1975), designed by owner Billy Kimi and George Yap also presents a Polynesian ambiance within the context of modern masonry construction techniques.

During the 1960s two impressive resort hotels were constructed: the Kahala Hilton (1965) designed by Killingsworth, Brady & Smith, and the Mauna Kea Beach Hotel (1965) by Skidmore, Owings & Merrill. Both hotels firmly established the modern vocabulary in tropical resort design with the precepts laid down by the Mauna Kea Beach Hotel emulated the world over in subsequent decades. Waikiki remained the focus of Hawaii’s visitor industry throughout the 1960s and 1970s, with straight-forward, muscular hotels such as Foster Tower (1962), the Ilikai (1963), the Hilton’s Rainbow Tower (1968), Waikiki Holiday Inn (1970), and the Sheraton Waikiki (1971) dominating the scene. The Hyatt Regency Waikiki (1976) (Photo 4-47) and the Hawaiian Regent (1970, 1979) brought even larger hotels into Waikiki, but with



4-45
Hawaiiiana
Edwin Bauer, 1955, 260 Beachwalk
(2006)



4-46
Breakers
Edwin Bauer, 1954, 250 Beachwalk
(2006)

them came a gracious openness with courtyards and upper level swimming areas. A number of more modest hotels were also erected in the district during the period. Two of the better examples are the SurfRider (1969), designed by Wimberly, Whisenand, Allison, Tong & Goo with Roehrig, Onodera & Kinder, and Queen Kapiolani (1969) (Photo 4-48), designed by Ernie Hara.

In addition to resort hotels, Hawaii's architects also turned their talents to the design of golf clubhouses in the non-Country Club setting of a tropic resort, with Royal Kaanapali Golf Course Clubhouse (1967) by Wimberly, Whisenand, Allison & Tong, and Vladimir Ossipoff, establishing a prototype that has been widely emulated throughout the island chain with a variety of design embellishments. Likewise, David Springer's Bay Club Restaurant (1977) at Kapalua Resort redefined the design of oceanfront dining with its graceful demeanor and strong emphasis on indoor-outdoor relationships.

For further information on hotels and resorts see Hibbard and Franzen, *The View from Diamond Head* and Hibbard's *Designing Paradise*.



4-47
Hyatt Regency Waikiki
Wimberly Whisenand Allison Tong & Goo, 1976,
2424 Kalakaua Ave.
(2006)



4-48
Queen Kapiolani
Ernie Hara, 1969, 150 Kapahulu Ave.
(2006)

4.1.9 Religious Buildings

Christian church buildings in the post-World War II period assumed a multiplicity of forms. In part this was a result of the modern architectural movement's shunning of tradition, freeing architects to explore new ways to convey a sense of the sacred. The suburbanization of Honolulu led to a decentralization of worship and the formation of smaller congregations in new communities. The architect Paul Jones, who by 1965 had designed approximately fifty churches in Hawaii, declared economics to be the driving factor in church design. In an August 19, 1961 *Star-Bulletin* article he noted, "The real challenge to a church architect right now is to build a decent chapel on a very limited budget." Despite such constraints Jones felt architects were obligated to "create something that will instill in worshippers and visitors a sense of reverence" and to make the building recognizable as a place of worship and "not an overgrown residence" to which a cross was affixed, although he admitted many churches were "small and inexpensive edifices." To further complicate budgetary constraints, churches no longer solely addressed the spiritual needs of the community but involved themselves with improving the conditions of humanity in this world rather than merely preparing them for the next. Congregations found them not only constructing houses of worship, but also recreational facilities and school buildings, often times the latter before the church itself.

A number of late-1940s and early-1950s modernist churches retained a sense of ecclesiastical architectural traditions as may be observed in Edwin Bauer's modern gothic style St. Elizabeth's Episcopal Church (1952) (Photo 4-49) in Kalihi and Hart Wood's Lihue United Church (1951). Kenneth Sato's Waiola Congregational Church (1953) in Lahaina and his Door of Faith Church (1953) on Young Street in Honolulu, as well as the Hanapepe United Church of Christ (1948) and the Kapaa First Hawaiian Church (1948), retained a traditional Christian church massing while garbing their forms in a late modern-art deco style. As the 1950s advanced, designs became decidedly more modern and traditional ecclesiastical trappings disappeared. By the end of the decade the First Presbyterian Church (1959) (Photo 4-50) at the top of Keeaumoku Street, designed by Lemmon, Freeth & Haines was a rare and well designed example of a modernist church which still incorporated such former symbols of "church" as the bell tower within its composition.

The bell tower or steeple, as an upright element, was one of three basic forms traditionally associated with sacred buildings. Modern architects frequently, but not always, retained the



4-49
St. Elizabeth's Episcopal Church
Edwin Bauer, 1952, 720 N. King St.
(2006)



4-50
First Presbyterian Church
Lemmon, Freeth & Haines, 1959,
45-550 Kionaole Rd.
(2011)

other two traditional elements: the churchyard wall and siting on a mound. The latter frequently was articulated by steps leading up to the front entry. Both of these features were typically handled in a straight-forward manner, although the use of screening garden walls, as may be observed in a number of Law & Wilson's churches, such as Harris Memorial (1962) and St. Pius X (1958) (Photo 4-51), may be a distinctive feature of Hawaii churches and requires more research. The incorporation of educational activities on the same grounds with spiritual ones sometimes resulted in an enclosed courtyard with the church forming one side, as may be observed at Law & Wilson's Holy Nativity (1954), Lemmon, Freeth, Haines & Jones' Kilohana Methodist Church (1965) (Photo 4-52), and Wong & Wong's Community Church of Honolulu in Nuuanu Valley (1965) (Photo 4-53).

A number of churches rendered in an exclusively modern vocabulary often relied upon a dominating roof element to provide the verticality formerly fulfilled by the bell tower or steeple. This is readily seen in Lemmon, Freeth & Haines' Wesley Methodist Church (1963) (Photo 4-54) in Kahala, as well as Law & Wilson's Harris Memorial Methodist Church (1962) at Vineyard and Nuuanu, and Clifford Young's United Church of Christ (1955) on Judd Street. St. Augustine's Catholic Church (1962) (Photo 4-55) in Waikiki by George McLaughlin with its steep-pitched, copper-clad, gabled roof and equally vertical side windows was described in the newspapers of the time as "Polynesian gothic," although with its clean lines and imposing verticality modern gothic may have been more appropriate. Edwin Bauer and John McAuliffe's St. Sylvester's Catholic Church in Kilauea on Kauai, with its towering, centered, eight-sided pyramidal roof, also presents a distinctive modern ecclesiastic interpretation. Other churches, such as Law & Wilson's St. Pius X (1958) in Manoa and the First Christian Church of Honolulu (1967) on Kewalo Street in Makiki, designed by Lester & Phillips, placed a vertical element, surmounted by a cross in the middle of their gabled end wall to provide a distinctive upright force to draw the eye to the heavens. Still



4-51
St. Pius X Catholic Church
Law & Wilson, 1958, 2821 Lowrey Ave.
(2011)



4-52
Kilohana Methodist Church
Paul Jones, 1965, 5829 Mahimahi St.
(2011)



4-53
Community Church of Honolulu
Wong & Wong, 1965, 2345 Nuuanu Ave.
(2006)

other church designs included free standing bell towers, as may be seen in Edwin Bauer's Our Redeemer Evangelical Lutheran Church (1950) on University Avenue; Our Lady of Good Counsel in Pearl City; Lemmon, Freeth, Haines & Jones' Kilohana Methodist Church (1965) in Niu Valley; and Frost & Frost's Kahikuonalani Church (1962) in Pearl City. The latter housed the church's original congregation's bell of 1840, which came round the Horn.

Several churches including Kilohana Methodist Church and Kahikuonalani were designed in an expressionist mode featuring highly distinctive roofs. The sweeping, soaring roofs of the Manoa Valley Church (1967) (Photo 4-56) designed by Wong & Wong and the Nuuanu Congregational Church (1965) (Photo 4-57) by Hideo Kobayashi and Thomas Nishida, are other good examples of this genre. The Manoa Valley Church should be considered to be of high preservation value as its chancel is dominated by an Erica Karawina stained glass window. This talented Hawaii artist did not execute a large number of sacred windows using her distinctive *dalle de verre* approach, and wherever they are found efforts should be taken to preserve the buildings. Other modern churches known to be graced by her windows include Wesley Methodist Church and St. Anthony's Catholic Church in Kailua (Photo 4-58), both exceptional buildings in their own right.

In addition to strikingly modern style churches, a number of 1950s churches articulated a strong regionalist quality or Hawaii modern style as characterized by the use of lava rock, broad overhanging gable roofs, and the opening of the naves' side walls to the outdoors. Superb examples include Law and Wilson's Church of the Holy Nativity in Aina Haina (1954) and Kalihi Union Church (1957) (Photo 4-59), and the First United Methodist Church (1953) on Beretania Street designed by Alfred Preis. Other good examples include Central Union Windward in Kailua (1955), Star of the Sea Catholic Church (1958) (Photo 4-60) designed by Merrill, Simms & Roehrig, and Waikeola Church (1958) (Photo 4-61) by



4-54
Wesley Methodist Church
Lemmon, Freeth & Haines, 1963,
1350 Hunakai St.
(2011)



4-55
St. Augustine's Roman Catholic Church
George McLaughlin, 1962, 130 Ohua Ave.
(2006)



4-56
Manoa Valley Church
Wong & Wong, 1967, 2728 Huapala Street
(2011)

Lemmon, Freeth, Haines & Jones, with Clifford Young's Pearl Harbor Memorial Community Church (1958) providing an A-frame variation. Central Baptist Church (Photo 4-62) at 1217 Nehoa with a lava rock façade and vestigial steeple and the First Church of the Nazarene (1965) on Judd Street present modest examples of the style. Wong & Wong in the Community Church of Honolulu (1965) remained within the regionalist idiom with their prominent use of lava rock, but expansively moved the vocabulary in a more dramatic direction with their battered, up-sweeping altar end and use of pre-stressed concrete structural elements in the roof. The stained glass windows of R. Douglas Gibbs Company of Glendale, California add further character to the handsomely appointed interior.

By the 1960s invocations to the past had clearly disappeared, as Le Corbusier's chapel at Ronchamp (1955) opened clerics' eyes to new



4-57
Nuuanu Congregational Church
Hideo Kobayashi and Thomas Nishida, 1965,
2651 Pali Hwy.
(2011)



4-59
Kalihi Union Church
Law & Wilson, 1957, 2214 N. King St.
(2011)



4-58
St. Anthony Catholic Church
John McAuliffe, 1967, 148 Makawao St.
(2011)



4-60
Star of the Sea Catholic Church
Merrill, Simms & Roehrig, 1958, 4470 Aliikoa St.
(2011)



4-61
Waikeola Church
Lemmon, Freeth, Haines & Jones, 1958,
4705 Kilauea Ave.
(2011)

architectural possibilities. In the September 25, 1965 *Honolulu Advertiser* Ed Sakamoto discussed the “new look” of Hawaii’s churches, especially those “based on imaginative thinking,” and found a few members of their congregations considered them “way out” while others described them as “novel, functional or beautiful.” Architect Paul Jones noted, “There’s been a lot of deep thinking and bold departures in religious thought. Architecture just reflects this.” Accompanying the article were illustrations of the Southern Baptist Church (1965) in Pearl City and the Kailua Baptist Church (1960), designed by Wimberly & Cook, both of which feature folded plate roofs, as well as Frost & Frost’s Pearl City Highlands Kahikuonalani Church and the Kilohana Methodist Church in Niu Valley designed by Jones.

Four distinctively designed churches depart from the traditional rectilinear worship space: the Thurston Memorial (1967) on the Punahou School campus and Aiea Korean United Methodist Church (1969), both designed by Ossipoff; the Mystical Rose oratory (1966) (Photo 4-63) on the campus of St. Louis High School and Chaminade University, designed by Brother James Roberts and Guy Rothwell; and St. Sylvester’s Church (1960) in Kilauea, Kauai designed by John McAuliffe and Edwin Bauer. Several cemetery chapels also transcend the ordinary, including the Hawaiian Memorial Park Cemetery (1958) chapel in Kaneohe designed by Wimberly & Cook, and the Ronchamp-inspired Makai Chapel at Mililani Cemetery (1963) designed by Ossipoff and Associates, with Sid Snyder as design architect. Ed Sullam’s Temple Emmanu-El (1960) (Photo 4-64) stands as a good example of a modern style Jewish temple in Hawaii.

The Buddhists, following World War II, maintained their temple building program following the stylistic lines set forth by the Honolulu Honpa Hongwanji Temple for which Kenji Onodera designed a substantial addition (1954). Two of the better examples adhering to this form are the Soto Zen Temple on Nuuanu Avenue (1952) designed by Fuchino & Katsuyoshi and the Waipahu Hongwanji



4-62
Central Baptist Church
1217 Nehoa St.
(2011)



4-63
Mystical Rose Oratory
Brother James Roberts and Guy Rothwell, 1966,
3140 Waialae Ave.
(2006)



4-64
Temple Emmanu-El
Ed Sullam, 1960, 2550 Pali Hwy.
(2011)

(1952) by Fuchino. Robert Katsuyoshi's Honolulu Myohoji (1967) with its prominent tahoto pagoda retains many traditional forms in a modern manner, as did the Lahaina Jodo Temple (1971) designed by Matsumura Gumi in association with Norman Saito. In contrast, other temples such as the Waipahu Soto Zen Temple Taiyoji designed by Robert Matsushita, were handled in a completely modern manner. For information on Buddhist temples in the 1939-1979 periods in Hawaii, see Lorraine Reiko Minatoishi Palumbo, *The Process of Transformation of the Buddhist Temple Architecture of the Japanese Society of Hawaii*.

During the post-war period, a number of syncretic, nondenominational nineteenth and twentieth century religions that were started in Japan appeared in Honolulu with modern places of worship ranging from the vernacular to the inspired. Two examples of vernacular design are Seicho No IE (circa 1955) (photo 4-65) on Matlock Street and the Church of World Messianity (1968) in Nuuanu by Robert Katsuyoshi. The Tenri Cultural Center (1974) on Nuuanu Avenue follows more traditional lines, having been dismantled and reconstructed in Hawaii.



4-65
Seicho No IE
1955, 1333 Matlock Ave.
(2011)

4.2 Materials and Technology

This section should not be considered a comprehensive examination of materials and technological innovations that helped define the architectural character of the 1939-1979 periods in Hawaii. Thomas Jester's *Twentieth-Century Building Materials* may be consulted as an introduction to the plethora of materials and technologies which appeared in American architecture during the twentieth century. The following topics were selected because they either did not appear in Jester's book and/or because they either influenced or characterized in an immediately recognizable manner Hawaii's architecture during the period of study.

4.2.1 Air Conditioning

The idea of circulating cool air through a building has existed at least since the beginning of the first millennium. To keep their houses cool during the summer months, affluent Romans piped aqueduct water behind their interior walls. Circulating cold air through a structure was the cooling method utilized by Chinese during the Han dynasty at least by the third century.

Willis Haviland Carrier is credited with inventing the modern electric air conditioner. In 1902, a year after Carrier graduated as an engineer from Cornell University, he designed and built a commercial air-conditioning unit for the Sackett-Wilhelms Lithographing and Publishing Company in New York. The system was intended to be used to actively cool machinery involved in the printing process, but Carrier discovered that not only could his design cool the air, but regulate humidity as well. Reduced humidity and temperature helped printing presses calibrate ink and paper alignment. This development paved the way for industrial and commercial use of air conditioning as Carrier and six other engineers formed the Carrier Engineering Corporation in 1915, and opened a factory in Syracuse, New York. In 1921, Carrier patented the centrifugal refrigeration machine, a centrifugal-compressor similar to the centrifugal turning-blades of a water pump. The 'centrifugal chiller' was the first practical method of air conditioning large spaces. Cooling for human comfort rather than industrial need began in 1924, when the J.L. Hudson Department Store in Detroit installed three Carrier centrifugal chillers. In Hawaii, the McInerney Store on Fort Street (no longer extant) was air conditioned in 1926, which would make it a very early example in the nation of air conditioning used for the comfort of people. The boom in human cooling spread from department stores to movie theaters with the Rivoli Theater in New York being an early example. In 1928, Carrier developed the first residential 'Weathermaker', an air conditioner for private home use, and in 1932 the Carrier Engineering Corporation used the recently invented refrigerant Freon to make the world's first self-contained home air conditioning unit, called an "Atmospheric Cabinet." The Great Depression and World War II slowed the non-industrial use of air conditioning. After the war, consumer sales started to grow and by 1953 over a million window units were sold.

W. A. Ramsay Ltd. became the Hawaii agent for Carrier Corporation in 1935, and in a September 1935 half page newspaper advertisement proclaimed itself the only air conditioned offices in Hawaii. Later that year the Hawaii Theater installed air conditioning as part of its remodeling; in 1936, the Cooke Trust Company Offices, Waikiki Theater, and Queens Hospital asthma ward all became air conditioned. In 1938, Von Hamm Young, who was the distributor for Frigidaire air conditioners, installed this equipment in the offices in the

Campbell Estate Building on Fort Street. The first fully air conditioned house in Hawaii was the Topping residence (1938) designed by Dahl & Conrad. Another early appearance of air conditioning in Hawaii was at Shangri-La (1939) where Doris Duke had air conditioning installed in three rooms: her wine cellar, kitchen storage room, and the room which contained the master phonograph. The young millionairess explained to the press that Hawaii's climate was one of the things that induced her to build a home in the islands, and she had no intention to manufacture her own climate in which to live.

The use of air conditioning in Hawaii gradually expanded during the 1950s and 1960s, especially in new commercial buildings, and was associated with a sense of being modern and up-to-date. The *Honolulu Advertiser* concisely summed up this implicit relationship in one sentence when it reported, "The Pacific Development Co. is constructing a modern building to house six air conditioned offices and shops" at 1202 Waimana Street between Pensacola and Piikoi Streets (July 2, 1954, page B6). The coffee shop in the no longer extant Edgewater Hotel (1951) was the earliest known air conditioned eating place in Waikiki. The hotel also presented Hawaii with the islands' first automated elevator and also the first hotel swimming pool. Times Supermarket claims to be the first super market to install air conditioning, and St. Elizabeth's Episcopal Church in Kalihi (1952) was the first air conditioned place of worship. Very few home owners or builders chose to install climate control in modern dwelling units, and in June 1968 Hawaiian Electric Company estimated that no more than sixty five homes in Hawaii were fully air conditioned. Cost was a large consideration because the \$2,000 to \$4,000 expense increased the cost of a dwelling by at least ten percent.

Air conditioner dealers and installers were cautiously optimistic that their sales in Hawaii would accelerate during the 1970s, reflecting the dramatic growth in sales that took place on the mainland during the last half of the 1960s. They optimistically looked toward the growing condominium market as a major consumer for air conditioners, as witnessed by the construction in 1968 of both the Princess Leilani condominium apartment (1561 Kanunu Street) and the Wailana (1860 Ala Moana Boulevard), whose apartments came fully air conditioned. The number of residential units completely air conditioned in Hawaii increased by 322 units by the end of 1968. By 1969 six fully air conditioned condominium projects were under construction, including three developed by Bruce Stark. This developer considered air conditioning a given for all future condominium construction as high-rise dwellers desired air conditioning not only for keeping cool, but in order to reduce noise, air pollution, wind, and sun glare. As the 1970s turned into the 1980s, the growing popularity of air conditioned environments resulted in architects designing less open buildings, as they no longer felt a need to rely on the natural ventilation of buildings by the trade winds.

4.2.2 ByPass Sliding Aluminum Doors:

The pocket doors in the living room of the Albert Spencer Wilcox beach cottage in Hanalei (1896) are a very early example of the use of sliding doors in Hawaii to access the outdoors. Exterior sliding doors did not become a popular feature in Hawaii's residential architecture until the 1920s, with Hart Wood's incorporation of such doors to open up the dining room of the Dr. James Morgan residence (1924). Glass sliding doors in wooden frames became a common feature of Hawaii houses during the ensuing thirty years. During the 1950s, aluminum sliding doors began to supplant the heavier wooden doors, and were commonly used in tract

housing and apartments to access rear lanai. In 1956 Harold T. Yonemura established in Honolulu the International Supply Company which was the exclusive dealer of Floridor Aluminum Sliding Glass Doors, Amarlite Aluminum Store Fronts and Doors, as well as Grant and Lu-Vent Aluminum jalousie windows and Miami Window Corporation's Aluminum Windows. Prior to opening this company, Yonemura worked as a salesman at Moiliili Building Supply which was operated by James K. Yonemura.

4.2.3 Commercial Storefront Doors

Kawneer, the leading manufacturer of architectural aluminum building products and systems for the commercial construction industry, in 1948, first extruded profiles for doors, and developed a standard stock size which was "clean, bright, functional, and efficient."

4.2.4 Brise-soleils

Brise-soleils are a variety of permanent sun shading techniques ranging from the simple patterned concrete walls popularized by Le Corbusier in the early 1930s to the elaborate wing-like mechanism devised by Santiago Calatrava for the Milwaukee Art Museum in the 21st century. Most are comprised of horizontal or vertical slatted or louvered elements, which keep out the glare of the sun, while still admitting light and air as well as allowing a view from the window. The term was coined by Le Corbusier and derives from the French, meaning "sun breakers." The earliest known brise-soleil appeared for a block of offices built in Algiers (1933) which were designed by the famous Swiss architect. The Ministry of Education and Health Building in Rio de Janeiro, Brazil (1943), introduced a gear operated adjustable version, the earliest known brise-soleil to appear in a high rise context. Oscar Niemeyer, who at the time worked in Lucio Costa's office, played a major design role in this building and Le Corbusier served as a consultant on the project.

In the early 1950s brise-soleils found their way to Hawaii; however, this modern innovation did not proliferate in Hawaii as lanai, either inset or cantilevered, adorned most of the high-rise hotels and apartments thereby extending outdoor living into the sky. Many low-rise buildings, rather than use brise-soleil, employed thin, flat, cantilevered concrete canopies to protect the windows from the elements including the sun. The six storey Hawaiian Life Building (1951) by Vladimir Ossipoff is the earliest known appearance of sunscreens in Hawaii. Other examples using vertical elements include the Department of Transportation Building (1959) designed by Law & Wilson and Hart Wood's Honolulu Board of Water Supply (1957). Gardner Dailey used horizontal sun shades on the lanai of the Princess Kaiulani Hotel (1955) to protect the rooms from the afternoon sun, as did



4-66
Piikoi Parkway Building Door
Clifford Young, 1956,
1240 Waimanu St.
(2011)

Clifford Young in the Piikoi Parkway Building (1956) (Photo 4-66). Ossipoff's IBM Building (1952) was an early attempt to use a façade covering screen to reduce sunlight entering a building, and a number of buildings of the period used metal screens for a similar purpose.

4.2.5 Canec

Canec is a termite resistant fiber board made from bagasse, which is the stalk that remains after the juice is crushed out of sugar cane. Developed between 1926 and 1930 by the Hawaiian Cellulose Company with the support of the Hawaii Sugar Planters' Association, canec was produced by Hawaii Cane Products in Hilo from 1932 to 1963 and was a popular material used for interior walls and ceilings in many residences. Some houses also used it as an exterior wall covering, although no such houses are known to remain standing today.

The use of canec as a building material in Hawaii gradually expanded during the 1930s, but greatly accelerated after World War II when construction volume rapidly increased. During 1948 the Hilo plant manufactured 120,000,000 square feet of canec panels; from 1945 to 1955; the majority of the housing in the islands featured cane walls and/or ceilings.

4.2.6 Concrete Masonry Units (CMU), Concrete Block, Cinder Block, Hollow Tile

This category of materials includes building blocks which are produced from a mixture of Portland cement and aggregates. The mass production of hollow concrete blocks was attempted in the nineteenth century, but it was not until Harmon S. Palmer's invention of a cast iron block machine in 1900 that such manufacture proved itself practical. Following Palmer's success, a variety of block making machines quickly appeared and the presence of concrete blocks proliferated; a block with a rusticated face in imitation of stone was the most popular type up to 1930, as can be found in the Hawaii Block on Bethel Street (1925).

In addition to mass-production, another significant development associated with concrete blocks was F. J. Straub's patenting the use of cinder as an aggregate in 1917, and since that time other light weight aggregates have been employed. From 1930 onward an 8" x 8" x 16" size became the standard, with the blocks most often being hollow with either two or three cores or cells. Block ends could be flat or flanged.

Concrete block is cheaper to purchase than stone or brick and because of its size and shape can be laid more quickly, making them an economical building material. During the 1930s the less decorative plain faced blocks gained ascendancy over the rusticated stone faced block, with most being employed as backup walls for veneers. It was not until after World War II that the use of plain faced hollow tile as a finished exterior wall on non-utilitarian buildings became common place.

In post-World War II Hawaii the use of CMU dramatically expanded for use in walk-up apartments and residences, as well as commercial buildings. In a *Hawaii Farm and Home* article, in June 1946, Claude Harper declared that hollow blocks composed "the fastest growing type of building construction in the islands today," and he went on to note that a number of "modernistic hollow-block concrete apartments" were under construction. Eileen O'Brien went even further in a June 1946 article in *Paradise of the Pacific*, in noting that CMU

construction was “practically the only type of construction now being used in the islands due in large measure to the shortage of lumber and the availability in almost endless quantity of this type of construction material.” Thanks to the construction of bulk cement plants during World War II by the Permanente Cement Company and Ready-Mix Concrete Company to supply military needs, Hawaii’s post-World War II supply of CMU blocks was locally manufactured. Honolulu Construction and Draying (HC&D) was the largest producer, manufacturing approximately 225,000 “Holl-o-Blocs” per month, thanks to their installation of the Besser “Vibrapac” machine in March 1945. The U.S. Army purchased 1,500,000 blocks alone for the construction of Tripler Hospital (York & Sawyer, 1948). In addition, Hawaiian Gas Products Company produced “Cind-R-Brick,” a brick sized, solid concrete block, and Clarke-Halawa Rock Company manufactured a buff colored “Hollow Stone” which was popular in housing.

In addition to plain faced block a variety of new types of block were developed during the post World War II period, leading to the August 1957 *Popular Science* magazine to observe, “Concrete blocks have blossomed out. They are no longer the ugly ducklings of the building trade. You can now buy blocks with handsome surface textures and in dozens of sizes and shapes. They’re designed not only for eye appeal but for practically every wall construction need.” (Page B2). The magazine went on to identify **split face concrete blocks** and slump face blocks as “two newcomers in the field” (page B4). The former is a type of concrete block which is produced by making a double block and then mechanically splitting it in two to provide a rough face on one side. Such blocks became popular in Hawaii during the early 1960s. Smaller, brick sized, split face block seem to have appeared first, as may be observed in the front wall of Temple Emanu-El (1959), and split faced standard size blocks may be seen at the Waimea Bay Restroom (1967) (Photo 4-67).



4-67
Waimea Bay Restroom
John McAuliffe, 1967, 61-031 Kamehameha Hwy.
(2011)

One type of split face block was invented in Hawaii by Joe Farrell of Lemmon, Freeth, Haines and Jones, with the assistance of Harry Dickson, the manager of HC&D’s block plant, and the Columbia Machine Company. The latter was able to develop special molds which included three prongs, 1-1/2” in diameter which were inserted into the block before the cement was completely hard. The block was then split to give alternating smooth and rusticated surfaces. This block was invented for use in the First Federal Savings and Loan Company’s building near Beretania and Makiki streets (1967) where a coral limestone aggregate was used. Other buildings designed by Farrell to employ this block include the Sand Villa Hotel in Waikiki and the Liberty House store on Fort Street in downtown Honolulu, which used a Molokai red cinder aggregate to pigment it.

Newer molds allowed for the manufacture of blocks adorned with raised or recessed patterns, which provided a decorative relief to what would otherwise be a plain flat wall. Another specialty designed concrete block, **shadow block**, had a lip at one edge which allowed a wall to take on the appearance of clapboard construction, as may be seen at the Recreation

Center and Rest Room at Swanzy Beach Park (1960) (Photo 4-68) designed by Hogan & Chapman, the apartment complex at 1422 Heulu Street (1959) (Photo 4-69) designed by Ed Aotani, the Honolulu Myohoji Temple (1967) designed by Robert Katsuyoshi, and also in the garden walls encircling Law & Wilson's Harris Memorial Methodist Church (1962) and St. Pius X Catholic Church (1958). Whether these blocks were a local variation or copied from the mainland is uncertain at this time, as no mainland references to this type of block have been found.

During the 1950s, **architectural screen blocks** emerged. These were not designed to be used as structural units, but instead were frequently employed in the balustrades of low-rise apartments as well as in stairwells and parking garages. Sometimes these blocks were applied to end walls for decorative relief. The blocks' open designs provide ventilation, partial shading, privacy, and beauty, through providing a sense of solid and void, as well as light and shadow. A number of Hawaii companies manufactured these blocks, which came in a variety of patterns.

By 1965 the making of cement and concrete products constituted Hawaii's largest manufacturing industry, employing over one thousand workers and having an annual sales volume of over thirty million dollars. The

organization, Cement and Concrete Products Industry of Hawaii, included eleven members in 1965: American Concrete Pipe of Hawaii, HC & D, Maui Concrete and Aggregates, Pacific Cement and Aggregates, Pacific Concrete and Rock, United Pacific Concrete, Valdastrri Limited, Grassi American of Hawaii Corporation, State Tile, Hawaiian Cement, and Kaiser Cement and Gypsum Corporation.



4-68
Swanzy Beach Park
Hogan & Chapman, 1960, Kaaawa
(2011)



4-69
1422 Heulu Street Apartment
Ed Aotani, 1959, 1422 Heulu St.
(2011)

4.2.7 Jalousie Windows

A jalousie window, also known as a louvre window, in the United Kingdom is a window which consists of parallel glass, acrylic, or wooden louvers set in a frame. The louvers are locked together onto a track at either end, so that they may be tilted open and shut in unison, to control airflow through the window. They are usually controlled by a lever or crank mechanism.

The name “jalousie” derives from the French word “jaloux,” which means jealousy, and the several hundred year old term was applied to blinds or shutters having adjustable horizontal slats for regulating the passage of air and light. When the window slats were open they tipped downward. As a result, the person on the outside was unable to see the person inside. Conversely, whoever was on the interior had the benefit of being able to see the person outside. This presumably caused an unfair advantage and hence “jealousy.”

On the mainland jalousie windows were most frequently used in mid-20th-century homes in Florida, southern California, and the Deep South. Once air conditioning increased in popularity, the jalousie window was relegated to enclosed porches that were not climate-controlled. They were also widely used in mobile homes during the 1950s and 1960s before most mobile home manufacturers began switching to sliding and sash windows in the 1970s and 1980s. In Hawaii the jalousie window became the most popular window for use in tract houses and apartments from the 1950s through the late 1970s. Air conditioning and increased concern for security were major factors leading to its being supplanted by other window forms.

Van Ellis Huff (1894 – 1987), an engineer who graduated from the University of Florida, has been credited as the inventor of the modern jalousie window. Huff was inspired by a homemade wooden slat window he saw while on a trip to Bimini, a group of islands fifty miles south of Florida that are included in the Bahamas. Once he returned to the millwork company he operated with his father-in-law, Huff designed an improved, wood slat window with a pinion gear operator. In 1937 he applied for a patent for his “Tropical Louver,” which was awarded to him on August 8, 1939. He began manufacturing the custom windows at the millwork company for several Miami homeowners and architects, including Alfred Browning Parker, who began to specify the jalousies in their designs. Upon receiving a large contract in 1940 from the United States Navy for jalousies to be placed in barracks and officers’ quarters at Guantanamo, Huff went into partnership with Charlie Miller under the name Pro-tect-u Jalousie Company. Huff appears to have decided on the name jalousie as the term was then current in New Orleans for wood slat louvered openings.

World War II slowed the growth of Huff’s jalousie manufacturing business, with primary clientele being hospitals; however, during these years Huff designed a jalousie using glass rather than wood slats. With the conclusion of World War II, he traveled to California in 1946 and secured a contract with the Navy to provide jalousie windows for their new construction projects in Hawaii and at the naval bases in Guam, Johnson Island, and the Philippines. He completed this contract in 1950, visiting Hawaii and the other islands where his windows were installed. On a trip to Hawaii he met Ti How Ho, the owner of Surfrider Sportswear and the person who started the palaka shirt. Ho ordered jalousie windows for his house in Kaneohe, the earliest known private residential use of the windows in the islands. Ho also served as an officer of Pacific Jalousie Corporation, which was formed in 1948 or 1949. The company, which only

remained in business until 1952, carried Huff's Pro-tect-u jalousie windows. *Paradise of the Pacific* magazine in its coverage of the 1949 49th State Fair included a photograph of the company's exhibit and captioned it, "a new development in ventilation."

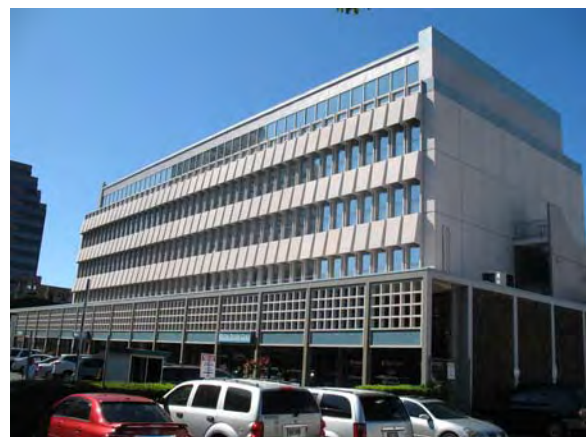
During the 1950s a number of people began to infringe on Huff's patent, and a number of jalousie window manufacturing companies sprang into existence, many of them using aluminum or pot metal rather than the bronze rack and operator used by Huff. With no energy or money to fight these infringements, the sixty year old Huff sold his business in 1954.

Jalousie windows appeared in Hawaii during the late 1940s and became the preferred residential and apartment window by the late-1950s. Many of the windows were brought in from various manufacturers on the mainland; however, in 1957 Matsu Okumoto started Jalousie Hawaii, and within a year the company began manufacturing windows locally. They brought in extruded aluminum from various mainland dealers and made the windows from this material. The company also brought in gear operators as these were not made locally; however, they made their own lever operated handles. In addition to Jalousie Hawaii, a second company operated by Carl Fukumoto, Hawaii Metal Forming, started manufacturing jalousie windows in 1965. This company is no longer in business. During the 1980s Jalousie Hawaii stopped making jalousie windows as the volume no longer made it economically viable.

4.2.8 Precast Concrete

This material is concrete cast into structural members under factory conditions and then brought to the building site. Although used by Romans in the construction of their aqueducts, its use in building construction is a 20th-century development. Pre-casting increases the strength and finish durability of the member and decreases time and construction costs. Concrete cures slowly; the design strength is usually reached 28 days after initial setting. Using precast concrete eliminates the lag between the time on-site concrete is placed and the time it can carry loads. Although used as early as 1904-1905 in Australia and Great Britain, the material did not garner great popularity until the 1950s. This technology made it possible to expose the frame of the building on the outside by using decorative looking elements as load-bearing walls and columns.

Prior to the mid-1960s the use of precast concrete components in Hawaii was limited to special orders, with pieces frequently used as accent elements, with Mario Valdastrri being the best known fabricator in the islands. His Bank of Hawaii Building (1926, no longer extant) at Bishop and King streets is the earliest known large scale application of precast concrete in the islands, while his Bishop Bank in Hilo (1930) remains as one of the oldest examples of the use of this material. Buildings using Valdastrri's precast materials in the 1960s include the Honolulu Savings and Loan Building and Construction Exchange Pacific. In 1965 E. E. Black joined with Grassi American, a San Francisco firm in the precast business, to form



4-70
C.S. Wo Building
1956, Kapiolani Blvd.
(2011)

Grassi American of Hawaii. In 1965 HC & D entered into partnership with Otto Buehner Company of Salt Lake City, which was one of the largest precast manufacturers in the western United States, to form HC & D Bouhner, thus establishing the first large scale precast operation in Hawaii. Among its first projects was the HC & D headquarters on Middle Street whose façade prominently featured the cloverleaf symbol of the company in raised relief. The company also provided the distinctive window walls on the three-story addition to the C. S. Wo Building (1965) (Photo 4-70) on Kapiolani Boulevard. Other buildings of the period to use precast elements include the Hawaii State Capitol, the Bank of Hawaii's Waikiki branch, the Financial Plaza, and the Theo Davies Building.

4.2.9 Prestressed Concrete

Honolulu based engineer Alfred Yee was among the nation's pioneers in the use and development of pre-stressed concrete in buildings, designing many solutions for the manufacture and use of pre-stressed beams, joists, piles, and floor systems. As a result, Hawaii led the nation in pre-stressed concrete building construction during the 1950s and early 1960s. Pre-stressed concrete beams ran about one-third of the cost of poured-in-place concrete structures. The resiliency of the piles allowed them to be driven into the ground until bedrock was hit, an important consideration in Hawaii where uneven volcanic substrata can create a difference of as much as fifty feet in the driven length of piles spaced only three feet apart.

The fourteen-story, fifty-seven-unit Diamond Head Apartments (1957) (Photo 4-71) designed by Vladimir Ossipoff was the earliest multistory structure in the United States to employ pre-stressed concrete structural members. Pre-stressed I-beams reduced the need for structural columns and allowed a span of forty feet to give more open, flowing spaces within the individual apartments. Other early examples of pre-stressed concrete buildings include Ilikai Hotel and Apartments (1963) designed by John Graham, the Kahala Hilton Hotel (1965) by Edward Killingsworth, and the Tree House Apartments (1959) designed by John Tatom. The thirty eight stories Ala Moana Hotel (1970) was the world's tallest precast concrete building, and remained so at least up through 1993.

For further information on pre-stressed concrete, see Jester, Thomas, *Twentieth Century Building Materials*.



4-71
Diamond Head Apartment
Vladimir Ossipoff, 1957, 2957 Kalakaua Ave.
(2006)

4.2.10 Terrazzo

Terrazzo flooring was introduced into the United States in the 1890s but did not become widespread and popular until the 1920s. The only known extant example of pre-World War II terrazzo floor in Hawaii may be found at LaPietra, in the Dillingham's former dining room. An early post-war example of this distinctive floor is the main lobby of the Royal Hawaiian Hotel, which was installed during its remodeling in 1947 under the supervision of Gardner Dailey. The use of terrazzo in Hawaii is associated primarily with the 1950s-1960s periods. Good examples of this type of flooring may be found in the First Hawaiian Branch Bank in Mapunapuna (1969) designed by Haydn Phillips, as well as in the C. Q. Yee Hop Plaza (1965) designed by Peter Hsi and the Ossipoff designed Liberty Bank (1952), both on King Street in Chinatown. Most of the early terrazzo floors in Hawaii were imported from the mainland and ranged in price from four dollars to six dollars a square foot. In 1959 Frank Bazzani migrated from Florida to Hawaii and established Pacific Terrazzo Corporation. This centuries old trade was taught to Bazzani by his family, who practiced this craft in Europe for generations prior to moving to America around the time of World War I. In 1939 Mr. Bazzani moved to Florida to work for a tile company and in 1952 established his own terrazzo business there. He relocated to Hawaii when a hui of Hawaii investors approached him with the idea. As opposed to conventional 1-3/4" to 3" thick terrazzo floors comprised of precast squares interlaced with metal strips, Bazzani's 5/8" thick floors were laid on a concrete slab foundation and were monolithic. His company primarily used marble imported from Japan. The C. Q. Yee Hop Plaza's lobby floor is a fine example of his work.

For further information for development and history of Terrazzo, see Jester, Thomas, *Twentieth Century Building Materials*.

4.3 Urban, Suburban and Resort Planning and Development

4.3.1 Urban Planning

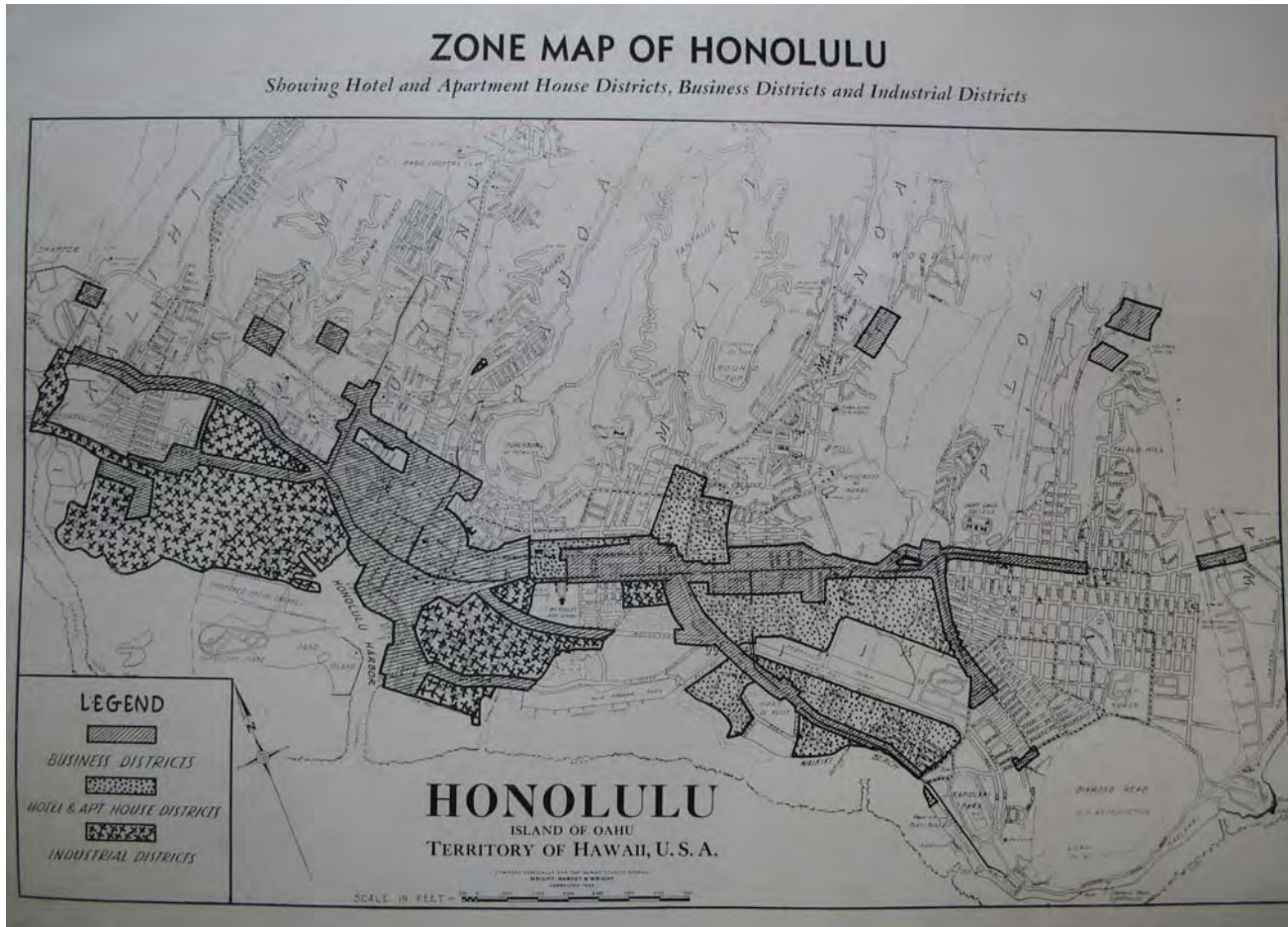
City Planning Engineer Charles R. Welsh in 1940 noted that, “Honolulu has grown, as have the great majority of American cities, without any effective planning for the future.” Although Honolulu established a City Planning Commission in 1915, and in 1922 was among the earliest municipalities to pass a city zoning ordinance (New York was the first in the United States in 1916), it was not until the passage of Act 242 by the 1939 Territorial Legislature that the City Planning Commission was “given legal status with sufficient authority to accomplish results of importance when public benefits ran counter to private interests.” [Welsh, page 8]

Act 242 mandated the Planning Commission to prepare a master plan for Honolulu and provided the commission with authority to enforce the plan. The law also authorized the commission to “have jurisdiction and control of the subdivision of lands within the City and County of Honolulu,” and gave the commission rule making authority. The preparation of rules and regulations to govern subdivisions was given highest priority, as residential real estate development had escalated during 1939-1940. Between 1929 and 1939 only 23 proposed subdivisions had come before the Planning Commission for comments, while in the following year 72 applications were submitted. When it was discovered the rules and regulations could not be implemented until the Master Plan was completed, the draft rules were slightly modified and passed as a city ordinance so they could be immediately enforced.

The Master Plan proved challenging to develop, not only because of the breadth of its scope, but also because traditional land ownership patterns with their *kuleana* parcels did not comport with western urban planning paradigms. The plan received a major setback when City Planning Engineer Welsh was called into military service in 1941, and with the coming of the war, development of the plan proceeded slowly. A new, comprehensive zoning plan was included within the master plan modifying the earlier 1920s efforts (Photo 4-72), which the planners felt were hampered by having zoned the city to suit existing uses, rather than zone uses to suit city planning precepts.

The Master Plan, which only covered the city of Honolulu, was finally submitted and adopted after the conclusion of World War II. On September 15, 1949 Subdivision Rules and Regulations were formally adopted. These required that all subdivisions conform to the City’s Master Plan and set forth parameters with regard to street design and the provision of sewer and water. It also required a sub-divider to build the water system to service the newly formed lots, and to turn this system over to the Board of Water Supply. In addition it stipulated that a sub-divider, “give careful consideration to the provision of an adequate area or areas for playground or park purposes upon the recommendation of the Commission.”

The Master Plan, its zoning map, and the subdivision rules and regulations amended over time served as a foundation for most of the development in Honolulu, which occurred in the 35 years following the conclusion of World War II. Development has been influenced by the creation of special districts.



4-72
1940 Zoning Map

The reconfiguration of central Honolulu, especially the area surrounding Iolani Palace (Photo 4-73) and the new Hawaii State Capitol Building (Warnecke with Belt Lemmon and Lo, 1969) (Photo 7-74), was one of the great planning projects of the early statehood period.

In 1959, with the beginning of statehood, the new State Legislature saw the need to create a civic center commensurate with the Hawaiian Islands' new status. In the first General Plan of Oahu prepared just after statehood under the supervision of Planning Director Frederick K.F. Lee, the authors stated that the "main civic center of the City and County of Honolulu is the area around Iolani Palace, City Hall and the Federal Building (now known as the old Federal Post Office, located on King Street)" (Photo 7-75) (City and County of Honolulu [1960]:11). The plan encouraged the city and state to consider the purchase of 70 acres to add to the area already set aside for the planned new State Capitol and its grounds, bringing the total area under governmental ownership to 145 acres.

In 1964 newly elected Governor John A. Burns and Mayor Neal S. Blaisdell, with support of both the Legislature and the Honolulu City Council, formed a Policy Committee to oversee the development of a master plan for the downtown governmental center of the city. The same year the Legislature's Civic Center Policy Committee set out guidelines as the first stage toward a Hawaii Civic Center Master Plan. This committee awarded the project to the planning and landscape firm of John Carl Warnecke and Associates of San Francisco. Warnecke saw the Civic Center as a natural outgrowth of his design for the new State Capitol, and the plan went through several renditions before being finalized in 1968.

The Warnecke and Associates Master Plan embraced the old Iolani Palace grounds and surrounding governmental buildings located on the south (*makai*) side of the palace. It also called for extension of the government center to the southeast (Diamond Head direction) and *makai* to include properties later occupied by the District



4-73
Iolani Palace
Thomas J. Baker, C.S. Wall, and Isaac Moore,
1882, 364 S. King St.
(2006)



4-74
Hawaii State Capitol Building
John Carl Warnecke, 1969, 415 S. Beretania St.
(2006)



4-75
Federal Building, known as the old Federal Post Office
York & Sawyer, 1922, 335 Merchant St.
(2006)

Court and the later Federal Building (1976). Iolani Palace (1882) had been the seat of Hawaiian government and legislative body since the overthrow of Queen Liliuokalani in 1893, but was to be set aside following the construction of the Hawaii State Capitol as an important historic building. The proposal also called for an open corridor northward toward Vineyard Street and south to Ala Moana Boulevard and for the construction of a state office building on Punchbowl Street, where the Kalanimoku Building (1970s) stands. The plan projected a new municipal office building for the area east of Iolani Palace, close to where it would eventually be built.

The Warnecke plan envisioned park-like spaces between the buildings and streets lined with broad canopy trees. The authors also called for a "Preservation Plan," recognizing 42 buildings in the area of "preservation value." These included older structures, such as the Mission Houses (Photo 7-76) just south of Iolani Palace, and Kawaiahao Church (Photo 7-77). Also noted for either "architectural value" or "investment value" were the Honolulu Academy of Arts (Bertram Goodhue, 1927), the Richards Street YWCA (Julia Morgan, 1927) (Photo 7-78) and Aliiolani Hale (1874) (Photo 7-79), originally the court house and administrative center for the kingdom.



4-76
Mission Houses Museum
Levi Chamberlain and Calvinist missionaries,
1821/1831, 553 S. King St.
(2006)



4-77
Kawaiahao Church
Hiram Bingham, 1842, 957 Punchbowl St.
(2006)



4-78
YWCA
Julia Morgan, 1927, 1040 Richards St.
(2006)



4-79
Aliiolani Hale
Thomas Rowe, 1874, 417 S. King St.
(2006)

In the mid 1960s, the state and city took positive steps toward the realization of the Warnecke plan. Several older buildings within the area, including the large vaulted-roofed Armory that had been on the site of the State Capitol and the remnant of the Central Union Church (1891) on Beretania Street, facing the Queen's former residence at Washington Place, had been demolished by the start of the project. The Iolani Barracks (Photo 7-80), which was located on the new Capitol site, remained for several years a pile of coral block. But the monarchy-period military structure was eventually rebuilt on its present site inside the Iolani Palace grounds gate on Richards Street. Two principal streets, Hotel and Mililani streets were closed off and converted to pedestrian use. Formal walkways were created around the principal buildings of the Capitol site; other smaller streets *makai* of the Palace were either closed or redesigned with new tree cover. The older and proposed City and County buildings were unified within a newly created city park on the southeast (Waikiki/Diamond Head) side of the new district (John Carl Warnecke and Associates and Civic Center Policy Committee 1965).

Some of the proposals included in the Warnecke plan were never actualized. Tall, monolithic office towers were called for *makai* (Ala Moana Boulevard side) of the area; another was planned for Hotel Street, near the Richards Street intersection. Only the City and County Building (now the Frank Fasi Municipal Building, 1976) would be completed, but then at a somewhat different site and scale than originally envisioned. The other proposed tower sites became the sprawling Federal Building, on Ala Moana Boulevard, and Alii Place (Photo 7-81), a Post-Modern style, stepped-back office block that was designed to meet the guidelines of the later Capitol Special District and located on the northwest boundary of the Civic Center area.

Despite these departures from the original proposal, the city and state governments carried out many of the original features of the plan, an extended project that resulted in the open and



4-80
Current 'Iolani Barracks
Theodore C. Heuck, 1870, 364 S. King St.
(2006)



4-81
Alii Place
DMJM-Hawai'i, 1992, 1099 Alakea St.
(2006)

park-like area of the Hawaii State Capitol and Iolani Palace today. The tree-lined and pedestrian friendly boulevard of Punchbowl Street, linking the Capital and other government buildings to the waterfront, also were a direct product of the Warnecke plan.

Other organizations and governmental agencies separately created plans for the renewal and redesign of other parts of urban Honolulu during this time. A 1962 Downtown Improvement Association scheme for downtown, prepared by Victor Gruen, would have resulted in the realignment and closing of many streets and the creation of engaging pedestrian walkways and plazas. This was only partially realized with the development of the Financial Plaza of the Pacific (Lou, 1969) and the conversion of Fort Street into a mall (Downtown Improvement Association, 1969). Many different transportation schemes and street realignments were also never carried out. By 1970 civic leaders and the business community had accepted the complexity of the older urban layout, and much of the old Chinatown area to the north of the Central Business District had been set aside for preservation.

Eventually, downtown Honolulu, including the new Civic Center, the Central Business District and Chinatown would be stitched together in a complex series of planning overlays. With the advent of national historic preservation initiatives, including passage of the National Historic Preservation Act of 1966, many of Honolulu's older buildings also were placed in the National Register of Historic Places. These included several of the prominent historic buildings in the Civic Center area, among them Iolani Palace, which received National Historic Landmark status for its extraordinary contribution to America's and Hawaii's histories, the State Library, the Mission Houses complex and Kawaiahao Church. In 1971 both Chinatown and the Merchant Street areas were listed as historic districts in the National Register. The Art in Public Places program designated by the state Legislature in 1967 added considerably to the public amenities of downtown, supporting local artists and show-casing art in parks and especially at the entrances of new buildings in the downtown area.

The city and county, with state advice and in some instances oversight, followed with recognition of special significance through local ordinances. Historic, cultural and scenic districts were local planning areas subject to Honolulu City and County regulation. In 1972, the loose amalgamation of National Register properties and the old Civic Center area was designated as a "Historic, Cultural and Scenic District." Chinatown and the Merchant Street areas were similarly designated in 1973. Waikiki and the area around and including Thomas Square, to the east of downtown, were also recognized as special districts in 1974; both Thomas Square and the Honolulu Academy of Arts were separately listed in the National Register of Historic Places. Two years later the city and county created the Punchbowl View Shed District, an overlay district that emphasized the need to preserve views to and from the prominent headland of Punchbowl behind the City Center.

4.3.2. Suburban Development

The rules and regulations to govern the subdivision of land, formulated by the Honolulu Planning Commission in 1940 and adopted in 1948, served as the primary tool for planning decisions made in the post-war years with regards to the expansion of Honolulu. These rules, which were modified as government officials became more sophisticated about managing the unprecedented growth with which they were confronted, guided post World War II development

not only for the opening of new residential tracts in Honolulu's immediate valleys and hillsides, but also in new suburban areas.

From the late 1940s through the 1950s large agricultural landholdings were transformed into new residential communities. In 1950, the City and County Department of Public Works reported that during that year 48 subdivision projects were completed; 19 were under construction, and 34 had preliminary plans approved and authorized. As the decade progressed, these numbers increased, with over 50 subdivisions being annually completed from 1952 onward, with activity reaching a momentary high in 1956 when 71 subdivisions were completed. Looking back over the residential development activity of the 1950s the City and County Department of Public Works report for 1959 noted, "The tremendous increase in population on Oahu is bringing about a program of land development to an extent never seen heretofore" (page 23)

In 1961, the Hawaii State Legislature determined that a lack of adequate controls had led to the development of Hawaii's limited and valuable land for short-term gain for the few while resulting in long-term loss to the income and growth potential of the State's economy. Development of scattered subdivisions resulted in problems of expensive yet reduced public services, and concern was raised regarding the loss of prime agricultural land to residential use. In an effort to try to better regulate the Islands' growth, the Legislature in 1961 developed a comprehensive statewide system of zoning making Hawaii the first state in the union to adapt such a strategy. New Jersey became the only other state to develop such a system of land use regulation. Thus, a second layer of government regulation was placed on the development of residential subdivisions causing a greater premium on lands zoned urban.

Following Statehood there was an explosion of housing activity. The Public Works annual report for 1961-1962 noted, "Large new subdivisions continued to extend up into the valleys and ridges and out onto available plains and ponds" (page 12). In the opening years of the 1960s, the number of subdivisions under construction ranged from 66 in 1963 to 107 in 1966. The pace slackened during the 1970s, but between 24 and 47 applications a year were reviewed and given final approvals. A large number of new suburban communities and neighborhoods emerged around Oahu, with the most intense activity occurring in the Aiea-Pearl City-Waipahu and the Kailua-Kaneohe areas. Other areas to transition from an agricultural to a suburban use included Mililani, where Castle & Cooke started selling houses in 1968, and the east side of Oahu which saw the development of Kahala, Aina Haina, Niu Valley and Hawaii Kai, with Hawaii Kai starting construction in 1962.

Growing incrementally as demand warranted, the built environment of these communities may best be understood within the context of their development over time. Thus one community may reflect a minimum of five or more distinct building episodes, each with their own styles of housing often designed by different architects and developed by different companies. Few of the subdivisions, with the possible exception of Mililani, remain as built, although in most of them intact historic designs may be found and original house types can be readily discerned despite owner modifications over time. Most subdivisions may have insufficient integrity as a whole to meet the National Register criteria for listing as a district, although individual properties within a subdivision that retain their integrity may meet the criteria for listing in the Hawaii and National Registers of Historic Places. With the passage of time, the numerous owner modifications will gain significance in their own right, and at that juncture subdivisions

may have to be re-evaluated for their potential as historic districts. Public projects such as parks, schools, pumping stations, fire stations, and reservoirs are typically associated with the development of an area. When assessing such property types, it would seem appropriate to not only evaluate these property types within the statewide context of their building type, but also at the local level in terms of community development.

Time did not allow the compilation of the development histories of the various communities which arose from the development of subdivisions between 1947 through 1979; however, Niu Valley was looked at as an example of how a context for the development of a community might be approached. The next step, a comprehensive field inventory of Niu Valley, was not undertaken for this report.

4.3.2.1. Niu Valley

Overview

Niu Valley was developed in six major increments between 1953 and 1965 (Photo 7-82), with several smaller in-fill subdivisions of only a few lots also developed on the lands formerly owned by George W. Lucas, which lay *mauka* of Kalaniana'ole Highway, a mile Koko Head of Aina Haina. The Halemaumau Land Company, whose directors were Dudley C. Pratt, Mary Pfuenger, George Tharp, Ernest Kai, Shada Pfuenger, and Margaret Tharp initially held the master lease for the property. This company entered into a joint venture with Niu Associates for the purpose of financing and construction. The latter was comprised of E. S. Mollenhoff, P.L. Moody, Ken Gatzemeyer, Francis Sen, and T. K. White. The parties anticipated the total project to eventually develop approximately 754 house lots, over five years, which were to range in size from 7,500 to 15,000 square feet, and to cost over \$9 million. The project took longer and cost more than anticipated.

Clearing of kiawe was underway by August 1953, and the Niu Valley Subdivision, Area A, the first increment, which was laid out by B. H. McKeague and Associates, was approved in December 1953; its 114 house lots were placed on the market in January 1954. J. M. Tanaka was awarded the contract to construct the streets, curbs, sidewalks, street lighting and storm drains, all of which were paid by Halemaumau Land Company. Two model houses (not yet identified) were available for inspection in January 1954, and Western Builders, whose general manager was George Tharp, was the general contractor for home construction. Various architects provided designs for the houses including Wimberly & Cook, Roger Benezet, and Takashi Anbe, while others were designed by engineers. By April 1955, 75 families were living in houses built during the first phase while construction of the infrastructure improvements for Area B commenced. Wright, Harvey, Wright did the engineering and surveying and three contractors were selected to construct two hundred houses in this section, plus 33 more on unsold lots in Area A; each contractor erected two model homes. The contractors were Tasco Associates, Hawaiian Dredging Company, and E. F. Fitzsimmons. The latter offered an all concrete block house, with one of their model homes being the first dwelling in the valley to be constructed of this material.

In September 1959, the Hawaiian Trust Company, who represented the Charles W. Lucas Trust, announced they had entered into an agreement with realtor George Hasegawa giving him exclusive rights to develop the approximately sixty acres formerly occupied by Dairyman's

Ranch. The Niu Estates, Unit one development included the shopping center, a park, and a site for the Kilohana Methodist Church. The architectural firm of Dennis & Slavsky, with L. Harold Whitaker as designer, was commissioned to design the 225 houses, many of which featured Asian styling. Underground wiring was included in the infrastructure build-out, and by 1961 161 lots were occupied. Sales in the Niu Estates, Unit II, developed by Hawaii Builders Supply Company and lain out by L. Frederick Pack got off to a slow start in July 1962. It was not until 1964 and 1965 that a number of houses were constructed. These were no longer designed solely by Dennis & Slavsky, but rather a number of different architects provided house plans, including Walter Tagawa, Robert Law, Herbert Beyer, John Russell Rummel, Don Goo, and Alfred Sturgis, who was employed by Quality Pacific, who developed a number of the lots, as did Amfac Homes. (Photos 7-83, 84, 85, 86, 87)

The development of Niu Valley Highlands, Units one and two, became embroiled in controversy as developer Joseph Pao had purchased these lands for one million dollars in March 1964. Several months later the conservation district boundary line for the new State land use zoning law was established, placing part of this area in the conservation zone. Pao had hoped to develop a 247 lot subdivision; however, the State Land Use Commission (LUC), chaired by Robert Wenkam, in a tied 4-4 vote, rejected Pao's request to use thirteen acres in the newly formed conservation district as part of his development. The LUC took this stance despite the Honolulu City Planning Commission's recommendation that the State approve Pao's request. Wenkam declared the LUC decision to be "a significant victory for aesthetics." Joining Wenkam in opposition to the petition were Myron Thompson, Leslie Wung of Hilo, and Shelly Mark, the director of the State Department of Planning and Economic Development. Those supporting the petition were the chair of the Department of Land and Natural Resources Jim Ferry, Charles Ohta of Maui, Shiro Nishimura of Kauai, and Goro Imaba of Kona. As



4-83
295 Panino St, Built in 1968
(2011)



4-84
283 Panino St, Built in 1965
(2011)



4-85
255 Panino St, Built in 1965
(2011)



4-86
239 Panino St, Built in 1966
(2011)



4-87
235 Panino St, Built in 1965
(2011)

a result, the two units of Niu Valley Highlands were reduced to 181 lots. Pao threatened to take the State to court over the decision, but instead sold the property in 1965.

4.3.2.2 The Resource

Niu Valley Subdivision Areas A and B were laid out in a quasi-grid pattern, with the primary access roads into the valley, Halemaumau Street, Hawaii Loa Street, and Haleola Street, having meandering bends in their pathways. The later Niu Estates Unit I, as well as Niu Valley Highlands Unit one, utilized a more curvilinear design with cul-de-sacs with rounded turn-arounds at their end, which conform to the 1948 City and County of Honolulu Subdivision Rules and Regulations with regards to dead end streets.

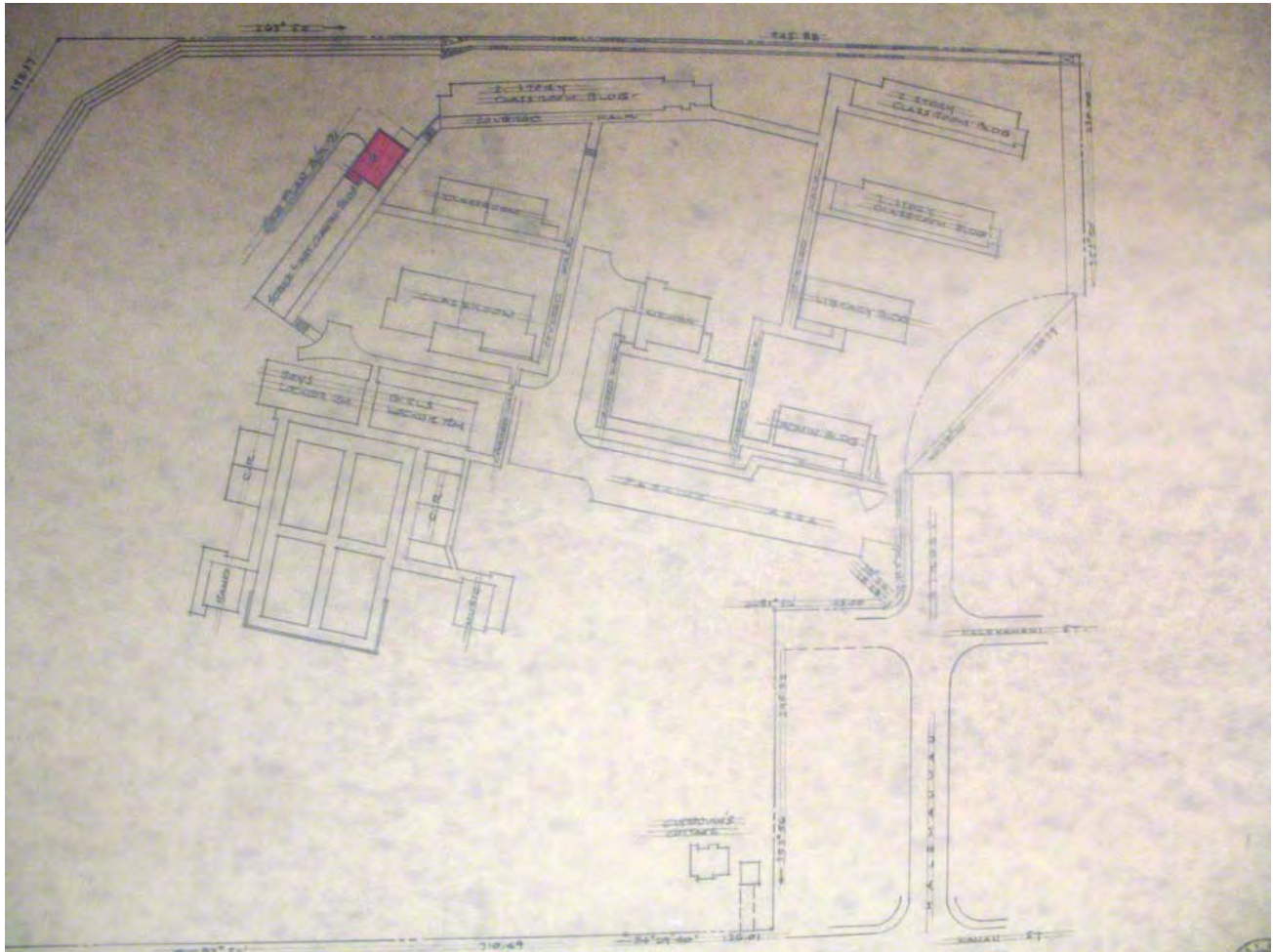
The Niu Valley Middle School (Photos 7-88), which is sited at the *mauka* end of Niu Valley Subdivision Areas A and B, was constructed by the Territory of Hawaii in 1955 following the plans prepared by Ray Akagi and A. W. Heen. It was one of five new schools proposed by the Department of Public Instruction in 1954, with the others being Waianae High School, Aiea High School, Kalihi Intermediate School, and a second Elementary School for Palolo Valley. The school was built in increments starting with two classroom buildings, a kitchen and library.

The Kilohana Methodist Church (1965) (Photo 7-89X), which was designed by Paul Jones, also is sited along the periphery of the residential area adjoining Kalaniana'ole Highway while the Niu Valley Shopping Center is situated on Kalaniana'ole Highway. The church, with its distinctive roofline, is of high architectural quality and originally its two sides were open to the outdoors. With increased traffic noise, a concrete block wall was constructed on its west side, and then eventually the east side was enclosed in glass windows and sliding doors. Both these solutions are not full height walls, conveying a sense of the original open character of the building.

The community's retail activities, rather than being placed along a commercial corridor as was done in the years prior to World War II, are clustered instead in a neighborhood shopping center, Niu Valley Center (Photo 7-90X). This retail area has retained its integrity, although the space occupied originally by its anchor tenant, Times Supermarket, is now occupied by a church. The single story complex retains its original decorative block screens and its unifying denticulate copper cornice line. The two buildings added perpendicularly to one side of the original group of stores do not detract from the original character and are easily read as a later contribution. The professional plaza behind the original Times supermarket also is intact, retaining its L-shape, inset lanai supported by Roman brick columns and original aluminum office fronts.



4-88
Current Niu Valley Middle School
Ray Akagi and A. W. Heen, 1954,
310 Halemaumau St.
(2011)



4-89
Niu Valley Middle School Plot Plan
(2011)

Many of the houses in Niu Valley have been modified by their owners, and some have given way to newer structures; however, a number of the houses appear to retain their integrity. Several houses, especially in Areas A and B, reflect the design tenets of the modern movement, as can be observed at 5633 and 5639 Halekamani Street (both 1957) (Photos 7-91 and 92X), which were built by Harold Hicks, and also at 421 Mamaki Street (1966) designed by Edward Sturgis. The Takashi Anbe designed, Asian style residence at 313 Anolani (1959) also remains intact, as does the nicely sited residence at 345 Mamaki (1965) designed by Don Goo.



4-90
Niu Valley Center
1964, Edwin Bauer, 5030 Kalanianaʻole Hwy.
(2011)



4-91
5633 Halekamani St, Built in 1957
(2011)



4-92
5639 Halekamani St, Built in 1957
(2011)

4.3.3 Resorts

In February 1936, Charles R. Frazier, the prominent realtor who had earlier developed Lanikai in Kailua, confidently informed the readers of the *Star Bulletin* that investing in Waikiki was a “thousand to one sure bet.” He advised Honolulu residents, who were quite leery of the havoc the depression wrought to investments, that the acquisition of property in Waikiki would be a wise arena to place their earnings.

The growth of Honolulu will come largely with the influx of tourists. Many of the tourists come to look. A small percentage stays and become residents. Most of these new residents have money and know of the virtues of Waikiki. Local residents probably do not appreciate our beaches enough. Newcomers do. They like our soft sand and warm water. They will own and develop the beaches in Honolulu and on windward Oahu. Social activities will grow where the pleasure-loving folk take up residence. As more entertainment facilities are developed more people will come to enjoy them.

The new Waikiki Theater will be a boost for Waikiki. New hotels and fine apartments will be built. Business houses will soon follow either as main retail stores or branches. The present development on this line is only a scratch on the surface compared with the future.

Local residents will have the fun some day, not so very far distant, of recounting to one another how they could have bought this or that lot at Waikiki and been on velvet for life.

Although, Mr. Frazier’s vision for the future of Waikiki took a few years to arrive and assumed a form rather different than anything he imagined, his advice was sound. Most readers may have viewed his words as incredible sales talk but the unimaginable and spectacular acceleration of Hawaii’s tourism following the conclusion of World War II was indeed incredible.

A number of factors contributed to the islands’ explosive expansion in visitor numbers. The continued western migration of America’s population, placed more people closer to Hawaii. America experienced unprecedented post-war prosperity, which provided Americans with the disposable income and inclination to travel, not only by automobile but also overseas. Heightened and more sophisticated marketing of the island paradise also played a role, which was augmented by numerous veterans who experienced Hawaii first hand during the war. Lastly it was reasonably priced passenger air travel and Hawaii’s admission into the United States as the Fiftieth State in 1959 that propelled the islands’ upward spiral of visitors during the mid-twentieth century.

Prior to the war, leisure travel to Hawaii was accomplished by the affluent, which had the necessary time and inclination to enjoy the pleasures of ocean liners. In 1936, Pan American Airways introduced passenger air service to Hawaii with its four engine “flying boats,” making the flight from San Francisco to Hawaii in 18 to 20 hours, depending on the winds. However,

less than three thousand people came to the islands by air prior to World War II, and ocean liners reigned supreme. In the years immediately following the war, surplus C-54 cargo planes were cheaply acquired and converted by the airlines into passenger carrying DC-4s. In 1946, Pan-American's DC-4s were crossing the Pacific to Hawaii in 11 hours and 45 minutes. The Civil Aeronautics Board certified United Airlines to fly from San Francisco to Honolulu in 1947 and fourteen months later certified Northwest Orient for the Seattle and Portland to Honolulu routes. Between 1946 and 1948 British Commonwealth Pacific Airlines (later acquired by Qantas) and Canadian Pacific Airlines commenced their Vancouver to Sydney routes, with a stop in Honolulu. Philippine Airline initiated flights between Manila and San Francisco with a Honolulu stop in 1946, and in 1954 Japan Airlines' Tokyo-Honolulu-San Francisco service began. The new competition eventually led to the airlines developing coach or economy fares, which in late 1952 were introduced on United's Hawaii flights, dropping ticket prices to \$125. This drew more tourists to Hawaii, and by 1955 seventy seven percent of all visitors arriving in Honolulu came by airplane, as compared to less than one percent in 1941.

Travel time also began to decrease. In 1950 both United and Pan American began flying Boeing Stratocruisers between California and Hawaii, reducing travel time to slightly over 9 hours. In 1955 United introduced the 54 passenger DC-7 which further trimmed the time in the air to 7.5 hours. The big breakthrough came on September 6, 1959, when Pan American's Boeing 707 jet aircraft landed at Honolulu, traversing the Pacific in under five hours. The maturing of jet travel led more people to come to Hawaii. By 1963 Honolulu International Airport had the world's longest runway and also handled more flights a day than Washington D.C.

In recognition of the economic potential of tourism for the Islands, Territorial Governor Ingram M. Stainback, in his message to the 1947 Legislature, proposed that the government match private contributions to the Hawaii Visitors Bureau (HVB) on a dollar for dollar basis, rather than on the earlier formula of one government dollar for every two private ones. The Legislature agreed and appropriated \$75,000 for the Bureau to advertise Hawaii. In 1949 this amount was elevated to \$250,000, with a stipulation that \$150,000 be expended on promoting the neighbor islands. Government support of the HVB's efforts continued to grow throughout the 1950s, surpassing the million dollar mark in 1960. Although private contributions increased during the period, they could not keep pace with the enthusiasm of the Territorial government, and by the end of the decade the State was providing three dollars for every one contributed by the industry. Still Hawaii's government expenditures lagged behind its east coast competitors such as Florida, Bermuda, and the Bahamas.

The first significant resort project to emerge in the post-war years was a distinctive one, the Hana Ranch Hotel, which officially opened in June 1947. It was started by San Francisco millionaire, sportsman, businessman, and rancher Paul I. Fagan. The cottage style hotel was designed by Albert Ely Ives, while Seattle landscape architect Bud Sturdevent transformed former cane fields into a tropical garden for the hotel's grounds. Other hotels followed both in Waikiki and on the neighbor islands.

Kauai, with its verdant, tropical character, superb beaches, and breath-taking mountain scenery, was considered the neighbor island best suited for increased tourism development. Closer to Honolulu than Maui or Hawaii, it had the most to offer in the way of tourist attractions.

assert its position on Kauai in the post-war travel market. In January 1946, the company purchased from the estate of William Henry Rice the Lihue Hotel with its 15.3 acres of grounds, and renamed it the Kauai Inn. Within a few years other hotels appeared on the island, with the Coco Palms coming to the fore. On January 25, 1953, Island Holiday Ltd., headed by Lyle Guslander acquired the Coco Palms and spent ten years developing the property, making Wailua the center of tourism on Kauai during the 1950s and 1960s. Island Holiday also opened the Maui Palms in Kahului (1954) and the King Kamehameha Hotel in Kailua-Kona. These neighbor island hotels catered to visitors coming to Hawaii on package tours, which were introduced to the islands in the 1950s. Many of these tours included trips to one or more neighbor islands, and by 1962 almost two thirds of the 362,145 travelers staying in Hawaii visited at least one neighbor island. The character of these trips followed a pattern consistently associated with whirlwind sightseeing tours, "three islands in five days," with stays on an island lasting only one to three days. This caused the neighbor island hotels to be utilized by a highly transient clientele. The hotels were designed to furnish sleeping accommodations, meal and beverage service, a swimming pool, and usually some form of evening entertainment. There was little need for daytime recreation or amusement activities, as the patrons were out sightseeing with the tour guide. The hotel provided shelter for the night, while the traveler visited the island.

Although hotel development occurred on the neighbor islands, these efforts were completely eclipsed by the development of Waikiki, where 81 percent of the State's hotel rooms were located by 1959. The unprecedented development of this strip of beach was the result of two decisions made in 1948 and 1950. In March 1948 the Site and Location Committee of the Hawaii Visitor Bureau recommended that emphasis be placed on hotel development in Waikiki. This advice was followed, as was that of Fred W. Eckert, a founding member and executive partner of Harris Kerr Forster of Chicago, one of the foremost hotel accounting firms in the nation. In an address before the Hawaii Hotel Association's board of directors in 1950, he urged Hawaii's hotel owners to adopt a "Mass rather than Class" policy for the future development of the Islands' tourist industry. At this pivotal moment, when United and Pan Am's Stratocruisers had reduced the travel time to Hawaii to just over nine hours making the arrival of more tourists to Hawaii more promising, Hawaii's travel industry leaders nodded in the direction of the "Mass, not Class" approach, and their nod would guide the Islands' tourism development for the next fifty years.

The HVB's Site and Location Committee in 1948 projected an additional 200 to 400 rooms would be needed in Waikiki over the next five years. This number was, not surprisingly, quickly surpassed, and between 1948 and 1953 the Waikiki room count increased from approximately 1,100 to 2,000; by 1955 it exceeded 3,000 rooms. An explosion of new hotels redefined the district in the ten years following World War II starting with Roy Kelley's Islander Hotel in 1945. Towering seven to twelve stories in the air, the Edgewater (1951), SurfRider (1952), Reef (1955), Waikiki Biltmore (1955), and Princess Kaiulani (1955) hotels dramatically altered Waikiki's previously low-rise skyline.

The Biltmore, which stood where today's Hyatt Regency Waikiki is located, was originally planned on a site across the street on the beach at the Steiner property on the Diamond Head side of the SurfRider Hotel. Such a proposal ran contrary to the Master Plan for Waikiki Beach, which had been adopted by the City's Planning Commission in 1942 and the Territorial Legislature in 1945. This plan called for the area between the Moana Hotel and Poni Moi

Road to be developed as a public park. The proposed, disregarding of the master plan, split the community with some advocating the need for hotels on the beach and others championing public open space. The Territorial Legislature passed a bill to amend the Waikiki Master Plan, but Governor King vetoed it, and the Legislators favoring the hotel proposal could not gather sufficient votes to override the veto. At the County level, the Board of Supervisor's Public Works Committee authorized the construction of the hotel; however, Mayor John Wilson instructed the Building Department to delay issuing a permit, giving him time to garner the necessary support to not only condemn and buy the Steiner property, but also Queen's Surf, where Chinn Ho was considering building an apartment-hotel. Thanks to the efforts of the 80 year old Mayor Wilson, the shoreline between the Surfrider Hotel and Sans Souci remains a public park.

On February 19, 1955, the Waikiki Biltmore Hotel opened and earned the distinction of being the Territory's tallest building. The Princess Kaiulani Hotel surpassed the Biltmore, a scant few months later, only in turn, to acquiesce to the Hawaiian Village's 17 story Diamond Head Tower in 1961, and then Foster Tower in 1962. Between 1955 and 1962 Waikiki's room count tripled to almost 9,000, and the magazine *Paradise of the Pacific* approvingly observed, "We believe the Waikiki beach front we pictured in our May [1962] issue is lovelier than the same scene as shown in a full-color photo of ten years ago. . . . Both lovelier and more exciting." The editors found "the lei of brilliantly-lighted hotels" along Waikiki beach "a true—and attractive—part of any 1962 [Hawaii] Image." The magazine further declared that if Waikiki was to remain competitive in the global tourism market, visitors would have to be shown, "*why Hawaii is a better point-of-call than Miami, Las Vegas, and Cannes*, . . . not why it is as good as Tahiti." Hawaii had to be portrayed as "a modern paradise with unmatched facilities" rather than some "sort of mid-Pacific sideshow."

In 1959, no one accurately foresaw the incredible growth which Waikiki and Hawaii's visitor industry was about to experience in the remaining four decades of the twentieth century. A number of people realized the travel trade would figure prominently in the future economic well being of the Islands. In October 1959, the recently formed Hawaii State Legislature directed the State's Planning Office to prepare a study on the future of tourism in Hawaii. Several planners contracted by the fledgling State Planning Office articulated the fiftieth State's vision for an expanding visitor industry and set forth an ambitious statewide tourism development strategy, the first broad scale tourism planning undertaken in the United States, if not the world. John Child's September 1960 report, *Structure and Growth Potential of Tourism in Hawaii*, predicted that tourism was about to become Hawaii's major industry. Child recognized that the advent of jet passenger service to Hawaii, coupled with Statehood, were new market forces. He went on to make some projections, which to the disbelief of many suggested 1.5 million tourists would annually come to Hawaii by 1980, an incredible 446.5 percent increase in visitors. Instead, 4 million tourists flocked to Hawaii in 1980, a staggering increase of more than 1,350 percent.

Child's report also noted Waikiki was already established as an urban resort, but to accommodate the influx of visitors the industry would need to expand to the neighbor islands where the "tropical Polynesian paradise" image could be better nurtured. The close correlation between the reality of Hawaii's physical environment and the tourist images of a tropical paradise was a high priority for the tourist trade. Donald Wolbrink, the head of Harland Bartholomew's Honolulu planning office, observed:

We are concerned primarily in Hawaii with those tourists and visitors who openly, and in an uninhibited manner, enjoy the more sensuous things in life. They do not clutter up their minds with a camouflage of appearing to seek intellectual betterment. They are not seeking cultural enhancement. They just want to relax and have fun. And they want to do it in a place of great physical beauty making the future development of neighbor island resorts imperative.

This is an attractive type of clientele, because such people know what their interests are. And those of us charged with planning and designing their environment can think quite clearly about those interests (1963).

For Hawaii to continue to attract such a clientele the paradise image of Hawaii had to be nurtured, and ultimately, translated into resort design throughout the island chain. Projecting a potential build out of Waikiki to 20,000 hotel rooms, Wolbrink and other planners found, "This over-crowding, this high density, this congestion makes it most difficult to maintain the 'paradise' image," making the further development of neighbor island resorts imperative.

The expansion of tourism to the neighbor islands was more specifically advocated in another 1960 State Office of Planning Report, *Visitor Destination Areas in Hawaii*. This four part study was prepared by several consultants including John Child; Belt, Collins Associates; Harris, Kerr, Forster & Company; and Donald Wolbrink who headed the nationally known community planner Harland Bartholomew's Honolulu office. Placing an emphasis upon the need to develop enhanced neighbor island venues, the report noted:

The real growth development of neighbor islands hotel business and facilities will require the development of a different group market [than the package tour] . . . the vacationer as distinguished from the sightseer. It is in this class of vacationer that the future potential lies for supporting major hotel development in the neighbor islands (29).

Part Three of the report identified thirteen areas as suitable resort regions which could be "known internationally for their own sake, not as side trips after Waikiki." The report envisioned these destinations to, "have all the facilities necessary to receive, house, entertain and satisfy guests." They would exude the "charm of old Hawaii" and contain "most of the important conveniences of a modern one-stop tourist resort." The densities of these new tourist destination areas were to be less than Waikiki and were anticipated to range from five to twenty units per acre.

The plans, although far off the mark concerning tourism's growth and scale, set the general direction for Hawaii's visitor industry for the next thirty five years. Identifying such areas as Wailua, Poipu, the Kona Coast, Kaanapali, Kapalua, and Wailea for future resort development, they guided government decisions concerning zoning and the provision of such public

improvements as roads and water systems, airports, and historic attractions necessary to support private resort development.

The years between 1960 through 1970, saw Hawaii's visitor count increase six fold, and its hotel rooms increase from 9,522 to 30,323. The majority of new visitors who came to frolic on Hawaii's shores were not of the leisure class, and over the decade the average length of visitor stay declined statewide from seventeen days to eleven days. To house this ever increasing multitude of visitors a plethora of utilitarian hotels popped up across the state, many of which were essentially stacked boxes, rectilinear in form and devoid of enduring character.

The skyline of Waikiki continued to accelerate in height with the construction of the twenty seven storey Ilikai Apartment/Hotel (1963) and then the thirty storey Rainbow Tower (1968) at the Hilton Hawaiian Village. At the end of the decade Holiday Inn built a 650 room hotel (1970) along Kalakaua Avenue, the largest hotel in its chain. The following year Sheraton opened the thirty one story, 1,904 rooms Sheraton-Waikiki designed by Wimberly, Whisenand, Allison, Tong & Goo of Honolulu. It was, at the time, the largest resort hotel in the world and the fifth largest hotel on the planet.

In addition to the continued development of Waikiki, the neighbor islands also witnessed increased hotel construction, much of it in accordance with the 1960 visitor destinations area plan. The first master planned resort development, Kaanapali, broke ground in 1960 and received its first major hotel with the opening of the Sheraton Maui in 1963. At that time Sheraton was the largest hotel company in the world with 56 properties. The Kaanapali hotel was the chain's first neighbor island venture, although it already owned and operated the Royal Hawaiian, Moana, Princess Kaiulani, and SurfRider hotels in Waikiki. The new hotel was the first national hotel chain investment outside Oahu, as up to this moment, all neighbor island hotels had been Hawaii owned and operated. Other hotels to open outside of Waikiki during the 1960s included Laurance Rockefeller's Mauna Kea Beach Hotel (1965), the Kona Village (1966) and Kona Hilton (1968) on the island of Hawaii; the Kauai Surf (1960) and Waiohai (1962) on Kauai; and the Kahala Hilton (1964), Makaha Inn (1969), and Pat's at Punaluu on Oahu.

The development of the Kahala Hilton brought with it a storm of controversy as it was proposed on lands which were zoned residential. The idea for a hotel in this area first appeared in 1947, when Donald Wolbrink called for a hotel at this oceanfront location a master plan he developed for Bishop Estate's vast land holdings at Waialae-Kahala; however, no one was interested in investing in a hotel situated ten minutes away from the bustle of Waikiki. The County zoned the vacant land residential and included it as such in its Master Plan. Thus when Conrad Hilton proposed to erect a hotel on the property the lands not only needed to be rezoned, but the Master Plan also required amending. The City & County's Planning Department, headed by Leighton S. C. Louis, was "100 percent against" zoning the area for hotel-apartment use and so testified when the Master Plan Amendment came before the Planning Commission. By a vote of 5-1, with Commission Chair Cy Lemmon, a resident of Waialae-Kahala abstaining, the Planning Commission agreed with the Planning Director and the over 1,200 written protests submitted in opposition to the project. The Commissioners expressed concern that any approval would open the way for further disregard of the City's Master Plan and would set a precedent to allow the entire coastline between Diamond Head

and Koko Head to become a second Waikiki, thereby decimating residential use along Oahu's southeastern shore.

The Planning Commission's recommendation was forwarded to the County Council, where it was unanimously disregarded. The Council members at their July 5, 1960 meeting voted seven-zero in favor of the Plan Amendment, for as Council Member Herman Lemke noted, "the hotel is important for the State's economic growth." On August 18, 1960, Mayor Neal S. Blaisdell vetoed the County Council's bill to rezone the Bishop Estate parcel. On August 30, 1960, the County Council over-rode the Mayor's veto by a vote of seven-zero, giving the Kahala Hilton the green light to proceed.

Hawaii's travel industry continued to prosper throughout the 1970s, with visitor numbers more than doubling, going from 1,745,904 in 1970 to 3,966,192 ten years later. In 1976 visitor expenditures became the prime source of revenues for Hawaii, surpassing defense spending and agriculture. Two years later, tourism grew sufficiently to exceed the combined total of defense spending and agriculture, a position it has maintained to the present. The decade was profoundly influenced by the introduction of the Boeing 747 Jumbo Jet to Hawaii in 1970 which was capable of carrying over 400 passengers. This four engine-wide body jet more than doubled the capacity of the then popular Boeing 707, and made possible economic, long distance travel on a large scale. Group Inclusive Tours appeared on the Hawaii scene in 1971, and by the end of the decade would handle almost 70 percent of Hawaii's tourist business. These new tours which not only covered airfare and rooms, but also included set itineraries with ground transportation and tour guides catered to groups organized by travel agents. Eastbound travelers primarily from Japan became a more pronounced part of the visitor population, rising from 17 percent of the tourist mix in 1965, to a readily noticeable 22 percent in 1975, which accounted for approximately 15,000 people in Hawaii's daily population.

Another new trend which emerged in the 1970s was increased visitation to the neighbor islands. In April 1975, Kaanapali greeted 4,200 State Farm Insurance conventioners, who made history by being the first major convention held exclusively on a neighbor island, with Waikiki as an optional side trip. Up till that time less than 4 percent of Hawaii's visitors went solely to an "outer" island. Over the ensuing decades the neighbor islands' hotel industry would more intensely develop and by 1990 49 percent of the islands' hotel rooms would be located outside Waikiki.

During the 1970s Kihei boomed, regulated only by County zoning and building ordinances, but with none of the quality assurances associated with master planned resort areas. Much of the hotel design of the 1970s seemed to follow Kihei's demeanor, with only the Kapalua Bay Hotel (1973, no longer extant), Hawaiian Regent (1970, 1979) and the \$150,000,000 Hyatt Regency Waikiki (1976) standing out as remarkable hotels. The latter, with its twin, thirty nine story, and octagonal towers was the most expensive construction project undertaken in Hawaii up to that time.

For more information on resort planning see Hibbard, *Designing Paradise*.

4.4 Public Works

4.4.1 World War II

By the end of the 1930s, thanks to the infusion of federal moneys dispersed to relieve the unemployment accompanying the Great Depression, Honolulu's sewers, drainage, curbs, sidewalks, and street lighting had all been upgraded. The Honolulu Board of Water Supply provided the residents of the city with ample water, and a suburban water system under the City and County's Department of Public Works was in place serving nine districts: Aiea, Pearl City, Waipahu, Waianae, Waialua, Hauula, Kaaawa, Kaneohe-Kailua, and Waimanalo. In 1940 automobile registration was at 49,881, while Honolulu's population numbered 189,359 in April 1940 with the influx of people to aid in war preparation that number had increased to 202,000 by January 1, 1942.

World War II had a profound effect on all of Hawaii, including the operations of the territorial and county Public Works Departments. On December 7, 1941 Governor Poindexter declared martial law, and all energies went into the war effort. Contract work for the City and County essentially stopped and 142 members of the Public Works Department, as well as equipment, were assigned to defense positions to assist the military to construct air fields and military roads. The only major public works project to be undertaken during the war years was the construction of garbage incinerators at Kapalama and Kewalo (Photo 4-93), which were needed to replace the Kalihi-Kai dump, which closed in 1943, after thirteen years of operation. Designed by Metcalf & Eddy of Boston, "the Nation's foremost sanitary consulting firm," (City and County Public Works Annual Report, 1943, page 9) in 1943, the construction of these two major non-military projects was hampered by a lack of manpower and materials, with ground not broken until May and July 1944, respectively. With the opening of the two reinforced concrete incinerators in 1946, each of which could dispose of 200 tons of refuse a day, the director of the Department of Public Works, "anticipated that the problem of properly disposing of all garbage and rubbish collected within the city of Honolulu will be satisfactorily taken care of for some time to come." (Annual Report, 1947, page 34) With the opening of the incinerators, the Keawaula Dump was closed.



4-93

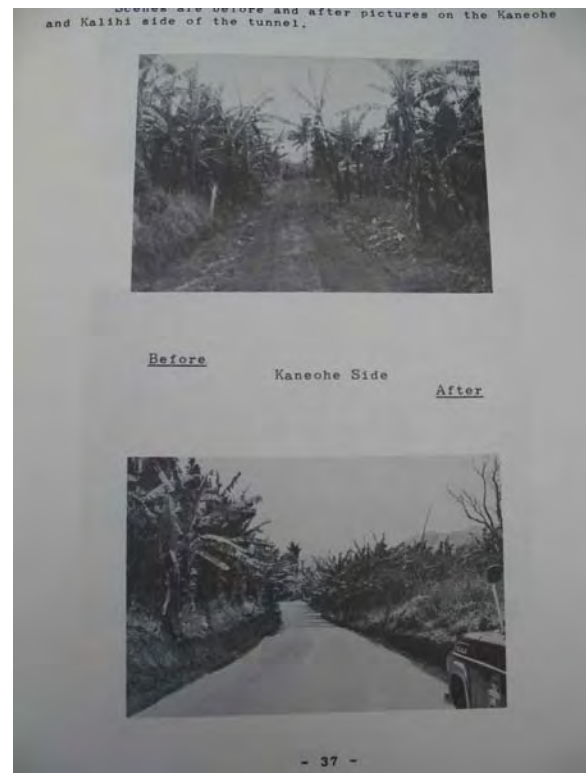
Garbage Incinerators at Kapalama and Kewalo, no longer extant
(City and County of Honolulu Public Works Annual Report)

Such optimism for the future did not foresee the incredible population explosion which was about to occur on the island of Oahu. In 1948 the island's population stood at 371,649; it had reached 500,409 by 1960. At the end of the first decade following statehood, the population rose to 630,528; by 1980 it was 762,565. The more than doubling of Honolulu's population within a score of years placed a tremendous strain on the city's infrastructure and government was hard pressed to maintain desired levels of service.

4.4.2 Highways and Roads

Land transportation was one of the areas most affected. While Oahu's population dramatically increased, automobile ownership rose at an even greater pace. In 1938 automobile registration stood at 43,785. In 1945 the number of automobiles on island had grown to 52,527; a dozen years later, in 1957, automobile registration stood at 159,227, a 329.8 percent increase since 1945. This tremendous influx of automobiles resulted in myriad needs having to be addressed, ranging from the reduction of traffic congestion to improved parking, and enhanced traffic safety measures.

To reduce traffic congestion new roads were constructed and old ones widened. Using federal moneys the City and County undertook the construction of the Likelike Highway, while the Territory commenced the construction of *mauka* and *makai* arterials, and realigned and expanded the capacity of the Pali Highway. The Likelike Highway, running between School Street in Kalihi and the Kamehameha Highway in Kaneohe, was conceptualized as early as 1938-1939 but planning for the new highway was curtailed with the advent of the war (Photo 4-94). Following the war, plans for the new four lane highway and tunnels were drafted. Upon obtaining a \$6 million Congressional appropriation, contractor Larry Ching began work in December 1952 on the 7.96 mile long highway. The first phase was a graded roadway to the proposed tunnel's Kaneohe portal, which was completed in the fall 1953. On January 8, 1954, contractor E. E. Black started to bore the first of two, two lane tunnels, which was to be 2,775 feet long, 32 feet wide, and 24 feet high. The crew worked three shifts around the clock, six days a week, using a three-level jumbo with nine air powered drills made especially for the project to bore holes for blasting. At the same time, at the Kalihi portal, Kalihi Stream was diverted through a three cell reinforced concrete culvert. By April 1954 the workers had penetrated 1,600 feet into the mountain. During the course of their progress two cave-ins occurred, but there were no casualties. Then on August 4, 1954 a cave-in killed five workers. Boring was halted to investigate how best to proceed, although work continued on stream diversion and the concrete lining of the 1,800 feet of the tunnel that was already completed. The debris at the caved-in portion was removed, and drilling was started from the Kalihi portal in January 1957. Workers encountered much water and had to pump approximately one hundred gallons a minute as they proceeded with their boring. The initial 250 feet from the Kalihi side was excavated by the "wall plate and bench method", but when a softer stratum was encountered they had to adopt the "footing drift" method, in which they excavated and poured footings for a portion of the tunnel before the full width of tunnel section was excavated. The two ends of the bores met on May 17, 1957, and by the end of 1957 the first tunnel was structurally complete. In December 1957 work started on the second tunnel,



4-94
Likelike Highway – Kaneohe Side
(City and County of Honolulu Public Works
Annual Report)

again from Kaneohe side. With the one tunnel completed the highway was quasi-opened for traffic in 1958, carrying one way traffic to town in the morning and back to Kaneohe in the evening as a temporary route. Around 1500 cars made this daily commute. The second bore was completed in June 1959, and the John Wilson Tunnels were opened in November 1960. The State was responsible for completing the approach highway to the tunnels, and the Likelike Highway officially opened on March 31, 1961.

While the City and County was involved with planning and constructing the Likelike Highway, the Territory of Hawaii was busy planning and constructing the realignment of the Pali Highway on the windward side of the Koolau Mountains, which commenced in February 1952 at the famous Hairpin Turn. Over the course of realigning this highway two pairs of tunnels, one 1000 feet long and the other 500 feet long, were bored and connected by a bridge. Once completed, these were Oahu's first highway tunnels opening on May 11, 1957. With the last link of the Pali Highway, from Coelho Way to Kuakini Street completed, the new road officially opened on December 21, 1962. Traversing the eight miles between Bishop and Beretania and the Kaneohe Ranch office at Kamehameha Highway, the road was said to reduce driving time from forty five minutes during rush hour to twelve minutes.

In addition to these two windward highway projects, the Territory also undertook two other major highway projects, the *mauka* and *makai* arterials, to divert traffic off downtown streets. The eight lane *makai* arterial, named Nimitz Highway, opened to traffic in November 1952, ten years after construction had commenced at the Pearl Harbor gate. As for the *mauka* arterial, it was named the Lunalilo Freeway in 1958, construction commenced in 1952. The first segment of this six lane divided highway opened on November 16, 1953, running between Alexander Street and Kapahulu Avenue in the Ewa bound direction; the Koko Head direction opened two months later on January 10, 1954.

Studies for the *mauka* arterial had gotten underway in 1941, but like the Nimitz and Likelike highways it was delayed with the advent of World War II. Designed to run the seven miles from Old Waialae Road to Middle Street, the six lane highway was expected to carry 60,000 cars a day. In 1952 transportation officials estimated it would take ten years to build, with costs running \$2 million a year, with about one third of the budget dedicated for land acquisition. It was the most expensive construction project up to that time in Hawaii, with much of the moneys devoted to land acquisition, as an estimated 1,600 families required relocation. To recoup some of the costs and to not increase Honolulu's problematic housing shortage, the dwellings on the condemned lands were auctioned off. In addition, the 1945 Territorial Legislature enacted a liquid fuel tax in order to generate the funds necessary to match the federal funds available for the highway's construction. This tax was increased to five cents a gallon in 1955 to help offset Hawaii's match for the increasing federal dollars coming to the islands for highway construction.

The second segment of the Lunalilo Freeway between Alexander and Alapai was started in 1954, with progress reaching Keeaumoku Street by December 1955. By 1959 work had commenced on the interchange between the Lunalilo and Pali highways, which was designed by Law & Wilson and was the first three level grade separation structures to be constructed in Hawaii (Photo 4-95).

The advent of statehood led to an expansion of the Lunalilo Freeway into the H-1 Interstate Highway. The Federal-Aid Highway Act of 1956 established the Interstate Highway System; however, Hawaii was excluded from this source of funding as it bordered no other state. To remedy this, a section of the Federal-Aid to Highways Act of 1959 required that a study be undertaken to consider the eligibility of Hawaii and Alaska for interstate highway funding. As a result of the study, the Hawaii Omnibus Act, which President Eisenhower signed into law on July 12, 1960, removed the language in the Federal-Aid Highway Act which limited the interstate system to the continental United States and authorized three interstate highways for Hawaii, H-1, H-2, and H-3 to address national defense concerns, an allowed interstate



4-95
Pali Highway in 1957
(City and County of Honolulu Public Works
Annual Report 1957)

highway justification which resulted from a 1957 amendment to the original act. The Lunalilo Highway project was expanded to become the H-1, a 28 mile roadway running from Palailai at Campbell Industrial Park to Ainakoa Avenue, with the Lunalilo Highway being the section running through Honolulu.

With the ninety-ten, rather than fifty-fifty, federal matching share now available to fund the Lunalilo Highway, the Middle Street separation was completed in 1964 and the section between Houghtailing Street and the Pali Highway was finished in 1966. Work commenced on the H-1 Interstate with the one mile section from First Avenue to Koko Head Avenue completed in 1965, and the stretch between Makakilo and Kunia finished in 1966. The construction of these segments was facilitated by the introduction of the Guntert-Zimmerman Slip Form Paver which resulted in an even surface and continuous paving without the need to build and later remove metal formwork.

In 1967, the segment connecting Palailai to Makakilo officially opened, and by 1969 the eight lane highway was extended from Kunia to Waiawa. The completion of the roadway between Pele and Keeaumoku streets signaled the completion of the Lunalilo Highway, which was officially opened on July 1, 1969. The section of the highway between Pele and Victoria streets with the stepped, landscaped retaining wall was recognized by the Federal Highways Administration with a first place national award as "Outstanding Highway and Its Urban Setting and Environment" (Photo 4-96).

By 1969 work was also underway on the Waialae viaduct which completed the eastern end of the H-1 Highway. The H-1's Pearl City viaduct, which was over one mile long, was finished in 1970, making it the longest bridge in Hawaii. By 1971, the three mile segment of the H-1 between Waiawa and Aiea was completed. The western side of the H-1 became fully functional in 1974 with the widening of Moanalua Road between Red Hill and Halawa. The project wasn't complete until the 21st century.

Work started on both the H-2 and H-3 Interstate Highways in 1971. The former was completed in 1977, and was highlighted by the construction of the Kipapa Stream Bridge, Hawaii's first cantilevered, cast-in-place segmental bridge. The H-3 met with a number of legal challenges, and as a result by 1978 only the segment between the Kaneohe Marine Corps Air Station and the Halekou Interchange had been completed.

In addition to the major highway construction projects, other Efforts were undertaken to alleviate traffic congestion. The City and County in 1950 widened Waiialae Avenue from Wilhelmina Rise to 6th Avenue and also N. King Street from Gulick Street to Puuhale Road. They also started acquiring land for the eventual widening of S. King Street from University to Kapiolani on the *makai* side (Photo 4-97). In 1952 cross-town traffic was improved by establishing contra-flow on King from University to Kapiolani, and Kapiolani from South to Kaimuki Avenue during peak hours. The head of the traffic division noted that little relief from traffic jams at peak-hour periods and general congestion on the highways "can be expected until the capacity of these highways is increased by additional traffic lanes." (Annual Report, 1952, pages 58-59). To further facilitate automotive movement, Keeaumoku Street was extended from King to Kapiolani Boulevard in 1953, and in the following year Dole Street was extended from the University of Hawaii to St. Louis Drive. In 1954 Kamehameha IV Road was improved so it could serve in the future as a feeder road to and from the Likelike Highway. In 1957 Vineyard Boulevard was widened so it could serve as a feeder and distributor for Lunalilo Highway traffic. In 1958 work commenced on the widening of Keeaumoku, Pensacola, Houghtailing, and Kalihi streets to provide better access to Nimitz Highway and the Lunalilo Freeway.

Construction of new and improved highways transpired on the neighbor islands during the 1950s. Work started on the Wailuku-Lahaina highway in 1950, and its 286 feet long, 33 feet wide and 22 feet 8 inches high tunnel was the first to be built on a public highway in Hawaii. On the island of Hawaii a new highway was constructed from Hilo to Honokaa after a 1946 tsunami destroyed some of the railway trestles of the Hawaii Consolidated Railroad, forcing the railway to cease operations. Started in 1952, this road was completed by 1959 and followed the alignment of the former train tracks in many places. On the island of Hawaii, the 6.2 mile road was completed between Kailua-Kona and Keauhou in 1952, and shortly thereafter the shore drive and seawall was constructed in Kailua-Kona from Amfac's property to Hulihee Palace (1957). On Kauai, construction started in 1956 on the realignment of the belt road between Anahola and Kilauea. After the March 9, 1957 tsunami, state of emergency



4-96
Stepped Landscape
(2011)



4-97
Newly completed University Ave.
(City and County of Honolulu Public Works
Annual Report)

moneys were obtained under Section 118 of the Federal Aid to Highways Act of 1956 to rebuild the road in the Hanalei district when seven communities were left stranded on Kauai's windward side.

Highway construction continued in the 1960s, and included Oahu's 3.4 mile Kahaluu Cut Off Road, which was built to "provide a more direct route to commuters living in the Kahaluu area and beyond, as well as open up new lands for development" (Annual Report, 1964-1965, page 12). Developed as an Improvement District, it was the longest

stretch of road developed under an improvement district in Hawaii. Completed in May 1966, it was named Kahekili Highway (Photo 4-98).

During the 1960s both the Queen Kaahumanu Highway and Keahole Airport on the Kona coast of the island of Hawaii were constructed, in fulfillment of the State's commitments made in return for Laurance Rockefeller's investment in the construction of the Mauna Kea Beach Hotel (1965). The same year the hotel opened coincided with the completion of such visitor oriented road projects as the County's road from Honokaa to Waipio lookout, the access roads to Akaka Falls and Puuhonua O Honaunau, and the National Park Service's Chain of Craters Road at Volcano National Park.

Salt Lake Boulevard was one of the last large scale roadway projects constructed during the period, commencing in February 1978, using Federal Aid Urban System funding.

4.4.3 Signals

In addition to constructing new roads and highways and widening old ones, the Department of Public Works also sought to improve traffic flow and safety through the installation of more traffic lights. Honolulu's first permanent traffic light was placed in operation at Nuuanu Avenue and Beretania Street on February 21, 1936. There were 41 traffic lights on Oahu at the end of 1941, and by the end of 1948 there were 57 signalized intersections in Honolulu. The number would have been 65, but equipment was not available, as factories could not keep up with the demand for traffic lights in many states. Similarly, in 1949, the City and County had hoped to get new garbage trucks, but factories already back-ordered with mainland city requests; new trucks were not obtained until 1956. By 1957 the number of traffic lights had grown to 112.

The fluted columns that the traffic lights were mounted upon were in use at least through 1953 but it is not known if any original columns remain. The year 1953 saw the installation of push button mechanisms for pedestrians.

The tremendously expanded number of automobiles also brought parking problems to the forefront. The city's draft master plan in 1945 recommended the development of off street parking lots. This recommendation was not immediately followed, and when action finally transpired, locations other than those recommended in the plan were selected.



4-98
Kahekili Highway
(City and County of Honolulu Public Works
Annual Report)

4.4.4 Parking

Between 1945 and 1949, there was a 43 percent increase in vehicle registration without any significant additions made to the highway system or provisions made for parking. The City and County Public Works Department realized the downtown parking problem “has progressively grown more acute. To aggravate the parking situation still more, the increased volume of traffic precipitated by increased registration has necessitated the removal of parking in various streets to facilitate the flow of moving traffic. At other locations throughout the City, it has been necessary to prohibit parking during the traffic peak-hour periods. . . . While the prohibition of parking on many streets usually is quite detrimental to business institutions along the route, the primary purpose of highways is for the moving of traffic and not the storage of cars.” (Annual Report, 1948, page 89). At the time, the department estimated there were 1,700 on-street parking spaces in the business district; however, the area required approximately 3,000 additional spaces.

In order “to encourage a greater turnover in curb parking and provide revenue for appropriate public works projects and services,” (Annual Report, 1952, page 7) the city installed 1,600 parking meters in the downtown area during February and March 1952 on a six month trial basis to determine if people liked them. The meters cost approximately \$128,000 to install, and by the end of 1952 collected \$132,501. As a result, the Board of Supervisors authorized the installation of meters in sections of Kaimuki (123) and Waikiki (378) in July 1953. By end of 1957 the city operated 3,038 meters including 40 in Kalihi and 248 in the Bingham-Pawaa area. Whether any of the original parking meters are still in service is unknown.

On December 19, 1952, the first off street public parking lot opened at Smith and Beretania on the location of a former playground. Five more downtown and one Waikiki lot followed during the next three years. These surface lots, between 1960 through 1962, were expanded into multi-deck lots (Photo 4-99) but none remain today. The two surface parking lots developed in 1959 in Kaimuki at 11th, Harding, Koko Head and Waialae, remain in operation.



4-99
Double deck Parking Structure, no longer extant
(City and County of Honolulu Public Works Annual Report)



4-100
Marks Garage
1159 Nuuanu Ave.
(2011)

The four story, privately owned Marks Garage at Pauahi, Bethel, Chaplain and Nuuanu (Photo 4-100), which opened on November 9, 1957 with 500 stalls stands as a good example of a multi-deck parking lot of the period and a rare reminder of the early efforts to solve Honolulu's downtown parking problems. It was built by Ben Hayashi, and designed by Honolulu architect Ken Roehrig with John J. Gould of San Francisco as engineer. Gould also designed the underground St. Mary's Square Garage in San Francisco, as well as other multi-deck garages in the City by the Bay. The reinforced concrete structure features cast stone vanes, or vertical fins, on the outside of the upper floors. The ground level with its seven retail stores is graced with pahoehoe rock and sleek, outset, aluminum-framed, slanted, plate-glass windows. It was Honolulu's first multi-deck parking lot and should be considered significant and of high preservation value. Other parking venues of the period that should be considered significant include the eight-story stack garage located adjacent to Kuhio Mall in Waikiki, and the Municipal Parking lot (1979) designed by Anbe, Aruga, Ishizu and Tsustui. The Gold Bond Building (1967) was the first to feature dual circular traffic ramps.

4.4.5 Fueling

Another property type associated with the explosion in automobile use in Hawaii is the service station. Time did not allow for even a cursory windshield inventory of this property type. General knowledge of the form suggests that this may be a rare building type, as many have shut down and others have been remodeled over the course of time. Standard Oil constructed in Hawaii a post-war service station with Japanese architectural elements, including shake roofs, a ridge beam and shoji-like transoms above the display windows. These were all stripped of most of their Japanese elements in the 1980s and no longer retain their integrity. The Nishi Service Station at 98-402 Kamehameha Highway in Pearl City is a former Union Oil station. It is now a body and fender shop, but stands as a fine example of a service station of the period with its 17 feet long rounded canopy providing a streamlined sensibility, and should be considered of high preservation value.

4.4.6 Car Disposal

Another type of property to be considered for historic recognition associated with the rise of Hawaii's automobile culture is related to the disposal of unwanted automobiles. By 1968 the County Department of Public Works bemoaned the still "unsolved automobile disposal problem," (Annual Report, 1967-1968, page 48) and then between August and November 1972, Mayor Frank Fasi's "Great Automobile Roundup" gathered up 2,491 derelict automobiles removed primarily from public streets and highways. These were brought to disposal sites in rural areas with hopes of somehow recycling the abandoned vehicles. Between 1969, when the city first let a contract to pick up derelict automobiles, and 1975, over 10,000 abandoned automobiles were removed from the streets and given to the private sector to dispose. In 1975 this program was halted, as there was sufficiently high demand for used steel to make government intervention unnecessary.

An inventory of automobile junk yards was not undertaken as part of this study, but should not be overlooked in future studies. Likewise a program to make artificial reefs was initiated in 1961 by the State, and during the 1970s old automobiles were among the materials used. As

such these reefs may also be considered historic for their associations with the history of the automobile as well as wildlife conservation in Hawaii.

4.4.7 Water

The ever expanding population of Honolulu brought more than transportation issues. With the development of the Aiea-Pearl City-Waipahu area, as well as the eastside of the island and the windward side, suburban water supply became a concern. The City and County Public Works' 1946 Annual Report noted, "The urgent need for housing has caused extensive activity in land subdivision for housing purposes. Many of the areas so developed are on the fringe of suburban water system's present area and some have proved embarrassing until we revise our present facilities to guarantee adequacy" (page 19). In 1946 there were 67 subdivision applications made for Kailua alone. To address this new growth, the Suburban Water System completed the Luluku Water Tunnel during 1946 and on July 16, 1947 placed the Kahaluu water system, which drew its waters from the Kahaluu Spring, in operation. Despite these new windward sources, plans were developed to bring water in from Waiahole to accommodate the increased demands from Kailua. Kaneohe-Kailua-Lanikai-Keolu Hills were all part of one system drawing water from the high-level windward tunnels and springs. Prior to the war, the Suburban Water System served 1,400 homes in 1940; by 1950 the number of customers served had jumped to 3,600 homes. By 1952 Kailua was the fastest growing area in the Territory and "It was with extreme regret that Suburban Water System experienced the inability to maintain adequate service in portions of this area during the month of September. However, the substandard service aroused the community to the realization that tremendous changes have taken place and that enormous development must follow if this community is to continue to expand at its present rate" (Annual Report, 1952, page 87). The Suburban Water System desired to bring water in from Waihee valley to support Kailua's water needs, but legal battles slowed this action down and as a result the Planning Commission "had been obliged to restrict large subdivisions in the Kailua and Kaneohe area. Were it not for this restriction due to shortage of water, it is probable that there would have been more subdivisions" (Annual Report 1953, page 51).

4.4.8 Flood Control

An abundant supply of water was critical for the continued population growth on the island of Oahu. "Heretofore one million gallons of water per day was considered a tremendous supply. However, with the growth of this area [the windward side], one million gallons per day means a supply for one year's increment of growth and we must adopt the new thinking that water must be provided in tens of millions of gallons per day" (Annual Report, 1953, page 60). The Public Works Department urged the need to "begin at once activities to find a new water supply source yielding not less than 20 million gallons per day of additional water for Kaneohe and Kailua. It is reasonable to expect that the expansion will continue and that real estate development will not decrease in the immediate future" (Annual Report, 1954, page 49).

Finally, in May 1954 work started on the Waihee tunnel, which was considered to be "a keystone for the continued growth and expansion of windward Oahu" (Annual Report, 1957, page 2, water). It was designed to be seven feet by eight feet and 4,000 feet long; however, once construction commenced, the crew encountered so much water that the water pressure

popped dynamite sticks out of their blasting holes. As a result, work was halted after only going 1,600 feet and steel bulkheads were installed. Accompanying the tunnel construction, a million gallon reinforced concrete reservoir and two booster pump stations were also developed. The project was completed in 1956, and provided 5.5 million gallons a day, of which 2 million were allocated for Kailua-Kaneohe. To further address water concerns, in 1954 a million gallon reservoir was built on Coral Hill to serve Waimanalo, and during 1957 a two million gallon reservoir was constructed for additional supply to Kailua. A million gallon reservoir was constructed at Keolu Hills by Kaneohe Ranch as a condition for the approval of the Kailua Heights subdivision. This reservoir was the first of this type and size to use pre-stressed technology, which resulted in substantial construction savings. Other early pre-stressed concrete reservoirs include Kapaa Hills (1958) in Kailua, Ewa Beach (1958), and Waianae. In 1957 a million dollar reservoir was constructed to serve Pohakupu-Olomana subdivision and the new Kailua High School, and a new water source was developed at Kuou for Kaneohe's Puohala Village and Pikoiloa subdivision.

On the leeward side the closing of Waianae Sugar Company in 1948 was a matter of concern. Water demand more than doubled in this arid area as Waianae in 1940 had only 354 water customers, whereas in 1950 it had 826 customers. With the closing of the plantation, lands were subdivided and offered for sale as small farms, including many areas never cultivated by the plantation. It was decided to try to maintain service in Makaha as the area, "should remain an oasis in the otherwise dry Waianae district" (Annual Report, 1947, page 21). Work commenced on the Waianae water tunnel in March 1946 to increase water supply for the area, and in 1950 the tunnel was extended in order to serve better the increased needs of Nanakuli, Maile, Lualualei, and the Waianae area, even though Waianae town remained on a private water system. In 1951, a 500,000 gallon reservoir was built for Makaha to assure continuous water service.

The Aiea-Pearl City area was the fastest growing place in Hawaii in the immediate post-war years, leading the Department of Public Works in 1957 to presciently predict, "the development that is taking place on Leeward Oahu from Aiea to Waipahu presently indicates that in a relatively short time that entire area will be devoted to house lots and residences, so instead of four separate villages, this will become one continuous residential area" (Annual Report, 1957, page 2, water). To support this development, abundant water was again a critical issue. To support Oahu Sugar Company's new subdivision on Aiea-Halawa Heights which started construction in October 1948, the city built four 500,000 gallon reinforced concrete reservoirs, two booster pumping stations, and a deep well pumping station. The first two reservoirs were completed in 1949. Oahu Sugar divested itself of its Aiea worker housing by subdividing it and selling it to their workers, and also subdivided other lands as well. In 1952, the company built a 500,000 gallon reservoir to serve lower Aiea Heights, and in 1955 a similar sized reservoir was built for upper Aiea Heights. A new well was drilled and a booster pumping station was constructed. In Waimalu, a 500,000 gallon reservoir and two deep well pumps were turned over to the city by the developer in October 1956. New reservoirs, wells and pump houses were constructed in Pearl City to handle the new residential developments occurring in that area.

Water was also a concern when there was too much of it, as a result of storms. Flood control became an issue in Honolulu after flooding caused by a February 1935 storm claimed the lives

of nine people, leading to the channelizing of a number of streams in town during the late 1930s. The Kapalama and Manoa-Palolo canals were constructed. Flood control work continued after the war with improvements made to the Makiki ditch system. During the 1950s Palolo and Manoa streams were lined with concrete walls and beds, as a new drainage section was established within the City and County's Bureau of Plans, thanks to congressionally authorized obligation bonds for flood control.

Areas away from the city also began to receive attention since, "The continuing development of marginal lands into residential subdivisions, especially along hillsides or near stream banks, has intensified the need for flood control measures. In the past, where once used for agricultural farm and ranch lands, flood control requirements for such areas were negligible.

"Their recent development into house lots, however, has materially altered this requirement" (Annual Report, 1957, page 3). In 1957 flood control projects were undertaken in Aina Haina,

Pearl City and Aiea, and in 1958 the City and County prepared a master plan for flood control for the entire island of Oahu. Up to this time flood control programs were all funded by bonds authorized by Congress and the Territorial Legislature. A result of the Watershed Protection and Flood Control Protection Act, Public Law 566 passed by the 83rd Congress, funding became available in 1957 from the Federal Soil Conservation Service for flood control under the justification of preventing soil erosion. In October 1957 the City and County passed an ordinance to regulate the grading of hillside lots in order to further control storm runoff. Honolulu also started a program where the owners paid for materials and the city provided the labor to line a number of streams, including Kuikele stream in Kalihi and on Wilhelmina Rise where "due to new developments in the upper areas of Wilhelmina Rise, the natural low area became inadequate to convey the flow of storm waters, thereby causing erosion of bank and the flooding of several adjacent homes" (Annual Report, 1959, page 19).

In 1960 the City and County, in cooperation with the U.S. Soil Conservation Service, began a major ten year flood control project in Waianae. Starting with Ulehawa stream (Photo 4-101), the project also included Kaupuni, (Photo 4-102) Maililii, and Kawiwi streams. Waikele Stream in Waipahu was given a concrete channel in 1960; Waimalu Stream in Aiea and Waimanu Stream in Pearl City received similar treatment in 1962. In 1964, the Army Corps of Engineers commenced construction on the deepening and widening of the 1,100 feet Oneawa Canal and a 8,740 feet long earth levee to protect Kailua from the waters of the 750 acre Kawainui Marsh. This project was completed on June 6, 1966.



4-101
Ulehawa Stream Channel Outlet Structure
Features a Unique Design of By-pass
(City and County of Honolulu Public Works
Annual Report)



4-102
Kaupuni Stream Channel Construction
(City and County of Honolulu Public Works
Annual Report)

On February 4, 1965, Kamooalii Stream flooded Keapuka in Kaneohe killing two people and damaging a number of properties. A second heavy storm on May 2, 1965 caused the collapse of the Kamehameha Highway Bridge over Waiahole stream. In response, the City and County hired Dr. Van Te Chow from the University of Illinois, an internationally recognized hydraulics authority, to undertake a flood control study. Ordinance No. 2644 was passed on June 9, 1965 placing a 90 day suspension on issuing building permits in flood-prone areas on the windward side, west end, Waimalu, and Niu Valley. These restrictions were made permanent with Ordinance 2735 on December 15, 1965. More stringent Grading and Grubbing controls were passed via Ordinance 2734.

Federal flood control aid was used during the mid-to-late 1960s for flood control projects in the Kahaluu watershed. The Army Corps of Engineers provided flood control monies for Aiea Stream, Kaelepulu Stream and Wailupe Stream, while measures in the Waiawa Watershed were supported by the Soil Conservation Service. Work commenced in 1968 to deepen and widen Kuliouou and work also started on Kiki Stream and Kaukonahaa, both in Waialua, as well as Anolani Stream in Kaneohe. Other smaller projects transpired across the island.

Storms on December 17-18, 1967 and January 4-5, 1968 led Governor Burns to declare the Honolulu and Ewa districts disaster areas. Emergency repair work was undertaken for Hahaione Stream in Maunaloa, Niu Stream, Kapakahi Stream in Waialae, Waialae-Iki Stream, Waimano Stream and Waialae-Nui Stream. During 1969 the “crash program” of constructing flood-controls and drainage works in areas subject to severe floods and storms” continued (Annual Report, 1968-69, page 14). Despite such efforts, storms on January 2-3, 1969 led to the flooding of houses, roads, and yards in Aiea, Waimalu, Waiawa, Waipahu, Ewa, Waianae, Wahiawa and Coconut Grove in Kailua; a second storm on February 1, 1969 flooded 56 homes in Keapuka, and other areas of Kailua, Kaneohe, and Kahaluu. Governor Burns declared Koolaupoko a “disaster area” and shortly thereafter the Army Corps commenced planning the Kamooalii Stream Flood Retarding Structure in Kaneohe above Keapuka, with construction getting underway in 1976. This project included a dam with a 256 acre pond, 223 acre recreation purpose area and 1,200 feet channel improvements at the outlet of Kaneohe Stream. The final phase of the project began in April 1977 and it was completed at the end of 1979.

During the late 1970s the U.S. Soil Conservation Service embarked on the Kahaluu Flood control Project, which included increasing the size of the lagoon to 28 acres.

4.4.9 Waste Disposal

Another area which required public sector attention involved the disposal of waste, both sewage and garbage. With the opening of the two garbage incinerators in 1946, the question of what to do with the ash and residue emerged, and as a solution work commenced on the Kewalo Sea Wall on November 15, 1948. The wall formed a basin into which the incinerator ash, as well as tree trunks, concrete and other rubble, junk automobiles, and other noncombustible were dumped. The lava rock sea wall was 1,880 feet long running parallel to shore, 20 feet wide and 12 feet high, and had 600 feet and 790 feet long legs extending from either side back to the shore. The seawall was completed on August 14, 1951 and within eight years was filled resulting in 30 new acres of land, which eventually became Kakaako Park.

The tremendous population growth taxed the City and County's garbage disposal methods, and by 1959 the two incinerators handled only 60 percent of the city's garbage. Koko Head crater was pressed into service as a sanitary land-fill and the idea of dumping garbage into the ocean was explored. In June 1959, the State Air Pollution Controls went into effect; in 1961 the two incinerators were renovated in order to increase their capacities and to install scrubbers as smoke arrestors. In 1963 the Kapaa Sanitary Fill was opened, and in 1970 a new incinerator opened in Waipahu. In 1977 electrostatic precipitators were added to its chimney to comply with air pollution regulations. The Waipahu firehouse and police station were erected on lands adjacent to the incinerator, which were filled with the ash. In 1970 a new dump was opened in Wahiawa, which supplanted the Waipahu landfill that shut down in 1972.

Following an EPA order the City and County shut down the Kapalama and Kewalo incinerators on October 15 and 29, 1977. In that year the Waipahu Incinerator was shut down for eight months to install equipment to treat its wastewater in accordance with State Department of Health and the National Pollutant Discharge Elimination System permit levels. The Kapaa landfill "continued to be filled at a rapid rate. At the end of the fiscal year (June 30, 1977) less than one year of life remained" (Annual Report, 1976-1977, page 498) The City and County moved to expand the landfill, as there was a need to dispose of approximately 1,000 tons of garbage a day by this time. Although the Congress of the Hawaiian People, Life of the Land and others filed suit in Circuit Court to stop the expansion, Site 3 of the Kapaa landfill was placed in operation in 1979.

4.4.10 Sewage

Sewage was another area which required attention. The firm of Metcalf & Eddy, which designed the two incinerators, was awarded the design contract for an improved city sewage system, which was to include a new sewage pumping station for Ala Moana. The new pumping station (1955) handled all the sewage generated Diamond Head of Nuuanu Stream, while the Awa and Queen Street Pumping Station (1954), which replaced the River Street Pumping Station, handled all sewage Ewa of Nuuanu Stream. The sewer system dramatically expanded during the decade of the 1950s. In 1950 there were 371 miles of sewer lines, six sewer pumping stations, and one treatment plant; by 1960 there were 757 miles of lines, 24 pumping stations, and two storm drain pumping stations, three sewage treatment plants, and four community septic tanks. During the 1960s the system continued to expand and by June 30, 1969 the City and County maintained 1,162 miles of sewer lines. All of urban Honolulu had sewer service by 1974-1975.

Sewer pumping stations, mostly of a utilitarian design, appeared throughout the island. No inventory of this historic property type was undertaken, but examples include Hart Street (1951), Wai Lani in Waipahu (1954), Kamehameha Highway in Damon Tract (1960), Niu Valley (1960), Beach Walk (1966), Kuliouou (1966), Waikapoki in Kaneohe (1966), Waipahu at Depot Road (1966), and Fort DeRussy Pump Station (1969). With the completion of the Waimalu Sewage Pump Station (1968) (Photo 4-103) and the East Loch Interceptor Sewer the City no longer discharged raw sewage into Pearl Harbor.

Sewage treatment plants were developed, including the Kaneohe Sewage Treatment Plant (built 1963, expansion 1968), Kailua Treatment Plant (1966), Pearl City Treatment Area

(1967), Waianae (1968) (Photo 4-104), Hawaii Kai (1965), Wahiawa (expansion 1968), and Waipahu (1970).

In the early 1970s the State Water Quality Standards were adopted, which led to the development of a City Water Quality Program. This plan enabled the City and County to successfully apply for U.S. Department of Urban Development grants, which were used to construct Sand Island Sewage Treatment Plant and Outfall (outfall completed October 1976, and treatment plant finished in 1978), which reduced the pollution in Malama Bay. The largest project of its type in the State, the plant handled all the sewage from Kuliouou to Salt Lake. Other late 1970s projects included the Honouliuli Sewage Treatment Plant (1980) designed by R. M. Towill Corporation and the Kaneohe Sewage Treatment Plant Diversion Line (1978) designed by Chung Dho Ahn and Associates. In order to cover the expenses to comply with federal grant requirements established by the EPA, a New Sewer Charge Ordinance (Ordinance 4611) was enacted July 28, 1976. On January 1, 1977 residential properties were assessed a flat rate sewer charge, while non-residential properties were assessed based on water consumption. The Board of Water Supply in first year collected over 12 million dollars.



4-103
Waimalu Pump Station
(City and County of Honolulu Public Works Annual Report)



4-104
Wainae Sewage Plant
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4.5 Landscapes and Landscape Design: Impacts on Hawaii

4.5.1 Landscape Architecture

Landscape architecture in the postwar period took many new directions. Once focused on gardens and public projects — notably the design of parks, suburban retreats for the wealthy and facilities such as cemeteries and golf courses — landscape architecture as a profession began to branch out into new areas. The long period from the beginning of the Depression in 1929 to the end of World War II had represented a “significant break in the design continuum of the early 20th century,” according to landscape historians Philip Pregill and Nancy Volkman. These included changes in the means of financing investment and development; an increase in the number of government regulations affecting planning and design; significant shifts in demographics and lifestyle; and the overall impact of modernism as a design approach.

The Depression and war had inured the American public to the idea of greater government intervention into their lives. The PWA and WPA projects, such as the Hoover Dam and numerous highway and parks projects, gave the public an insight into what government programs could do. In the postwar period, the Federal Housing Authority (FHA) through the Fannie May loan program and the Veterans’ Administration homeowners loans for veterans (VA Loans) significantly changed the pattern of home ownership. Consumer loans followed at pace; and banks and other institutions began to make homes more possible for working and middle-class home seekers.

Postwar prosperity and delayed families also contributed to significant changes in lifestyle. New families sought out homes in suburban settings and the dream of a house surrounded by trees and greenery became a new reality. The suburbs, in turn, resulted in the construction of new schools, parks, and recreational facilities. Golf courses, playgrounds, tree-lined avenues with well planned sidewalks, inspired in part by revolutionary designs such as that for Radburn, New Jersey, plotted by Clarence Stein and Henry Wright in 1929, became a new expectation. Plans for such amenities generally fell short. New zoning controls enacted by local governments following federal guidelines dictated stricter boundaries between districts and uses. “Mixed use” became a term of derision, suggesting an older way of life in dense and “inefficient” older cities. Improved building codes and the application of the Uniform Building Code (UBC) — a set of standards promulgated by the International Council of Building Officials, beginning in 1927 and updated every three years until 1997— resulted in greater safety and uniformity in construction.

Demographics had perhaps the greatest impact on landscapes and design. The years between 1945 and 1964 resulted in a spurt of births known later as “the baby boom.” During this period, birthrates spiked significantly, resulting in new needs for playgrounds, schools universities and eventually new forms of leisure and entertainment. There was also a shift in residence, with more Americans moving to the South and West from the previously high population centers in the industrial Northeast and Midwest. These changes had great impacts on the landscape. New developments revolved increasingly around automobile use and municipalities soon degraded or abandoned older transit systems. Retail similarly moved from downtowns to the periphery of cities or along the commercial strips of new developments in

growth areas. Shopping malls also replaced downtown retail centers as the focus of both consumption and entertainment.

As a result of greater shifts in population and the distribution of peoples and businesses, there was a corresponding change in the ways landscape architecture fit into peoples' lives. Declining cities, facing decreased revenues, were unable to properly maintain existing parks. Despite efforts of city planners, such as New York City's famous Robert Moses, to give greater emphasis to recreation within existing parks, such as ball-fields, playgrounds, swimming pools and tennis courts in 19th century parks designed originally for much more passive uses, which many municipalities failed to adequately finance amenities. Maintenance also was often a factor, as labor prices rose and cities lacked the money to support existing parks and recreation areas.

The suburbs, in turn, became bastions of private interests over community goals. People devoted time and money to creating personal landscape spaces and resisted, with some exceptions, public expenditures. Although many of the newer multi-lane highways features median strips and generous verges, these soon gave way to turning lanes and additional road space. Some characterized the trend as "private wealth and public squalor" as residents resisted even moderate aesthetic improvements, such as underground utility wires, in favor of cheaper solutions. Only at the federal level did aesthetics prevail over commercial interests; the efforts of Lady Bird Johnson kept the interstate highway system relatively free of billboards and commercial intrusion. Among the federal agencies, the fight against unchecked commercial development remained a difficult battle.

Modernism had an overall impact on landscape architecture as it did in other areas of design and building. Modernism promoted simplicity and utility. Rather than focusing only on gardens and plants, many landscape architects shifted to public design for recreation and to projects revolving around the new kinds of shopping and business centers that evolved in the postwar period. Labor costs also affected design, as cities turned away from manicured spaces and formal planting schemes towards open lawns and paved walkways and recreation areas. Many cities such as New York and Boston forgot that their "naturalistic" parks, such as Central Park or the Fens, were anything but natural; they actually needed careful maintenance and continual intervention, a fact most city authorities overlooked. Modern design became a feature of newer park structures and particularly public spaces such as cemeteries. Only private owners and a few private organizations could afford to indulge in "rose gardens" and formal planting design. Most parks simply received minimal maintenance until their plight caught the attention of a new generation of more historically minded designers and advocates in the mid to late 1970s.

4.5.2 Landscape Architecture's Early Years

Landscape architecture as a profession grew out of two distinct disciplines: horticulture and architecture. In its earliest manifestation, the field of landscape architecture focused on the designs for landscapes surrounding manor houses and royal properties. The work of architect Andre le Notre at Vaux-le-Vicomte and at the Palace of Versailles for Louis XIV set the standards for European gardens for much of the 17th and early 18th centuries. English architects and horticulturalists "Capability" Brown and Humphrey Repton, working at several

British estates — and by default American estates in the British colonies — in the mid to late 18th century introduced a more informal style, identified as the “Pastoral Landscape.” Repton and Brown’s aesthetic vocabulary, which was reflective of the seemingly “natural” patterns of the British agricultural landscape and indeed often incorporating working farms into the overall design, came to dominate domestic design and also public parks by the 19th century.

In the U.S., the pastoral idea gained further recognition through the publications of Andrew Jackson Downing and Alexander Jackson Davis. Downing, a horticulturalist and “nurseryman” born in Newburgh, New York received his training through his father’s horticulture business. He soon became a passionate advocate of the more naturalist gardening ideas of Humphrey Repton and published several popular treatises on landscape design. These included *A Treatise on the Theory and Practice of Landscape Gardening, Adapted to North America* (1841) and *Cottage Residences: or, A Series of Designs for Rural Cottages and Adapted to North America* (1842). He also coauthored a book on *Fruits and Fruit Trees* (1845) with his brother Charles. Considered the “father of American landscape architecture,” Downing was also an advocate for the Gothic Revival in architecture, collaborating with Alexander Jackson Davis on the designs for new homes in more informal styles that he felt were more in keeping with America’s more “rustic” character.

Ironically, among the first large scale experiments in naturalistic landscape design were cemeteries. The rural cemetery movement marked a distinct step away from the church yards that had dominated mortuary practices from colonial times. Mount Auburn Cemetery in Cambridge, Massachusetts, founded by the leaders of the Massachusetts Horticultural Society, led the way in 1831 with a new type of “reflective” cemetery that put an emphasis on curvilinear walkways, naturalistic groupings of trees and hedges, and carefully considered views. Laurel Hill in Philadelphia (1836), Green Mount in Baltimore (1838) and Greenwood Cemetery in Brooklyn New York (1839) continued this tradition, creating a new landscape model for the American middle and upper classes.

The notion of “naturalism” transformed American gardens and paved the way for the recognition and protection of more genuinely “natural” areas, such as Yosemite as well as the beginning of the urban park movement of the mid to late 19th century. Horace William Shaler Cleveland was one of the first to answer Downing’s challenge. His approach to a more naturalistic garden design is evident at projects such as Grand Rounds in Minneapolis, the Sleepy Hollow Cemetery in Concord, Massachusetts and the boulevard system of Omaha, Nebraska. Frederick law Olmstead became the first to use the title “landscape architect” and with garden designer Beatrix Farrand founded the American Society of Landscape Architects in 1899. Olmstead, through his pioneering work at Central Park in New York City, Prospect Park in Brooklyn and Boston’s Emerald Necklace either designed or inspired countless other city parks and residential enclaves throughout the U.S. including sites as distant as Springfield, Massachusetts and Atlanta, Georgia.

The parks movement and cemetery movement shared a number of traits. Both sought to evoke a sense of gently controlled nature, providing vistas, open spaces and collections of trees and plants. Both emphasized “passive” recreation based on strolling, quiet conversation and the contemplation of nature. Parks and cemeteries both instilled concerns for maintenance. Jacob Weidenmann’s manual *Modern Cemeteries: An Essay on the Improvement and Proper*

Management of Rural Cemeteries of 1888 was a godsend to park managers as well as custodians of large estates. Historians frequently cite *The Modern Cemetery* as the first professional journal of landscape architecture; begun in 1891, it resurfaced after a brief hiatus in 1933. Landscape architects learned a great deal from the layout and care of cemeteries and frequently crossed over to park design as well.

4.5.3 Innovations of the 1920s and 1930s

The 1920s and 1930s marked a new era for landscape architects in the U.S. Many of the impacts were in the public arena. Following in Cleveland and Olmstead's footsteps, Danish-born Midwesterner Jens Jensen created naturalistic parks for Chicago and for private estates such as those for the Ford family at Fair Lane and Gaukler Point. Beatrix Farrand, one of the ten-founding members of the ALS and the only woman, did extensive work for Princeton University and Yale, also designing the Arnold Arboretum for Harvard University in Boston. She also created the much recognized formal and naturalistic gardens for Dumbarton Oaks in Washington, D.C.

A third important landscape architect of this formative period was Fletcher Steele. A student of Olmstead's at Harvard, Steele designed a number of important private gardens, most famous Naumkeag in Stockbridge, Massachusetts, where he created a series of terraces, private areas and virtual outdoor rooms for an older estate. Steel was influenced greatly by the 1925 Exposition Internationale des Arts Décoratifs et Industriels Modernes in Paris and introduced cubist and Art Deco motifs increasingly into his work. Although most suburban Americans still preferred variations on the English pastoral ideal — lawns surrounded by hedges and houses embellished by foundation plantings — Steele attempted to wean his clients away from turf lawns to more secluded private gardens. His book *Design in the Little Garden* of 1924 and his many contributions to *House Beautiful* magazine helped to promote these ideas.

Although Steel's practice centered on individual landscapes, many landscape architects saw a connection between their practice and the greater world. Olmstead and other early practitioners recognized the similar aims of landscape architecture and planning. Many of Olmstead's projects and those of his firm's, once it was under the management of his son, centered on suburban housing developments. Llewellyn Park in New Jersey and Olmstead's own design for Riverside, Illinois helped set the standards for rural oases for the more affluent, an ideal that would gain increasing acceptance by the middle classes in the early 20th century. Landscape architects were among the first to recognize the interrelatedness among cities, parks, suburbs and streets and consistently pressed for greater coherence in American design.

Due to their training, many landscape architects worked on city parks and on plantings for streets and highways. Many also worked directly with architects for the design and site planning for houses and public buildings and especially for gardens and plantings around buildings once they were completed— a role they continue to play today. In the 1930s, landscape architects sympathized with the work of industrial designer Norman Bel Geddes — the creator of "Futurama" at the New York World's Fair — and found new value in the proposals of Ebenezer Howard, seeing the importance of linking cities to the countryside and bringing nature back into cities. Planning theorist and historian Lewis Mumford inherently gave

credit to the ideals of landscape architects as did Frank Lloyd Wright through his championship of the Broadacre City idea and Organic Architecture.

Landscape architects gradually shifted to other kinds of projects as well. One of the most important new areas of design interest was golf courses, eventually an important specialty in the field. Invented in the middle ages and popular in Europe beginning in the late part of the 19th century, golf courses increased greatly in number during the 1920s. Golf courses began in the U.S. in the 1890s, mostly on private estates; developers opened the first 18-hole course in Downers Grove, Illinois in 1892. By the 1920s, courses were becoming popular throughout the U.S. New public courses rose in New York City, including the famous Silver Lake Park on Long Island in 1929. Slowed by the Depression, golf nonetheless established an important beachhead in the American psyche, one that grew significantly in the post World War II era. A number of American designers, most significantly the English-born and Cornell educated Robert Trent Jones, Jr. got their start in the 1930s, creating the beginnings of what was to become an iconic American recreational industry. Jones's Green Lakes State Park of 1936, developed in fact under the Works Progress Administration would be among the first of his well known projects.

Although golf courses began to attract public attention, much of the better work of landscape architects focused on residential spaces. Marjorie Sewell Cautley worked with Clarence Stein and Henry Wright on Sunnyside Gardens in Queens and at Radburn, New Jersey. Cautley, who had trained at Cornell and would later teach at Columbia and M.I.T., pushed the pastoral ideal further, creating broad, flowing lawns surrounded by herbaceous borders and hedges and broken by stands of large trees. She saw gardens as places for recreation, not just passive viewing — an idea that gained acceptance in many American cities. Gilmore David Clarke, also a Cornell graduate, worked closely with planner Robert Moses in the remaking of New York City. His work included the design of the Central Park Zoo and the extension of Riverside Park. As a private practitioner, he supervised the work on the Garden State Parkway and designed the grounds for the 1939 New York World's Fair.

A number of significant early landscape architects worked for the National Park Service and for the federal government in other capacities. The National Park Service under its first director Stephen Mather gave a special place to landscape architects, hiring members of the relatively new profession for much of its work on loges, cabins and administrative buildings. Landscape architects also laid out many of the scenic roadways and overlooks for which America's parks became famous. During the mid 1920s, landscape architect Thomas Vint assembled a small group of designers committed to creating unobtrusive buildings in natural settings. Vint's team also experimented with natural materials such as wood and stone, to better blend new construction with the environment — a trend that came to typify NPS architecture and also influenced design at state and local parks throughout the early 20th century. Other landscape architects, notably Garrett Eckbo, worked for the Farm Security Administration, designing housing for farm workers in the late 1930s.

By the end of the 1930s, landscape architecture was a well accepted profession. One of the earliest programs was at Cornell University, founded in 1904. The University of California at Berkeley, the University of Wisconsin and the University of Illinois also had important programs. At Harvard, especially, many landscape students came into contact with modernist

designers. Garrett Eckbo felt the influence of Walter Gropius as did the well known postwar landscape architect Dan Kiley. Many of the early programs grew out of Agriculture Departments, as at Cornell. At others, landscape architecture became a specialty within architecture. At the University of Pennsylvania, landscape architecture began as a single course led by George Bernap. In 1924, the University established a full program in the discipline; Bernap would go on to create *Landscape Architecture*, the first journal in the field.

4.5.4 The Postwar Years and Modernism

In the postwar period, landscape architects discovered a new role as arbiters between the new architecture and its natural surroundings. Many landscape architects began to investigate the potentials of modernism for new design. Garret Eckbo, James Rose and Dan Kiley rebelled against the strictures of Beaux Arts planning and design and began to look more thoroughly at the social role of architecture and the place of landscape in new urban contexts. Joining his brother-in-law Edward Williams, Eckbo designed hundreds of residential gardens, planned communities, urban plazas, church grounds and university campuses.

Pennsylvanian James Rose also studied at Harvard, but became discouraged by the restrictions set by his teachers. He turned to writing articles laying out a new approach to landscape design that would lay the basis for many books and articles in the 1950s and 1960s, including *Creative Gardens* (1958), *Gardens Make Me Laugh* (1965) and *The Heavenly Environment* (1965). Strongly influenced by his wartime experience in Okinawa and Japan, Rose promoted the ideals of Japanese gardens in his designs. Although his work focused on private gardens, his books and example would have a profound influence on other designers as they took on larger projects.

A friend of Rose and Eckbo, Dan Kiley took modernism in landscape design in a different direction. Impressed by the great formal gardens of Europe, where he spent some of his wartime service, Kiley returned to the principles of geometry, seeing the relationships among spaces and elements as fundamental aspect of the human condition. Compared to Le Corbusier in this faith, Kiley won several important national competitions, collaborating with architect Eero Saarinen on the design for the Jefferson National Expansion Memorial in St. Louis. He then secured commissions for the U.S. Air Force Academy in Colorado Springs, Independence Mall in Philadelphia and the Oakland Museum. Retreating to a rural sanctuary in Vermont, Kiley created a unique style based on allees, water features, pathways, orchards and lawns that seemed almost abstract in character. His work had a great appeal to many younger landscape architects who understood his efforts to join designed landscapes to their broader contexts.

Probably the most influential of the new “modernists” was Thomas Church. Born in Boston and educated at Berkeley and Harvard, Church found his place in the San Francisco Bay Area, teaching occasionally at his alma mater Berkeley. Rebelling, as had Eckbo and Rose, against the Neoclassical Style still prevalent in public design Church concentrated on designing gardens and lawns for residential architecture. His key principles, set out in his enormously influential *Gardens are for People* of 1955 were “unity,” “function,” “simplicity” and “scale.” Creating what came to be the “California Style,” Church attempted to merge interior and exterior spaces by emphasizing the idea of an “outdoor room.” Church’s work and ideas — he

designed over 2000 private gardens — had an immediate impact for postwar Americans as they settled into new suburban homes. Church's California base would also insure that his ideas represented the most forward-looking and fast-growing state in the union.

Church was not alone in his influence. Japanese American Hideo Sasaki also advanced modernist ideas through his many public projects. Born in Reedley, California, Sasaki worked on his family's truck farm before his family's internment in Arizona during World War II. Following the war, he studied at the University of Illinois, beginning a practice in the 1950s. Sasaki insisted that landscape design needed to be a part of architecture; and through his many successful urban designs, he helped redefine public spaces in the U.S. A consistent modernist, Sasaki eschewed more traditional landscape features, placing abstract sculpture at the center of many of his designs and forcing a rigorous form of asymmetry onto spaces once shaped by classical order. Among his most famous works were: Foothill College in Los Altos Hills, California (1957); the redesign of Washington Square in Greenwich Village, New York (1958); the master-plan for Sea Pines in Hilton Head, South Carolina (1961); One Maritime Plaza in San Francisco (1964) and One Shell Plaza in Houston, Texas (1971).

Another California-based landscape architect of the postwar period was Lawrence Halprin. Working with other architects in the Bay Area, Halprin gained national attention with his designs for the Seattle World's Fair in 1962 and his redesign of Ghirardelli Square in San Francisco. The home of a onetime chocolate works, Ghirardelli Square was the brainchild of San Franciscan William Roth and his mother. Hiring Halprin and the firm of Wustrer, Bernardi and Emmons, Roth oversaw the transformation of an older industrial area into a new shopping center. Halprin designed the terraces and staircases that gave cohesion to this first large-scale "adaptive-use" project in the U.S. Halprin's work set the precedent for similar projects in other parts of the country. He also took his ideas to projects such as Nicollet Mall in Minneapolis, the West Coast Memorial for The Missing of World War II in the Presidio and the Saint Francis Square Cooperative Housing Project, also in San Francisco. In the mid 1960s, he also did the master-plan for Sea Ranch in California, collaborating with architects Joseph Esherick and Charles Moore. In the late 1960s, Halrin and his firm completed the master-planning for the proposed Bay Area Rapid Transit system.

Other landscape architects similarly spanned the gap between private design and public spaces. New Yorker Paul Friedberg saw landscape architecture as a way of reconnecting people to their environment. Graduating from Cornell in 1954, he set up a practice in New York City in 1958. Much of his work focused on urban issues. In the mid 1960s, he redesigned the landscape surrounding the Jacob Riis Plaza, a complex of 14-story apartment buildings on the Lower East Side of Manhattan. Friedberg's design separated the open spaces into human-scaled micro-environments using pergolas, terraces and mounds to define the spaces. He also devoted time to urban playgrounds, introducing timbers, steel and other robust materials into urban contexts.

Friedberg, Halprin and Sasaki's work extended the range of landscape architects beyond gardens and parks to urban areas. They also proposed a unity between architecture and its surroundings that landscape designers had not fully considered in earlier times. On the East Coast, Scottish-born, Harvard educated landscape architect Ian McHarg gave a new emphasis to the relatively new concept of "ecological systems" in his work. Working on master-plans in his native Scotland and consulting on new resort developments along the East

Coast of the U.S. McHarg emphasized the need to work with existing forms and to enlist natural systems in new developments. He explored these ideas in his plans for Amelia Island, South Carolina and Sanibel Islands in Florida. A celebration in part of the park-like designs of early English landscapers, McHarg's synthesized his work in his widely influential *Design with Nature* of 1969. Teaching at the University of Pennsylvania, McHarg's influence would extend throughout the country as more suburbs were developed in the late 1960s and 1970s.

The relationship between architects and landscape architects began to change as a result of these developments. Once delegated to the design of parks and public spaces, landscape architects in the 1960s and 1970s began to assume stronger roles in the overall planning and layout of new suburbs. They also were increasingly involved in the design and redesign of urban places, moving beyond trees and shrubs toward paving, benches and sculpture and the configuration of plazas and streets. Some landscape architects, nonetheless, continued to play a subservient role to architects, essentially "decorating" buildings with plants and other "natural" features. In fact, this aspect of the field remained the "bread and butter" of most landscape practices.

Interestingly, a number of offspring of famous architects became landscape architects. Frank Lloyd Wright, Jr., known professionally as Lloyd Wright, became a professional landscape architect of note in the Los Angeles area. He provided garden designs for some of his father's houses there and also completed independent projects, notably the Wayfarers' Chapel in Palos Verdes of 1951 and the overall design for the John P. Bowler House, also in Palos Verdes, completed in 1963. His firm also worked on suburban plans and shopping centers. The most famous of these was the Springdale Shopping Center in Huntington Beach, south of Long Beach, begun in 1970.

Another well known son of a famous architect was Edward Durell Stone, Jr. Stone studied landscape architecture at Harvard and following graduation began to collaborate closely with his father. Much of his eventual firm's early work was in Florida, but eventually EDSA (Edward Durell Stone Jr. and Associates) became one of the world's largest landscape architecture firms. The firm's work had a great impact in the 1960s on the design of planned communities, including the new retirement communities then emerging in Florida and other warm-weather states. The firm also worked extensively on tourism projects in the Caribbean and Europe.

Some of the greatest impacts on landscape architecture during the 1950s and 1960s came from abroad. Latin Americans Luis Barragan and Roberto Burle Marx gained almost legendary status among American landscape architects for their innovative read on modernism and the new energy they infused into the discipline. Barragan, a native of Mexico, was a self-taught designer. His projects for the Convento de las Capuchinas Sacramentarias in Tlalpan in Mexico City (1955) and his designs for the Jardines del Bosque in Guadalajara (1956) introduced European modernism to Mexico. Influenced originally by Le Corbusier and the Cubist Movement, Barragan turned toward greater expressionism in his later work. In the 1960s, he did the master-plans for the residential area of Lomas Verdes and the San Cristobal Estates, both of which infused modernism with longstanding Spanish and Mexican traditions. Barragan preferred simple and rustic materials, introducing wood where possible to create a natural look.

Roberto Burle Marx did many of the same kinds of things in an urban context. Working in both Sao Paulo and Rio de Janeiro, Marx explored modernism in his many designs for urban parks

and private gardens. Coming to the attention of American landscape architects in the late 1930s as a result of his collaboration with Brazilian architect Oscar Niemayer for the Brazilian Pavilion at the 1939 New York World's Fair, Marx went on to design the landscapes for the new Brazilian capital Brasilia in the 1950s. Marx employed a great deal of color in his work, traveling to the jungle to collect new kinds of plants and creating a nursery on his own estate. He excelled at the introduction of traditional plant materials employed in novel ways. He often combined varieties of the same species and emphasized an unusual sense of layering in his designs.

Marx especially promoted different kinds of gardens, such as rock gardens, and also extolled unusual arrangements of exotic plants. Among his most famous projects was the design of the Copacabana Promenade (begun in 1958), the swirling pavement of which derived from traditional Portuguese paving plans, and his modernistic urban garden Ibirapuera Park in Sao Paulo (1956). Marx demonstrated how hard surfaces and plant materials could work together to achieve startling results — a lesson landscape architects in the U.S. appreciated and would apply in their own work by the late 1960s.

4.5.5 American Landscapes in the Postwar Era

The new work of modernists had impacts on many aspects of landscape design. The 1950s were the heyday of public parks and many were built in the new suburbs for the new generation of baby-boomers. Ball parks, swings, seesaws and “jungle gyms” replaced the manicured lawns and carefully tended groves of prewar years. As landscape historian Galen Cranz explains, green space was of secondary importance. Maintenance costs also became a growing concern. Cities no longer had the budgets to take care of large “naturalistic” parks. Peoples’ preferences had changed as well, towards more active forms of recreation. In New York City, commissioner and planner Robert Moses oversaw the installation of scores of new baseball and softball diamonds, tennis courts, basketball courts and Olympic size swimming pools, all placed in spaces once designed for casual strollers and mothers with prams. Central Park and Prospect Park among others changed entirely, losing many of the features for which they had been famous.

New trends affected other outdoor spaces as well. The National Park Service, facing a new onslaught of vacationers, expanded facilities greatly. The Mission 66 program, begun in the late 1950s to prepare for the 50th anniversary of the park system, resulted in hundreds of new parking lots, interpretive facilities, camp grounds and lodges for the new generation of family tourists. Trails, open spaces and housing all faced new challenges as America discovered the “great outdoors.” In many states, a state park system attempted to answer the needs of residents unable to make the journey to Yosemite or other of the great national parks. Typically constrained by limited budgets, the state park systems did what they could to match the federal programs, but typically fell short in their actualization.

Maintenance typically was the first victim of the postwar period. With rising labor costs, managers of urban parks sought ways to cut down on costs. More open space was one common solution. The elimination of high-maintenance gardens was another. Most public parks, as a result, evolved toward open spaces, sprinkled with a few mature trees. Paved pathways and playgrounds also made maintenance easier.

The same kinds of economies factored into other kinds of open spaces. Meridians and verges of highways generally became open turf, designed for periodic mowing. A similar development took place in cemeteries, where surface-level markers replaced rows or other groupings of monuments. (This was not true among the first of the postwar military cemeteries in both the U.S and Europe, which adhered to standards set in the Civil War, but became more common even in the military context after 1950). Only at golf courses did maintenance standards increase. Innovations by Robert Trent Jones, Jr. and other designers in the postwar years meant more complex courses, with artificial berms, sand-traps and water features proliferating on the many new private and public courses of the post war era. The Peachtree Golf Club course, which opened in Atlanta in 1947 — designed by Robert Trent Jones, Jr. and legendary golfer Booby Jones — marked a new era in golf course design due to its more challenging character.

Golf courses became a key feature of the American landscape experience in the 1950s and 1960s. Following relatively standard patterns in order to meet the “par” requirements of the American Golf Federation and international standards, golf courses evolved into fairly predictable assemblages of fairways, greens and hazards. Many cities opened public courses; although the great growth in the postwar years was of private and club courses. Golf became a defining aspect of corporate culture, one that found ready acceptance in other countries as well. Japan, one of the U.S.’s most important partners in the 1950s and 1960s, developed a mania for golf. Between 1960 and 1964, the number of Japanese golf courses increased from 195 to 424. American numbers were comparable. From only a handful of courses in the 1920s, and a few thousand in the postwar period, there were over 10,000 courses in the U.S. by the 1970s (There are presently 18,514 golf courses). Many of these were basic city links, with flat fairways and indifferent greens. Others, however, drew upon centuries of landscape ideals, incorporating vistas, stands of wild forests and tranquil glades set in stunning environments.

Developments in parks, cemeteries and golf courses had their equivalents in private estates and in the lawns of more modest family homes. The private garden in American parlance became the “yard” and was a key element in the new design trends in postwar American suburbs. While in the 1920s, Renaissance ideals of borders, hedges, benches and walkways had a place in the design of small landscapes, but by the 1950s these kinds of formal features became less popular. The typical suburban house of midcentury featured an open turf lawn with less defined edges and a few strategically placed trees and shrubs. The American lawn tended toward increasing informality. Pathways by the 1960s were generally meandering or curved; ornamental plantings bunched up against foundations, often defined by curvilinear planting borders. Japanese and Chinese elements also crept into the family yard. The well-maintained front lawn became an axiom of suburban life, reinforcing the conformity of the postwar era.

Modernist landscape architects began to challenge this model by the mid 1960s. The introduction of exotic grasses was a part of the new sensibility, as were stands of bamboo, “koi ponds” and stepping stones. Thomas Church’s prescriptions of the 1950s for more abstract gardens, with variable vistas, separations of spaces and startling juxtapositions of elements began to become more common among middle class gardeners. Mexican designer Luis Barragón’s call for rusticity and natural materials found its equivalent in the ubiquitous

railroad tie retaining walls and planting beds of many modest houses. By the end of the 1960s, American gardens had become far more individualistic, exploring desert landscapes, Spanish colonial roots and the open prairie landscapes long ago celebrated by Jens Jensen and other champions of naturalistic gardens.

4.5.6 Landscape Architecture in Hawaii

Landscapes and landscape design in Hawaii tended to follow these national trends. The few city, county and state parks of the Territory of Hawaii followed relatively conventional planting schemes, intertwining natural features and more formal plantings. Public parks, such as Kapiolani Park in Waikiki, moved away from more formal, late Victorian features, such as fountains and well defined planting beds toward more open areas of lawn and scattered trees. Private estates during this period eschewed formal planting beds for more informal arrangements of turf lawns, hedges and shade trees but conservative suburban house owners tended to retain the older stone walls defining property boundaries and continued to employ private, mock orange and croton hedges much as they had half a century before.

The husband and wife team of Catherine (Jones) Thompson and Robert Oliver Thompson became among the most prolific landscape architects in the late 1920s and 1930s. Large specimen trees, open spaces, and the use of indigenous plants were the chief hallmarks of their work during this period. Among their most notable interwar projects were the grounds for the C. Brewer Company's new headquarters on Fort Street, Thomas Square, the Honolulu Academy of Arts, Washington Place, Irwin Park, Ala Moana Park and the grounds of the Honolulu Water Supply Pumping Stations in Makiki. They also provided professional guidance to Doris Duke in her designs for Persian gardens at her 1930s home in Diamond Head.

Another significant landscape architect of this period was Richard Tongg. Of Chinese descent, Tongg graduated with a degree in horticulture from the University of Hawaii. He also received a master's degree in landscape architecture from the University of California at Berkeley. Returning to the Territory of Hawaii in 1928, Tongg opened a plant nursery and began his own design practice. In 1935, as the Landscape Architect for the Territory of Hawaii, Tongg worked extensively on highway beautification. He also designed Hawaii exhibits at trade fairs and expositions on the mainland. Tongg began to incorporate naturalistic features into his garden designs that were influenced by Chinese and Japanese garden ideals, including unusual stones, winding pathways and pea-stone beds. Among his legacies from this period included the palm tree dominated landscape of the Alexander and Baldwin Building on Bishop Street and the grounds of Honolulu Hale, Honolulu's city hall. Other commissions included work on the Doris Duke estate of Shangri-La, the grounds of the Halekulani Hotel and the Gloria Baker house.

New Mexico native Harry Sims Bent also made significant contributions to the Territory's landscapes. He came to Hawaii from California to work on the Honolulu Academy of Art and completed the work after architect Bertrand Goodhue's death in 1924. Shortly afterward, he became the designer for the C. Brewer Building, working closely with Catherine Thompson on the complex's extensive gardens. The architect to the Honolulu Parks Board in the late 1930s, Sims was responsible for many of the department's designs from county parks through schools and governmental buildings. Bent was responsible for many of the Territory's park

structures as well, most famously the Art Deco-Modernistic bridges and gateway for Ala Moana Park and the Mother Waldren Playground of 1937. A similar modernism, blended with a respect for regional tradition, entered into his private commissions including his design for the Pineapple Research Institute at the University of Hawaii, beginning in 1931.

World War II marked a significant break in Hawaii's landscape design. Harry Bent returned to California, working from his home and office in Pasadena. There he designed Hancock Park and the Los Angeles County Arboretum and completed numerous commissions for private homes. Other landscape architects continued to thrive in Hawaii. Richard Tongg expanded his practice, designing the grounds for the Henry Kaiser Estate, the expanded Honolulu Airport and several hotel projects, including the grounds of the Maui Hyatt Hotel. His work reached maturity in the 1950s; his projects are characterized by lush, colorful groupings of plant materials, the lavish use of tree ferns and further emphasis on Asian motifs and compositions. With Lorraine Kuck, he authored two books on landscape design, *The Tropical Garden* and *The Modern Tropical Garden*, published in 1955 and 1960 respectively.

The Thompsons continued their work during this period. Their work included the gardens for the Vladimir Ossipoff-designed Liljestrand House on Round Top, above Honolulu, in 1953; the Theodore Cooke Estate in Makiki Heights, also completed in the mid-1950s; the extensive grounds of Tripler Army Medical Center, beginning in the late 1940s; and the master-plan for Punchbowl National Cemetery, also known as the National Memorial Cemetery of the Pacific, begun in 1948. The Thompsons mixed traditional Hawaiian plants, formal stands of shade trees and newer modernist elements to create dignified and substantial gardens that many now see as the "classic" Hawaiian garden design. The American Society of Landscape Architects (ASLA) recognized their work as did several nationally distributed home and garden magazines, including *House Beautiful*, which featured the husband-wife team in its "Pace-Setter House" series in 1958.

Several other landscape architects made significant marks in the postwar period. Local boy George Walters returned to Hawaii in 1958 following a stint in the army and several years experience in the San Francisco Bay area. Educated at Roosevelt High School and at Berkeley, where he earned both architecture and landscape architecture degrees, George opened the office of G.S. Walters and Associates, recruiting his wife, a cellist with the Honolulu Symphony, as a collaborator. Walters's work followed the new vocabulary of the "California Style," relying on clean architectural forms and distinctive "hardscape" features. A staunch defender of coconut palms at a time when many in the profession favored more recently introduced Manila palms (*Veitchia merrillii*), Walters utilized modular forms and introduced Asian themes into his work. Among his most notable projects were the roof garden for the Topa Financial Center of 1971, Queen Emma Gardens, Victoria ward Offices, the Kona Airport, A'ala park, the Blaisdell Center, the Princess Ruth Keelikolani State Office Building on Punchbowl Street and the McCarthy Mall at the University of Hawaii.

Washington State native James Hubbard began his career in Hawaii in 1960 as an employee of the University of Hawaii. Trained in "Home Economy" at the University of Washington — a precursor to the university's landscape architecture program — he began a private practice in 1968. His work relied on the use of plant materials to define spaces and employment of earth contouring and solid structures to create separate spaces. Among his better known projects

were designs for the grounds of the Bishop Museum, Foster Botanical Gardens and work for the Hawaii Botanical Gardens System. He also completed the landscape design for Queen Emma's Summer Palace, Tamarind Square in downtown Honolulu, the Contemporary Museum Gardens and the Banyon Court apartments, in addition to many private gardens. His knowledge of horticulture was evident through his joint authorship, with Horace F. Clay and Rock Golt, of the classic reference volumes *The Hawaiian Garden: Tropical Shrubs* and *The Hawaiian Garden: Tropical Exotics*, published in 1977 and 1987.

Landscape architect Paul Weissich was also a West Coast transplant to Hawaii. Trained at U.C. Berkeley, he worked in private practice for seven years until 1957 when he became Head of Planning and Construction for the City and County of Honolulu. Working very much in the public arena, he headed the Beautification Division for the city, devoting his energies to the care and planting of street trees. Weissich introduced new efficiencies in maintenance, began a detailed inventory of trees and organized the Street Tree Council. He also designed and supervised many city projects, including the installation of the outdoor seating area at the Waikiki Shell. He began the City and County Division of Botanical Gardens, working to help expand and protect the Foster Botanical Gardens and to bring the Waiawa Gardens into the county system. Koko Crater became part of the system as a result of his efforts.

Like Hubbard, Weissich became an author. Working closely with the venerable Outdoor Circle, he co-authored *Plants for Tropical Landscapes: A Gardeners Guide*, written with Fred Rauch and published in 2000.

Landscape architecture's modernist legacy is still visible in Hawaii. As in other parts of the country, gardeners and designers in Hawaii leaned toward increasingly informal gardens, abandoning the more maintenance ridden formal features of earlier times. In the public sector, more hardscape features, including concrete planters, paved walkways and usable space, became more common. Parks also shifted from sylvan oases to more active centers for recreation. The great difference, of course, was the use of tropical plants and the continued exploration of new plant materials. Asian influences, certainly part of landscapes elsewhere, had a special meaning in Hawaii, with the territory and then the state's high numbers of Asian people. Japanese and Chinese gardens became a part of landscape practice in Hawaii, from the Chinese Garden at the Honolulu Academy of Arts through the elaborate "Oriental" retreats of Richard Tongg at the Honolulu Airport to the Japanese Tea garden at the East West Center on the edge of the University of Hawaii campus, designed by Tokyo-based landscape architect Kenzo Ogata in 1963.

4.5.7 Public Parks

In response to the apparent indifference and/or political expediency with which the city's parks were largely treated, a group of citizens headed by Lester McCoy succeeded in having the 1931 Territorial Legislature form a Park Board to guide the City and County of Honolulu's park affairs. At first the Board served solely in an advisory capacity, but the members realized that unless they controlled park finances they were powerless to carry out their envisioned programs. In 1935 the Territorial Legislature redefined the Park Board to make it practically an independent entity with complete control of all park matters, including finances.

Public parks suffered heavily during World War II because after the bombing of Pearl Harbor the United States Army took over almost all of the parks on Oahu. Thomas Square and Booth Park became camp sites; Kapiolani Park was used as a base yard; Kaaawa Beach Park was transformed into a jungle training headquarters; and Waimanalo was devoted to amphibious training. As late as 1947, the head of the City and County's Board of Public Parks and Recreation noted their parks still suffered from "the profound displacement of war" (Annual Report, 1947, page 5). He noted that while it was feasible to paint out camouflage, remove barbed wire and bomb shelters, the recovery of living plants neglected for half a decade was a more difficult proposition.

As with public works and tourism, the Parks and Recreation Board found 1946, the first full year of peace, to be a "period of frustration and postponement" (*Ibid.* page 5). While plans for improvements were made, they went unimplemented as manpower remained scarce and much needed equipment and materials could not be obtained. As late as 1947, 85 of the Board's 338 pre-war positions remained vacant. At the time the department administered 101 properties encompassing over 2,000 acres. This included twenty five beach parks, thirty eight playgrounds, Foster Botanical Garden, and seventeen strips and triangles. The largest park in the system, Koko Head Park encompassed 1,284.82 acres and included Koko Head, Koko Crater, and the Blowhole, all of which were undeveloped, although the latter was "visited by all tourists" (*Ibid.*, page 22). Hanauma Bay, which had already established itself as one of the most popular beach parks, became more so during the war as it was one of the few beaches unfettered by barbed wire. The Board hoped to make Koko Head Park even larger by acquiring Kuapa lagoon and its surrounding area (Annual Report, 1947, page 23); however, this vision went unfulfilled and instead Henry Kaiser developed Hawaii Kai on these lands during the 1960s.

4.5.8 Beach Parks

In 1947 Koko Head Park did gain an additional 14.5 acres, as the 1946 tsunami wiped out the coastal highway past Blowhole. When the highway was relocated further inland the lands between the roadway and the ocean were turned over to the Parks Department to expand Koko Head Beach Park, which was also called Blowhole Beach and is now known as Sandy Beach. A part of the former highway was used for beach goers' parking. Other significant acquisitions made by the department included Liliuokalani Gardens with its Waikahalulu Falls, which was a gift from the Liliuokalani Trust, and Nanakuli Beach Park, which sat on former Hawaiian Homelands. The latter area had been taken over by the Army and developed during World War II as a recreation center, which the Army then turned over to the City and County in 1947. The Board of Public Parks and Recreation recognized the value and scarcity of ocean front property, and over the period 1947-1959 the number of beach parks and ocean areas under the Board's control doubled.

4.5.9 Zoo

The years immediately following the conclusion of World War II brought added responsibilities to the Park Board. A gift of animals to the city including an elephant, a Bactrian camel, a pair of chimpanzees, two monkeys, and a pair of axis deer led to the formation of the present Honolulu Zoo, which was made a separate division under the Public Parks and Recreation

Board. Fifty acres of Kapiolani Park on the Ewa side of Monsarrat Avenue were set aside for the zoo, which incorporated the former bird park. The Recreation Commission, which had been formed in 1922 to oversee playgrounds and public recreational activities, was merged with the Parks Board in 1946.

4.5.10 Recreation and Playgrounds

The merging of the parks and playgrounds programs reflected the newly emerging view of a more activity-oriented park functions. As a result, the primary emphasis of the Public Parks and Recreation Board in the late 1940s was on the development of recreational facilities and programs and the acquisition of lands for recreational use. The new orientation led to increased coordination between the Board of Public Parks and Recreation and the Department of Education, which eventually led to new parks with athletic fields being developed in conjunction with new schools, such as in Manoa (1959) and Palolo (1959). In the case of Pearl City (1958), it is constructed next to existing schools, allowing the spaces to serve the dual purposes of school and public park facilities.

Thanks to bond issues authorized by the 1947 and subsequent Territorial Legislatures, a carefully planned program of park development and construction was set in motion during the late 1940s. A number of improvements were made to various park properties including the construction of new pavilions at Hauula Beach Park (A. W. Heen, 1947) (no longer extant), Kunawai Playground (Ray Morris, 1948), Fern Playground (Richard Dennis, 1948) (Photo 4-105), and Kalihi-Kai Playground (1948). The new pavilions were “functional and modern in design” (*Our Parks*, 1949, page 24), with the last two replacing outmoded bandstands that were icons of the earlier, less athletically oriented function of public parks. Gyms were constructed at Kaimuki Playground (A. W. Hen, 1948) and Kalakaua Playground (A. W. Heen, 1949), and a swimming pool was opened at Wahiawa (1949). A new athletic park, Ka Pa o Lono (1949) (Photo 4-106), was constructed in Kaimuki between 11th and 12th Avenues and Kilauea and Maunaloa Avenues. Its lava rock retaining walls made from stone taken from the site, were “considered the most massive piece of masonry ever constructed in these islands” (*Our Parks*, page 22).



4-105
Fern Playground, no longer extant
Richard Dennis, 1948, Fort Shafter
(City and County of Honolulu, Public Works
Report)



4-106
Ka Pa o Lono Park
1949, between 11th and 12th Avenues and
Kilauea and Maunaloa Avenues
(2011)

4.5.11 Beautification & Memorials

At Haleiwa Beach Park the Lions Club erected as a war memorial a small tower with a red light to guide fisherman (Photo 4-107), continuing the tradition of the War Memorial Natatorium to erect living memorials to Hawaii's war dead. Beautification of more traditional parks received attention by the Parks Board, but these activities were often of lower priority. Projects included the restoration of Thomas Square's fountain and the installation of a sprinkler system in Kapiolani Park (1948), the largest urban park on Oahu, which had always been hampered by a lack of water. This improvement resulted in verdant expanses of lawn, as the Park Board in 1946 regained control of the part of the park occupied by the Polo and Racing Association. At this time the rainbow shower trees were planted in the park. Several years later the Waikiki Shell (Law & Wilson, 1956) was constructed in the park.



4-107
War memorial at Haleiwa Beach Park
64-449 Kamehameha Hwy
(2011)

4.5.12 Golf Courses

In further keeping with activity-oriented parks and recreation, the Pali Golf Course, designed by Willard G. Wilkinson, opened in 1953 joining the Territory's Ala Wai golf course as Oahu's second public golf course. The property for the golf course was donated by Kaneohe Ranch in keeping with their vision of green open space welcoming drivers on the Pali Highway to the windward side.

4.5.13 Expansion

Despite the increase in facilities during the 1950s, the substantial growth of residential subdivisions, resulted in the Board of Public Parks and Recreation being woefully unable to address the rising recreational needs of the expanding and spreading population. The Board's annual report for 1957 noted:

New subdivisions are spreading at a tremendous rate. The City Planning Commission requires that they show playground areas proportionate to the number of lots, and people buy into the area thinking this is a settled matter.

More often than not, in recent years, these playgrounds are merely proposed and the city lacks the funds to acquire the land. This in spite of the increased taxes which such a city growth might be expected to bring in. . . .

Once the chance to acquire the vacant land is lost there is little likelihood of the property being obtained later, since the tremendous increase in price that results from development is prohibitive. The city is thus falling behind an acceptable standard in the relationship of playground area to density and spread of population (pages 1-2).

In 1957, the Board initiated a study to investigate how to remedy this problem. Two approaches were considered: 1) developing an acceptable way for the city to finance the acquisition of the designated playground lots, and 2) requiring sub dividers to dedicate a playground area.

4.5.14 Street Trees

In 1959, another new program was instituted when plans were developed for a full-length street tree program, thanks to the efforts of the Hawaii Shade Tree Council. With an eye on using groups of rare trees rather than a few well established varieties, the firm of Harland Bartholomew & Associates undertook an inventory of existing street trees in the city, which in graphic and dramatic fashion depicted “the deficiencies and assets of the present street tree situation” (Annual Report, 1960, page 3).

4.5.15 Parks Department

The City and County of Honolulu adopted a new charter, which went into effect on July 1, 1959. One of the provisions of the new charter was the reorganization of the parks organization into a city department under the mayor, with the Board of Public Parks and Recreation relegated into an advisory, rather than an autonomous administrative body. At the time of the transfer the Board of Public Parks and Recreation administered 2,597 acres, which included over 1,300 acres in the spreading Koko Head Natural Park. The Board operated 51 shoreline areas and beaches, 57 playgrounds and fields, 16 green parks and squares, and 20 traffic circles and triangles. In addition to Koko Head, two other natural parks were under their control: Liliuokalani Gardens and Kalihi Uka along the Kalihi Tunnel approach road. The Honolulu Zoo and Foster Botanical Gardens with its three subsidiary areas, Lyon Botanical Garden at Koko Head (1957), Wahiawa Botanical Garden (former HSPA forest tree experimental area-turned over in early 1950s), and the Kapiolani Park Hibiscus Garden, were designated as special parks (Annual Report, 1959, page 1-3). The Pali Golf Course and nine-hole Kahuku Golf Course, with fees of seventy five and fifty cents, were under their control, as was the golf driving range in Kapiolani Park.

The new Parks Department got off to an energetic start and in its first full year of existence implemented an accelerated program of acquisition and development that expended over four million dollars, which represented a dollar amount six times greater than any previous year. In large part this spending was the result of the city instituting a new policy of lapse in any unencumbered moneys at the end of the fiscal year, resulting in earlier projects which were slow in starting being quickly pushed forward, along with the newly budgeted projects. One of the department’s major acquisitions was the 146 acre Ala Wai Golf Course, which the 1959 Legislature transferred to the City Parks Department. Although not the best maintained course in the islands, it was the most used. Other new properties included Makaha Beach, the lands

adjoining Wright Field in Wahiawa, and the 8.5 acre recreational field, tennis courts, and gym in Waialua, which was obtained from the plantation. Major development projects included the fields at Manoa, Palolo, and Waipahu, and such playgrounds as those at Kalaheo and Aina Koa. Ala Moana Park obtained two new bathhouses while new bathhouses were also built for Waikiki and Makaha beaches.

The administration of the four Botanical Gardens was placed in a separate division (1961) under Paul Weissich, a graduate in landscape architecture from USC who worked in the private sector before joining the County parks program in 1953. The division was also charged with the new street tree planting program, which began planting trees in 1962 in Moanalua subdivision, Kapunahala, Moiliili and Waipahu. In the following year projects were undertaken for the Kalakaua-Ala Moana and Piikoi parkways, the Kapalama Canal, Ala Wai Boulevard (1965), Keapuka-Alii Shores, and Aiea Heights. In 1968 the street tree program resulted in over 5,000 street trees planted in Mililani.

During the ensuing years, park and playground acquisition and development continued at such a pace that Nobriga characterized the first five years following the 1959 reorganization as “a period of explosive growth” (Annual Report, 1963-64, page 1). The Capital Improvement Project (CIP) budgets exceeded four million dollars every year, allowing the construction of comfort stations and other facilities at a multiplicity of parks, including beach parks such as Waimanalo (1964), Mokuleia (1964), Pokai Bay (1964), Hanauma Bay (1965), Kahana Bay (Robert Law, 1965), Maili (1965), Waialae Beach Park (1965), Kualoa (1966), Sandy Beach (1967), Waimea Bay (1967), and five Leeward beaches (1967).

Coastal acquisitions continued to be a priority with the purchase of beaches at Kualoa, Waimea, and Mauna Lahilahi Beach Park at Makaha. Numerous other park and playground development projects were undertaken, for as the Department of Parks and Recreation Director Theodore Nobriga noted, “With the city’s continuing growth and spread of population, the pace of providing adequate areas for play, rest and beauty cannot diminish” (Annual Report, 1963-64, cover letter).

New playgrounds included: Aliamanu (1964), Lehua Field at Pearl City Highlands (1965), Kapunahala (Brady, Wong & Lee, 1964), Aikahi (1965), Keolu Hills (1965), Enchanted Lakes (1965), Hauula (1965), Maili (1965), Iliahi Elementary School in Wahiawa (1965), Waialae-Iki (1964), and Wilson playground (1964). New school-park joint ventures were undertaken at Keana-Pikoiloa (1967) and Pacific Palisades (1967). Gym and swimming pool complexes were built in Aiea (1967), Waialua (1967), and Manoa (1968).

In May 1963 a new entrance to the zoo, designed by Alfred Preis, was completed (Photo 4-108). “This attractive structure” replaced a temporary wooden building that had been in use since 1949 (Annual Report 1961-1962, page 8). “The new building has a Hawaiian style roof and is to be made of materials designed to blend into the setting provided by three huge spreading banyan trees at the front area of the zoo” (*Ibid.*, page 9). Two years later the zoo received a new restroom (1965) designed in a modern Hawaiian style.

4.5.16 City and County Parks and Recreation Buildings

During the post-World War II period, the City and County of Honolulu erected buildings ranging in size from gymnasiums to comfort stations, in its parks and playgrounds. Comfort stations, although the most modest of the buildings, often transcended the ordinary and reflected their Hawaii situation. These structures were very open, with the roof usually elevated above the walls, thus providing a well ventilated, yet private space. The men's and women's rooms were situated on the ends with a storage area in between for the convenience of parks maintenance crews. The men's and women's rooms had no doors, but assured privacy through the use of an L shaped entry hall.



4-108
Waikiki Zoo Entrance
Alfred Preis, 1963, 151 Kapahulu Ave.
(2006)

The design of these pavilions, recreation centers, and comfort stations were sometimes undertaken in house, but many were contracted out to various Honolulu architects, and were rendered with flair in several styles. Many were simply utilitarian, hollow tile structures with gable roofs. Others were distinctly modern in character, while some assumed the more romantic, rustic appearance traditionally associated with parks buildings throughout the United States thanks to the design policies set forth by the National Park Service during the 1920s. Lava rock was principally used to convey a rustic sensibility and Robert Law's comfort station nestled under a kamani tree at Kahana Bay (1964) (Photo 4-109) is one of the finest examples of the genre with its heavy timbers and wood slats. Other examples include the Richard Dennis designed comfort station at Makapuu (1951), Nuuanu Valley (1961) by Rothwell (Photo 4-110), Lester & Phillips, Frank Slavsky's pavilion and crafts building at Waimanalo Beach Park (1959-1960), Liliuokalani Gardens (1963) by Harry Seckel (Photo 4-111), Ed Sullam's Kaneohe Community Park (1966), the pavilion at Kamamalu Neighborhood Park by Wilson Associates with Shizuo Oka as architect, the pavilion at Puuloa Neighborhood Park designed by Naoto Inada of Park Associates, the pavilion at Ala Wai Park (1960) designed by Tom Litaker and Louis Pursel (Photo 4-112) and the comfort station at Thomas Square (1966) designed by Tom Wells (Photo 4-113), whose deep set window openings are a rare comfort station feature, predicated by its flat roof not being elevated above the walls. The restroom and office at Kahaluu Community Park (1967) designed by Kotaro Koizumi (Photo 4-114), features lava rock walls, while following a simple gable roof design. The restroom designed in-house by James Sato for Kualoa Beach Park (1973) (Photo 4-115) utilizes lava rock corners as accents and emits a very modern sensibility with its umbrella-like



4-109
Kahana Bay Comfort Station
Robert Law, 1965, Kahana Valley Road
(2011)



4-110
Nuuanu Valley Comfort Station
Rothwell, Lester & Phillips, 1961, Pali Hwy.
(2011)



4-111
Liliuokalani Gardens Comfort Station
Harry Seckel, 1963, 1632 Waikahalulu Lane
(2011)



4-112
Pavilion at Ala Wai Park
Tom Litaker and Louis Pursel, 1960, Honolulu
(2011)



4-113
Thomas Square Comfort Station
Tom Wells, 1966, 925 S. Beretania St.
(2011)

hipped roof. Several park comfort stations used split face CMU in an effort to achieve a degree of natural texture, as may be seen in the comfort stations at Pokai Bay Beach Park (1960) designed by Arthur Gallion of Harland Bartholomew, and those at Pacific Palisades (1967) by Ray Akagi and Walter Tagawa. The bathhouse at Waimea Bay (1968) designed by John McAuliffe, and Mililani Waena Neighborhood Park's comfort station (1970) designed by Ed Sullam, are other good examples.

Several park buildings employed a Hawaiian style as signified by a broad double pitched hipped roof. These include the pavilion at Kapaolono Park (1948, no longer extant) by Ives & Hogan, the comfort station at Kunewai Neighborhood Park



4-114
Kahaluu Community Park Restroom and Office
Kotaro Koizumi, 1967, 47-260 Waihee Rd.
(2011)

(1948), the field house at Kamehameha Park (1949), and the pavilion at Waianae's Herbert K. Pililaa Park (1955), all designed by Ray Morris.

The earliest known structures constructed by the Parks Board following World War II were proudly described by the Board as "functional and modern in design" (*Our Parks*, 1949, page 24), thus placing the acceptance of modern design almost a decade before the National Park Service's "Mission 66" program. The use of the modern style extended to a number of parks buildings constructed during the 1950s and 1960s, as can be observed in such structures as the pavilions at Fern Playground (1948) designed by Richard Dennis and at Swanzy Beach Park (1959) designed by Hogan & Chapman (Photo 4-116), Palolo Valley District Park (1960) designed by Bradley, Lee and Wong and Momilani Recreation center and Kanewai Recreation center designed by Ernest Hara. Modern comfort stations may be found at Iliahi Neighborhood Park (1965) and Punaluu Beach Park (1968) (Photo 4-117), both designed by Richard Iwanaga, and at Puunui (1949) by Fisk, Johnson & Perkins, Ossipoff and Preis. The only park structure to win a Hawaii AIA design award was the pavilion at Dole Playground (1962) (Photo 4-118 and 119), by Lemmon, Freeth, Haines & Jones. This firm also designed the pavilion at Kailua District Park (1960) and the gym and pool at Aiea District Park (1967).

City and County Parks and Recreation structures which should be considered to possess high preservation value include those which display the architectural qualities mentioned above. Utilitarian comfort stations which are of a larger scale or an early example of the gable roofed, hollow tile form, or are situated in a significant park landscape should also be considered to have high preservation value.



4-115
Kualoa Beach Park Restroom
James Sato, 1973, 49-479 Kamehameha Hwy.
(2011)



4-116
Swanzy Beach Park Comfort Station
Hogan & Chapman, 1960, Kaaawa
(2011)



4-117
Punaluu Beach Park Comfort Station
Richard Iwanaga, 1968, 3059 Ualena St.
(2011)



4-118 and 119
Dole Playground
Lemmon, Freeth, Haines & Jones, 1962,
Queen Emma St.
(2011)

4.6 Influential Architects/Designers

This is not a comprehensive list of architects, engineers, landscape architects, artists, and designers active in Hawaii during the period 1939-1979. Instead, it is a compilation of biographical information which could be readily gathered in light of the total scope of this project and its time constraints. The absence of any designers' names beyond the 54 listed is not an indication that the person was not a prominent designer, but rather that information was not readily obtainable. For firms that had a number of prominent members, only the head of the firm is listed.

Ray Akagi was born in Honolulu. During the 1930s he worked as a draftsman in the offices of Fred Fujioka, C.W. Dickey, Hart Wood, and Guy Rothwell. Upon obtaining his architectural license in 1947, he opened his own office, which he operated until 1971. He designed the Buck Toy Society Hall (Photo 4-120) on Vineyard Avenue, Niu Valley Elementary School, and a number of churches for the Roman Catholic Church, including Holy Family on Hickam Air Force Base, St. Peter and Paul in Honolulu, and St. Anthony's in Kailua.



Anbe, Aruga, Ishizu, and Tsutsui: Takashi Anbe was born in Wailuku and received a degree in architectural engineering from Washington State University. Following World War II he joined Wimberly & Cook, and in 1956 opened his own office. In 1961, Mits Aruga, a graduate of Hilo High School and the University of Illinois' school of architecture, joined Anbe's office. Hachiro Ishizu, a graduate of Laupahoehoe High School, who received a B.A. in architecture from Ohio State University and a M.A. from Cornell's school of architecture, joined the firm in 1969 after working several years on the mainland. Aruga, Ishizu, and Tsutsui became partners in 1971. Tsutsui operated the firm's Guam office and when it closed he remained on that island to start his own business. Buildings by the firm follow a clean line modern sensibility, as displayed by the King Center, the HGEA Building, City Bank on Queen Street, the Hilo State Office Building, and later the Astronomy and Plant Science buildings at the University of Hawaii, and the Maui Prince Hotel.

4-120
Buck Toy Society Hall
Ray Akagi, 1956, 572 N. Vineyard Blvd.
(2006)

Ed Aotani studied architecture under Bruce Goff at the University of Oklahoma. Upon graduation Aotani entered the military, and in 1958 opened his own office in Honolulu. In 1967 the partnership of Aotani & Oka was formed. The firm designed the Keahole Airport, a number of condominiums, and the Maui County Courthouse. Aotani & Associates were later involved in such projects as Aloha Tower Market Place and the planning and design of Sand Island Park.

Edwin Bauer was a graduate of the University of Southern California, who came to Hawaii during World War II to work at Pearl Harbor, then stayed after the war. He designed St. Elizabeth's Episcopal Church and Our Redeemer Evangelical Lutheran Church, several Waikiki hotels, including the Breakers and Hawaiiana, the American Security Bank on Liliha

Street, the Continental Building at King and Kalakaua, the Niu Shopping Center, the Waikiki Business Plaza, the Oahuan Apartments, 1001 Wilder, and several buildings at Kaiser's Hawaiian Village. He eventually concentrated his efforts on constructing and managing his own apartments.

Belt Collins was formed by Robert Belt and Walter Collins in December 1952. Collins grew up on Maui and graduated from Yale in 1941 with a degree in architecture, followed by a year of post-graduate study in planning. In 1945, after serving in the Navy and on the staff of the San Francisco Planning Commission, he returned to Hawaii to work for Honolulu's City Planning Commission. A year later he went to Hilo and became the first planning director for the County of Hawaii. In 1947 he joined the Territorial Department of Public Works, where he met Belt, who had held the position of Highway Engineer. In 1950, Collins went to Maui at the invitation of his uncle, Frank Baldwin, to over see Alexander & Baldwin's "Dream City" project. In 1952 he returned to Honolulu to form Belt-Collins with Robert Belt who from 1948-1952 headed the Territorial Department of Public Works. Their partnership was the first in Hawaii to offer architectural, planning and engineering services, as Belt held a civil engineering degree from Oregon State University. The company's first job was the feasibility study for Kaanapali on Maui. They planned a number of Oahu's subdivisions, and also worked on the development of the Mauna Kea Beach hotel on the island of Hawaii. From this project they developed into one of the preeminent resort planning companies in the world.

Warner Boone attended the University of Southern California on a baseball scholarship in the early 1950s, graduating with a degree in architecture. After working for a few years in California, he moved to Hawaii in 1961, joining Clifford Young's office, which at the time was working on the East-West Center with I. M. Pei. He next worked for John Rummel and Associates. Boone met Desmond Brooks in 1972 and they formed a partnership, which lasted until 1979, at which time Boone opened his own office. Boone received numerous commissions from his former employee-turned-real estate developer, Bruce Stark, and this designer-developer team provided Honolulu with an impressive array of flashy and original high-rise designs, including Canterbury Place (Photo 4-121), Waikiki Trade Center (Photo 4-122), Diamond Head Vista Apartments (Photo 4-122), Yacht Harbor Towers, Discovery Bay, Royal Iolani, Admiral Thomas, and Waterfront Towers. In 1992 Boone closed his Honolulu office and relocated to San Diego to work on projects with Stark in that city, in Corpus Christi and in Colorado.



4-121
Canterbury Place
Warner Boone, 1910 Ala Moana Blvd.
(2006)

Don Chapman was born in Honolulu and attended Punahou. He went to architecture school at Tulane University, and worked several years in Louisiana. In 1954 he joined the office of Philip Fisk, and became a partner in 1957. Eight months later Fisk died and Chapman took over the office. In 1966 he went into partnership with George Hogan. Chapman's work includes the Garden Court Office Building, the Hawaiian Telephone Building (Photo 4-124), and Bachelors Mess and Officer Quarters at Pearl Harbor. In 1972, the firm became known as Hogan, Chapman and Cobeen and Associates. The following year they were known as Hogan, Chapman, Cobeen, Weitz and Associates. In 1978 it became Hogan, Chapman, Cobeen, Weitz, Desai Inc., and upon Hogan's retirement it was renamed Chapman, Cobeen, Desai, Sakata, Inc. and presently operates as CDS International.



4-122
Waikiki Trade Center
Warner Boone, 1980, 2270 Kalakaua Ave.
(2006)



4-123
Diamond Head Vista Apartment
Warner Boone, 1975, 2600 Pualani Way
(2006)



4-124
Hawaiian Telephone Building
1968, Don Chapman, 1177 Bishop Street
(2011)

Dahl and Conrad's senior partner, Bjarne Dahl, a graduate in 1918 of the Chicago Technical School, worked for California architect Julia Morgan for five years. He came to Hawaii in 1926 as the supervising architect for her YWCA on Richards Street. Upon completion of the job, Dahl turned down a partnership with Morgan and decided to make Hawaii his home. After working for two years with C. W. Dickey and then for the Territorial Department of Public Works for seven years designing many of the buildings at Kalaupapa, he opened an office in 1935. In 1936 he formed a partnership with Conrad "Connie" Conrad. Conrad, born in Minnesota and graduating in architecture from the University of Southern California, arrived in Hawaii in 1934. On December 31, 1941, following the bombing of Pearl Harbor, the firm dissolved. Dahl joined the U.S. Army Corps of Engineers and returned to California in 1944. Conrad went to work at Security Diamond, which his father had founded in 1937. He operated and expanded this family business, which he sold in 1979. Over the course of their five year partnership, Dahl and Conrad designed almost exclusively in a regional offshoot of Modernism, creating several apartments and residences as well as commercial buildings. Many of these were located in Waikiki and have been demolished in the wake of larger-scale developments.

Richard Dennis was born in Deluth, Minnesota and graduated from the University of Michigan with a BA in architecture. He worked for several architectural firms in Detroit, and came to Hawaii during World War II as an architect on the staff of the Contractor, Pacific Naval Air Bases (CPNAB) Naval Air Station Honolulu. Upon his discharge in 1947 he worked with Vladimir Ossipoff, and in 1948 opened his own office. He was a principal in Design Associates from its founding in 1958 until 1965 when he formed his own office. Dennis established a strong reputation for his residential designs, winning several Hawaii Chapter AIA awards.

Charles William Dickey was born in Oakland, California and raised on Maui. He was the grandson of missionary William Alexander and received his architectural training at the Massachusetts Institute of Technology. Upon graduation in 1894 he worked briefly in California before returning to Hawaii in 1895 to enter into partnership with Clinton Briggs Ripley. With the new century he formed the firm of Dickey & Newcomb, and then in 1904 relocated to California, returning briefly to Hawaii in 1920, and then permanently in 1925. He was a strong proponent of regionalism and during the 1930s designed a number of art deco or modern style buildings including the Hilo Iron Works, Farrington High School, Central Fire Station, and the Kula Sanatorium.

Philip Fisk was born in Rochester, New York and was a graduate of the University of California at Berkeley where he knew Ossipoff, Johnson, and Perkins. He came to the islands in 1936 and from 1941-1943 worked as an engineer for the Pacific Bridge Company at Pearl Harbor. From 1943-1945 he was the chief architect for the Federal Housing Administration in Hawaii, and with the conclusion of World War II opened his own office. In the late 1940s to early 1950s, he worked with the Associated Architects in the design of Moanalua Shopping Center and Leilehua High School. He was also involved with integrating Hawaii's modern regional design vocabulary with Butler buildings.

Robert Fox received a degree in architecture from California Polytechnic State University at San Luis Obispo, where his course of study included one year abroad at Waseda University in Japan. He arrived in Hawaii on a jaunt in 1969, intending to stay only briefly, and, like so many

others, stayed a lifetime. He gained invaluable experience working in the offices of Vladimir Ossipoff and George Wimberly prior to forming Fox Hawaii International in 1974. His projects range from some of the earliest historic preservation efforts in Honolulu's Chinatown to numerous modern style residences to the design of resort hotels in such far flung lands as India and Malaysia. He also handled the design work for the Waimea Plantation Cottages hotel on Kauai.

Juliette May Fraser was born in Honolulu and graduated from Wesley College with a degree in art. This talented painter, muralist and printmaker went on to study with Eugene Speicher and Frank Du Mond at the Art Students League in New York and the John F. Carlson School of Landscape Painting in Woodstock, New York. She returned to Hawaii and in 1934, received a WPA commission to prepare murals for the Hawaii State Library. Her other works can be seen at the Board of Water Supply and Ben Parker School in Kaneohe.

Hego Fuchino was born in Saga-ken, Japan and educated at Saga Technical College. He immigrated to Hawaii in 1907 and ten years later graduated from the College of Hawaii with a degree in engineering. He became an assistant engineer with the Oahu Railway and Land Company and in 1919, he opened his own office. Shortly after the bombing of Pearl Harbor, Fuchino was arrested and sent to an internment camp in Wisconsin where he was held for five years. With his release he returned to Hawaii and reopened his office. Major works prior to the war include the Makiki Christian Church and the Izumo Taishakyo Mission as well as numerous small commercial buildings. In 1947 he entered into partnership with Robert Katsuyoshi, which lasted until Fujino's death. The Soto Zen Mission on Nuuanu and the Waipahu Hongwanji (Photo 4-125) are among his noteworthy post-war designs.

Group 70 was founded in 1971 by Gus Ishihara who, after service in the Korean War, studied at the Illinois Institute of Technology and in graduate school at the University of Pennsylvania. He was joined shortly thereafter by Gordon Tyau in the same year. Gordon studied at the University of California Berkeley. Tyau graduated with honors from college and completed his graduate work at Columbia in planning.

Ishihara worked for the Honolulu office of John Carl Warneke and was encouraged to start his studio-like firm, by Walter Tagawa. He opened his own firm and offered only design, programming and research for the firm of Tagawa, Yamachi Associates. Those selective services were in line with Ishihara's persona. He was a brilliant dreamer and philosopher whose ideas would leave an imprint on the firm for years to come. In a bit of whimsy, the founders liked the number 70



4-125
Waipahu Soto Zen Mission
Robert Makoto Matsushita, 1973,
94-413 Waipahu St.
(2011)

graphically better than 71 even though 1971 was when the firm was founded; thus, the name became Group 70 Lab. But the word "Lab" was dropped after several years of people calling the firm to find out if they did dental or blood work.

Besides Group 70, Ishihara was also teaching at the University of Hawaii School of Architecture. There he met and was impressed with Norman Hong, a student at the University. Hong became an early hire when he joined the firm in 1971.

Francis Oda joined the firm in 1973 as a Senior Partner, President and CEO. He studied at Cornell University and had established his own firm in the Bay Area with Patrick Quinn, then Vice Chair of the UC Berkeley College of Environmental Design. Oda's award-winning work on the mainland brought him to the attention of the University of Hawaii who recruited him to return to Hawaii as the University Architect and to teach at the School of Architecture at Manoa.

Ernest Hideo Hara was a graduate of Punahou High School and the University of Southern California's school of architecture. In the years prior to World War II he worked for Claude Stiehl and then C.W. Dickey. In 1945 he opened his own office. He designed a number of apartments and hotels, including the Queen Kapiolani (1968), Waikiki Grand (1962), Hilo Hawaiian (1976), and the Waikiki Shopping Plaza (1975). He was a founding member of Central Pacific Bank and served on its board from 1954-1980. In 1969 he was the first person of Asian descent appointed to Punahou School's Board of Trustees. He designed a number of buildings for both the bank and the school, and in addition designed many public schools beginning with Stevenson Intermediate (1950).

George Edward Heneghan, Jr. was a native of Missouri, who received his Bachelor of Architecture from Washington University in 1957. He worked in Aspen, Colorado in the office of Fritz Benedict, and then went into partnership with fellow worker Daniel Gale from 1966-1969. Heneghan relocated to Hawaii and established his practice on the island of Hawaii, where he has designed numerous award winning private residences.

George Hogan was born in Honolulu, grew up in Kaimuki, and attended McKinley High School. In 1931 he apprenticed at Honolulu architect Ralph Fishbourne's office, then went on to attend the University of Hawaii before transferring to the University of Washington, where he studied architecture. He returned to Hawaii in 1935 and worked with Herbert Cayton Cohen. In 1937 he went to work for Cain & Awana, with whom he designed several neighborhood movie theaters and the Lum Yip Kee building on Hotel Street. In 1938 he went to work with Albert Ely Ives. He obtained his architect's license in 1940 and left Ives to attend a year of graduate school at Harvard during 1940-41. During World War II he worked for Hawaii Dredging and later for the US. Army Corps of Engineers. In June 1947 he went back to work with Ives, as a partner in the firm Ives & Hogan. The partnership lasted until December 1954. In 1958, Hogan started to share office space with Honolulu born architect, Don Chapman. Each man maintained his own practice but shared drafting and clerical personnel. In 1966 the two architects decided to enter into a partnership, Hogan & Chapman. One of their first projects was the Pan-Am Building at 1600 Kapiolani Boulevard. Hogan retired from architecture in 1979. The firm he and Chapman founded continues in operation today as CDS International. After his retirement from the firm, Hogan operated his own office until late 1986. During his career Hogan designed many custom homes and also the University of Hawaii's Hamilton Library.

Peter Hsi came from Shanghai, China to study architecture at Rensselaer Polytechnic Institute and received a Masters in Architecture from the University of Michigan. He worked for nine years in Detroit prior to moving to Honolulu in 1962 to open his own office, which remains in operation today. Works include the C.Q. Yee Hop Building on King Street, the Gold Bond Building on Ala Moana Boulevard, and numerous apartments including the forty story Franklin Towers in Salt Lake. He pioneered tilt-up building construction in Hawaii with the U. S. Cold Storage plant at Honolulu airport.

Allen Johnson and Thomas Perkins met each other at the University of California at Berkeley's architectural school. Another schoolmate, Vladimir Ossipoff, came to Hawaii in 1932. He prevailed upon Tom Perkins (d. 1996), who had been one year ahead of him at Berkeley to migrate to Hawaii. Perkins arrived in 1933 and worked for a year as a draftsman for the Honolulu Planning Mill. After that he went to work as a designer and draftsman for Claude Stiehl. When Stiehl's office was slow he would do work for C.W. Dickey. Allen R. Johnson was born in Houston, Texas, and grew up in El Paso. He attended a local college for a year, and then transferred to Berkeley where he received a Bachelor of Arts in Architecture in 1930 and a Masters in Architecture in 1931. Architectural positions were difficult to find during this time because of the Great Depression, so for two years he worked in San Francisco as a commercial artist for a printing plant. In 1934 he was able to get an architectural position with Montgomery Ward in Chicago. The department store was building stores all over the country, and at that time had the largest architectural office in Chicago, employing approximately one hundred draftsmen and engineers. Johnson remained in Chicago for two years before accepting Perkins' offer to come work in Stiehl's office in 1936. The two worked for Stiehl until 1939, when they left to form their own firm, Johnson & Perkins. In 1940, the two architects decided to travel to Japan. In the spring Perkins departed, and Johnson and his wife Charlotte, were to follow except that the federal government cancelled all passports to Asia. Johnson wrote Perkins that work was slow due to the fear of war and he was closing their office to work for the Hawaii Housing Authority. He suggested Perkins not return home as only the draft awaited him. Perkins remained in Asia for over eighteen months, living in Japan for half that time and then traveling to other areas of Asia. He managed to catch the last boat out of Manila destined for Hawaii, and war was declared when he was halfway home. Following the war, the pair resumed their architectural partnership. They decided to remain small, as they wanted to design buildings rather than be managers of a large office. Much of their work was residential in character; many of their residences won Hawaii Chapter A.I.A. design awards. Larger commissions included the Mary Richards Atherton House for the University of Hawaii YWCA, the Wahiawa Intermediate and High School, and a number of apartments. The architects continued to practice until 1992.

Erica Karawina was a renowned stained-glass artist whose works adorn many churches, businesses and public buildings. She was born in Germany and moved to the United States in 1923. She studied with sculptor Frederick W. Allen, head of the Boston Museum School. She also studied with Charles J. Connick, whose stained-glass windows are to be found in the Cathedral of St. John the Divine in New York City and Chicago's First Presbyterian Church, as well as St. Clement's Episcopal Church in Honolulu. Karawina came to Honolulu in 1949, when her husband, Sidney C. Hsiao accepted a position with the University of Hawaii's zoology department. Working from her Manoa home, Karawina created dozens of stained-glass murals, primarily *dalle de verre*, which uses thick glass faceted by hammering and

chiseling. Her works include the windows in the Kalanimoku Building, St. Anthony's in Kailua, Manoa Valley Church, Wesley Methodist Church, and St. John's Episcopal Church in Kula, Maui.

Robert Toshio Katsuyoshi was born in Hawaii, but from the age of one was raised in Japan until he returned to Hawaii when a teenager. During the 1930s he worked as a draftsman in the office of C. W. Dickey; after the war he was with Merrill, Simms & Roehrig. He obtained his architectural license in 1947 and entered into partnership with Hego Fuchino. In the early 1960s he opened his own office. His work included a number of finely appointed residences as well as Buddhist temples, which merged Asian, Indian, and western elements in their design. He also designed several columbarium modeled after Japanese temples.

Arthur Kohara was born and raised in Honolulu. He graduated from the University of Oklahoma, having studied under Bruce Goff, and remained there for several years to teach. In 1960 he returned to Hawaii and in the following year opened his own office, which he continues to operate. In addition to the Buddhist Study Center, Kohara designed Hongwanji temples in Kona on the island of Hawaii in Kahului on Maui, and in Kapaa and Lihue on Kauai. Other works include the Wahiawa and Pearl City libraries. His father is Charles Kohara.

Charles Kohara was born on the island of Hawaii. He gained building experience as a plantation carpenter and was taught drafting by a Chinese engineer. He worked most of his life as a draftsman, and the Hilo Hongwanji was one of the first buildings he designed. Other buildings include Hongwanji temples at Keeau, Honokaa, and Papaikou on the island of Hawaii and the Moliili Hongwanji Temple in Honolulu.

Norman Lacayo was born in Los Angeles to Nicaraguan parents. He worked as a draftsman in that city and then enrolled in the University of Southern California's school of architecture. After graduating in 1960, he worked for Charles Luchman & Associates in New York, and later Los Angeles. He came to Hawaii in 1966 to help John Rummell with the planning for Henry Kaiser's Hawaii Kai development. In 1969 he opened his own office and established a reputation for finely designed residences. Later high rise projects include Nuuanu Craigsides (1985), Honolulu Tower (1987), Honolulu Park Place (1989), and Harbor Court (1994). He also designed the Palms at Wailea (1989).

Law & Wilson: Robert Law was born in Pittsburgh, and received a Bachelor in Architecture from Carnegie Tech, and a Master of Architecture from Harvard University. He came to Hawaii in 1945 while in the Navy. He remained in the islands following his discharge and went into partnership with James B. Wilson to form the firm of Law & Wilson in 1947. Wilson was born and raised in Hawaii. He is a graduate of Punahou High School and received his degree in engineering. The partnership designed the Waikiki Shell, the State Transportation Building, Church of the Holy Nativity, and several other churches. Upon Law's death, Wilson continued the firm as Wilson & Associates, and in 1971 it became Wilson-Okamoto, which remains one of the state's prominent planning and engineering firms. Mineo Okamoto received a bachelor's degree in structural engineering from the University of Wyoming. He worked for five years in Seattle before joining Law & Wilson in 1957.

Cy Lemmon was born in England, and received a degree in architecture from the University of Pennsylvania in 1926. He worked with C. W. Dickey in 1928 and Louis Davis in 1930-31,

Cy Lemmon was born in England, and received a degree in architecture from the University of Pennsylvania in 1926. He worked with C. W. Dickey in 1928 and Louis Davis in 1930-31, before departing for England where he was on the faculty of the University of Liverpool's School of Architecture. He returned to Hawaii in 1946 after ten years in India. He started Lemmon & Freeth in 1951, which became Lemmon Freeth & Haines two years later. In the early 1960s Paul Jones joined the firm and later Joe Farrell became associated with them. The company ultimately expanded in 1976 as Architects Hawaii, which for a number of years was the largest architectural firm in the State. Frank Haines was born in Bethlehem, Pennsylvania and received a BA from Princeton and a Masters of Architecture from M.I.T. He came to Hawaii in 1948 to work in Lemmon's office. Upon Lemmon's retirement in 1969, Haines became president of the firm, a position he held until 1986. Works by the firm include the Boysen Paint Store and Kenrock Buildings on Kapiolani Boulevard, the Waikiki Public Library, Occidental Life Insurance Building, the Nuuanu Clinic, a number of the apartments bordering Pualei Circle in Waikiki, Holiday Manor, the First Presbyterian Church on Keeaumoku, Wesley Methodist Church, and numerous other churches designed by Jones.

Richard Matsunaga was born on the island of Hawaii and graduated from Hilo High School. He worked for Lemmon, Freeth, Haines and Jones and then started his own office in 1964, upon getting licensed. In 1976 he formed Team Pacific Inc., which in turn became Richard Matsunaga & Associates. The firm designed a number of branch banks for First Hawaiian, including those next to Kahala Mall and Pearl Ridge Shopping Center.

Robert Makoto Matsushita was born in Kaimuki and after graduating from Kaimuki High School attended the University of Oklahoma where he studied under Bruce Goff. He remained in Oklahoma for several years and returned to Hawaii in 1956, where he joined the firm of Law & Wilson as chief architect and associate. In 1960 he opened his own office, and in 1990 the firm was renamed Matsushita & Saito to reflect the partnership of Matsushita with his son-in-law Dennis Saito. During the course of his career Matsushita designed the Makiki Bel Air Apartments, Westgate Center, Kapiolani Community College campus at Diamond Head, Sakamaki Hall and the William S. Richardson School of Law library at the University of Hawaii, the Waikiki Beach Tower, Waipahu Soto Zen Mission, and the clubhouses for the Honolulu and Royal Hawaiian country clubs.

John H. McAuliffe was born in Chicago and received a degree in architectural engineering from Notre Dame in 1937; a year later he completed advanced design at Harvard. Upon graduation he worked in Chicago and during World War II joined the Navy, which in 1944 sent him to the Pacific. On Tinian he was in charge of coordination and field control in constructing the airfield, from which the Enola Gay took off on its way to drop the atomic bomb on Hiroshima. He resigned from active duty in 1947 and the next year became a registered architect in Hawaii. He designed St. Anthony's in Kailua, Kainalu Elementary School, and the cafeteria and classrooms at Kailua High School. He and Edwin Bauer designed St. Sylvester's Catholic Church in Kilauea on Kauai. In 1958 he joined with Clifford Young to form McAuliffe, Young and Associates, and designed Keller Hall at the University of Hawaii. From 1967 to 1969 McAuliffe served as a deputy director in the State Department of Transportation, and then returned to private practice.

George McLaughlin arrived in Hawaii in 1957 and designed a number of churches in the islands including St. Augustine's Roman Catholic Church, Emanuel Episcopal Church, Prince of Peace Lutheran Church, Holy Trinity Episcopal Church, St. James' Roman Catholic Church, and Holy Trinity Roman Catholic Church.

Merrill, Simms, Roehrig, was the successor firm of C. W. Dickey & Associates. William Dickey Merrill) was born in Honolulu and received a BA from the University of California at Berkeley and a MA in architecture from Harvard in 1932. He worked for his uncle and following Dickey's death continued the office as Merrill, Simms Roehrig. In 1959 the firm became Merrill, Roehrig, Onodera and Kinder. In 1964 Merrill retired from the firm and it became Roehrig, Onodera & Kinder with Ken Roehrig as president. Roehrig was born in Oakland, California. He attended the University of California at Berkeley and graduated from the University of Pennsylvania with a degree in architecture in 1937. Upon graduation he came to Hawaii to work in the office of C. W. Dickey. The firm designed the Neal Blaisdell Center (Photo 4-126) and several buildings at Kamehameha Schools.



4-126
Neal Blaisdell Center
Merrill, Simms, Roehrig, 1964, 777 Ward Ave.
(2011)

Edwin Murayama was born on Maui and graduated from Lahainaluna prior to attending the University of Hawaii to learn architectural processes. After World War II he went to work for Albert Ely Ives. Upon Ives' death in 1966 he took over the office, having become licensed in 1963. In 1979 he incorporated the firm which today is named Murayama Kotake Nunokawa & Associates. Projects include: Maui Community College's Na Hale complex, Hale Kaanapali, the Makawao Public Library, the State Judiciary Building, and seventeen Zippy's restaurants.

Oda/McCarty Architects was formed by S. Russell Oda and Harrell McCarty, who were classmates at the University of Oregon's school of architecture. They started their Hilo-based partnership in 1967. In addition to several buildings at the Science and Technology Park, they designed the Keck Observatory Headquarters Building in Waimea and the University of Hawaii's Institute for Astronomy in Hilo. Other projects include Kanaloa at Keauhou, the Wailoa Center in Hilo, and several Big Island branches for the Bank of Hawaii. After a joint venture with Durrant Media Five on the 'Imiloa Astronomy Center of Hawaii, the two firms merged.

Shizuo Oka graduated from the University of Oklahoma in architecture where he studied under Bruce Goff. After graduation he continued his studies in Japan as a Fulbright scholar, prior to joining the firm of Law & Wilson in 1960. In 1963 he became a vice president in the newly formed Wilson & Associates, a position he held until opening his own office in 1966. In the following year the firm of Aotani & Oka was formed. Works by Oka include the Hawaii County Building and Keahole Airport, as well as Harris Memorial Church and Nuuanu YMCA, both in Honolulu.

Vladimir Ossipoff was born in Russia but his family moved to Japan after the overthrow of the Czar. In 1923, the family relocated to Berkeley, California, where Ossipoff graduated from high school and the University of California at Berkeley's school of architecture in 1931. He moved to Hawaii in 1932, and opened his own office in 1936. During the 1950s and 1960s he established himself as the premier architect in the islands by blending modern and regional sensibilities in high quality designs. His works include the Pacific Club, Outrigger Canoe Club, Bachman Hall at the University of Hawaii (Photo 4-127), IBM Building, McInerney Store in Waikiki, Thurston Memorial Chapel on the campus of Punahou School (Photo 4-128), and numerous residences.

Stephen Oyakawa was born in Hawaii and worked for Frank Lloyd Wright from 1944 until 1959. His works include the Aiea Library, Liliha Library (Photo 4-129), Lihue Library, the Hale Aloha complex of four round dormitories at the University of Hawaii and numerous handsome residences.

Mark Potter was born in London, England, raised in New Zealand, and came to Hawaii with his parents in 1914. His father, William, worked as a draftsman for Emory and Webb. In 1922 the younger Potter entered into an architectural partnership with William C. Furer, and in 1928 opened his own office. He is best known for his meticulously detailed residential designs, of which Kilohana on Kauai is perhaps the finest example. In the years after World War II, he formed the firm Potter & Potter with his son Gordon. The Hawaii State Archives Building is an example of his work in the modern style.



4-127
Bachman Hall
Vladimir Ossipoff, 1949, 2444 Dole St.
(2006)



4-128
Thurston Memorial Chapel
Vladimir Ossipoff, 1966, 1601 Punahou St.
(2006)



4-129
Liliha Library
Stephen Oyakawa, 1966, 1515 Liliha St.
(2006)

Alfred Preis came to Hawaii in 1939, from Vienna, fleeing the reign of Adolph Hitler. Upon his arrival he was employed by Dahl & Conrad. With the start of World War II he was interned for four months as a foreign national from a hostile country. Following his release he worked for the Territorial Department of Public Works and then opened his own office. He later became the first executive director for the State Foundation on Culture and the Arts, and was responsible for conceiving the highly successful “Artist in the Schools” program, which has been adapted nationwide. He designed many handsome modern residences as well as the Arizona Memorial, the United Methodist Church (Photo 4-130) and the ILWU Building (Photo 4-131).



4-130
United Methodist Church
Alfred Preis, 1953, 1020 S. Beretania St.
(2006)

Kenneth Sato was born on the North Shore of Oahu, graduated from McKinley High School, and received a degree in civil engineering from the University of Hawaii in 1930. He owned the Kewalo Steel Company and designed a number of churches, apartments, and low rise commercial buildings. He also worked on a number of public schools and bridges for the Territory of Hawaii.



4-131
ILWU
Alfred Preis, 1952, 451 Atkinson Dr.
(2011)

Frank Slavsky was born in Denver and attended the University of California at Berkeley. He arrived in Hawaii in mid-1941, and served in the Army Air Force Corps of Engineers. In 1952 he opened his own office, and in 1957 went into partnership with Richard Dennis. They designed a number of apartments and residences, including the Waikiki Palms and Makiki Hale. Slavsky later designed the Liliuokalani Trust Building on Vineyard Avenue and the award winning elderly housing project, Makua Alii on Kalakaua Avenue.

David Stringer was born in Los Angeles and graduated from the University of Southern California’s school of architecture, where he studied under Edward Killingsworth. He came to Hawaii in 1966 to work for Henry Kaiser on the master plan for the Hawaii Kai project. He subsequently designed a number of buildings for this project including the Koko Marina Center and Mount Terrace Condominiums. His later works range from the striking Kapiolani Park Bandstand to the low budget, low-income, low-rise apartments at the corner of River Street and Nimitz Highway to 1100 Alakea (Photo 4-132), plus the Bay Club and Plantation Course Clubhouse, both at Kapalua.

Ed Sullam was born and raised in New York City. During World War II he was in the Navy and was stationed in Hawaii for six to eight months. Following the war he went to school and

received his Bachelor of Architecture degree from Carnegie Institute in 1950. He then found work in Los Angeles, and in 1955 relocated to Hawaii to work in Ossipoff's office. Here he designed the McInerney Building in Waikiki and the Diamond Head Apartments, and in late 1958 opened his own office. In addition to numerous high quality residences, Sullam designed Temple Emanu-El, the Kailua Professional Center, and the commercial complex at Wailea.

Charles Sutton received his B.A. from Oklahoma State University and a Masters degree in Architecture from Cranbrook Academy of Art. He joined the firm of I. M. Pei and worked on the East-West Center during his five year tenure in Pei's New York office. He next worked for John Carl Warnecke in Washington D.C. In 1962 he transferred to Warnecke's Honolulu office and worked on the design development and construction of the Hawaii State Capitol. In 1968 he left Warnecke's office to start his own firm, in partnership with Ted Candia, who also worked in Warnecke's office. Their works include the Wailana Place Condominium (1970), Ilaniwai (1978), and the Wailea Golf Clubhouse (1978).

Robert O. Thompson and his wife, Catherine Jones Richards Thompson was the foremost landscape designers in Hawaii during the 1930s. Their work included the simple and gracious landscaping of the Board of Water Supply Pumping Stations, Nuuanu Reservoir, and the courtyards at the Honolulu Academy of Arts, the C. Brewer Building's courtyard, Thomas Square, Tripler Hospital and the National Cemetery of the Pacific at Punchbowl (1948) (Photo 4-133). Robert Thompson was a native of Michigan, who met Hawaii-born Catherine Jones Richards while he was at Harvard and she was attending the Cambridge School of Architects and Landscape Architects. She returned to Hawaii to open her own office in 1926, and in 1928 invited Thompson to Hawaii to enter into partnership. In 1934 the partners married each other. In addition to Shangri-La, other major projects of the 1930s involved Ewa and Waialua Plantations and the



4-132
1100 Alakea
David Stringer, 1995, 1100 Alakea St.
(2006)



4-133
National Cemetery of the Pacific at Punchbowl
Robert O. Thompson & Catherine Jones Richards
Thompson, 1948, 2177 Puowaina Dr.
(2011)

Kalakaua Public Housing Project. Following World War II Thompson & Thompson landscaped many Ossipoff projects including the Pacific Club (1960), Outrigger Canoe Club (1963), Thurston Memorial Chapel (1967), and such residences as those of Milton Cades (1953), Theodore Cooke (1955) and Howard Lilistrand (1958). Robert Thompson was elected a fellow of the American Society of Landscape Architects in 1952, and Catherine was similarly honored in 1966. Robert Thompson died in 1960 and Catherine died in 1985. Catherine Thompson's grandfather was Peter Cushman Jones, a founding partner of C. Brewer, co-founder of the Bank of Hawaii and Minister of Finance under Queen Liliuokalani. Her great-grandfather was missionary E.O. Hall. She was a graduate of Punahou School and Smith College.

James Tsugawa graduated from Hilo High School and received his degree in architecture from the University of Oregon. After working in California for five years, he returned to Hawaii and opened his own office in 1965. He designed many residences as well as Kawaiahao Plaza.

Ted Vierra was born in Hilo. He graduated from Kamehameha School in 1919 and went on to study at Cogswell Polytechnic College in San Francisco, where he graduated in 1922. He then worked for five years with several architectural firms in Hawaii and on the mainland before winning a national scholarship competition to attend Harvard University's school of architecture. Upon graduation in 1929 he worked for the prominent Boston architectural firm of Coolidge, Shepley, Bulfinch & Abbott, and in 1935 returned to the islands. Here he served as the architect for the Hawaii Sugar Planters Association (HSPA) from 1935-1950. As director of the HSPA's Architectural Division, he oversaw the design and construction of buildings and facilities for thirty two plantations; a number of the plantation camps and buildings of that period followed his designs. In 1950, as a need for a full time architect at the HSPA waned, Vierra opened his own office while remaining as a consultant for the organization. He leased his same office from the HSPA, purchased their equipment and materials and hired the two men who had worked for him. From 1950-1970 he operated his own firm, at one time employing 26 draftsmen. He designed such projects as the Memorial of the Pacific at Punchbowl, the Liliuokalani Protestant Church in Haleiwa, Radford High School, and the airport terminals in Hilo, Kamuela, and Molokai, as well as sections of Honolulu International Airport. He also designed a number of buildings at Kamehameha School, including Keawe Gym, Paki Hall, the 7th and 8th grade dormitories, Ruth Keelikolani Swimming Pool, and the Bernice Pauahi Bishop Administration Building. Vierra also planned the residential community of Aina Haina. He continued to do work for the HSPA, as the plantations provided opportunities for their workers to become individual homeowners by purchasing brand new homes in new subdivisions. The most notable, Hawaiian Commercial Sugar Company's "Dream City" at Kahului on Maui featured the "All Hawaii" house designed by Ted Vierra and his head draftsman Mata Kimura. Measuring between 800 and 1,000 square feet, the three bedroom houses were built on a concrete slab and featured hollow tile walls. Vierra's office also designed wooden houses for plantation workers to purchase at Waialua on Oahu, Eleele on Kauai, and for American Factor's Lihue Plantation on Kauai.

George Walters was born in Hawaii, attended Roosevelt High School, and served in the Army during World War II. He graduated from the University of California at Berkeley with a BA

in architecture and a Masters in landscape architecture. After working for several years in San Francisco, he returned to Hawaii and opened his own office in 1958. In 1965 Julie Kimura joined the firm and became his wife in 1969. Upon her husband's death, she took over the firm, and in the mid-1980s Michael Motoda was made a partner.

George Wimberly was born in Ellenburg, Washington and came to Hawaii in 1940 after graduating from the University of Washington's architecture program in 1937 and working for several years in Los Angeles. During World War II he worked at Pearl Harbor, where he met Howard L. Cook, with whom he went into partnership following the war. At the start of the Maui Sheraton project during 1962, their company dissolved as the two partners disagreed on Wimberly's desire to expand beyond the borders of Hawaii. The firm was reorganized as Wimberly, Whisenand, Allison & Tong, which later became Wimberly, Allison, Tong, & Goo (WATG). The firm has designed many buildings in Hawaii including the Maui Land and Pineapple Corporate Headquarters in Kahului and Royal Kaanapali Golf Course clubhouse. Hotels designed by the firm include the Kona Hilton, Hyatt Regency Waikiki, Hyatt Regency Maui, and Kaluakoi Resort on Molokai. When placing these Hawaii buildings within the context of this firm's work, the international reputation of their resort designs needs to be acknowledged, as they have received commissions for hospitality and leisure projects in California, Washington, Oregon, Florida, the Virgin Islands, the Bahamas, Mexico, French Polynesia, Fiji, American Samoa, Guam, New Zealand, Australia, Korea, Japan, Thailand, Malaysia, Singapore, Indonesia, India, South Africa, Jordan, Egypt, the United Arab Emirates, Spain, England, and France. WATG's hotels are found on all the populated continents and many of these hotels have been recognized as among the best on earth. Drawing upon the lists of the world's finest hotels as compiled by *Travel & Leisure* and *Conde Nast Traveler*, WATG has designed more hotels on these lists than any other architect, giving credence to the assertion that the company is "the world's number one hotel, leisure, and entertainment design firm."

L. Harold Whitaker was born in Utah and studied architecture in Los Angeles at the Frank Wiggins Technical Institute and Otis Art Institute, as well as the University of Florence in Italy. Vladimir Ossipoff, when discussing about the never-licensed Whitaker said, "Our profession can only wish that more of us had his ability." Whitaker came to Hawaii in 1948 to initially work for the architectural consortium of Fisk, Johnson, Ossipoff and Preis. He then joined Richard Dennis' office, and in 1958 was a co-founder of Design Associates, along with Richard Dennis and Frank Slavsky. He subsequently headed the firm of Whitaker-Crane Ltd. He has designed numerous fine residences in the islands.

Donald Wolbrink was born in Ganges, Michigan and received both a bachelor's and master's degree in landscape design from the University of Michigan. Between 1934 and 1941 he worked for the National Park Service and for the first three years of World War II was employed by the U.S. Army Corps of Engineers in Missouri Valley. From 1944 to 1946 he served on active duty as a naval officer in Hawaii. Following the war he joined Harland Bartholomew & Associates, as a field representative in the Midwest. In late 1947, he returned to Hawaii to open the firm's Honolulu office, which was the first planning company in Hawaii. By 1959 he had already established a reputation in the Islands, having master planned the National Cemetery of the Pacific at Punchbowl, as well as the Waiialae-Kahala residential area

Howard and Robert Wong: Architects Howard Wong and Robert Wong met while working in the shipyard at Pearl Harbor. After serving in the military during World War II, Howard M. Y. Wong studied architecture at Yale, while Robert T. W. Wong attended Cornell University's department of architecture. After graduation both practiced in New York City, with Howard Wong working for Harrison and Abramovitz on the Opera House at Lincoln Center. After employment in William Wurster's office in San Francisco, Robert Wong returned to Hawaii in 1954 and joined the firm of Alfred E. Preis. Howard Wong returned to the islands in 1960, opened an office, and hired Robert. In 1963 they entered into partnership as Wong & Wong, which continued until 1989. They designed the former Chinese Consulate (Photo 4-134), as well as many houses and churches, including the Nuuanu Community Church and First Baptist Church at Pensacola and Kinau streets.



4-134
Former Chinese Consulate
Howard and Robert Wong, 1961, 2746 Pali Hwy.
(2006)

Hart Wood learned his profession in the offices of Edbrooke and Company and Marean and Norton of Denver, and Bliss and Faville of San Francisco before opening his own office in San Francisco in 1915. In 1919 he relocated to Hawaii to form the partnership of Dickey and Wood, which dissolved in 1929. Throughout his career in Hawaii, Wood was a strong advocate for appropriate regional design, as remains evident in such post-war commissions as the Lihue United Church, Honolulu Aquarium, and Honolulu Board of Water Supply.

Maurice Yamasato was born in Lima, Peru, and migrated with his parents to Hawaii following World War II. He graduated from Kapaa High School and studied architecture at the University of Hawaii and California Polytechnic State University at San Luis Obispo. He worked in the office of Thomas Wells in Honolulu and in 1973 opened his own office. In addition to the Princeville Public Library, other works include the Hanalei Elementary School and Princeville Fire Station.

Alfred Yee was born in Hawaii. He obtained his bachelor's degree in structural engineering at Rose Polytechnic Institute in Indiana and his master's from Yale in 1949. He worked for a year in the bridge design section of the Territorial Department of Public Works and then for two years at Pearl Harbor before opening an engineering office. In 1955 he went into partnership with Kwon Doo Park and the pair established the first precast, pre-stressed concrete business in Hawaii. The demolished Long House (1956) at Kaiser Hawaiian Village was their first project. In 1960 the partners split, with Yee forming Alfred Yee and Associates, a firm which at one point numbered ninety people. Thanks to Yee, by the mid-1960s, pre-stressed concrete was a popular building material in Hawaii that was used in such large projects as the Kahala Hilton (1964) and Ilikai (1964) hotels. Other early projects using Yee's expertise include Unity House (1960s) with its "Hawaiian I" beams, the Tree House Apartments (1959) supported by

Hilton (1964) and Ilikai (1964) hotels. Other early projects using Yee's expertise include Unity House (1960s) with its "Hawaiian I" beams, the Tree House Apartments (1959) supported by its "column trees", and the Sandalwood Apartments (1950s) which utilized a domino system of construction. All of these pre-stressed concrete technologies were patented by Yee.

Clifford Young was born in Honolulu, received a B.A. in architecture from the University of Michigan, and his Masters in architecture from M.I.T. He practiced architecture in Hawaii from 1953 to 1982, with McAuliffe & Young, Young & Henderson, and on his own. He designed the Pearl Harbor Memorial Community Church (1958), the United Church of Christ on Nuuanu Avenue (1955), the United Chinese Society Building (1954), and the Kuan Yin Temple (1961). He also worked in association with I.M. Pei on the East-West Center.



Hawaii Modernism Context Study

5. Evaluating Integrity

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5. Evaluating Eligibility

Eligibility for the Hawaii or National Registers of Historic Places is what determines whether or not a resource should be considered significant and the threshold for whether or not National or State laws governing historic property apply. In addition to the national guidelines on how to evaluate the significance and integrity of a resource, it should be noted that evaluation is always done through the eyes of the reviewer; any bias will come from their own background knowledge and experience. This report and the following guidance is an attempt to standardize the process for reviewers.

The outline below is the National Park Service criteria to evaluate the eligibility of resources. For a property to be considered eligible for listing on the National Register of Historic Places, it must possess qualities of historic integrity and that:

A. Are associated with events that have made a significant contribution to the broad patterns of our history; or

B. Are associated with the lives of significant persons in or past; or

C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Have yielded or may be likely to yield, information that is important in history or prehistory.

In addition to the national guidelines, criteria for the Hawaii register include:

1. Environmental impact, i.e., whether the preservation of the building, site, structure, district, or object significantly enhances the environmental quality of the State;
2. The social, cultural, educational and recreational value of the building, site, structure, district, or object, when preserved, presented, or interpreted, contributes significantly to the understanding and enjoyment of the history and culture of Hawaii, the Pacific area, or the nation.

The majority of Hawaii's present built environment was constructed during the period from 1939 to 1979. With the exceedingly large number of historic resources developed during the period 1939-1979, and the high number which appears to meet the criteria for listing in the Hawaii and National Registers of Historic Places, historic significance may not be the best means to determine historic preservation priorities with regards to the allocation of resources, time, and effort. Rather than talk merely in terms of significance or eligibility as determined by the National Register, historic preservation advocates need to consider preservation value.

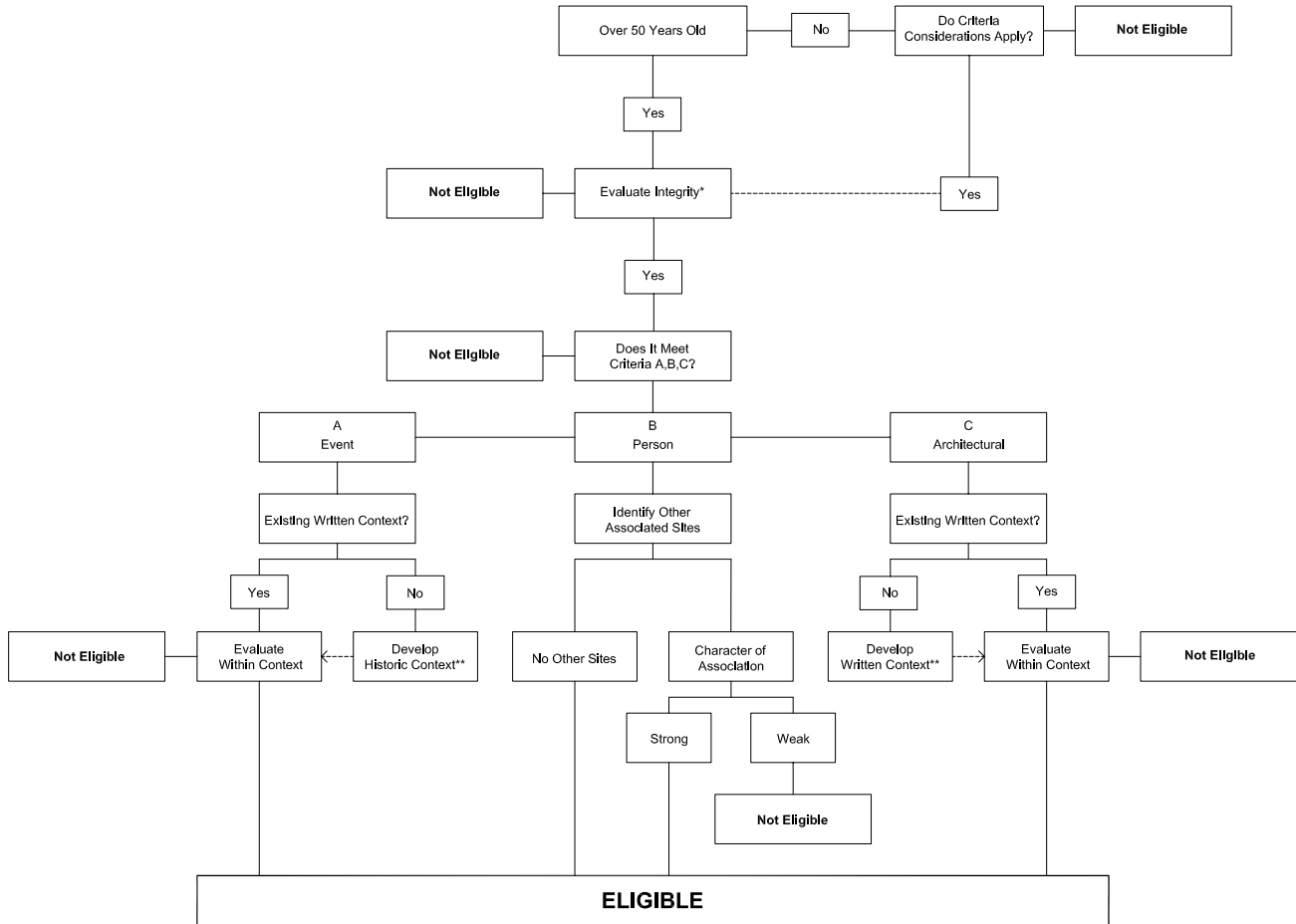
In addition to evaluating the integrity and historic significance of a modern building, these properties should also be assessed as to whether they have high or low historic preservation value. To make such judgments, design qualities need to be taken into consideration. The property will need to be placed within a context(s) based on comprehensive inventories and studies developed to understand its property type, distinctive design characteristics and

materials, the body of work of its designer, and any historic associations related to its development. Below is the chart to evaluate the architectural significance.

Also, see the following website for national guidelines for evaluating resources.

http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_2.htm

Evaluating Architectural Eligibility for Architectural Significance



* Historic integrity of a resource depends on numerous conditions such as why the property is significant, the complexity of design features, the rarity of the property, etc.

**The development of the historic context is needed for the National Register of Historic Places nomination form.

For further guidance see: National Register Bulletin's "How to Apply the National Register Criteria for Evaluation"

Properties Identified in the Report as Having High Preservation Value

The properties listed in this table represent a small sampling of the numerous modern buildings which have high preservation value. The list should in no way be considered comprehensive in character, as none of the building types identified in the report have undergone a complete inventory study. Due to travel restrictions, few examples of neighbor island works are included.

Property name	Architect	Location	Page Number
Cemetery			
Byodoin	Robert Katsuyoshi	Kaneohe, Valley of the Temples. Oahu	3-28
Hawaiian Memorial Park Chapel	Wimberly & Cook	Kaneohe, Oahu	4-49
Kinkaku-Ji	Robert Katsuyoshi	Honolulu, Nuuanu Ave.	3-28
Makai Chapel	Ossipoff, Snyder, Rowland & Goetz	Mililani Cemetery. Oahu	4-49
Punchbowl	Thompson & Thompson	Punchbowl, Oahu	4-106 4-129
Government			
Board of Water Supply	Wood	Honolulu, Beretania St	3-27
Chinese Consulate	Wong & Wong	Honolulu, Pali Hwy	3-28
Department of Transportation Building	Law & Wilson	Honolulu, Punchbowl St.	4-54
Hawaii County Building	Oka	Hilo, Hawaii	4-41
Island of Hawaii State Building	Anbe	Hilo, Hawaii	4-41
Kauai State Building			4-41
Maui State Building		Wailuku, Maui	4-41
State Capitol	Warnecke, and Belt, Lemmon & Lo	Honolulu, S. Beretania St.	3-32 4-41
High Rise Apartment			
1350 Ala Moana	Yamasaki	Honolulu, Ala Moana Blvd	4-29 4-32
Ala Wai Plaza	DMJM	Honolulu, University Ave.	4-32
Angaroa	Roger Lee	Honolulu, Nohea St.	4-32
Canterbury Place	Boone	Honolulu, Ala Moana Blvd.	4-33
Consulate		Honolulu, Makiki St.	4-33
Diamond Head Ambassador		Honolulu, Kalakaua Ave.	4-30
Diamond Head Apartments	Ossipoff	Honolulu, Kalakaua Ave.	4-59
Diamond Head Vista	Boone	Honolulu, Pualani Way	4-33
Discovery Bay	Boone	Honolulu, Ala Moana Blvd.	4-33
Hale Aloha		University of Hawaii	4-4
Hale O Kalani		Honolulu, Kewalo St.	4-33
Holiday Manor	Lemmon, Freeth & Haines	Kanunu St.	4-33

Property name	Architect	Location	Page Number
Holiday Village Apts.		Honolulu, Amana St.	4-4 4-33
Jade Apartments		Honolulu, 9 th Ave.	4-4
Manoalani	Johnson & Perkins	Honolulu, Punahou St.	4-32
Marco Polo	Sutton, Lemmon, Belt & Lo	Honolulu, Kapiolani Blvd.	3-33 4-32
Palo Alto	Wells	Honolulu, Punahou St.	4-32
Pomaikai	Sam Chang	Honolulu, Ala Moana Blvd.	4-32
Princess Leilani		Honolulu, Kanunu St.	4-52
Punahou Circle	Park Associates	Honolulu, S. Beretania St.	4-34
Queen Emma Gardens	Yamasaki	Honolulu, Nuuanu Ave	4-32
Rosalei		Honolulu, Kaiolu St.	4-28 4-30
Royal Iolani	Boone	Honolulu, University Ave.	4-33
Royal Vista	Rummell	Honolulu, Prospect St.	4-32
Sandalwood	Bassetti, Morse & Tatom	Honolulu, Ahana Lane	4-32
Wailana		Honolulu, Ala Moana Blvd.	4-52
High Rise Commercial			
Ala Moana Building	Graham	Honolulu, Kapiolani Blvd.	4-29 4-36
American Savings Bank	Hogan & Chapman	Honolulu, Kapiolani Blvd.	4-37
Amfac		Honolulu, Bishop St.	4-37
Atlas Building	Ernest Hara	Honolulu, S. King St.	4-37
1164 Bishop		Honolulu, Bishop St.	4-37
Bishop Trust	Cann	Honolulu, Bishop St.	4-37
Campbell Estate	Wou	Honolulu, Fort St.	4-37
City Bank	Anbe	Honolulu, Queen St.	4-37
Davies Pacific Center	Donaldson, Au, Cutting & Smith	Honolulu, Bishop St	3-33 4-37
Financial Plaza	Wou	Honolulu, Bishop St.	3-33 4-28 4-59
Grosvenor Center	Architects Hawaii	Honolulu, Bishop St.	4-37
Hawaiian Telephone	Hogan & Chapman	Honolulu, Bishop St.	4-37
HGEA	Anbe	Honolulu, Queen St.	4-28 4-37
Pioneer Plaza		Honolulu, Fort St.	4-37
Waikiki Business Plaza	Bauer	Honolulu, Kalakaua Ave.	4-37
Hotel			
Ala Moana		Honolulu, Atkinson Blvd.	4-29 4-59
Breakers	Bauer	Honolulu, Beachwalk	4-43
Foster Tower		Honolulu, Kalakaua Ave.	4-43
Hawaiiana	Bauer	Honolulu, Beachwalk	4-43

Property name	Architect	Location	Page Number
Hawaiian King	George Lee	Honolulu, Nohonani St.	4-43
Hawaiian Regent	Chamberlain, Tatom	Honolulu, Kalakaua Ave.	4-43
Hotel Molokai	Roberts	Kaunakakai, Molokai	4-43
Hyatt Regency Waikiki	Wimberly, Whisenand, Alison, Tong and Goo	Honolulu, Kalakaua Ave.	4-43
Ilikai	Graham	Honolulu, Ala Moana Blvd.	4-43 4-59
Kahala Hilton	Killingsworth	Honolulu, Kahala Ave.	3-19 4-43 4-59
Kona Hilton	Wimberly	Kailua-Kona, Hawaii	3-28 4-43 4-79
Mauna Kea Beach	SOM	South Kohala, Hawaii	3-19 4-43
Princess Kaiulani	Dailey	Honolulu, Kaiulani Ave.	3-20 4-28 4-54
Queen Kapiolani	Ernest Hara	Honolulu, Kapahulu Ave.	3-21 4-28 4-44 4-122
Rainbow Tower		Honolulu, Kalia Rd.	3-28 4-43 4-79
Sheraton Waikiki	WWATG	Honolulu, Kalakaua Ave.	3-21 4-29 4-43
Surfrider	Roehrig, Onodera & Kinder	Honolulu, Kalakaua Ave.	4-44
Waikiki Circle Hotel	Unknown	Honolulu, Kalakaua Ave.	4-4
Waikiki Holiday Inn		Honolulu, Kalakaua Ave.	4-43
White Sands		Honolulu, Dukes Ln.	4-43
Low Rise Apartment			
Continental		Honolulu, Kaheka St.	4-33
Diamond Head Gardens	Lemmon, Freeth, Haines & Jones	Honolulu, Pualei Circle	4-15 4-33
Diamond Head Alii	Lemmon, Freeth, Haines & Jones	Honolulu, Pualei Circle	4-15
Diamond Head Surf	Lemmon, Freeth, Haines & Jones	Honolulu, Pualei Circle	4-15
Diamond Head Lanai	Lemmon, Freeth, Haines & Jones	Honolulu, Pualei Circle	4-15
Fukumoto Apartments	Kunimoto	Honolulu, Kapiolani Blvd.	4-23

Property name	Architect	Location	Page Number
Gregg Apartments	Lemmon, Freeth, Haines & Jones	Honolulu, Pualei Circle	4-15 4-33
Hawaiian Holiday	City Mill	Honolulu, Wilder St.	4-14
1422 Heulu	Aotani	Honolulu, Heulu St.	4-17
Janda Apartments	Kim	Honolulu, Liholiho St.	4-20
Kahala Beach Condominiums	Killingsworth	Honolulu, Kahala Ave.	4-15
2459 Kapiolani	Oyakawa	Honolulu, Kapiolani Blvd.	4-23
Kilsby Apartments	unknown	Honolulu, Kinau St.	4-14 4-20
Maile Terrace	Lemmon, Freeth & Haines	Honolulu, Makiki St.	4-19
Makiki Apartments	Howard Wong	Honolulu, Wilder Ave.	4-14
Makiki Bel Air	Matsushita	Honolulu, Makiki St.	4-16 4-125
Makiki Palms	Ernest Hara	Honolulu, Kewalo St.	4-22
Oahuan	Bauer	Honolulu, Makiki St.	4-16
Pawaa Garden	Harr	Honolulu, Young St.	4-22
Punahou Terrace	Miyamasa & Mori	Honolulu, Makiki St.	4-18
Punakiki	Izata	Honolulu, Dominis St.	4-21
Savannah Apartments	Miller	Honolulu, Liholiho St.	4-21
Seaside Apartments	Dahl & Conrad	Honolulu, Seaside Ave.	4-14
Shinshu Kiyokai	Katsuyoshi	Honolulu, Beretania St.	4-21
Takara Apartments	Oyakawa	Honolulu, Dominis St.	4-19
Teruya Apartments	Nakamura	Honolulu, Pensacola St.	4-18
Treehouse	Tatom	Honolulu, Waikiki	4-59
1335 Wilder	Walter Wong	Honolulu, Wilder Ave.	4-14 4-18
Low Rise Commercial			
Aiea Commercial Center	Ernest Hara	Aiea, Moanalua Rd.	4-11
Aiea Shopping Center	Ernest Hara	Aiea, Moanalua Rd.	4-11
American Security Bank		Waipahu, Oahu	4-6 4-117
Bank of Hawaii		Honolulu, Kahala Mall	4-4
Boysen Paint Store	Lemmon & Freeth	Honolulu, Kapiolani Blvd.	4-2 4-125
C. Q. Yee Hop	Hsi	Honolulu, N King St.	4-8 4-60
C.S. Wo		Honolulu, Kapiolani Blvd.	4-59
Central Pacific Bank	Ernest Hara	Honolulu, King St.	4-4 4-122
Continental Hawaii	Bauer	Honolulu, S King St.	4-8
First Hawaiian Bank	Phillip	Mapunapuna, Oahu	3-34
Flamingo's	Akiyama	Honolulu, Kapiolani Blvd.	4-2
Foodland	Wimberly & Cook	Kaneohe, Oahu	4-12

Property name	Architect	Location	Page Number
Gold Bond	Hsi	Honolulu, Ala Moana Blvd.	4-8 4-88 4-123
Hawaiian Life Bldg.	Ossipoff	Honolulu, Kapiolani Blvd.	4-2
Hawaiian Trust Co.	Wimberly & Cook	Honolulu, S King St.	4-8
Holiday Mart	Unknown	Honolulu, Makaloa St.	4-12
IBM Building	IBM	Honolulu, Ala Moana Blvd.	4-8 4-54 4-127
ILWU Bldg	Preis	Honolulu, Atkinson Blvd.	4-128
Kawaiahao Plaza	Tsugawa	Honolulu, S. King St.	3-33 4-8 4-130
Kenrock Bldg	Lemmon, Freeth & Haines	Honolulu, Kapiolani Blvd.	4-2 4-125
King Center	Anbe	Honolulu, S King St.	4-8 4-117
1026 S. King		Honolulu, King St.	4-5
1125 S. King		Honolulu, King St.	4-5
1269 S. King	Makino	Honolulu, King St.	4-5
Liberty Bank	Ossipoff	Honolulu, N. King St.	3-28 4-60
Liliha St Comm Dist		Honolulu, Liliha St.	4-6
Medical Arts Bldg.	Onodera	Honolulu, S. King St	4-3
Miyamoto Bldgs	Sato	Honolulu, Nuuanu Ave.	4-3
Niu Center	Bauer	Honolulu, Kalanaianaoale Hwy.	4-11
1365 Nuuanu		Honolulu, Nuuanu Ave.	4-3
Nuuanu Clinic	Lemmon, Freeth & Haines	Honolulu, Nuuanu Ave.	4-3
Occidental Life Insurance Bldg.	Lemmon, Freeth, Haines, & Jones	Honolulu, S. Piikoi St.	4-3
Pacific Development Co.	Kim	Honolulu, Pensacola St.	4-3
Pensacola & King		Honolulu, King St.	4-5
Piikoi Parkway	Young	Honolulu, Piikoi St.	4-3 4-53
Professional Center	Ernest Hara	Honolulu, King St.	4-3 4-129
Seaboard Finance	Merrill, Simms & Roehrig	Honolulu, Kapiolani Blvd.	4-2
920 Sheridan	Akagi	Honolulu, Sheridan St.	4-3
State Savings Plaza	Johnson-Reese	Kaneohe, Kamehameha Hwy.	4-1
Trophy House	Nishida	Honolulu, King St.	4-5
Ushijima Store	Funai	Kawanui, Hawaii	4-7
Varsity Bldg.	Wimberly & Cook	Honolulu, University Ave.	4-3

Property name	Architect	Location	Page Number
Waimalu Shopping Center	Sato	Pearl City, Kamehameha Hwy.	4-11
Ward Plaza	Au, Cutting & Smith	Honolulu, Ward Ave.	3-21 4-8
Ward Warehouse	Au, Cutting & Smith	Honolulu, Ward Ave.	4-10
Westgate Center	Matsushita	Waipahu, Oahu	4-12
Parks Comfort Stations			
Ala Wai	Litaker & Pursel	Honolulu, University Ave.	4-113
Dole	Lemmon, Freeth & Haines	Honolulu, Magellan St.	4-115
Iliahi	Iwanaga		4-116
Kahaluu	Koizumi	Kahaluu, Oahu	4-113
Kahana Bay	Law	Kahana, Oahu	4-115
Kamamalu	Oka	Honolulu, Queen Emma St.	4-113
Kaneohe Community	Sullam	Kaneohe, Oahu	4-113
Kualoa	Sato	Kualoa, Oahu	4-113
Liliuokalani Gardens	Seckel	Honolulu, School St.	4-113
Makapuu	Dennis	Makapuu, Oahu	4-113
Mililani Waena	Sullam	Mililani, Oahu	4-114
Nuuanu Valley	Rothwell, Lester & Phillips	Honolulu, Pali Hwy.	4-113
Pacific Palisades	Akagi and Takawa	Pearl City, Oahu	4-114
Pokai Bay	Gallion	Makaha, Oahu	4-113
Punaluu	Iwanaga	Punaluu, Oahu	4-115
Puuloa	Naito	Ewa Beach, Oahu	4-113
Swanzy	Hogan & Chapman	Kaaawa, Oahu	4-115
Thomas Square	Wells	Honolulu, Victoria St.	4-113
Waimanalo	Slavsky	Waimanalo, Oahu	4-113
Waimea Bay	McAuliffe	Waimea, Oahu	4-114
Rec Centers, Park and Playground			
Haleiwa Beach Park, War Memorial		Haleiwa, Oahu	4-110
Honolulu Zoo Entrance	Preis	Honolulu, Kapahulu Ave.	4-112
Kanewai Rec Center	Hara	Pearl City, Oahu	4-115
Kapaolono		Kaimuki, Oahu	4-114
Momilani Recreation Center	Hara	Pearl City, Oahu	4-115
Palolo Valley District Park (1960)	Bradley, Lee & Wong	Palolo Valley, Oahu	4-115
Waikiki Shell	Law & Wilson	Kapiolani Park, Oahu	4-110

Property name	Architect	Location	Page Number
Parking Lot			
Marks Garage	Roehrig, Onodera & Kinder	Honolulu, Nuuanu Ave.	4-88
Municipal	Anbe, Ishizu, Aruga	Honolulu, Beretania St.	4-88
Religious			
Aiea Korean United Methodist	OSSIPOFF	Aiea, Oahu	4-49
Central Baptist		Honolulu, Nehoa St.	4-48
Central Union Windward		Kailua, Oahu	4-47
Church of World Messianity	Katsuyoshi	Honolulu, Pali Hwy.	4-50
Community Church of Honolulu	Wong & Wong	Honolulu, Nuuanu Ave.	3-19 3-30 4-48
Church of the Nativity	Law & Wilson	Aina Haina, Oahu	3-30 4-47
First Christian Church of Honolulu	Lester & Phillips	Honolulu, Kewalo St.	4-46
First Church of the Nazarene		Honolulu, Judd St.	4-48
First Presbyterian	Lemmon, Freeth & Haines	Honolulu, Keeaumoku St.	4-45 4-125
First United Methodist	Preis	Honolulu, S. Beretania St.	3-30 4-47
Hanapepe United Church of Christ		Hanapepe, Kauai	4-45
Harris Memorial	Law & Wilson	Honolulu, Vineyard Blvd.	4-46
Holy Nativity	Law & Wilson	Aina Haina	4-46
Honolulu Honpa Hongwanji	Onodera	Honolulu, Pali Hwy.	4-49
Honolulu Myohoji	Robert Katsuyoshi	Honolulu, Nuuanu Ave	4-50
Kailua Baptist	Wimberly & Cook	Kailua, Oahu	4-49
Kalihi Union	Law & Wilson	Honolulu, N. King St.	4-47
Kapaa First Hawaiian Church		Kapaa, Kauai	4-45
Kilohana Methodist	Leemon, Freeth, Haines & Jones	Niu Valley, Oahu	4-46
Kuan Yin	Clifford Young and Sam Chang	Honolulu, Vineyard Blvd	4-133
Lahaina Jodo	Gumi	Lahaina, Maui	4-50
Lihue United Church of Christ	Wood	Lihue, Kauai	4-45 4-132
Manoa Valley Church	Wong & Wong	Honolulu, Haupala St.	4-47 4-124

Property name	Architect	Location	Page Number
Mystical Rose Chapel	Rothwell	St. Louis, Oahu	4-4 4-49
Nuuanu Congregational	Kobayashi & Nishida	Honolulu, Pali Hwy.	4-47
Our Lady of Good Counsel		Pearl City, Oahu	4-47
Our Redeemer Evangelical	Bauer	Honolulu, University Ave.	4-47
Pearl Harbor Memorial Community Church	Clifford Young	Honolulu, Bougainville Drive	4-48
St. Anthony's Catholic	McAuliffe	Kailua, Oahu	4-47 4-117
St. Augustine's Catholic	McLaughlin	Honolulu, Kalakaua Ave.	4-47
St. Elizabeth's Episcopal	Bauer	Honolulu, N. King St.	4-45 4-52
St. Luke's Episcopal	Lemmon, Freeth & Haines	Honolulu, Judd St.	3-28
St. Pius X	Law & Wilson	Manoa, Oahu	4-46
St. Stephen's Catholic	Roger Lee	Honolulu, Pali Hwy.	3-33
St. Sylvester's Catholic	McAuliffe and Bauer	Kilauea, Kauai	4-46
Seicho-No-Ie		Honolulu, Matlock Ave.	4-50
Soto Zen Temple	Fuchino	Honolulu, Nuuanu Ave.	3-27 4-49
Southern Baptist		Pearl City, Oahu	4-49
Star of the Sea	Merrill, Simms & Roehrig	Waialae, Oahu	4-47
Temple Emmanu-El	Sullam	Honolulu, Pali Hwy.	4-49
Thurston Memorial	Ossipoff	Honolulu, Punahou St.	3-26 4-49 4-127
Waiola	Sato	Lahaina, Maui	4-49
Waiokeola	Lemmon, Freeth, Haines & Jones	Waialae-Kahala	4-47
Waipahu Hongwanji	Fuchino	Waipahu, Oahu	4-49
Wesley Methodist	Lemmon, Freeth & Haines	Waialae-Kahala, Oahu	4-47 4-124
Schools			
Bachman Hall	Ossipoff	University of Hawaii, Oahu	3-27 4-127
East-West Center	Pei	University of Hawaii, Oahu	3-31
Laupahoehoe School	Preis	Laupahoehoe, Hawaii	3-28 4-117

Property name	Architect	Location	Page Number
Social/Entertainment			
Bay Club Restaurant	Springer	Kapalua, Maui	4-44
Buck Toy Society Hall	Akagi	Honolulu, Vineyard Blvd.	4-117
Neal Blaisdell Center	Merrill, Simms, Roehrig	Honolulu, King St.	4-126
Outrigger Canoe Club	Ossipoff	Honolulu, Kalakaua Ave.	3-31 4-127
Pacific Club	Ossipoff	Honolulu, Queen Emma St.	3-28 4-127
Royal Kaanapali Golf Clubhouse	WWATG and Ossipoff	Kaanapali, Maui	4-44 4-131
Teshima's Restaurant	unknown	Honalo, Hawaii	4-7
United Chinese Society	Clifford Young	Honolulu, N. King St.	3-28 4-133



Hawaii Modernism Context Study

6. Recommended Future Studies

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6. Recommendations for Future Activities

This study has made a first step in trying to understand the historic and architectural significance of the period 1939-1979. It contains cursory information along with broader perspectives, if available. This study is by no means comprehensive since it serves as a guide for future explorations into the multiple facets of the period and its resources. Further work can be undertaken in a number of areas.

6.1 Inventory

No comprehensive inventories of the period's different types of buildings were undertaken for this report. These studies need to be accomplished, if a complete understanding of various property types is to be gained. In prioritizing the order in which surveys shall be undertaken, several factors need to be considered:

1. which resources are most highly threatened;
2. which resources can be best protected;
3. which resources require a more comprehensive compendium of information in order to accurately evaluate their historic preservation value.

The primary mechanism in Hawaii for the protection of historic properties is through the review and compliance process as articulated in Sections 6E-8 and 6E-42, HRS, and in Section 106 of the National Historic Preservation Act of 1966, as amended. To better assist consultants and staff making evaluations on the effects projects may have on individual sites, structures, objects, buildings or districts, it would be beneficial if sufficient information was available about the context of the property to make a knowledgeable decision concerning its treatment.

The inventory and registration of state and county owned properties should be given a high priority. Section 6E-8, HRS requires state and county agencies who propose to undertake a project that could effect an historic property to obtain the concurrence of the Department of Land and Natural Resources (DLNR). This means the DLNR has more direct ability to influence the preservation of government owned properties than privately owned properties. Identifying in advance the properties that should be given high preservation value, would allow the agencies administering these properties to better plan for their preservation, and allows the agencies to know where less attention to historic preservation concerns needs to occur. Inventories of government owned buildings such as City and County park restrooms, public school buildings, libraries, public housing, and government office buildings should receive high priority.

When government projects will have a broad effect upon privately held properties, the SHPD should ensure that these agencies develop historic contexts to enable the evaluation of the significance of the properties specific building type(s). The associations that the properties may have with regards to their communities' development also need to be addressed.

Of all the privately owned property types, low rise commercial buildings, including banks, shopping centers and malls, appear to be the most endangered. A priority should be given to develop an inventory of this property type, with special attention paid to the best examples in

Honolulu and elsewhere on Oahu and on the neighbor islands. A high priority should be placed on the development of an inventory of places of entertainment.

Because of their ubiquitous presence, it is difficult to readily assess the significance and preservation value of individual buildings located within post-World War II subdivisions and within entire subdivisions in general. Inventories should be undertaken to assess the integrity of subdivisions and the individual buildings within a subdivision. These inventories most likely should occur at the community level, i.e., undertake an inventory of Hawaii Kai and its development through various subdivision episodes as a whole. Buildings, and perhaps subdivision districts, which retain sufficient integrity, should be identified and evaluated in terms of the community's development and also within the larger context of real estate development in the post-war period.

Architectural significance will also need to be assessed. Due to the scale of this endeavor, it might be prudent to undertake several case studies. The information generated from such studies may form the basis for developing historic contexts for post-World War II subdivisions, which can then be extrapolated to address other areas. With this in mind, it might be useful to give a high priority to surveying and inventorying:

1. A community such as Aiea, Pearl City, Waipahu, or Kailua, all of which constituted the fastest growing areas during the 1940s-1950s period. All were developed incrementally with a variety of developers involved in the process.
2. A community such as Hawaii Kai or Mililani, which differed from the above by being developed by one owner.
3. A community developed in a tract style with limited housing designs to choose from, as compared to a community with more flexible and varied design considerations.

An inventory of low-rise walk-up apartments should be given a high priority in order to determine the extent of this resource, and to determine which buildings should be considered to have high preservation value.

High rise buildings, religious structures, and hotels appear to be less threatened than other modern period buildings, and their preservation value is easier to assess despite the absence of a comprehensive inventory. The development of inventories for these building types may be given a lower priority.

Similarly, the significance and preservation value of custom residential design is fairly easy to assess, and by its one-of-a-kind character does not significantly benefit from its placement in a larger building type context. This building type may be given a lower priority for a comprehensive inventory. Rather than inventory and it might be more enlightening to prepare inventories within the context of the work of a specific architect, which would provide a better understanding as to how a specific building embodies the characteristics associated with the architect's design proclivities.

Industrial buildings, including Butler buildings, Armstrong buildings, and tilt-ups, were not examined in this study due to time constructions. These need to be addressed, and a

comprehensive inventory should be undertaken to determine the significance and preservation value of structures within this property type.

6.2 Expanded Contexts and Documentation

As this study tried to cover a broad number of contexts, each resource type or each context can be looked at in greater depth. For example, the transportation section can be expanded to look into the effect of the H-1 bisecting neighborhoods such as Bingham Tract.

Not only should significant resources be identified and historic contexts developed to facilitate evaluation, but high integrity examples of ubiquitous forms such as tract housing and low rise apartments, whose numbers will diminish and be modified with the ensuing years, should be documented. The State Historic Preservation Office requires property owners to provide an inventory form, digital photographs (usually taken with a point and click camera) of exteriors and interiors, and a floor plan for houses which owners intend to demolish. While this information is better than no information, the buildings are recorded at the least favorable moment of their existence, when they have already been abandoned. Plus the documentation is often performed by people who are not versed in architecture and architectural history, leading to frequently conscientious, but often uneven recordation.

Professional photographic documentation projects, following large format HABS standards, should be initiated to record typical, intact houses in the Islands' various post-war neighborhoods and subdivisions, and similar projects should be pursued to record low rise apartment buildings. This will provide a record for future generations about the character of houses in which people in Hawaii dwelt during the period 1945-1979, and it may relieve some of the workload in the State Historic Preservation Division, as more post-war dwelling units are recorded prior to their demolition will be reduced.

6.3 Oral Histories

The study of the recent past is unique when compared to other periods, as some people are still alive who recall the period and may have even played a major role in its development. These first-hand sources of information are becoming scarce. Both Ed Aotani and Clifford Young died while this report was being researched and written.

A very high priority should be given to conducting oral histories with such persons as: Frank Haines, Sid Snyder, Al Rowland, Peter Hsi, Alfred Yee, Don Goo, Mitts Aruga, Hachiro Ishizu, Anson Chong, Warner Boone, Bob Fox, David Springer, members of Group 70 and Media Five, John Hara, etc. Developers and contractors should also be identified and interviewed. These people can provide critical insights into the period and better flesh out information that can not be uncovered simply through documentary research. The AIA oral history project of 1930s architects is now proving to be an invaluable resource, and a similar project of 1950s-1970s architects will have the same importance to future researchers.

6.4 Education

Education of the general public, design professionals and public officials is a crucial component. Public policy makers should be aware of the incredible extent and sheer number of resources that will need assessment. Owners and developers should be made aware of the significance of these resources. Though Mid-Century Modern has become vogue with the clientele of places such as Design Within Reach, there are numerous resources that are not high design, but tell the stories of the era that continue to be under appreciated.

Activities need to be undertaken and publications supported which make the public more aware of the historic significance of buildings from the recent past. An appreciation and understanding of these properties needs to be instilled within the general public and governmental decision makers, and the importance of protecting and preserving this most recent legacy of earlier times needs to be communicated.



Hawaii Modernism Context Study

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<http://honolulu.condo.com/Buildings>



Hawaii Modernism Context Study

8. Appendices

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Hawaii Modernism Context Study

A. Styles

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A. Styles

The definition of “styles” vary among regions, academics, historians, architects, and just about everyone involved in the field of architecture and architecture history. Even the *use* of defined styles is often debated. Therefore it should be noted that these styles are not meant to be taken as the academic declaration of style, but will be used for the purposes of categorizing character defining features for evaluating a property’s integrity. A particular structure may not feature all the characteristics of one particular style and may feature characteristics of more than one style.

Mid-Century Modernism

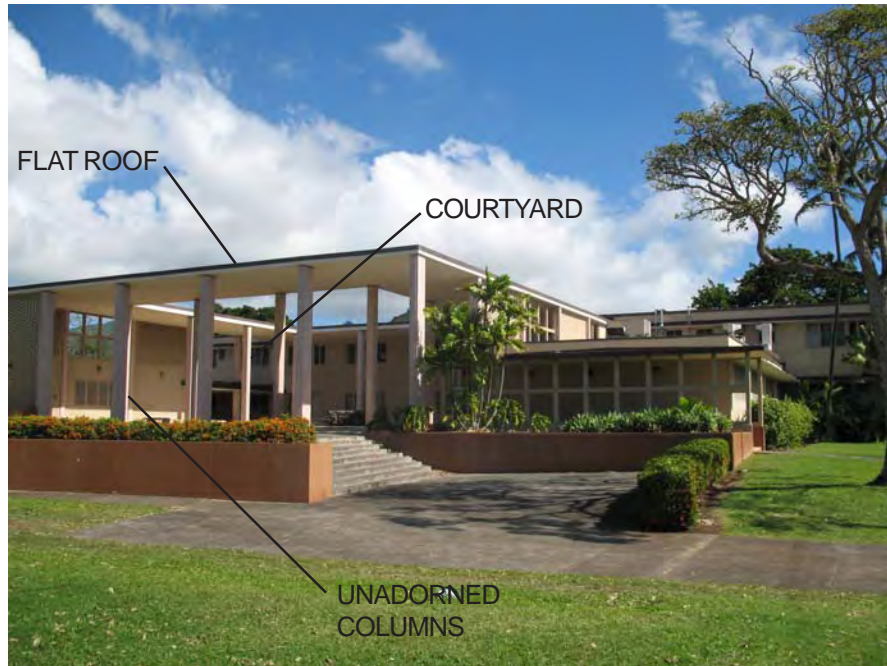
While the modern era architects, designers, landscape architects, engineers and artists created varying styles, the overarching characteristics were the perceived rejection of the past and avoidance of historicism, the acknowledgement of science and the increased exposure and level of scientific discoveries, and an acceptance of Louis Sullivan’s creed “form follows function.” This was demonstrated through the various features noted below:

- “Honesty” of materials, no applied details
- Use of new technology, such as pre-stressed concrete, folded plate roofs, large concrete domes, mushroom cap columns, large cantilevers or other construction technology
- Often use of sun screens, commonly decorative concrete masonry units, decoration that has function
- Use of standard sized modules that were factory made such as the decorative concrete masonry unit (CMU) and pre-cast concrete units
- Often include canted windows or wing walls
- Often use of contrast in textures

International Modernism or Bauhaus Modernism

This style embraced machinery and industrialized mass-production techniques, relying on the use of iron and steel, reinforced concrete, and glass. The style was rooted in Europe and popularized by Le Corbusier, Mies van der Rohe, Richard Neutra and Rudolph Schindler. It was further refined in the United States when many of these pioneering architects immigrated from Europe, some fled from the impending Nazi invasions in the 1930s. The use of standardized units and cheapness of construction eventually led to a plethora of poor imitations during the 1960s and 1970s, which eventually led to Post-Modernism.

- Simple geometric forms in plan and elevation
- Use of corner windows
- Use of spandrel glass
- Windows with thin or no frames usually large and rectangular, displaying a regular pattern
- Ribbon windows often used to emphasize the horizontal
- Designed based on rationality and composition, utilizing composition to define spaces. For example the definition of entry by raising the height of the form, or by a cantilevered concrete awning.
- Usually flat roofs
- Buildings connected to nature through use of courtyards or large glazed areas to extend living area into the landscape.
- No decorative elements



Bachman Hall
Vladimir Ossipoff (1949) , 2444 Dole St.



Liberty Bank Building
Vladimir Ossipoff (1952), 99 N. King St.

Miesian

This style is also called Corporate Modern in the San Francisco modern context statement. It is a later branch of International Modernism with its use of glass curtain walls forming a smooth or “slick skin” appearance. Miesian structures were mostly built in the 1950s and on; it was a structure that was poorly imitated and thus later fell out of favor. A true Miesian building will be extremely well detailed.

- “Less is More”
- “God is in the Details” – use of reveals at joints between materials
- Most commonly used in high rise construction
- Use of simple rectilinear and planar forms and clean lines
- Use of glass and curtain wall construction
- Open plans / Universal space
- Exposed structural supports
- *Pilotis* often form the base of the building



Ala Wai Plaza
Daniel, Mann, Johnson and Mandenhall, 1970, 500 University Ave.



EXPOSED STRUCTURAL SUPPORT

Campbell Estate Building
Leo Wou (1967), Fort and Merchant St.



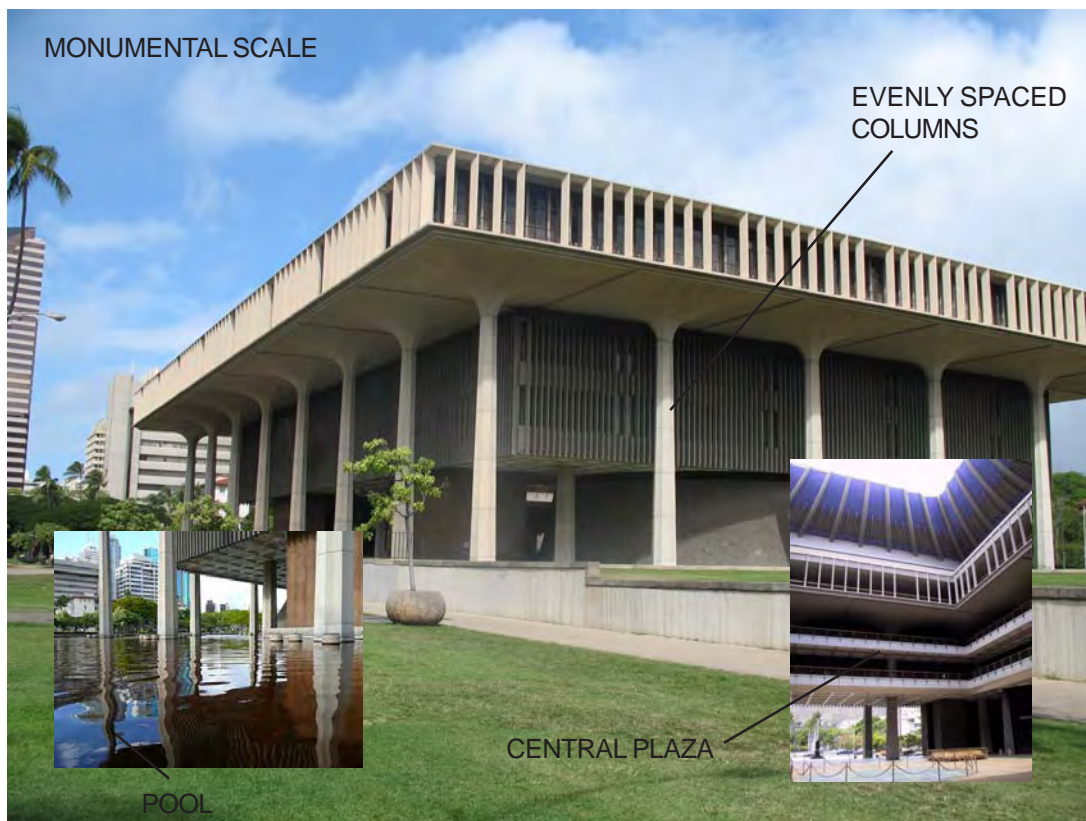
PILOTIS AT THE BASE

Diamond Head Apartments
Vladimir Ossipoff (1957), 2957 Kalakaua Ave.

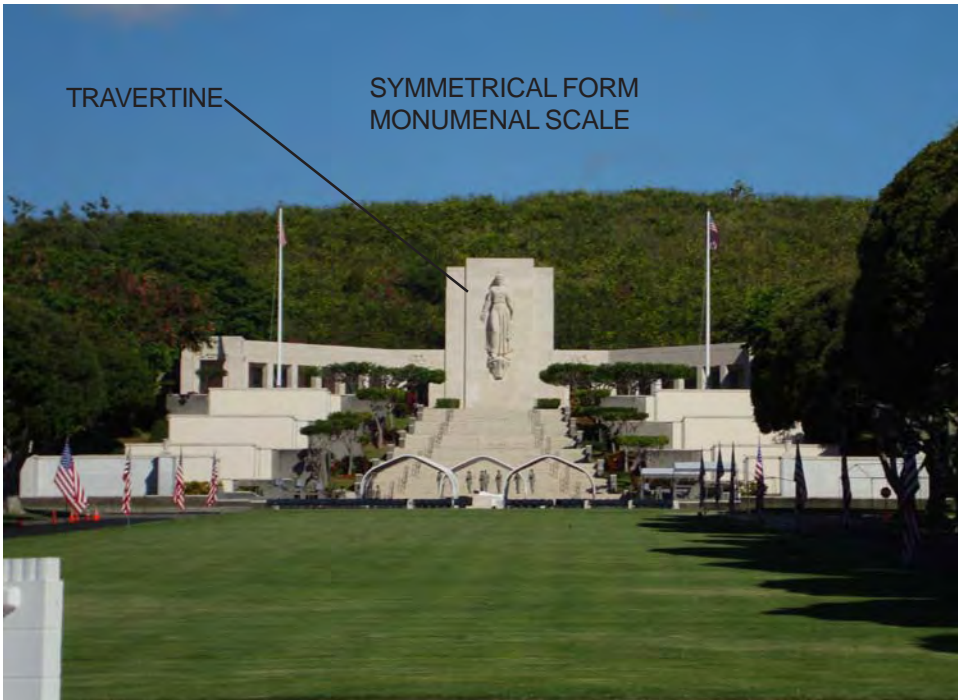
Neo-Formalism

Neo-Formalism was developed in the mid-1950s as a reaction against what was viewed as a rigid version of the International Style. It was most often used for institutional and civic buildings, the use of various materials and references to Classicism are used to express monumentality.

- Some reference to Classicism, such as use of evenly spaced columns, repetitive patterns, arches and use of decoration
- Symmetry
- Monumental scale
- Formal landscape; often use of pools, fountains, sculpture within a central plaza
- Use of traditionally rich materials, such as travertine, marble, and granite or man-made materials that mimic their luxurious qualities



Hawai'i State Capitol Building
Belt, Lemmon & Low, John Carl Warnecke (1969), 415 S. Beretania St.



National Cemetery of the Pacific at Punchbowl
Robert O. Thompson & Catherine Jones Richard Thompson (1948), 2177 Puowaina Dr.

Brutalism

Brutalism involved the use of “raw” concrete, hence the term *brut* (*French for raw*). This style developed in the later years of modernism from the 1960s. The term Brutalism has come to be associated with the English concept of brutal or inhumane. The style was developed as a response to the glass curtain wall, and it offered more climate control and sense of permanence (and privacy) to large buildings

- Heavily textured exposed aggregate concrete.
- Board forms easily visible
- Not used in intimate scale
- Deeply recessed windows
- Geometric forms created in an asymmetric composition
- Poured concrete often rounded forms utilized
- Often together with public plaza



Ward Plaza
Au, Cutting, Smith & Associates (1969), 210 Ward Ave.

DEEPLY RECESSED
WINDOWS

AGGREGATE
CONCRETE
EXTERIOR

GEOMETRIC FORM



SUPPLEMENTED BY
PUBLIC PLAZA

Bank of Hawaii Building and Financial Plaza of the Pacific
Leo S. Wou (1968), 130 Merchant St.

Organic

The term Organic Architecture was coined by Frank Lloyd Wright as a style of architecture to be in harmony with nature. It is a style that “grows,” being designed from the inside out, getting inspiration not just from the view of nature, but by the shapes and land forms of nature and by the characteristics of the site. In Hawaii, not only are architects influenced by the internationally published Wright, but a number of local architects studied at University of Oklahoma under Bruce Goff, another well-known and highly unique architect working in the Organic style.

- Low horizontal proportions, flat- or low-pitched roofs, horizontal emphasis
- Influenced by forms and materials from nature
- Deep roof overhangs
- Use of large cantilevers



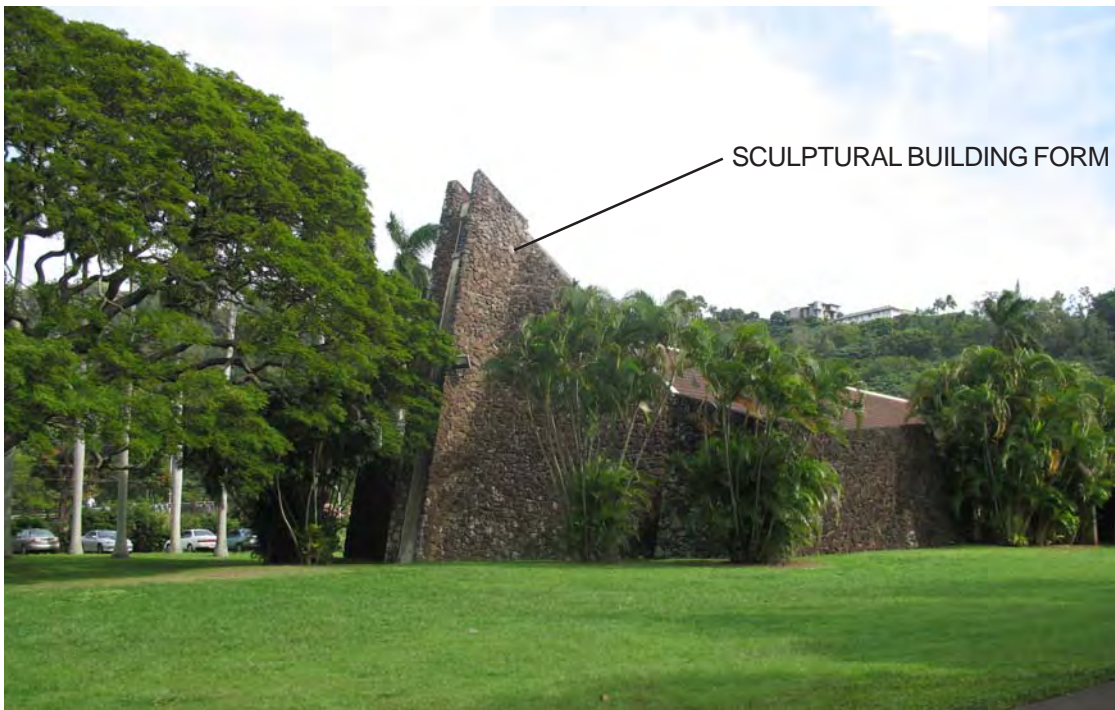


Liliha Library
Stephen Oyakawa (1966), 1515 Liliha St.

Neo-Expressionist or Expressionist Modern

The style included iconic architecture to symbolize or express an emotion as in Eero Saarinen's TWA terminal. Expressionism was developed in Europe very early, in the 1910s along with its corresponding art form. In the 1950s, with the development of easily accessible technology, this style become more utilized in the United States. Neo-Expressionist is an iconic style that is often used for ecclesiastical architecture; it could be considered the precursor to Deconstructivism.

- Often characterized by unusual shaped roofs
- An underlying effort at achieving the new, original, and visionary.
- Use of natural themes such as caves or birds of flight
- Concept of architecture as a work of art



Community Church of Honolulu
Wong & Wong (1965), 2345 Nuuanu Ave.



Mililani Memorial Park & Mortuary at Waipio, Makai Chapel
94-560 Kamehameha Hwy.

“Contractor” Modern or Hawaii Ranch House

This category refers to tract homes, often without an identified architect, where all houses in a neighborhood are built in almost identical style, plan, etc. In Hawaii, there is a definite style that developed in Hawaii’s tract neighborhoods, in much the same way as the plantation houses are now considered a style. These homes have Mid-Century modern features, sometimes Asian influenced details, but are inexpensively constructed. Most of these tract homes, generally constructed in the early 1960s, have distinctive features as noted below.

- Box- or rectangular-shaped single-story dwellings
- Single wall construction, use of redwood
- Picture windows
- Wood and glass jalousies
- Low-pitched gable roof
- Exposed rafters, ceiling
- Carport



Niu Valley Residence, (1968)



Niu Valley
Harold Hicks (1957)

Pop Architecture

Related to Pop Art, the style reflected the exuberance, enthusiasm, optimism, and faith in the future and technology prevalent in the 1950s. It borrowed heavily from popular culture and the Space Age, and is often described as a combination of the Flintstones and the Jetsons. Included in this style is Googie, Roadside and Tiki architecture. Historical and cultural events — the assassination of President Kennedy, the Vietnam War, social unrest — combined to temper the optimistic attitudes of the 1950s. Many “serious” architects also criticized the style as frivolous, crass, and kitschy. During the Hawaiian Renaissance of the 1970s and 80s, Tiki Architecture was criticized as a cartoon version of Hawaiian culture and fell out of favor.

- Bright colors often used
- A building design relating to a theme, such as the Space Age or Atomic Age
- Work responding to High Tech and Archigram-promoted images.

AKA GOOGIE ARCHITECTURE



Occidental Life Insurance Building
Lemmon, Freeth & Haines (1951), 1163 s Beretania St.

AKA TIKI ARCHITECTURE

ROMANTIC VERSION OF HAWAII



La Mariana
50 Sand Island Access Rd.
taken from: http://critiki.com/pictures/?loc_id=74#/10

Regional Modernism

Regional style architecture was prevalent in Hawaii from the 1930s as the multi-cultural diversity and the mild climate of Hawaii became important considerations for the designer. Early architectural evidence of regional thought is seen in buildings such as the Alexander and Baldwin Building, the Honolulu Academy of Arts or the C. Brewer Building. Following World War II, much architecture was influenced by the national trend towards modernism and Hawaii adopted many of the features and characteristics of the “California Modern” or the “Tropical Modern.” Hawaii, more than many states seemed to embrace Modernism as a style for the general population. Nationally, most home owners preferred more traditional forms of architecture, particularly in residential buildings; however entire subdivisions constructed in the early 1960s were built in a modern style such as “Hawaii Ranch House.”

- Blurring of interior/exterior delineation/influence of Hawaii’s benign climate and views with use of large openings
- Sited to take advantage of views or climate situations such as tradewinds
- Influence of cultural diversity in Hawaii



First Methodist Church
Alfred Preis (1953), 1020 S. Beretania St.

INFLUENCE OF CULTURAL DIVERSITY



United Chinese Society Building
Clifford Young (1954), 42 N. King St.

A-Frame

The A-Frame was made popular as a vacation home in the 1950s and 60s due to a rise in disposable income after WWII and its ease of standardization and inexpensive construction techniques.

- Low hanging eaves, roof and wall act as one
- A-shaped, steeply pitched roof
- Windows at gable ends



Kalihi Union Church
Law & Wilson (1957), 2214 N. King St.



Manoa Valley Church
Wong & Wong (1967), 2728 Huapala St.

Utilitarian Vernacular

- Butler buildings, tilt-up warehouses, etc. may fall into the Utilitarian Vernacular.



Warehouse at Ward
Donald D. Chapman (1968), 1020 Auahi St.



Hawaii Modernism Context Study

B. Historic, Social and Cultural Influences of the Mid-Twentieth Century in Hawaii

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B. Historic, Social and Cultural Influences of the Mid-Twentieth Century in Hawaii

B.1 Hawaii and the “Recent Past”

The story of the “recent past” focuses on the years between the end of World War II and the beginning to mid 1970s. This was a time of new kinds of architecture and decorative design, new approaches to planning and landscapes and new — even revolutionary— changes in transportation, materials and technologies. The mid to late 20th century was a transformative time throughout the world and of particular importance in the U.S. where the innovations of architectural modernism and openness to new design gave expression to and accelerated social and physical change. The growth of downtowns and suburbs, the dominance of the automobile and the new aesthetics and efficiencies of “modern” architecture fostered a different kind of world from what anyone had experienced before.

The spread of modern ideas had a special resonance in Hawaii. A key location in World War II — the site of the war’s beginning at Pearl Harbor and a critical staging area for the War in the Pacific — Hawaii emerged from the war as America’s fledgling experiment in racial and ethnic accommodation. For the first time a U.S. state would be comprised of a “minority majority,” with Asian, Hawaiian and Pacific Islanders outnumbering Caucasian residents by a factor of two to one. Mainland politicians and social critics were aware of Hawaii’s role in this new idea of “coexistence.” For many, success in Hawaii boded success on the mainland as well (or, alternatively, suggested threats to the status quo that lay ahead). Hawaii became the proverbial poster child for racial and ethnic harmony and an important symbol for the civil rights movement especially.

For these reasons, the break between the past and present seemed more accentuated in Hawaii than in many mainland states and cities. The new architecture constituted not just new designs and materials but also symbolized the shift from an essentially colonized territory to a fully recognized state. For many people, modern architecture and the International Style seemed coterminous with the sudden rise of the Democratic Party in Hawaii and the emergence of Asian-Americans — particularly the Japanese, who comprised the largest single ethnic group on the islands — as the principal movers of social and economic change. The new buildings and designs also signified the shift from a rural plantation-based society to a modern social and economic order based on urbanism (and “sub-urbanism”) and new ways of earning a living.

The 1950s and 1960s were a disruptive time in Hawaii as well. The old “normalities” of plantation, countryside and city fell aside as new developments spread over previously open lands. The clear demarcations of social class and caste also became less distinct. The Euro-American oligarchy that for many years controlled Hawaii’s agribusinesses lost its influence on the working class. Individual houses, car ownership and the right of a person to work where he or she wanted became the new norm. This ended, for better or worse, the paternalism of the plantation system. Workers could no longer expect a job for life or access to housing and basic medical care. An expanded government stepped in to provide for some of peoples needs, while responsibility shifted from the company to the individual. For the first time, Hawaii’s mostly immigrant population could determine their own future.

The new architecture and accompanying shifts in planning, landscape treatments and interior design and furnishings were the outward expressions of this new social and economic reality. There was an emphasis on utility as both workers and managers extolled practical choices and celebrated simplicity in design and materials. This reflected the organizational practices of Hawaii's longtime plantations, as well fitting with time honored values of frugality exemplified by Chinese, Japanese, Okinawan, Korean and Filipino immigrants to the islands. The new architecture and material culture was "practical" and unsentimental. New buildings could go up quickly and go down again when they no longer served their purpose — very much the way decision making on plantations or military installations occurred. The kinds of aesthetic concerns that marked the old order were abandoned. The seemingly permanent legacy of the Republican establishment — including an incomparable collection of palazzo-like company headquarters, shops and banks in downtown Honolulu — became sudden victims of this new sense of progress.

The transformation of Hawaii's built environment coincided with the sudden growth of tourism in the islands. This happened in 1959, precisely at the time of statehood and was the result of several factors: the introduction of long distance passenger aircraft, the growing spending power of the U.S. middleclass and the special appeal of Hawaii as a vacation destination. While flirting with images of an older "pre-contact" Hawaii, such as grass roofed pavilions and "tiki" decoration, most architects and designers turned to more generalized forms of expression. Concrete construction, fixed and sliding glass panels, flat roofs and an overall simplicity of design characterized many of the new hotels in Waikiki and elsewhere in the islands. Many of these new buildings were the work of local firms; others were the products of mainland designers. Advances in transportation and communication encouraged collaboration. Hawaii's architects also had access to a whole world for inspiration: China, Japan, Tahiti and Bali all factored into the creation of an exotic milieu that would attract both domestic and international travelers. The new architecture showed no loyalty to a single idea.

The most striking characteristic about Hawaii's own experience in the late 20th century was the sheer amount of new construction. A look at "before" and "after" photographs of Waikiki is (Photo B-1 and B-2) provides dramatic testimony to the changes that occurred. A tour of the Honolulu residential area of Makiki is equally illustrative of the differences between the old architecture and the new; it shows the extent to which walk-up and high-rise apartment blocks replaced what was once a quiet suburb of single family homes. The construction of Hawaii's first limited access highway, the H-1 (formerly the Mauka Arterial), cut through and at the same time united smaller communities of greater Honolulu, creating the present broad swath of urban development that exists today. This kind of alteration was not universal; some areas, including rural areas of the "neighbor islands" retained their former character. Many plantation-era towns, notably Hilo on the island of Hawaii, retained the character of earlier



B-1
1930-40's Waikiki
(http://popartmachine.com/item/pop_art/LOC+1093352/%5BWAIKIKI-BEACH,-HONOLULU,-HAWAII:-AERIAL-VIEW-SHOWING-BEACH,-ROYAL.)

times. But even in these places, new architecture began to appear within and at the edges of formerly built-up communities. New resorts throughout the islands also exemplified new architectural ideas.

Throughout this process, Hawaii's identity as a once independent Polynesian kingdom was little recognized. Images of "old Hawaii" fit into some tourist oriented attractions; altered forms of musical and dance performance, notably *hula*, became standard entertainments at many clubs and resorts. "Hawaiiana" became a subcategory of the "exotic;" the Hawaiian theme was appropriated to entertain and amuse and to serve as picturesque background for tourism industry or "mass tourism" It is probably no coincidence that the rise of new appreciation for Hawaii's past and fresh calls by Native Hawaiians for recognition and sovereignty would grow out the "recent past," possibly in direct response to some of the insensitivities and excesses of the period.



B-2

1960's Waikiki

(<http://www.urbanplanet.org/forums/index.php/topic/24948-back-in-the-day-flash-backs-of-hnl-i/>)

What historic preservationists recognize as the recent past begins in the 1940s and extends for another thirty or so years into the 1970s. It is important to remember that the new developments in architecture, planning and design of this period did not entirely replace all that had gone on before. Despite modernism's proclivity to destroy the past, much of earlier times survived. This included not only many iconic buildings — which preservationists still fight to preserve — but also patterns of construction and spatial organization that subtly influenced much of what occurred during the 1940s through 1970s period. Hawaii did not dispose of its past entirely, as a driving tour of suburban Manoa or a walk through Chinatown in Honolulu will reveal. It also did not entirely throw off the social and cultural constraints of the past, all of which remained beneath the surface of the apparently "new" Hawaii of the late 20th century.

B.2 Hawaii before World War II

B.2.1 The Kingdom of Hawaii

Hawaii has always had an unusual relationship with cultural and social developments on the North American continent as the only independent kingdom ever absorbed into the U.S. Until 1893, Hawaii was an independent country, with a parliament, monarch, military and its own foreign policy. This ended with the overthrow of then Queen Liliuokalani by a coterie of mostly American business leaders, supported by U.S. naval and military forces. The new government declared the independent Republic of Hawaii gained rapid recognition by supporters in Washington. Its members soon pressed for closer ties as a territory of the U.S., a change put into effect in 1898 through annexation.

Hawaii's circumstances had planted the seeds of this shift in political control long before. Settled by Polynesians, certainly by the 8th century of the Common Era — and some scholars

and Native Hawaiian traditions argue far earlier — the islands of Hawaii had existed in relative isolation for over a thousand years before Western contact in 1778. Native Hawaiians were enveloped in a strongly hierarchical society based on farming and fishing; they lived throughout the six larger and two small islands comprising the volcanic island chain. They resided in grass houses — *hale pili* — and built rubble stone temples to honor places and gods. By the end of the 18th century, local chiefs had consolidated political power across islands. In 1795, the Hawaiian high chief Kamehameha defeated Oahu's leader to create a first unified kingdom. The island of Kauai eventually acceded to Kamehameha's ambitions, declaring its allegiance to the Kingdom of Hawaii in 1810.

By the early 19th century, Hawaii fell increasingly within the orbit of Western interests. Seal hunters, then whalers and merchants became a major factor in the kingdom's life. Hawaii's King Kamehameha and successors entered into trade relations with Russian, American and European individuals and companies, allowing for the construction of warehouses and shops at several strategic locations on the islands. Hawaiian farmers supplied provisions for visiting ships, a relationship of exchange that accelerated during the peak whaling period, between 1820 and 1850. During the same period, trade with China focused on the export of sandalwood, an enterprise that fueled economic expansion during the 1820s and 1830s. Hawaiian kings and others of high rank — known collectively as *alii* — became dependent upon Western merchants for both loans and consumer goods necessary to maintain their status. This would gradually introduce a complex relationship of shared power within the Hawaiian Islands.

In the 1820s, Hawaii became the focus of an ambitious Christian missionary effort backed by Protestant churches in New England and elsewhere in the northeast U.S. Introducing literacy to the islands, the Protestant Missionaries profoundly altered Hawaiian society, discouraging the longstanding cultural practices such as *hula* (dance) and *mele* (songs) as well as extinguishing remnants of traditional religion. French priests and Mormons joined the first wave of Protestants, offering alternative religions to the Native population. Added to this mix was the growing number of Euro-American traders and artisans, many of them establishing businesses in Honolulu and other small settlements while adding to Hawaii's foreign population. As in many other countries with Western contacts, the missionaries and early traders and their offspring entered actively into the governance and economy of the islands, held important positions as advisors to the Hawaiian monarchs. This process facilitated the Westernization of the Hawaii Islands and further assured the central place of American and European merchants and then bankers in Hawaiian affairs.

By the mid 19th century, the Hawaiian Islands had become an increasingly Westernized way-station in the middle of the Pacific Ocean. With its capital in Honolulu (moving from Lahaina in Maui in 1843), the kingdom welcomed sailors and adventurers from around the world, encouraging trade and agricultural experimentation. Sweet potatoes, cattle, coffee and then rice, sugar and (after 1902) pineapple came to dominate the landscape of Hawaii, replacing the subsistence farming of pre-contact times. These conditions pushed Native Hawaiian from their lands, while at the same time, the attraction of wages and material goods encouraged migration into urban areas, especially Honolulu. Other Hawaiians sought opportunity and adventure abroad, many joining whaling fleets and merchant vessels plying the California coast. Young Hawaiian men also traveled on ships to China and Japan as trade expanded during the late 19th century.

A tragic outcome of these connections with the West and Asia was the introduction of diseases such as measles, whooping cough and smallpox for which Native Hawaiians had no inherited resistance. By the 1830, Hawaii's population of at least 400,000 (and possibly as high as 800,000) had fallen to approximately 130,000. By 1870, the number of estimated Hawaiians was between 40,000 and 50,000. A census in 1890 placed the total at about 35,000. This loss of numbers had encouraged Hawaiian monarchs, especially King Kalakaua after 1872, to seek out immigrants as a way to increase Hawaii's seemingly vanishing population. Chinese, Japanese, Okinawan and Korean laborers came from Asia; Portuguese and Spanish workers traveled from the Azores and Europe. These groups provided the labor for the rapidly expanding sugar industry, which tariff relief with the U.S., as part of the Reciprocity Agreement of 1876 and subsequent favorable treaties, had made possible. The importation of labor was to be a hallmark of Hawaii's economic history and would create the conditions of multi-ethnicity for which Hawaii later became famous.

The growth of plantation-based agriculture and the dominant position of Western merchants who had close ties to the continental U.S., had profound impacts on the Hawaiian Islands. Hawaii by the late 19th century was very much a colonized country. The new economy and population loss had displaced and marginalized remaining Native Hawaiians; predominantly U.S. investors had control over business and lands. Plantation managers segregated worker populations by ethnicity, much as their contemporaries did in other colonized countries. The plantation economy also encouraged clear stratification, with Euro-American— or *haole* — owners and managers, Portuguese field bosses and Asian laborers. A similar hierarchy evolved in the business world, with large sugar factors, merchant houses and banks dominating downtown Honolulu, and Native Hawaiians and immigrant Asians populating the service sector.

B.2.2 The Early 20th Century

With the downfall of the monarchy in 1893 and the further assertion of American interests through the Newlands Resolution of 1898, Hawaii became an appendage of the U.S. characterized by its unusual ethnic diversity, organized within a construct based on origins and influence. The *haole* business class controlled politics and economic decisions, monitored the behavior of the working classes and distributed wealth and favors among its members. A few Native Hawaiian *alii*, notably Prince Kuhio (Jonah Kuhio Kalaniana'ole, 1871-1922), who served as a non-voting member of Congress, accommodated to the new order; other Hawaiians found their circumstances even worse. Asian laborers joined in the early 20th century by migrants from Puerto Rico and the Philippines — both also under U.S. extra-territorial control — fought against complete control by U.S. owners and managers, extracting important concessions through strikes in the early part of the 20th century. This contest of management and labor would be a hallmark of Hawaii's economic life well into the middle decades of the century.

The great drivers of Hawaii's economy in the early 20th century were sugar and pineapple, with commercial rice production coming in third among exports. The significance of sugar to Hawaii's social, political and economic makeup during this period cannot be overestimated. Sugar as a commercial crop lay behind many of the political decisions that led to the overthrow in 1893 and the annexation of Hawaii in 1898. By 1890, fully three fourths of the private land

owned in Hawaii belonged to foreign investors, and most of it was used for sugar. The diversion of water from Native Hawaiian lands and employment of new drilling technologies opened up vast areas of most of the Hawaiian Islands to further production. As of 1934, fully 130,000 acres were in sugar producing a yield of over 900,000 tons of raw sugar; the yield was less than 200,000 in 1902. Partially processed in Hawai'i, the raw sugar went on to California for final refining, a circumstance that further cemented relations between Hawaii and its closest North American neighbor.

Pineapple production followed in sugar's path. The crop was introduced by James Dole (1877-1958), the cousin of Sanford B. Dole, President of the Republic of Hawaii, in the early 20th century. Pineapple turned out to be the ideal crop for Hawaii's somewhat arid, but tropical environment. Dole's innovation was the introduction of canning, which made it possible to ship Hawaii's pineapple crop throughout the world. The first large cannery was near Honolulu's harbor. It was there that workers operated new technologies, notably the Ginaca coring machine, which substantially increased production. With farms throughout Oahu and Maui, Dole purchased most of the island of Lanai in 1922, creating a single pineapple plantation of over 200,000 acres. Lanai also included an enormous plantation town, with a civic square, churches and schools and a recreation building for the company's many workers and their families.

With the dominance of the plantation economy, the early decades of the 20th century—the years leading up to World War II — were a time of relative stability and a general acquiescence to the status quo. Directed by the *haole* elite, Hawaii depended upon large-scale agricultural production for much of its economy. Although the sugar grew on separate plantations — over 100 at one point — the organization of this industry centered on several companies, known as the “Big Five.” These were Castle & Cooke, Alexander & Baldwin, C. Brewer & Co., American Factors (now Amfac) and Theo H. Davies & Co. Their management recruited from the same families and their employees organized along ethnic lines, thereby consolidating control much in Hawaii during these years. While plantation workers periodically fought for better wages and conditions — both Japanese and Filipino workers staged a number of strikes between 1909 and 1922 — the reigning oligarchy maintained a tight grip on the economy of the islands. The Republic Party, of which most of the elite were members, controlled the territory's politics as well.

A particularly important ingredient in Hawaii's demographic and economic makeup was the presence of the U.S. military. It was given a foothold at Pearl Harbor as part of a treaty between the Kingdom of Hawaii and the U.S. in 1886, the U.S. military became an increasingly important part of Hawaii in the early decades of the 20th century. Camp McKinley (established in 1898), Fort Kamehameha and Fort Shafter (1907), Fort Ruger and Schofield Barracks (1909), and batteries Closson, Dudley and Randolph (1911) comprised the “Ring of Steel” of the new fortified Hawaii. Fort DeRussy, Pearl Harbor Naval Station and Shipyard and Wheeler Field (begun in 1922) all added to Hawaii's naval and military character, as did the hundreds of soldiers and sailors who now became a part of the territory's social fabric. Many Hawaiians and immigrant laborers found work on the bases or in Pearl Harbor's shipyard, where they encountered new technologies and practices. Even more stratified than the civilian world, the navy and army bases introduced values of utility and efficiency that would have an important resonance in the built environment on the islands.

Another important factor in pre-World War II Hawaii was the growth of tourism. Hawaii was popular with adventurous travelers since the late 19th century and became a favored destination for wealthy visitors in the 1920s. The growth in steamship traffic, much of it owned by the Matson Navigation Company, allowed tourism to flourish in the luxury hotels of Waikiki. The opening of the Royal Hawaiian Hotel in 1927 gave new impetus to the industry, attracting new visitors to Hawai'i, where they could enjoy the attractions of the beach and excursions to Hawaii's new national parks at Haleakala and Kilauea. Overall numbers were small — approximately 22,000 tourists arrived in 1929 — but visiting celebrities such as Shirley Temple, Bing Crosby, Charley Chaplin and others added luster to Hawaii's image as a tourist destination, as did the occasional visits of royalty and political leaders. These included Edward, the Prince of Wales and future King Edward VIII and many Congressional delegates.

Occasional ripples such as the famous Massie case of 1931, which brought Hawaii's social and ethnic tensions into the spotlight, did little to interrupt the tranquility of Hawaii's seemingly peaceful course. Early attempts to gain statehood, notably in 1935 and 1937, ended in disappointment for local backers. Many of the ruling elite preferred a continuation of the existing territorial status and agreed with those who believed that Hawaii's ethnic minorities did not qualify for full voting rights. During the Great Depression, Hawaii's economy gained compensatory support from the U.S. government. This took the form of continuing appropriations for military installations on Oahu and funds for highway and bridge construction throughout the islands. The territorial government also pressed for education improvements, building new schools during the 1930s and giving greater support to Hawaii's fledgling university.

Throughout this period, the plantation system continued to dominate Hawaii's economy and society. The Big Five companies controlled much of this, producing 96 percent of the sugar shipped from the islands in 1933. With the help of newly immigrant laborers, many managers from the economically distraught Philippines, kept wages low and prevented the formation of effective unions. Life was hard for sugar and pineapple workers. Most lived in company towns, built adjacent to sugar fields. Here they resided in ethnically separated "camps," working hard, six-day weeks. Some immigrants managed to break free of the system. A few became small farmers in Hawaii's coffee industry. Others established modest businesses in Honolulu or in the many small plantation towns throughout the islands. Still others found employment on the military bases or in Pearl Harbor Shipyard, where wages were higher than in agriculture. Chinatown and the Japanese district of Aala in Honolulu were reflections of the move toward greater independence as was the growth of modest residential suburbs such as Kaimuki, Palolo and Kalihi. Similar developments occurred on the other islands as well but at a smaller scale.

Planning and transportation in Hawaii echoed current trends. Most of Hawaii's plantation workers relied on trains and communal taxis for their occasional trips to larger towns or cities, such as Hilo or Honolulu. Passenger boats ferried workers and their families from one island to another. The wealthy class had automobiles; the development of many of Honolulu's more prestigious residential areas was a direct response to car ownership. Other residents, including the members of the growing managerial and professional class found more modest housing in slightly denser suburbs, many located adjacent to street car and bus lines. Areas such as "Lower Manoa" and Nuuanu and Wilhelmina Rise answered the needs of this class,

with modest bungalows on small lots becoming a standard housing type. Generally, neighborhoods reflected ethnic differences, with some established *haole* neighborhoods such as Lanikai prohibiting or at least discouraging entry to hopeful Chinese or Japanese buyers.

The school system of Hawaii reflected the ethnic divisions of plantations and suburbs. The *haole* elite sent their children to private schools, most notably Punahou on Oahu. Ambitious Chinese and Japanese parents paid for private education at Iolani or other institutions, often affiliated with churches, including the Catholic Church's many schools. Plantation children went to modest rural schools, often quitting at the end of their primary school years. In both urban and rural areas, junior high and high schools divided into so-called "English Standard" schools for the more ambitious immigrant children and the local *haole* middle class and regular schools for other children. Higher education amplified these differences, with the offspring of the *haole* elite finding it easier to enter prestigious East Coast and West Coast than did the children of immigrants. Many island children did in fact perspective to obtain education from major mainland universities. Some traveled to other countries, including Japan, for higher education. In Hawaii, the predominantly agricultural college joined with the territory's other school to become the University of Hawaii in 1930, adding to the options for local residents.

Hawaii in the 1930s remained, nonetheless, a place of few opportunities. Highly stratified and divided by ethnic and perceived racial differences, Hawaiian society remained relatively static, with awards going primarily to the ruling minority and other groups receiving less than their fair share. This was especially true for Native Hawaiians who were prevented from using their language in the school system by a law of 1896, which limited instruction to English. Thus, native Hawaiians witnessed the gradual loss of their culture. A move by the federal government in 1921 to provide homestead lands for those of Hawaiian descent proved largely ineffective; most of the lands were unsuited for agriculture and Hawaiian claimants had to prove a fifty percent "blood quantum," a requirement that many could then not meet.

Despite apparent stasis, there were important currents of change caused by the growth in population. In 1900 the new Territory of Hawaii had a population of 154,001, of which over two-thirds had come from other countries. In 1940, the U.S. Census recorded a total of 422,770 residents throughout the Hawaiian Islands, many of them still relative newcomers. The ethnic distribution statistics provide a more complete picture. In 1900, the White (Caucasian) population stood at 28,819; Japanese at 61,111; Chinese at 25,767; and Hawaiians at 37,656. In 1940, these figures had changed to 103,791 Caucasians; Japanese 157,905; Chinese 28,774; and Hawaiians 14,375. Those claiming mixed parentage had grown proportionately, the greatest numbers belonged to people of mixed Hawaiian background, who numbered 73,885.

The largest single ethnic group in Hawaii by 1940 was the Japanese, at 37 percent. Of these, 76 percent, known as Nisei (second generation) or Sansei (third generation) were born in Hawaii. The rest were recent immigrants (Issei). While many of the Japanese remained on the sugar and pineapple plantations, others had migrated to larger towns or to metropolitan Honolulu. In 1940, 34 percent of Honolulu's approximately 180,000 residents were of Japanese ancestry. Both Honolulu and other towns also supported significant enclaves of Chinese, Korean and Filipino populations, many running small shops or working in local industries. Although pockets of Asian immigrants resided in the newer suburbs of Honolulu and

to a lesser degree smaller cities such as Hilo, most lived in relatively congested urban areas. The nicer suburbs, such as Manoa and Nuuanu, remained the sole domain of the *haole* oligarchy.

One of the most significant developments of the late 1930s was the effort of different peoples in Hawaii to unite against plutocratic rule. The labor movement of the mid 1920s found fresh impetus in the mid 1930s. The Honolulu City and County workers organized in 1933, and in 1935, through the efforts of veteran trade unionist Jack Hall, the Hilo dock workers formed what was to become the first chapter of the Longshoremen's Union (ILWU), Local 1-36. Other unions followed, including the newspaper writers and printers, hotel workers and musicians and stage performers. In 1937, the first International Workers Parade took place in Maui, with several thousand mostly Filipino marchers calling for better wages. The following year, the battle for workers rights and improved conditions turned violent when the Hilo police attacked a large group of marchers, in what union members later called the "Hilo Massacre."

The labor strikes and unions made modest gains in this period. Sugar and pineapple workers did in fact receive more pay and conditions on the plantations gradually improved. Some plantations, such as Ewa, became model industrial communities, with standardized housing, recreational facilities, schools, clubhouses and churches and temples. The wealth created by sugar, even during the Depression, spilled over into the greater community, providing jobs outside the plantations and spawning an important service sector. Hard pressed and having to make every dollar count, Honolulu and smaller towns, such as Hilo, Waipahu, Wahiawa and Honokaa throughout the islands witnessed significant commercial expansion. New working class subdivisions, such as Kaimuki and Kapahulu in Honolulu, finally fulfilled their earlier promise and finally had modest single-wall houses on what had been for many years, empty lots.

All did not share in the new prosperity. Native Hawaiians during this period had become a mere cipher in the equation of Hawaii's new economy. Marginalized, forbidden their language and pressed into the least desirable lands — or working in various urban industries — Native Hawaiians became a kind of symbol of a former time. Often romanticized, Native Hawaiian culture became a powerful vehicle for the growing tourism industry. Hula dancers, grass skirts, picturesque songs and semblances of Native Hawaiian dwellings became part and parcel of Hawaii's image to the rest of the world. This was true throughout the early Territorial Period and would take on even more commercial trappings during the war and post statehood era.

B.3 World War II and After

B.3.1 The War Years

The events of December 7, 1941 catapulted Hawaii into a new place on the world stage. At just before 8:00 AM, Japanese airplanes bearing bombs and newly designed, shallow-water torpedoes attacked the Pearl Harbor Naval Station and Kaneohe Naval Air Station and other installations. The attack caused the deaths of 2,386 soldiers, sailors and civilians; another 1139 were suffered wounded. Eighteen ships, including five battleships, had either sunk or run aground. Of the total dead, over half were on the Battleship Arizona, which exploded in an enormous ball of fire and smoke shortly after the start of the attack.

The war in the Pacific was not entirely unanticipated. The U.S. had been moving forces to Hawaii and had been building new bases and facilities since the mid 1930s. By 1940, there were 50,000 military personnel in the islands forces, compared to an overall population of just over 422,000 people. Using Works Projects Administration (WPA) and other funds, military engineers and architects added to Schofield Barracks and built Hickam Field on the edge of Pearl Harbor. Throughout 1941, new airplanes arrived at Hickam and the other air stations, including the Army's Wheeler Airfield and the Navy's Bellows Field. In May 1941, Hickam received its first squadron of B-17 Bombers. Military parades at Hickam and Schofield Barracks were popular with local people; soldiers and sailors were a stark presence in downtown Honolulu. Although many expected a Japanese attack, few actually thought it would occur at Hawaii.

The war was a truly transformative event for Hawaii — far more than any other part of the U.S. This was because of the Pearl Harbor attack and also the territory's proximity to the combat theater. The islands' ethnic makeup further complicated its role in the war. With its sizable Japanese community, the territory's citizenry came under heavy scrutiny. The military rounded up many local Japanese leaders, including clergy, teachers and editors of Japanese newspapers, as suspicious aliens. Confinement camps sprang up on each of the islands, the largest being at Sand Island outside of Honolulu Harbor. Authorities later moved some of those confined to Honolulu in the western plain of Oahu, where they lived in tents within a barbed wire compound.

The rest of the population, whether Japanese, Chinese, Filipino, Hawaiian or *haole*, existed under a state of martial law. Hawaii's citizens were subject to strict military rule, with tribunals substituting for courts, imposed mandatory curfews, censorship and food and gasoline rationing. Military police recorded the fingerprints of all citizens over six years old. The military government also set prices for food, established wage levels and set rents. Its offices were established in Iolani Palace, the one-time symbol of Hawaiian sovereignty, and the government directed the construction of air shelters, trenches and batteries to guard against future attacks. Public buildings, including Honolulu Harbor's famous Aloha Tower, received coats of camouflage paint.

As the war progressed and the Japanese Navy presented less of a danger, Hawaii became an important training and transit area for American troops in the Pacific Theater. Hundreds of thousands of U.S. personnel passed through Hawaii, where most saw palm trees for the first time and had a chance to experience Honolulu's famous attractions. Bars, restaurants and movie houses catered to soldiers and sailors. The government created a special red-light district in Chinatown for U.S. troops, following a long tradition of both legalized and ignored prostitution on the islands. To fill the need, mainland women moved to Hawaii, where they worked in one of the regulated establishments or operated independently in suburban houses, many frequented by military officers. There was also much innocent fraternizing between the military and civilian populations. The USO was active throughout the islands. The officer class dined with planters and plutocrats, cementing new relationships, while everyday military visitors played on the beaches, saw *hula* dancers and attended USO shows featuring stars such as Betty Hutton and Bob Hope. Others convalesced at Aiea Naval Hospital or in one of the many schools or colleges turned into makeshift medical facilities.

At the war's peak, Hawaii had almost as many military personnel as civilians. The overall service population increased from 28,000 in 1940 to 378,000 in 1944. Other necessary personnel came to the islands: shipbuilders, electricians, mechanics, carpenters, all recruited for the war effort. During the war, with the military personnel considered, the total population increased to 858,000 — the estimated figure for 1944 — thereby increasing the demand for retail, restaurant, and other consumer services.

Many of the service personnel were temporary residents, so the actual numbers of soldiers, aviators, marines and sailors passing through Hawaii was far higher. An estimated 300,000 soldiers completed "jungle training" at Schofield Barracks and other sites. The Royal Hawaiian Hotel issued over 200,000 passes to military "guests," giving them access to the hotel's facilities and the barb-wired beach outside its doors. Both temporary and long-term personnel needed housing. There were also needs for new supply depots, offices, repair shops, bunkers and much more. By the end of the war, the military controlled some 400,000 of Hawaii's 4 million acres. These contained tent cities, wood barracks, Quonset Huts and offices were for all of Hawaii's forces and trainees. Camp Tarawa in Kamuela on the big island of Hawaii housed over 4,000 marines. Oahu was host to at least 50 similar installations. Hawaii's waterfronts were virtual hives of activity, with materials shipped in by the thousands of tons. This included concrete and concrete block, wood for buildings and sheet metal for roofing, all known in Hawaii before the war but never in such quantities.

Hawaii's construction boom did not go unnoticed among the civilian population. Many worked as carpenters and masons, or did the hard work of digging foundations and pushing fill into Hawaii's coastal waters. Hawaii's primarily Asian population worked under and alongside mainland *haoles*, saw mainland people in subservient roles for the first time and became part of a bigger American struggle to achieve victory in the Pacific. Japanese residents were particularly eager to prove their loyalty, at first joining auxiliary brigades such as the Varsity Victory Volunteers and then enlisting in disproportionate numbers to fight in Europe. On June 15, 1942, Hawaii's Japanese volunteers became the 100th Battalion, which combined with the 442nd Infantry Combat Team to become one of the most decorated units of the war. Wartime service proved Japanese loyalties and also strengthened ties to the U.S. mainland. It gave Hawaii's soldiers insights into a world unlike their own and sowed the seeds of new democratic ambitions.

Hawaii's makeup changed dramatically as a result of the war. Many middle and upper class *haole* families evacuated to the mainland at the beginning of the war, fearing a possible Japanese invasion. Temporary service personnel found housing in rented houses and bungalows or took rooms in everyday peoples' houses. Many local residents found their incomes supplemented by rents. Despite wartime rationing of building materials, some people managed to build houses or additions for rental income. The old divisions between neighborhoods began to break down, with Japanese and Chinese residents moving into areas once preferred by the *haole* population and one-time single family areas providing housing for multiple residents. Local people met outsiders much like themselves, with similar values and similar social and economic status. The war, in short, provided a fresh vision for Hawaii's peoples and immigrant and native peoples.

B.3.2 Post War Developments

Returning veterans did not want to see a return to the status quo after the war. Having mingled for several years with Japanese-American soldiers from California and Washington — many of them former internees in one of the governments several camps — and having experienced both the mainland and Europe they had a different perspective and were further provided the opportunity for a college education utilizing the GI Bill. Martial law had ceased in Hawaii in 1944, nearly a year before the atom bombs fell on Hiroshima and Nagasaki, thus ended the world conflict. Hawaii's peoples were tired of the restraints and privations of wartime and eager to participate in what promised to be postwar prosperity.

One of the most immediate impacts of war's end was new attention to the islands' schools and colleges. While the population of adults had indeed decreased with the departure of many military personnel, the numbers of children did just the opposite. In 1945, the population of Hawaii was approximately 450,000. By 1950 it would increase to 499,794, and many of these were young children. Existing schools quickly proved inadequate to growing needs. School administrators pressed for temporary buildings and additions. At the same time the University of Hawaii and other colleges felt new pressures due to the number of returning veterans and others who had found their lives interrupted by the war. The university's new president Gregg M. Sinclair ordered a survey of facilities in 1945 and found the institution lacking. He asked the legislature to provide funds for a new science building, administration building, library and at least six new dormitories. With support from the G.I. Bill, returning veterans helped increase the university's population to 3,000 in 1946. By 1948, total enrollment reached 5,000.

The influx of returning veterans and the change from the war time economy helped spawn a short-term building boom. Private owners and local landowners quickly erected housing for veterans and their families. These included conventional, single-wall houses and also an increased number of small walkup apartment blocks. Some of these were near the university; others were in Waikiki and elsewhere along the principal bus routes. Commercial property owners invested in their own properties, now that materials were available to the civilian sector again. Wood fronted buildings along Waiālae Avenue, King Street and Dillingham Boulevard became concrete block commercial fronts and metal roofed and walled structures replaced older wood warehouses. Some military housing and other buildings also became available; a few ambitious developers recycled these into apartments and commercial buildings. Surplus Quonset Huts also were recycled for new commercial uses.

Despite the evident postwar boom, Hawaii's planter oligarchy assumed that business would return to usual. Sugar profits climbed in the late 1940s, asserting the power of Hawaii's top-down agribusiness. Sugar production, which had hit a peak just before the war, began to climb again in the late 1940s, reaching almost a million tons by 1949. Pineapple's fortunes also turned upward. Factories went back on line and more workers found employment in the industry. Other kinds of jobs faded quickly with the wars end. The Pearl Harbor Shipyard cut back severely on employment, as did the other military installations. The demobilization of soldiers also meant an exodus from the islands. There was less competition for goods, but also less work to do. Between 1945 and 1949 real per capita income declined an average of 5.7 percent a year.

The labor movement moved into the vacuum of unemployment to try to improve conditions. Prohibited during the war, the newly created trade unions of Hawaii went into relative hibernation during the first years of the conflict. In March 1943, however, the National Labor Relations Board resumed and unions had the right to organize workers again. The military government in Hawaii complied with the new recognition of workers' rights and oversaw the formation of a Hawaii Employers Council, with West Coast lawyer James P. Blaisdell serving as its first chief negotiator. In July that year, labor organizers formed the second local of the International Brotherhood of Electrical Workers (IBEW) and early the next year the Teamsters created the first local union.

The unions moved quickly to change the balance of power and rewards in Hawaii. In 1944, the ILWU strongly backed Democratic candidates for the Hawaii Territorial Legislature, winning election for 16 House members and 8 Senators. Passage of the Hawaii Employee Relations Act in 1945 helped facilitate union efforts by granting agricultural workers the same rights to organize as industrial employees. The ILWU, led by the colorful former merchant seaman Jack Hall, moved quickly to organize plantation workers, gaining majority support at 35 sugar plantations by the end of 1945. The union also resuscitated the dockworkers' locals and organized pineapple workers for the first time. With political backing, the union locals soon pushed for higher wages. Strikes in the sugar industry in 1946 and by workers in the pineapple factories and fields in 1947, while not fully successful, did cause some improvements towards wages and benefits. Transit workers refused to collect fares the following year; and in 1949 the ILWU staged its biggest strike when 2,000 of its workers walked off the job, crippling Hawaii's ports for nearly six months.

Gradually, conditions for Hawaii's laboring classes did improve. Plantation companies such as Ewa built a last generation of wood houses and promoted higher safety standards in the mills plus better working conditions in the fields. Among urban workers, wages also increased and the economy began to rebound. In 1949, the state showed a modest rate of economic growth and real per capita income increased by a little over 2 percent — despite the cumulative impacts of the dockworkers strike. New housing starts, new businesses and more orders for Hawaii's agricultural output began to keep pace, with sugar exports reaching a new high in 1950. Still dominated by a *haole* elite and still suffering from the privations of wartime, Hawaii's many peoples had begun the march toward the American dream.

B.4 Hawaii in the 1950s

B.4.1 Labor and Politics

The advance of the labor movement in the late 1940s did not come without cost. Many nonunionized workers and middle class residents resented the new power of the unions. The management class — particularly the old Republican leadership — was clearly at loggerheads with many of the union leaders, whom they portrayed as “outside agitators.” The success of Hawaii's unions came at a time of growing national fears of communism and the beginnings of the Cold War. Suddenly, Hawaii was under the scrutiny of the House Un-American Activities Committee as a particular example of the dangers posed by the communist menace. Others in the U.S. government agreed. Senator Hugh Butler of Nebraska saw the Territory of Hawaii as “a social bog ripe for the wrecking blow of Communism.”

Fears of communism in Hawaii neatly fit with the rising tide of McCarthyism on the mainland. The Territorial Legislature created its own subversive activities commission and requested a visit from a subcommittee from the U.S. House Committee on Un-American Activities to Hawaii. The subcommittee conducted hearings in Hawaii in April 1950, issuing subpoenas to many of Hawaii's labor leaders. Jack Hall and 38 other witnesses took the Fifth Amendment and refused to answer about their communist affiliations. The subcommittee cited the "Reluctant Thirty Nine," as the press called them, for contempt of Congress, sending the witnesses to federal court. Judge Delbert E. Metzger, a longtime opponent of unchecked federal power — he had had differences with military governance in the 1940s — acquitted all 39.

The House subcommittee was not satisfied. Collecting evidence from former union activists in Hawaii, the subcommittee turned the matter over to the FBI, which in 1951 thought there was enough evidence to arrest the ringleaders for conspiring to overthrow of the U.S. government. The case came before Judge Metzger, who set bail low, allowing the then "Hawaiian Seven," including Hall, union organizer John Renecke, Koji Ariyoshi, the editor of a Japanese left-wing paper and four others to return to their normal lives. Due to a protracted legal battle between Judge Metzger and the staunchly anti-communist fellow judge, J. Frank McLaughlin, the trial did not take place until 1953. The court convicted all seven under the anticommunist Smith Act and sentenced them to fines and jail time. Appealing the outcome, the seven were again out on bail, awaiting retrial. Despite return visits by U.S. Congressional representatives to look in to the affair, in 1958, with the tide of anticommunism on the U.S. mainland in retreat, the appeals court found the seven defendants not guilty.

While the anti-union faction in Hawaii was unhappy with the result, the acquittal of the Hawaiian Seven was a victory for the labor movement. Outspoken Republican opponents, notably powerful business leader Benjamin F. Dillingham, had hoped the trials would discredit Hall and other union bosses, but the legal battle had been only partially effective. Most union members remained loyal to Hawaii and the ILWU and other unions. The territory's own Subversive Activities Commission, nonetheless, pushed for other measures, including a proposed mandatory loyalty oath, to bring workers and their leaders into line. Local business interest also funded an anti-union and supposedly anti-communist organization called Imua to fight against union advances.

Their efforts, however, were again ineffective. Pineapple workers on Lana'i struck in 1951; in 1953, the ILWU began a four-day general strike to protest the conviction of Hall and the others of the Hawaiian Seven. In 1954, the "Hod Carriers," founded its first local; the Hod Carriers became the Laborers Union, representing many in the construction trades. And in 1956, 3,000 workers walked off the job to protest the visit of Senator James Eastlake of Mississippi, a member of the Senate Committee on the Judiciary, with a reputation as a strong opponent of labor interests. Still, matters started to settle down by the late 1950s. Negotiators, including Hall, averted a strike planned for 1956. The 1958 sugar workers strike, which affected 26 plantations, including some 13,700 union members, demonstrated a softer side of the labor movement. Known as the "Aloha Strike," workers avoided damaging the crops, allowing for irrigation while arbitrators worked out a settlement.

The efforts of the labor movement in the 1950s coincided with a quieter revolution on the political scene. The key event in this was the sudden rise of the Democratic Party as the

dominant player in Hawaii's political battles. Long the domain of disaffected supporters of the monarchy, some Native Hawaiians — others had allied with the *haole* establishment — and “Home Rule” advocates, the Democratic party began to change in the late 1940s to become a more inclusive party of opposition to the longstanding Republic oligarchy that had controlled Hawaii's affairs since the beginning of the territorial period. Leading Democratic figures by the 1940s included Judge Metzger, John Wilson, Ingram Stainbeck and Oren Long. One Democrat, Lincoln Chandler had served as Hawaii's Congressional delegate in the 1930s; and both Stainbeck and Long had held the appointed office of Governor of the Territory of Hawaii during the Roosevelt and Truman administrations, although Long held the office for only for a single year. Still, the majority of local legislators were Republicans who still held the purse strings of power in the territory.

The great force behind what would become the “Democratic Revolution” was John A. Burns (1909-1975). Born in Montana, Burns had been a resident of Hawaii since 1913. A member of the Honolulu police force, he turned to politics late in life and worked in the late 1940s to bring Hawaii's sugar workers and ethnic minorities into the fold of a newly constituted Democratic Party. Humble and quiet spoken, Jack Burns was an unusual flag bearer, but he managed to steer a neutral course between the policies of the ILWU and less radical workers and everyday people. His principal victory was in enlisting recently returned Japanese-American veterans into the party and tapping out several rising talents among them, notably Daniel Inouye (b. 1924), George Ariyoshi (b. 1926) and Spark Matsunaga (1916-1990).

While other ethnicities had been an important part of the Democratic Party before, Japanese support was the critical new element in the party's rise. In 1952, the Democrats finally gained half the seats in the territorial legislature. Two years later, Burns led the party to a stunning victory in the legislative elections, with Democrats winning 11 races to hold a total of 22 seats (against 8 held by Republicans) and clear majorities in both the House and Senate. (Burns himself was less successful. He lost a race to unseat Hawaii's congressional delegate Joseph R. Farrington (1897-1954), a liberal Republican and son of onetime governor Wallace Ryder Farrington (1871-1933), running unsuccessfully again against Farrington's widow in 1954.)

Hawaii suddenly had changed from a society based on class and ethnicity to one in which anyone could hope to succeed. Old stereotypes remained and the *haole* business class still controlled most power and influence; however, there was a distinct sense of optimism in Hawaii that gave hope to a new kind of world.

B.4.2 The Move toward Statehood

Nothing would symbolize that hope more than Hawaii's admission to the union as the fiftieth state in 1959. This shift had been building for a long time. At the time of annexation in 1898 there was no improvement for Hawaii statehood, In fact, as historian Gavin Daws points out in his history of Hawaii, most of the leaders of the Republic of Hawaii acceded to territorial status on the grounds that Hawaii would never become a state. Among the first proponents was Prince Kuhio, who as a congressional delegate in 1921 introduced the first statehood act. Long an advocate of Home Rule, Kuhio realized by this point that statehood might well tip the balance of power in Hawaii back to Hawaiians themselves and away from the colonial overlords who had come to dominate the politics and economy of the islands.

The idea of statehood came up again in the 1930s; however, the U.S. Congress had twice defeated bills to admit Hawaii to the union. Some of this was due to racial prejudice. Hawaii had been a territory longer than many other former territories that were now states. It also had a larger population than many states. Other U.S. territories, including Puerto Rico and the U.S. Virgin Islands, had equal claims to statehood but there had been little, if any move to consider this possibility. It was World War II that changed the equation. The only direct victim of enemy hostilities, the people of Hawaii had proved their worth in the eyes of many. A place unfamiliar to the majority of Americans had shown demonstrated its spunk and support, and many on the mainland thought this deserved proper recognition.

Advances in technology contributed to the argument for recognition. The war had demonstrated how small the world had become. Once a distant archipelago in the middle of the Pacific Ocean, Hawaii now seemed closer to the mainland due to the links forged by airplanes and radio. Many U.S. service personnel had passed through Hawaii during the war; many had experienced longer tours of duty there. The 1930s radio show "Hawaii Calls," which had introduced Hawaiian songs and, of course, the ukulele to the American public, still broadcast from the courtyard of the Moana Hotel in Waikiki. The show, which reached its high of popularity in the 1950s, persevered until 1975, and at one time was syndicated on 750 radio stations throughout the world. Host Webley Edwards introduced listeners to the strains of *hapa haole* music, a melding of elements from ancient *mele* and Western jazz making these part of America's musical repertoire as well.

By the war's end, few questioned Hawaii's right to be a state. J. Gardner Anthony, Hawaii's attorney general during the war, said during a hearing in 1950 that any remaining opponents would have to be bigoted or "ignorant." There were, of course opponents such as Walter F. Dillingham. He thought that martial law had been the best thing for Hawaii's unruly laboring class and wanted it perpetuated in part through the system of appointed governors and limited representation. Lorin P. Thurston also objected to statehood, denouncing the idea on the editorial page of the *Honolulu Advertiser*, in which he had a controlling interest. These of course were the voices of the old oligarchy, a segment of the population that for so long enjoyed special privileges. There was opposition for other reasons. Alice Kamokila Campbell, the wealthy descendant of Hawaiian *alii*, lamented the fall of the monarchy and dreaded rule by what she considered an outside Asian majority. Other Native Hawaiians also opposed statehood in a quieter way.

By the late 1950s, statehood seemed an inevitability. It was gaining popularity with the majority of the territory's residents. A poll taken in 1940 showed two out of three people in Hawaii favoring statehood. Ten years later, when a convention took place to consider a possible state constitution, 85 percent of the eligible voters turned out and approved the document by a distinct majority. Congressional delegates had regularly kept the idea of Hawaii being a state afloat in congress; Hawaii's appointed governors had advocated on behalf of statehood. These included Ingram Stainbeck, Oren Long, Samuel King Wilder and President Eisenhower's 1957 appointee, William F. Quinn. Hawaii's Statehood Commission kept the idea very much alive as did the territorial legislators, who regularly passed new resolutions supporting statehood status.

Mainland support came out in favor of Hawaii becoming a state. A survey conducted in 1946 indicated that 60 percent of mainland residents believed Hawaii should be a state. In 1954, the

number of favorable responses in a similar poll reached 78 percent. Successive Secretaries of the Interior, from the 1930s on, had been behind Hawaii's entry into the union as a state. President Truman had approved the idea as did President Eisenhower. While the labor disputes of the early 1950s and the accusations of rampant communism dissuaded some U.S. congressional representatives — Senator Hugh Butler remained an opponent of Hawaii's entry as a state until a visit to the islands in 1952 changed his mind — most slowly came around to the idea. (Senator Strom Thurmond of South Carolina raised the specter of the "Eastern Menace," but gained few converts to his cause.)

In 1956, the voters finally elected John Burns as Hawaii's non-voting delegate to the U.S. Congress, a move that would cement Hawaii's bid for statehood. Assiduously lobbying on behalf of the statehood measure, Burns forged an alliance with Southern Democrats, Liberal Republicans and Alaska's representative Bob Bartlett to overcome opposition in Washington. In the meantime, Hawaii's own opponents reconsidered and in some cases retreated from their earlier positions, conceding that statehood might be Hawaii's best course. Burns, in a tactical move, pressed for Alaska's entry as the 49th state, reasoning that Hawaii would soon follow. He was right and in January 1959, the house considered a new statehood bill. On March 11, 1959 the Senate passed the bill, with both Governor Quinn and Jack Burns prominently present. The next day, the House passed the final bill, making statehood a reality.

The required plebiscite in Hawaii took place in June. With 240 precincts reporting, only one came out in opposition: the island of Niihau. The Native Hawaiians population on Niihau was influenced by the Robinson family, who owned the island and who remained opposed to statehood. Niihau's objections would resonate in later years as Native Hawaiians began to question the status of the Hawaiian Islands and what had been lost.

B.5 The 1960s and Statehood

B.5.1 Economic and Social Change

Statehood for Hawaii coincided with a radical change in the economy of the islands. Part of this was due to statehood itself. Hawaii's new status assured outside investors, most from the U.S. mainland, that their money was safe. This resulted in a significant building boom, both of office space and new hotels and resorts. There was also new investment in condominiums, some for Hawaii's existing residents, but many more for visitors and new residents from the mainland and Canada. Hawaii's old agricultural economy faced fresh challenges from the outside too. Sugar, for a longtime the mainstay of Hawaii's economy, faced new competitors. First the Caribbean and South America and then later India, Australia, Indonesia and Thailand could produce sugar more cheaply. As protective tariffs fell away in the 1950s, it became increasingly difficult for Hawaii to compete. Pineapple followed in the footsteps of sugar and its producers soon found it impossible to hold on to market share against countries with lower labor costs and land values.

The shift away from sugar production was not immediately apparent. In fact, from the late 1950s well into the 1980s sugar output in Hawaii increased significantly. In 1954, Hawaii's sugar plantations produced about 900,000 tons for export. In 1964, the total was a million; by the early 1970s production was about 1,200,000 tons annually. In fact, 1966 was the biggest year on record, with production of 1,234,000 tons. Prices for sugar were declining during this

same time. While Hawaii made up for this through new efficiencies in equipment and techniques of growing and harvesting — Hawaii was distinctive for having the greatest output per acre of any sugar growing place in the world, due in part to these factors and the continual improvement of sugar strains grown by the Hawaii Sugar Growers Association — island producers could still not keep pace with sugar companies in other countries.

The Big Five companies, whose management had shifted increasingly to the mainland, saw the handwriting on the wall. Companies such as AmFac, the successor firm to Hackfeld and Co., began to divest from sugar and turn to other forms of real estate investment, often on the mainland. Landowners saw fresh opportunities. The heirs to the James Campbell Estate, which owned much of the Ewa Plain in Oahu, began as early as the mid 1960s to reexamine the ways to use the land more profitably, beginning negotiations with the City and County of Honolulu to rezone the area for new housing and business development. This would eventually become the “new town” of Kapolei, on which more visible work began in the 1980s. Other owners and developers concentrated on Waikiki and downtown. The Bishop Trust, which retained ownership over large tracks of lands throughout the islands, began to lease property for resort and condominiums development. These and other landowners also encouraged new housing subdivisions in Hawaii Kai, Aiea and elsewhere.

The main driver behind the new development was the newly realized tourism industry. Struggling at first — some owners, such as Roy Kelly, recall how tenuous the business of running a hotel was in the 1960s — the industry quite quickly expanded to meet new demands. A graph of visitor arrivals expresses this the most dramatically. In 1958, 171,367 people arrived in Hawaii on holiday. In 1960, there were 296,249 visitors. In 1970, the number hit 1,745,904. By 1980, the figure would reach 4 million. Hawaii benefitted from passenger jets and the rise of the mass tourism industry; it was far enough away to constitute a “distant” vacation, but close enough to reach in a single flight, at least from the West Coast. The fact that Hawaii was an “American” and not a “foreign” destination helped lure potential customers.

Sudden growth in construction was an immediate outcome of the new industry. Expansion of the Honolulu Airport and other facilities on the neighbor islands was an early priority. The government initiated planning and land acquisition for the expansion of the John Rogers Airport in 1956. In 1958, Public Law 85-534 authorized the Air Force to transfer 170.99 acres of land to the Territory of Hawaii for the new Honolulu International Airport. The last territorial governor, William Quinn presided at the ground breaking on February 5, 1959. Financed with \$15 million in bonds and direct appropriations, the new airport welcomed its first regular jet aircraft service in 1959; the following year United Airlines introduced its new DC-8 passenger aircraft. On the island of Hawaii, officials instigated the expansion of Lyman Field. New airports at Lihue on Kauai and Kahului in Maui followed shortly after.

Other government-backed construction kept pace with the airport. New roads, especially the federally financed H-1 expressway stretching from Pearl City to Honolulu (replacing the earlier Mauka Arterial, begun in 1953), further contributed to other commercial and residential developments. By the mid 1960s, Oahu in particular was in the middle of an unprecedented construction boom. Three and four-story walk up apartments, multistory high-rises — the first was the Rosalei in Waikiki, begun in 1954 — and new shopping centers quickly altered the appearance of metropolitan Honolulu. In downtown Honolulu, the gradual process of replacing older grid-patterned streets and relatively uniform collection of Renaissance-inspired buildings

was soon well underway (Photo B-3) By the late 1960s, commentators were fond of calling the construction crane Hawaii's official state bird.

Suburban expansion accompanied changes in Honolulu's skyline. New suburban tracts, including Kahala and Hawaii Kai, the latter the brainchild of California entrepreneur Henry J. Kaiser (1882-1967), transformed the landscape of Oahu. Less heralded developments in Pearl City and Waipahu, once distant plantation towns, and the further infilling of Honolulu's more remote valley areas, such as Palolo, Kalihi and less settled part of Nuunau added to the change in the new state's urban fabric. (Similar changes took place at a smaller scale in Hilo, Wailuku and many other towns throughout the islands; although these are less documented and therefore less well known.)

Military expansion added as well to Hawaii's changing environment. Hawaii had demonstrated its importance again during the Korean War. From 1950 to 1953, American troops rotated into and out of Hawaii from the Korean conflict; bases such as Schofield and Kaneohe worked to keep pace with growing demand for housing and training facilities. Tripler Army Medical Center, associated in many peoples' minds with World War II, opened in 1948 just in time for the waves of casualties coming from the conflict on the Korean Peninsula. The Vietnam War also impacted Hawaii from an early period. In 1966, Hawaii's famous 25th Infantry Division deployed from Schofield Barracks for a tour in Vietnam. The 29th Infantry Brigade, Hawaii National Guard, was placed on active duty in 1968. Many soldiers from Hawaii served in the conflict and passed through on their way to the fighting in Vietnam. The arrival and departure of air-transports, cargo planes and fighter jets and bombers were a common sight at Hickam Air Force Base. Commercial carriers also carried troops, many of them draftees, off to the distant war.



B-3

1956 Downtown Honolulu

(<http://www.urbanplanet.org/forums/index.php/topic/24948-back-in-the-day-flash-backs-of-hnl-i/>)

Hawaii's more permanent, non-military population also experienced a radical transformation during this period. Part of this was simply a rise in the overall numbers of residents. In the first U.S. census as a state in 1960, Hawaii had a total population of 632,772, up from 499,794 ten years before. Of these, about 30 percent were Caucasian, another 32 percent were Japanese, 11 percent were Filipino, 6 percent Chinese and the rest fell under "Hawaiians," "Part-Hawaiians" and Pacific Islanders. In 1970, at the end of the statehood "boom period," the population had increased to 768,561, with significant changes in ethnic or racial distribution. Of this total, fully 298,160 were now *haoles* and 443,292 were Asian or Pacific Islander. (The number of people identified as "Negro" or Black — many members or former members of the U.S. military — remained steady throughout this time at about 7,000, or roughly one percent of the total.)

These shifts in population indicated important changes in Hawaii's overall makeup. For the first time there was a substantial number of working and middle class *haoles* on the islands.

Many of these were former service personnel, who had experienced Hawaii during World War II or later the Korean or Vietnam Wars and decided to stay or return after their service. Others came for new opportunities in construction and tourism as part of the overall boom in Hawaii's economic fortunes. At the same time, Hawaii's Japanese, Korean and Filipino workers were reexamining their goals and strategies. Family size among Asian residents plummeted, as more people entered the ranks of the middle classes and placed a priority on education over agricultural and industrial wages.

One of the great contributors to this reassessment was the state's investment in schools and in its institutions of higher learning. Reorganized as the Department of Education in 1962, Hawaii's school system initiated an ambitious program of school expansion to meet the demands of a growing population. These included major changes to both rural and urban schools and the construction of many new schools and school buildings. By the late 1960s, Honolulu had 55 elementary schools and 24 high schools with 76 elementary schools and 17 high schools spread elsewhere on the island of Oahu. Figures are similar on other islands, as the state moved to make education accessible to Hawaii's multiethnic population.

The state's institutions of higher education also grew to meet the new need. Both Brigham Young and Chaminade Universities began in 1955 in anticipation of growth. Under President Laurence Snyder's term in office, from 1958 to 1963, the annual appropriation for the University of Hawaii doubled, as did student enrollment and faculty numbers. New science and other buildings sprang up along McCarthy Mall, including the new physical Sciences Building and Classrooms A and B, later renamed Webster and Spalding Halls, respectively. The new Health Research Institute joined these in 1962, later named Snyder Hall to honor the university's dynamic president. Added to these buildings was the East West Center, which began in 1960. The center was instituted as part of a social, educational and political commitment by Hawaii and the U.S. Department of State to improve contacts between Asia and the U.S. It was designed by upcoming Chinese-American architect I.M. Pei, marking a high-point in Hawaii's efforts to define itself as a place of harmony and cross-cultural understanding.

B.5.2 The New Role of Government

Although it is tempting to credit the Democratic Revolution of 1954 with the many of the changes Hawaii experienced in the 1960s it is not so simple. The Democrats suffered a set back in the 1959 pre-statehood elections, with former Republican governor William Quinn winning the popular election against Democratic gubernatorial candidate John Burns. The Republicans gained the majority in the new state senate.

Burns did not stay out of the governor's seat for long. In 1962, he won his first gubernatorial election, with local lawyer and later jurist William S. Richardson (1919-2010) serving as his running mate. The electors returned him to office in 1966 and in 1970 as well. Burns would hold the office until ill health in 1973 made him step aside to George Ariyoshi (b. 1926), who as lieutenant governor served out the rest of Burns's term. (The people of Hawaii elected Ariyoshi to the governor's seat in 1974. He served until 1986.) Burns oversaw many of the most dramatic changes in Hawaii's economy and social makeup. He also helped refine Hawaii's place in the world, both to the new state's residents and to outsiders from the mainland and elsewhere.

The Burns' governorship ushered in a new period of federal funding in the state. Replacing the paternalistic stewardship of the old *haole* elite, the new, primarily Asian controlled government moved to provide a new level of support and protection, while at the same time encouraging new business and investment. Funding for highways, schools and the university, hospitals and public health became hallmarks of government efforts in the 1960s. Some of this constituted direct funding, as Hawaii was able to take advantage of programs aimed at U.S. states through agencies such as the Department of Education, Department of Housing and Urban Development and Department of Transportation.

The products themselves of new social and political ambitions of the Kennedy and Johnson administrations — the Department of Housing and Urban Development began only in 1965; the Department of Transportation in 1966 — the both new and older government agencies strongly supported Hawaii in its own efforts. Highway funding was the most visible expression of federal support. Hawaii's highway miles increased fourfold in the 1960s. The H-1 and H-2 took shape under the Interstate Highway Program and other federal funds improved the territory's old highway network. Federal funds also paid for new schools, provided loans for houses and businesses and subsidized new airports. Little in fact was untouched by the new bounty of federal support.

Federal funding, eagerly sought by Hawaii's new representatives — Daniel Inouye became Hawaii's first elected voting member of Congress in 1959 and began his Senate term in 1963 — also contributed to new planning initiatives of the 1960s. The Department of Housing and Urban Development paid for planners to draw up new zoning regulations and the beginnings of a statewide plan. The department also underwrote ambitious schemes for urban renewal in downtown Honolulu and Chinatown. The Capital District, with the new Hawaii State Capitol at its center was also a product of federal assistance. The state in turn tried to match the federal government's standards of largesse. Both the state had its own highway program, its own parks and provided significant support to the state's educational initiatives and schools. County government contributed — to roads, parks and new planning initiatives.

Hawaii's labor unions gave further support to federal, state and county government efforts. Union activity spread beyond the sugar industry to include groups such as the hotel workers (HREU, Hotel and Restaurant Employees Union), civil service workers (HGEA, Hawaii Government Employees Union) and state teachers (HSTA, Hawaii State Teachers Association). Other industries, such as the teamsters and dockworkers, were still under the purview of (ILWU, the International Longshoreman and Workers Union). This made for a powerful mix, one that led some critics on the mainland to see Hawaii's new experiment not only as an effort to reach racial and ethnic harmony, but also to rearrange the economic direction of the country as a whole. *Forbes* magazine many years later would declare Hawaii "America's only socialist state" in large part because of the balance among government, labor and industry introduced during this period.

Despite Hawaii's apparent progressivism, much of the state's prosperity still hinged on outside support. This included not only monies available through federal programs of the Great Society Era, but also Hawaii's special line of funding through the U.S. military. Military investment soured during the Vietnam War period and remained high even in its aftermath, in the 1970s. It was not only the raw expenditures of the U.S. Department of Defense, but the impact beyond the bases. Economist Kyohei Sasaki estimated in 1963, that every dollar spent

on the military in Hawaii multiplied three fold in the general economy. Workers at Pearl Harbor, owners of rental properties, laundries, mom-and-pop stores and the airline industry as a whole all benefitted from the money coming to support the troops, sailors and other personnel stationed in Hawaii or trained in the state.

Hawaii received other kinds of federal assistance. There were funds for urban renewal through HUD and direct funding through the U.S. Department of State for the East West Center. The newly inaugurated Peace Corps established a training facility on the Hamakua Coast, near Hilo, where thousands of young people trained to become America's ambassadors in Asia, Africa and Latin America. The National Parks Service made a substantial contribution to Hawaii's greater economy. The continuing appeal of national parks at Haleakala and Kilauea — both parks dated back to the beginning years of the service in 1916 — along with the new Arizona Memorial, completed in 1961 and dedicated the following year, also involved assistance and continuing personnel support.

Statehood had been good economically for Hawaii. New investment, federal support and the rising tourism industry had changed the balance of power in Hawaii, providing opportunities that the onetime immigrant laboring class had hardly foreseen. New cars, new homes and work outside the plantation had made Hawaii a more democratic place to live. Its special significance to World War II and its strategic location in the middle of the Pacific Ocean gave it added importance as the U.S. continued to project its presence into North, East and Southeast Asia. Hawaii was a way station between the East and West, a place where world travelers stopped to readjust to North America or to prepare for the cultures of Asia. Once home to a proud Polynesian people and then a place of economic hardship for imported laborers (and wealth for a small elite), Hawaii was now a vibrant and modern tropical paradise, with beaches, modern hotels and condominiums and a "happy people" strumming ukuleles in unceasingly cloudless sky.

B.5.3 The Image of Hawaii

Hawaii worked hard to project this soporific image to the rest of the world. The comic book character "Little Lulu" made a trip to Hawaii as did "Dennis the Menace" and his family. (They stayed at the Hilton Hawaiian Village, in a grass-roofed cottage.) The Hawaii Visitors Bureau worked hard to promote Hawaii's new image. It supported women hula dancers dressed in grass skirts to greet arriving passengers at the airport and subsidized lei to convey *aloha* as signature elements of the bureau's continuing campaign to make visitors happy. Once supported by private donations, in 1961 the Hawaii Visitors Bureau received an annual allotment from the state's Department of Planning and Economic Development. There were advertising campaigns on the mainland and campaigns aimed at Hawaii's own population to underline, as the bureau announced, "the benefits of tourism to the community." Hawaiian entertainers went to the mainland to promote the islands; they also traveled to Japan and other parts of the world.

Hawaii became a known leader in the new worldwide phenomenon of mass tourism. Emissaries from Australia, Canada, Tahiti, Fiji, Samoa, Taiwan, Korea and Alaska came to Hawaii to learn its methods. Hawaii based architectural firms, notably those founded by George J. "Pete" Wimberley just after World War II, created the basic prototypes for resorts around the world. Hawaii's efficiencies, the organization of tours, in-house hospitality and the

general friendliness of its multicultural people became the hallmark of postwar tourism. Hotels based on the “Hawaii model” would spread eventually to other Pacific islands, to mainland and island Southeast Asia and back to the U.S. mainland.

For those who could not yet afford a vacation to Hawaii — or did not serve time there in the military — Hawaii came into their homes through the postwar medium of television. *Hawaiian Eye* (shown on ABC, 1959-1963), *Adventures in Paradise* (also ABC, 1959-1962) and the seminal CBS series *Hawaii 5-0* (shown from 1968 to 1980) projected a vision of Hawaii around the world. Movies featuring Hawaii included *From Here to Eternity* (1953) set at Schofield Barracks and featuring Frank Sinatra, Deborah Kerr and Burt Lancaster; *South Pacific* (1958), supposedly Tahiti, but filmed in Kauai; Elvis Presley’s famous *Blue Hawaii* (1967); and the lavish Department of the Defense backed *Tora! Tora! Tora!* (1970).

Through the process of exposure and recognition, Hawaii had become the everyman’s tropical playground, accessible and increasingly affordable to North America, Australian and European visitors. People from Hawaii, now entering the solid middle classes, could travel to the mainland, to California and the new phenomenon of Las Vegas. Mainstream American culture came to Hawaii. Drive-in restaurants and movie theaters; *tiki* bars — as much a part of California’s cultural background as Hawaii’s — hula hoops, motorcycles and scooters, ice-skating and a whole range of North American pastimes and toys. Asian popular culture infiltrated Hawaii; Japanese science fiction action figures and comics became popular with Hawaii’s Japanese and Chinese kids, as a special alternative to the novelties of the mainland.

The 1960s were a time when Hawaii’s ancient pastime, surfing, began its first steps toward becoming an international phenomenon. Revived in Hawaii in the early 20th century and popularized by Olympic Gold Medalist Duke Kahanamoku (1890-1968), Hawaii’s “Ambassador of Aloha,” surfing was resulted in the early 1960s in California and Australia. The film *Gidget* and many other “Beach Party” movies, the singing groups the Beach Boys and “Surfaris” helped popularize surfing with the growing youth culture. The evolution of the short board, which made turns quicker and the sport more visually exciting, added to surfing’s broad appeal.

By the late 1960s, Hawaii was the mecca for enthusiasts. Surf shops opened in Waikiki and the North Shore, spawning a plethora of T-shirt vendors, beach photographers and shell jewelry shops. Hawaii’s new celebrity brought other changes as well. Fast food shops — the first Zippy’s opened in 1966, the first McDonalds came in 1968 — joined the jostle of the streets replacing the traditional *saimin* and “shave ice” shops of plantation days. New forms of American music and shows from the mainland replaced longtime Waikiki entertainers; different forms of Hawaiian music continued to be popular. It was in 1963 that newcomer Don Ho (1930-2007) moved from his mother’s small club in Kaneohe to perform regularly in Waikiki.

With the end of the decade Hawaii had “matured” into its new role as an internationally known tourist destination. “Brand Hawaii” had a well established reputation, from the nightclubs and beach of Waikiki through surf spots, pineapple fields and the daily Kodak Hula Show, held since 1937 in Kapiolani Park. The “Hawaiian Shirt,” known locally as the “Aloha Shirt,” with its origins in the 1930s, became the standard for resort wear around the world. North American tourists, once famous for visiting in groups, felt comfortable coming to Hawaii on their own.

Package tours, discounts, coupons and staged *luau* and *hula* performances had become standardized practices. In 1963, the Oahu branch of Brigham Young University opened its new “Polynesian Cultural Center” in Laie to provide students scholarship money and offer a new tourism venue for Hawaii’s visitor industry. The closest most visitors would ever get to an exotic Polynesian island the center offered a safe excursion to another time and place — much as did Hawaii itself.

B.6 The Conflicted 1970s

B.6.1 War and Resistance

Due to Hawaii’s significant military presence, the Vietnam War of the 1960s and early 1970s had an unusually strong local impact. Hawaii had a large standing force throughout the war, numbering as many as 100,000 military personnel during this period. U.S. soldiers en-route to and returning from Vietnam augmented this number. Hawaii was also an important training center for U.S. troops, the slopes of Hawaii’s mountainous military bases serving as substitutes for the terrain of Vietnam. Planning for the war took place at the U.S. Army command center in Aiea.

Gunners from Hawaii’s 25th Infantry Division held the distinction of being the first American combat troops sent to Vietnam. This was in April 1963 and would mark the beginning of a stream of U.S. Service personnel sent to Southeast Asia from bases in Hawaii. As the war escalated, Hawaii remained an important center for rotations into and out of Vietnam. An estimated 1.5 million troops were either stationed or passed through Hawaii during the ten years of the war. Over 4,200 received treatment at Tripler Army Medical Center, which played a key role in providing for the war wounded.

The Hawaiian Islands also served as a meeting place for U.S. leaders and their Vietnamese counterparts; both Presidents Johnson and Nixon held high-level policy meetings in Hawaii. Johnson came six times; Nixon met with Vietnamese President Nguyen Van Thieu at Midway in 1969. Early in the war, Hawaii’s Fort DeRussy became an officially designated R&R (Rest and Relaxation) destination for U.S. military personnel. Some half million soldiers and sailors chose Hawaii as their respite from the war, often joined by family members at the many hotels in Waikiki. Local businesses benefitted greatly from the upsurge of business, with an estimated \$191 million pumped into the local economy between 1966 and 1973. Hawaii would also be the first point of contact for returning prisoners of war, the first of which arrived at Hickam Air Force Base on Valentine’s Day 1973.

The war engendered both patriotic ideals and bitter conflict. As opposition to the war increased during the late 1960s, Hawaii became a particular focus of anti-war efforts. The Church of the Cross Roads near the University of Hawaii became a sanctuary for war resisters, and students from the university joined their cohorts on the mainland in staging protests and burning draft cards. The strong presence of military personnel in the islands added to tensions, as the clash of cultural values became more evident. Sections of Waikiki became well established pockets of countercultural expression, as long haired and short-skirted mainland and local youths joined the older generation of surfers and beachcombers that had longed formed the fringes of the resort area’s population.

Anti-war protests merged with the environmental movement during the 1970s. The first Earth Day was in 1970, and young people in Hawaii saw an immediate connection between Hawaii's fragile environment and the concerns of the rest of the world. The Outdoor Circle (founded in 1911) and the Hawaii Audubon Society (begun in 1928) pioneered, new grassroots activists in the 1960s and 1970s. John Kelly, Jr. founded Save Our Surf (SOS) in the early 1960s. In 1968, a Hawaii branch of the Sierra Club began. The Nature Conservancy opened its Hawaii office in 1973. Imbued with the sense of urgency of the antiwar movement, the activist organization Life of the Land started in 1970; the spin-off organization, Hawaii's Thousand Friends started up later in the decade. Once the newly minted lawyers from the University of Hawaii's law school began their professional lives, environmental activism had already taken deep roots in Hawaii's soil.

The television show Hawaii Five-0 caught much of the tension and ambiguity of this period. One of the most popular TV shows in history, Hawaii Five-0 lasted from 1968 to 1980 and introduced Hawaii to many on the mainland and other parts of the world. With its multi-ethnic cast, the show seemed to exemplify a new postwar era. It also portrayed the problems of people on the islands, facing the threats of drug dealers, international smugglers and con-artists. From its opening shot of star Jack Lord on the roof of the 1964 Ilikai Hotel in Waikiki, through its explorations of new suburbs and modern hotels, Hawaii Five-0 was a paean to the modern era and the new complexities of statehood.

B.6.2 Historic Preservation

The 1970s saw the birth of a local historic preservation interests. Veterans of the environmental movement, young architects, planners, community activists and others began to question the development trends and planning models of the previous decade. Nascent historic preservationists lamented the loss of many of the characteristics of old Hawaii. The new movement was both antiquarian and "New Age" in spirit. Helen Cole, Agnes Conrad, Francis Jackson and Nancy Bannick, all drawn to historic preservation for different reasons, spearheaded an effort to document Honolulu's remaining historic places and buildings. This resulted in a first inventory of downtown Honolulu and a book focused on Honolulu's heritage, published in 1969. In 1972, architect Geoffrey Fairfax followed with another book on the city's historic buildings.

The preservation of Iolani Palace was a lynchpin in the new historic movement. The residence of Hawaii's monarchs, Iolani Palace became a symbol of the islands' history and the buildings that once defined an "older" Hawaii. Governor John A. Burns initiated the effort to preserve the building in the 1960s, encouraging the palace's listing as a National Historic Landmark in 1962. The Junior League of Honolulu, with the guidance of Alice Guild and other members, began to research the palace's history and begin the first steps towards restoration. This effort morphed into a new organization called the Friends of 'Iolani Palace, which took control of fundraising efforts. Under Geoffrey Fairfax's direction and the work of then young architect Glen Mason, the palace was the subject of a multi-year restoration project, completed in 1978.

Preservationists also faced the challenge of numerous other historic buildings; the Alexander Young Hotel, the mid-19th-century Courthouse and Parliament, the King Kamehameha V Post Office and Aliiolani Hale became the foci of preservation efforts — some successful, and many not. The Young Hotel went down in 1968; the old courthouse fell in 1971. Other efforts

bore fruit. These included the restoration of Aliiolani Hale, beginning in the late 1970s, the conversion of the old post office to a community theater and private rehabilitation efforts throughout the state. On other islands, activists worked on behalf of historic Lahaina on Maui, declared a National Historic Landmark in 1962; fought for the preservation of Volcano House, a historic hotel on the Island of Hawaii; and began the long task of reinvesting in historic buildings as places of continuing value.

One of the great historic preservation victories of the 1970s was the preservation of Honolulu's Chinatown. The longtime center of Honolulu's nightlife, Chinatown had degenerated, by the early 1970s, into a warren of prostitution, homelessness and substance abuse. Through efforts by Nancy Bannick and others, the slow but inevitable move to demolish the historic shops and residences of the area through the federal Urban Renewal program of the Department of Housing and Urban Development came to a halt. The newly funded State Historic Preservation Office (SHPO), under the leadership of Jane Silverman, took a strong role as well in this effort.

Chinatown became the model for other preservation efforts. Architect Bob Fox and Dorothy Riconda Pyle, both with the SHPO, documented many of the historic structures, completing National Register nominations for many historic properties. Later Fox — by then a private developer — and investors such as Robert Gerrell, began a process of reinvestment in historic buildings that would begin to turn the area around. At the same time, pioneering historic preservationists, such as artists Ramsay (with husband Norman Goldstein) and Pegge Hopper, made individual commitments to rehabilitate historic buildings within the Chinatown core. Working with the city, local preservationists managed to reverse these trends and move toward both recognition and active promotion of the area as a Special District (originally a Historic and Cultural District), under the city and county's planning law.

Although Chinatown remained an important catalyst for historic preservation, there were other efforts begun by a group of like-minded community activists. Historic Hawaii Foundation was organized in 1974 as a statewide non-profit organization, dedicated to preserving and encouraging the preservation of sites, buildings, structures and objects significant to Hawaii's history. The charter membership drive in 1976 resulted in some 1750 members, which formed a constituency for some of the major preservation efforts of the era. The newly established SHPO began a statewide survey program, focusing on historic commercial buildings, houses and communities throughout the islands. Architects especially became involved in the effort. The Honolulu Chamber of Commerce's City Beautification Committee (founded by Alfred Preis, architectural designer of the Arizona Memorial), pushed for preservation of the threatened Kukui and Aala Triangle areas and worked with business owners and residents who were being forced out.

Sometimes successful, just as often not, the new generation of activists began to feel they could offer alternatives to contemporary planning and architectural practice. There was a realization that architects and planners did not have a monopoly on design ideas; for the first time citizens began to enter into the dialogue and have an impact on the built world.

The 1970s, then, were a time of reassessment and general distrust of the architectural status quo. New personalities became involved in the built environment, and other kinds of interests began to have a say in the direction of development in the islands. The 1970s witnessed the

emergence of community activists, fighting to preserve both threatened inner city areas and rural communities. Many took Pete Seeger's criticisms of suburban America to heart and wanted to resist the proliferation of suburban tract homes and "modern" buildings lacking in regional emphasis or character. Disdaining the many "houses made of ticky-tacky," a new generation also listened to Joni Mitchell's soulful "Big Yellow Taxi"— a song inspired directly by the unchecked development she saw in Hawaii in the 1970s.

New laws of the 1970s helped to guide this new level of activism. The National Environmental Policy Act (NEPA) of 1969, the National Historic Preservation Act (NHPA) of 1966, the Archaeological Recovery Act (ARA) of 1974 and the Archaeological Resources Protection Act (ARPA) of 1979 shifted responsibility increasingly onto governmental agencies to do more to document and preserve historic resources. The 1970s marked the emergence of amendments to the state code, requiring both agencies and developers to be attentive to both historic buildings and archaeological sites. Issues such as protected "view-sheds" also became part of the statewide planning process, helping to preserve special areas within the Hawaiian Islands.

The 1970s witnessed the advent of contract archaeology in the state and the founding of numerous environmental and cultural resource management firms still working in the state today. Whereas developers and government agencies once did mostly what they wanted, they were now constrained by laws, statutory review and compliance measures to take further account of the impacts of actions on the environment and upon traditional places.

B.6.3 The Hawaiian Renaissance

A final product of the 1970s was the resurgence of Native Hawaiian activism and the beginnings of a new concern for Hawaiian rights. Sometimes called the Second Hawaiian Renaissance, to distinguish it from earlier efforts, the movement had a strong foothold in the lively musical traditions of the islands. Gabby Pahunui and the "Sons of Hawaii," Keola and Kapono Beamer and others revived the language through their songs and reintroduced young Hawaiians to the value of their past. The "Merrie Monarch Festival," held in Hilo and named after King Kalakaua, had begun in 1964, but took on an even stronger sense of cultural mission in the 1970s as dancers began to further celebrate traditional forms of *hula*.

By the late 1970s, this new attention to the culture of Hawaii took on stronger overtones, as many young Hawaiian rejected the values of the West and began to explore alternative forms of cultural practice. Hawaiian language schools, the revival of traditional farming, the reclamation of fishponds, renewal of traditional healing arts and new attention to Hawaiian crafts converged. For some activists, thus became the foundation for a new sense of sovereignty. Activist causes, especially the fight to wrest Kahoolawe from the U.S. military and land struggles in Kalama, added to the movement's strength, as did the celebrated voyages of the Hokulea, a traditional double-hulled canoe launched by the Pacific Voyaging Society in 1975. This essentially cultural movement had important political ramifications. A constitutional convention of 1978 resulted in the creation of the Office of Hawaiian Affairs (OHA), which for many pointed to future independence for Hawaiian people.

The Hawaiian Renaissance had profound impacts on many aspects of life in Hawaii. Young Hawaiians took a new pride in their heritage and began to press for the preservation of cultural sites and continuing cultural practices. Issues such as disturbed Hawaiian burials became to

gain public attention as did the impacts of modern development on places once sacred to Hawaiian people. The tourism industry, which had always drawn upon Hawaiian culture as part of the overall “tourism product,” began to reassess the ways the industry employed Hawaiian culture and correct some of its wrongs. George Kanahale, a scholar, musician and activist, reconsidered what constituted a “Hawaiian Sense of Place,” and convinced tourism officials that a greater appreciation of Native Hawaiian values was an essential part of wise development. Hotels themselves began to emphasize “Hawaiian-ness” in the promotional materials and in their guest services.

B.7 Envisioning the Recent Past

By the late 1970s, Hawaii’s simple hope for acceptance as “America’s Fiftieth State” and confidence in a future defined by educational opportunity, openness to new ideas and progressive governance had begun to fade. Voices of opposition to new housing tracts in Hawaii Kai and mega-hotels on the Kona Coast of Hawaii Island (the big island) and the Kaanapali Coast of Maui became increasingly vociferous. Honolulu’s blossoming skyline of condominiums and office buildings began to elicit a response not of pride but of deep concern. Driven partly by nostalgia and further fueled by a sense of loss and feelings of outrage and sadness, this new attitude changed the way people perceived their environment and the forces that directed its future. Many in the state saw the modern architecture and planning that had dominated Hawaii since the end of World War II as less a goal for a new society than as a threat to longtime values.

In 1974, the newly founded Historic Hawaii Foundation began to advocate for the preservation of the historic Royal Hawaiian Hotel. Built in 1927, or only 47 years before the beginnings of the new organization, the historic hotel stood unquestionably as a symbol of an older Hawaii — one that the members of the foundation clearly wanted to preserve. Other buildings and places fit the same paradigm, from Beaux Arts office buildings through distinctive residences created in the 1920s and 1930s. “Regionalist” architects such as C.W. Dickey and Hart Wood, gained new respect as practitioners who had appreciated the values of Hawaii and gave expression to the islands’ unique “sense of place.”

A few modernist architects seemed to fit this model. Alfred Preis, Claude A. Stiehl, Vladimir Ossipoff and a few others still built houses and offices that celebrated Hawaii’s past and its attractive, semi-tropical climate. Other architects, however, seemed to ignore the special circumstances of Hawaii, and continued to impose a kind of architecture that threatened local values. Far from being simply another style or group of styles in the long history of architecture, modern architecture — whether “International Style,” “New Formalist” or “Brutalist” — the new architecture seemed out of synch with the tempo of the time in the same manner that the Beatles and Rolling Stones replaced the “Rat Pack.” Alternative approaches to the built environment seemed for many to offer a better hope for the future.

Ironically, the contributions of local, mainland and international architects during the period between 1945 and 1980 — a time many consider as the height of the “Modernist” era — are now falling under the historical lens. Noted first by architects and designers, many of whom once worked on the newer buildings of that time, modernist architecture has become a subcategory of historic preservation. National and international organizations, such as DOCOMOMO, have become new advocates for architecture of the time.

This new appreciation has come late to Hawaii, where other types of social movements, from environmental preservation through the Native Hawaiian sovereignty movement, have taken precedence. Hawaii nonetheless possesses many fine examples of modernist architecture and many more “prosaic” examples of buildings from that era. There appears to be little local support for the preservation of buildings of the “Recent Past,” since many people still see the buildings of the post World War II era as contradicting more than supporting Hawaii’s values. As time passes, it is hoped that more and more of Hawaii’s citizens will accept that these buildings also represent part of the state’s history as well as the role of the Hawaiian Islands in a greater world.