Reinvigorating Waikīkī: Multi-Sensory Architecture for Urban Agriculture

Yukihiro Yamaguchi
December 2013

Submitted towards the fulfillment of the requirements for the Doctor of Architecture Degree.

School of Architecture
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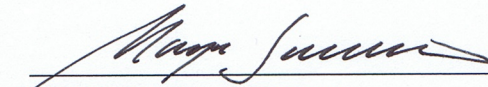
Doctorate Project Committee
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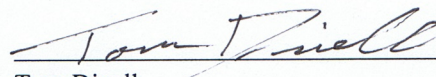
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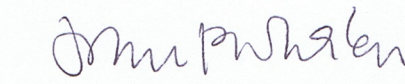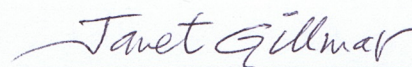
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Abstract

One of the great tourism destinations of the world, Waikīkī has been evoking and providing unique and attractive images in the minds of many visitors for years. Lately there has been a plan that one of Waikīkī 's icons, The International Market Place, will be demolished and redeveloped (The International Market Place Revitalization Project). This project's program and concept are somewhat similar to the proposal in this study. The research started with "people's images of a place." These images are important for a city in order to determine the quality of urban planning and to conceptualize architectural design. I utilized public input to identified my development site. The aim of this research is to change previous images of Waikīkī and enhance them with a new image that reflects sustainable planning and design development. Therefore, I have focused on visitors' images of Waikīkī and their hometowns in order to understand what kind of spatial qualities affect their memories. Based on this study, the visitors' images of Waikīkī are primarily positive. In reality, however, Hawaiʻi and Waikīkī have many problems that impact the environment, such as a lack of recycling, inadequate transportation, agriculture and aqua-culture issues, as well as, water and energy concerns. Therefore, this project will apply the dreams of these people to a realistic world and proposes a new sustainable solution including urban agriculture with an international event, Expo Hawaiʻi 2020. This event is transition, but the dream city will perpetuate a new image for many people and solve several problems of the environment that will continue to benefit the sustainability of Waikīkī long after the Expo concludes.

Chapter 1 Introduction

According to Krieger, "Today, with the world's urban population surpassing three billion people, urban design has become more crucial than ever."[1] The goal of urban design is to create a sustained connection between man and nature even as population increases, and to contribute to a community's health, economy and environment. People want to live in or visit an interesting place, and most city dwellers have a mental image of what constitutes an ideal urban life. As such, it is important to ask how we should design a space that provides people with both aesthetic pleasure and a positive emotional experience. I believe that designers or architects need to sympathize with what people want, which also means learning about their values. In my research, I've found that it's important to understand people's preconceived images when coming up with new ideas for developing a site, and those images can play a vital role in the creation of new designs.

Each city usually has a specific image that can be described in terms of the sense of place. A positive image attracts people and invigorates the city and its inhabitants, inculcating in them a sense of pride. There is an important relationship between this imagistic sense of place and urban design, which often has a goal of creating a more positive view of a city. My goal for this research project was to understand how human memory and perception[2] are related to our images of cities. To better understand the connection between places and our images of them, this project looks at a destination: Waikīkī, in Honolulu, Hawai'i.

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[1] Alex Krieger, 2009
[2] Lynch, 1

This research aims to answer the question: How we can create, enhance, and perpetuate a sense of place or an idealistic image while balancing "the imaginary form" of the city? The purpose is to understand human perception and memory and how people create new, attractive spaces in order to demonstrate how we might apply a positive image of a city in our design.

The inspiration for this thesis was the images of Hawaiʻi I had while growing up and living in Japan prior to my move to this locale. The images were of positive things like a "tropical paradise" or even "heaven on earth." After I began to live here, my previously held images mingled with my experiences of the real world and became more genuine. However, the positive images of Hawai'i still remain because this region has a balance of imaginary and real forms.

This research aimed to understand the pros and cons of images that balance one's perception of a city. Because of the complexity and diversity of modern society, it can be difficult to perpetuate or enhance a sense of place or an idealistic image. A case study of Hawaiʻi, especially Waikīkī, is a good example of this issue; it is a place that usually evokes positive images in visitors, yet also faces problems of expansion.

Many places within Waikīkī provide attractive images for visitors even before they have arrived. This research seeks to better understand how people either retain or modify their preconceived images after visiting a site. Understanding people's images prior to their visit helps determine what kind of information people should be provided with at the site, and how it might affect their memories. This is done by studying the previous memories of visitors through their experiences in their hometowns, and the new memories created by the media including paintings, drawings, photos, movies, television,

and the Internet before visiting the site, during their visits, and after they leave the site.

Visitors tend to seek out places that evoke positive images in their minds when they decided to travel to new sites. People's memories tend to mix with reality and experience at a new site. It is important to find out how this process of image creation impacts people, and under what circumstances their positive images of a new site are maintained. "The imaginary form" is not a real form, but there is a relationship between the real and imagined images of a place; they complement and correlate to each other. For this research, the goal is to investigate the relationship between human perception and memory and how that relates to what makes a space attractive, and the perpetuation of a sense of place or an idealistic image.

This research focuses on images that tourists have of Waikīkī and their hometowns. What is their image of Waikīkī? What is their image of their hometown? Where are their favorite places or least favorite places? My research sought to determine the elements that evoke images by using memory drawings, sorting photographs of Waikīkī, and mapping favorite and least favorite places, all of which were used to describe human memory and perception. The hypothesis was that relationships or connections between the images and places enhance or perpetuate a sense of place. In a subsequent step, these elements of visitor perception became the foundation for the architectural design development of a site.

For my literature review, I selected texts that discuss topics in urban design, phenomenology, human perceptions or memories of a city, and actual designs for a city; all of these helped inform my research on "an imaginary form" of the city. According to the Royal Institute of British Architects, "Urban design is an integral part of the process

of city and regional planning. It is primarily a three-dimensional design, but must also deal with the non-visual aspects of environment such as noise, smell or feeling of danger and safety, which contribute significantly to the character of an area."[3] A city or building has physical form, but people in an urban environment experience more than just that visual form by taking in the character of a place through all their five senses. K.E. Boulding has written, "To make people imagine is an essential human action because we depend on images for our behavior."[4] By analyzing our sensory perceptions, we can further control and create informed urban designs.

The Image of the City, although written in 1960, still contains many relevant ideas about urban design. In it, Kevin Lynch asks, "What does the city's form actually mean to the people who live there? What can the city planner do to make the city's image more vivid and memorable to the city dweller?"[5] He created an innovative method to break down visitors' perceptions of their urban surroundings into five elements, Path, Edge, Node, District, and Landmark, which could be combined to visualize a "public image."

As Lynch said, there are "highly imageable" [6] (apparent, legible, or visible) places and "less imageable" places when people imagine a city. Is "high imageablity" good for the image of a city? How have people created ideal images? Of course, in actuality there will be both positive and negative images of a city. What can people or architects apply from their ideal images to inform their future designs? Is there a way to create an ideal city, or is it a utopian dream, as Rowe and Koetter claim?[7]

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[3] Royal Institute of British Architects, 3
[4] K.E. Boulding
[5] Lynch
[6] Lynch, 10
[7] Rowe and Koetter, 15

Can we apply Lynch's method to Hawaiʻi or Waikīkī? How can we find the "hidden forms"[8] of people's imagination in this context? My research seeks the elements that promote the images of this region. In this thesis, the imaginary form is defined as a medium between image and place that has a pattern created by our imagination or fantasy.

As my case study included multiple methodologies such as qualitative research, correlational research and logical argumentation, I sought out positive and negative elements that are related to the perception of a site. My case study, Waikīkī, is a good example of a place of which visitors have very positive images. With this approach, my research attempts to clarify the historical background and context of the region. Also, many architects working in Hawaiʻi have affected the buildings and landscapes in this region, such as C.W. Dickey and Vladimir Ossipoff. These architects have, along with the natural environment, created Hawaiʻi's image. But what are the imaginary elements of Hawaiʻi as seen in Waikīkī? To answer that, my research will focus on visitor perceptions of Waikīkī in relation to memories of their hometowns.

Waikīkī evokes attractive images for visitors even though they may have not previously visited the place. For my forthcoming design, it is important to know how people retain or change their preconceived images after visiting the site. To understand people's images prior to visiting a site, I looked at what kind of information people previously knew and how it affected their memories (see Japanese travel book 1). The complete imaginary form is created from previous memories through their experiences in their hometowns, new images through media before visiting the site, and new memories after a visit.

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[8] Lynch, 4

Japanese travel book 1: Media often use this kind of image (Diamond Head and ocean).

"*How to Walk for Earth*" Published by Diamond-Big Co., Ltd., Tokyo, Japan.

Today, information and images from nearly every place in the world are readily available, and it is not even necessary to leave home to obtain them. As such, people can easily conjure up ideal images before they travel to a destination such as, Waikīkī. Experiencing the real image of a place will likely elicit different feelings and images of the site, either positive or negative, than their preconceived images. Are visitors likely to feel an ideal sense of place? In other words, what is the image of Waikīkī?

In order to find out the imaginary form of Waikīkī, the memory sketch method of Clare Cooper Marcus[9] was employed in my research. These drawings revealed perception and memory related to a place. This also related to the person's age or the amount of time spent in a specific place because as times change, perception change. Using this method, I collected data and created maps for Waikīkī. An additional goal was to find out which places people visit frequently (the most dense places), as well as to check and compare the data (perception and memory) with the place (real world). The end results are the key elements for the "imaginary form" of a place.

It is also necessary to consider the chronology of how people develop their images. What is a person's image of the site today? To tap into this chronology, and to include people's memories of experiences in the past, the respondents were asked to make a memory sketch of their hometown. Because the participants were from different regions or cultural backgrounds, drawings of their hometown help in understanding their

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[9] Marcus, 1995.

memories of a place that they are already attached to. These drawings reflect a previous image held by visitors, while those of Waikīkī reveal a current image. These drawings can provide a window into a participant's perception. What do visitors tend to find attractive, charming, and appealing in Waikīkī now? Additionally, through mapping research and sorting thrrough photographs of Waikīkī, it was possible to further define positive and negative spaces in Waikīkī that will be the basis of choosing my design development site.

To understand the relationship between "imagination" and "reality," my research adopts and applies Pallasmaa's method from the book, *"The Embodied Image: Imagination and Imagery in Architecture."*[10] Pallasmaa points out that great art and architecture evoke our five senses and connect or mediate our mental and physical world. He clearly shows imaginary elements with his concrete examples comparing paints, drawings, photographs and sculpture or architecture.

People tend to travel for new experiences with a previous image of their destination. Their memory tends to mix with new realities or experiences throughout the new site. To find out more about this process of developing an image, the focus of this study is to find out how persons are able to maintain their image of a site when including new multi-sensory perceptions.

When a past memory of a space is analyzed, I can observe what qualities of a space create attractive images. These qualities of space then reflect whether there are common qualities in their perception.

As for my hypothesis, the basic paradigm is that there is an imaginary form in a sense of place. "Imaginary form" consists of elements from compositional space in

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[10] Palasmaa, 2011.

previous experiences, and connects to a new space as a new experience creates comfortable or pleasant feelings. My research sought these elements in specific categories: "Symbol," "Boundary," "Frame," "Vista," and "Multi-Sensitivity" (described in Chapter 4). These elements emerged from tourists' drawings (hometown and Waikīkī). Additionally, by sorting photographs of Waikīkī and mapping favorite and least favorite places, I checked actual places and determined the factors that influence the sense of vision, smell, taste, sound, and touch. When a positive drawing of Waikīkī is compared with a positive drawing of a tourist's hometown, common elements are a principal factor in analyzing a sense of place from the tourists' perspective. When negative places are found, these places can be fixed with a new image and connected to the existing sense of place.

As my goal in the forthcoming design project was based on the results and analysis of my research, I am proposing a design development site with an international exposition called "Expo Hawai'i 2020." This international event will provide economic benefits, incorporation of the community, and educational experiences in Hawai'i and outside of Hawai'i. This event will be at a state or national level, so stakeholders includethe United States and state of Hawai'i. The member countries of APEC (Asia-Pacific Economic Cooperation) will also cooperate and provide their own exposition booths. This event's theme is sustainability for the future, for people to live in a balance withnature. The event can introduce new ideas to sustain our economy, society and environment and to share an open innovation with the world. Based on Hawai'i's nature and culture, the Expo will introduce our sustainable future.

For this plan, the entire area of Waikīkī will be used. My proposed site (defined

from my research) will be at the center of the event with a fixed building; after the Expo,

this building will be a Hawaiian cultural center. Open spaces, parks, streets and the ocean

will also be used as sites for temporal structures using sustainable design (no impact to

the land). Each space for the event will be connected by existing pathways, bike lanes,

signs, banners, and lighting. This approach will provide a new image for tourists and

locals. Although this Expo is temporary, it will affect new development in Waikīkī by

providing incentives for new designs. This event and development will create and

enhance a new memorable image of Waikīkī and its sense of place. In addition, new

sustainable technologies, such as solar energy production and urban agriculture using

aquaponics, will remain as examples of ecologically conscious design long after the

Expo.

To form the basis for the design inquiry, Chapter 2 addresses the issue of urban

design and "image" by describing why "image" is important. Chapter 3 describes

Hawai'i's existing context through its community, history and culture. Chapter 4 defines

the sense of place for visitors and the elements of "imaginary form." Chapter 5 describes

my own research methods applied from existing methods such as memory sketches,

sorting photographs of Waikīkī, and mapping favorite and least favorite places. Chapter 6

is an analysis of these results, and explores possible options for the design development.

Chapter 7 includes a specific decision for a design plan from the analysis of the data.

Chapter 8 describes Expo Hawai'i 2020 and its new design with an application of the

research. Chapter 9 describes outcomes of the new design, and the papaer concludes with

diagrams, drawings, and rendering images in Chapter 10.

Chapter 2 "Image" and City

2.1 Image and Urban Design Issues

In the world, there are many cities that have strong images with landmarks and symbols. Strong landmarks and symbols alone, however, do not necessarily create a good place because each person or group (with a different experience or cultural background) has different preferences and different ways to perceive the world. Therefore, it is important to understand why we have positive images and negative images of a site and how they are formed. For example, in my opinion, Egypt has a strong image of spirituality based on the pyramids and desert, but also a feeling of fear because there are many negative images (developing country, terrorism, unsanitary, conditions, poverty, and crime). On the contrary, I perceive Paris as an artistic place with many positive images that I want to experience. I can imagine people's activities in streets, small shops, and open cafeterias. Of course, I can imagine the Eiffel Tower as a landmark or symbol of France. However, these are just associations of images and do not directly connect to an overall quality of the image. In other words, if we can imagine a human scale activity or community at a site, we can associate landmarks and symbols with positive images. Actually, I have never visited Egypt or France. These images are my stereotypes. If I travel to either site, I would find more positive or negative activities of people, and my image may change or stay the same. It is difficult to fix a negative image, but if we have an attractive image of a site, there is an opportunity to expand upon the positive image.

There are complex issues involved in creating a sense of place for a city, such as increasing density, economic impact, land use, transportation, environmental protection,

energy use and housing. If there is no plan for addressing these challenges, a city will express "placelessness" that cannot sustain a community. Because of these complex social issues, there is difficulty in creating a positive image. This is primarily a task for politicians and lawmakers: however, architects and urban planners can help by addressing spatial problems that may contribute to negative public images. By analyzing these, they can solve problems, and improve the image of a city.

2.1   Sustainability

Sustainability is another issue in considering the image of a city. Herman gives one definition of sustainability: "Sustainability is a balanced approach that considers people, planet, and prosperity. By "people, " this definition means community well-being and equity, "planet," refers to the environment and resource conservation, and "prosperity" economic vitality." [11] To create "sustainability," our common image of a city is a foundation for a healthy "community," "environment," and "economic vitality." For example, if a city has a good image, the people will be proud to live there and have more consideration for the environment. Additionally, a unique and attractive city will attract many visitors that in turn, sustain the economy. As a sustainable place, Expo 2020 will create a new image of Waikīkī with new sustainable designs. With new sustainable technology for agricultural land and aquacultural waters, there is hope for Hawaiʻi and its culture. The strength of the culture will be expressed by this Expo.

2.2   Perception, Memory, and Image

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[11] Herman

Our image of a place always depends on past memory (based either on personal experience or preconception) and present perception (senses). These relationships are strongly connected to each other (Table.1). With regard to personal experiences, this past memory of a physical environment comes from childhood through not only visual, but also physical experiences,[12] which are fundamental in spatial perceptions and how they attach one to a place growing up. These past memories tend to connect and are applied to new experiences. Along the same lines, Expo 2020 will relate to previous experiences that then lead to a new image of Waikīkī. This event creates a very different image from the current stereotype of Waikīkī as a resort-like destination. The new image will represent Waikīkī as a sustainable, eco-friendly city.
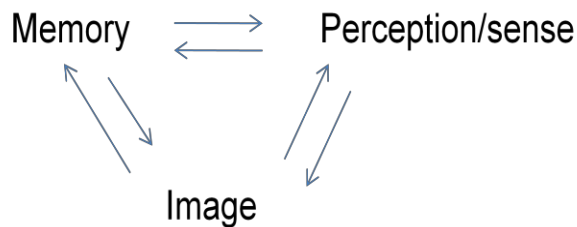
Memory ⇄ Perception/sense

Image

Table 1. Relationship of image, perception and memory.

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[12] Tuan,19-35

Chapter 3 Hawaiʻi: Waikīkī

3.1   Mainland vs. Hawaiʻi

Although Hawaiʻi is a state of the United States, it has a totally different image from the U.S. mainland because of the unique community, culture and history. Hawaiʻi is an archipelago located in the central Pacific Ocean and it consists of the eight main islands. Because of the natural beauty, warm tropical climate, inviting waters and waves, and active volcanoes, many tourists visit this region from the mainland and other countries. When not including U.S. tourists, Japanese visitors rank first in total number and thus have a significant effect on the economy of the state. (Table 2.)[13]

CATEGORY AND MM	2010	2009	(%) Change
VISITOR ARRIVAL	7,083,663	6,517,054	8.7
Visitor arrivals by air	6,982,425	6,420,448	8.8
U.S. West	2,960,783	2,718,818	8.9
U.S. East	1,631,867	1,561,468	4.5
Japan	1,239,481	1,168,080	6.1
Canada	406,452	346,583	17.3
Europe	114,568	104,403	9.7
Oceania	161,793	136,717	18.3
Other Asia	168,486	110,380	52.6
Latin America	20,008	17,502	14.3
Other	278,987	256,498	8.8
Visitor arrivals by cruise ship	101,239	96,606	4.8
PER PERSON PER TRIP			
SPENDING $	1,576.3	1,533.4	2.8
Visitor arrivals by air	1,596.0	1,552.5	2.8
U.S. West	1,337.8	1,275.6	4.9
U.S. East	1,786.2	1,725.7	3.5
Japan	1,532.9	1,563.5	-2.0
Canada	1,840.4	1,814.3	1.4
Europe	2,026.3	1,888.7	7.3
Oceania	2,035.4	1,873.7	8.6
Other Asia	1,654.0	1,618.7	2.2
Latin America	2,527.5	2,186.4	15.6
Other	1,978.7	1,973.0	0.3
Visitor arrivals by cruise ship	220.9	260.9	-15.3

Table 2. Visitor Statistics (2010 vs. 2009 Hawaiʻi)

In the history of Hawaiʻi, after the first contact with Europeans (1778), Hawaiian culture started to adopt and transform. Since missionaries came to Hawaiʻi,

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[13] Department of Business, Economic Development and Tourism, "Annual visitors research report," http://hawaii.gov/dbedt/info/visitor-stats/visitor-research/2010-annual-visitor.pdf

Christianity for the most part replaced indigenous beliefs. Moreover, not only did the belief system change, but also Hawaiian culture transformed to include new customs, language, clothes and buildings.

During the plantation era, several ethnic groups arrived in Hawai'i, starting with the Chinese who migrated to Hawai'i (around 1790).[14] Later, Japanese immigrants first arrived in 1868 as laborers for the sugar cane and pineapple plantations.[15] The descendants of these Japanese are one of the major and most influential ethnic groups in Hawai'i today. At their height in 1920, they constituted 43% of Hawai'i's population. As such, this had a significant impact on Hawaiian culture.[16] These influences have been adopting and mixing with Hawai'i's culture.

3.2 Multi-Culture

In my interview with Dr. Francis Oda (influential architect in Hawai'i and Group 70 CEO), he said, "Multi-cultural expression is appropriate for architecture in Hawai'i."[17] This expression would be more closely aligned with Hawai'i's image because of the variety in the community. This mixed culture mediates a comfortable place for new visitors that come from countries from all over the world because Hawai'i has an image that mediates European, Asian and Hawaiian cultures and their expression. According to

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[14] *Wikipedia,* "Chinese immigration to Hawaii," http://en.wikipedia.org/wiki/Chinese_in_Hawaii
[15] *Wikipedia,* "Japanese in Hawaii," http://en.wikipedia.org/wiki/Japanese_in_Hawaii#cite_note-HEAEG1980-0
[16] *Wikipedia,* "Japanese in Hawaii," http://en.wikipedia.org/wiki/Japanese_in_Hawaii#cite_note-HEAEG1980-0
[17] Francis Oda, interview with Yukihiro Yamaguchi, November 22, 2010.

Mumford's *Report on Honolulu,* there is a balance of diverse ethnic groups (Hawaiian, Japanese and Chinese) as "a multicultural city."[18]

3.3   My Image of Waikīkī: Positive and Negative

Before researching tourists' images, I sought an answer to what and how my own positive and negative images emerge from a specific site. In this case study, I focused on Kalākaua Avenue. I am very conscious of this street (from the statue of King David Kalākaua to Kūhiō Beach) because there are many attractive spots, views and activities for visitors and residents. When I attempted to walk along this avenue on August 28, 2011 (around 12:30 pm), I realized that particular areas of the avenue evoke different feelings or images. I categorized four sections based on my observations and physical characteristics and conditions in order to analyze better or worse conditions along Kalākaua Avenue.

SECTION 1. Statue of King David Kalākaua and Fort De Russy Park to Saratoga Road - "Peaceful" and "Lonely"

My positive images of this section are composure, peacefulness and a tranquility because of the green park with palm trees, shower trees, a banyan tree, the fountain, statue (Photo 1), sculpture (Photo 2), appearance of some buildings (old Kyo-ya restaurant, Photo 3) and luxury shops, and few visitors. Even though this area is where Kūhiō Avenue and Kalākaua Avenue separate, at the time of my observations, there was light automobile traffic (Photo 4).

Photo 1. Kalākaua Statue

Photo 3. War memorial sculpture

Photo 3. Old Kyo-ya building

Photo 4. View of Kalākaua Avenue

My negative images of this section include loneliness because there were some homeless people and the deserted Niketown building. Because this section could be an entrance and a good introduction of Waikīkī for visitors, it should be more populated. This will be addressed later in this study.

SECTION 2. Saratoga Road to Kanekapolei Street - "Flourishing Diversity" and "Uneasiness"

People tend to get together in this section because there are diverse interests and enticing functions for visitors and residents. "Flourishing diversity" is my positive image of this section. At Saratoga Road, I recognized some people and shops. At Beach Walk Street, there is a Hard Rock cafe (Photo 5) and Japanese noodle restaurant. I can hear

music and see people having lunch and drinking. When I am around the area of the

Royal-Hawaiian Center (Photo 6), there are large variety of shops, many tourists (from

Asia, the mainland, and other countries), and workers (sales people, servers, deliverers

and drivers). International Market Place appears different from other shops in Waikīkī

(Photo 7). From this bustling street circumstance, I feel a strong sense of prosperity

indicating that it could be regarded as the body of Kalākaua Avenue.

Photo 5. Hard Rock cafe.

Photo 6. Royal-Hawaiian Center.

Photo 7. International Market Place.

My negative image includes a little "busy," "uneasy" and "oppressive" roadway,

including some sidewalks and buildings because of the high-density of people,

transportation and high-rise buildings. Other negative features of this section include

bicyclists bicycling on sidewalks because there are no bike lanes (Photo 8), while skate

boarders also use the sidewalks in addition to a great number of pedestrians and people

carrying large objects (suitcases/surfboards) for which some sidewalks are too narrow

(Photo 9).

Photo 8. "No Bikeway."

Photo 9. Narrow sidewalk.

SECTION 3. Moana Surfrider to the statue of Prince Kūhiō - "Integration" and "Odor"

This section has a very different feeling from the previous section. My positive image is an "integration" of a pleasurable and relaxed resort because of the views of the beautiful ocean and sunbathing, swimming, surfing, canoeing activities. I saw many tourists (Photo 10), local visitors, and local workers attending to surfing or canoeing. In this section, there is an integration of resort and city. Because of this, tourists can interact with this beautiful nature and tourists can interact with locals.

My negative image is not visual, but the "odor" of homeless people. Actually I didn't smell it with my nose, but their appearance caused me to recall bad smells. This sense is based on my past experiences and memories of the smell in areas where homeless people frequent.

Photo 10. Sidewalk in front of Waikīkī Beach.

SECTION 4. To Kapiolani Park - "Entertainment" and "Oblivion"

My image of this last section is "entertainment" because there are spaces for events and entertainment (Beach Movie Theater, Honolulu Zoo, Honolulu Aquarium, Waikīkī Shell, and Kapiolani Park). At one time, I saw an event of longboarding polo in this area. Many locals and tourists observed this sport with great interest.

In contrast, the Waikīkī Natatorium War Memorial has been abandoned, even though historical events took place here and which elicited my negative image of "fallen into oblivion."

In this case study, I noted my positive and negative images of this street that were based on my observations. However, in order to find out what kind image Kalākaua Avenue has for tourists, it was necessary to do further research.

Chapter 4   Image and Sense of Place

4.1   Sense of Place for Visitors

What is a "sense of place" for people or visitors? Tuan describes in his book, "*Space and Place: The Perspective of Experience,*" that "experience" comes from a "direct and passive sense of smell, taste and touch, to active visual perception and the indirect mode of symbolization."[19] This process is important in order to understand how people and visitors feel the sense of place through their old and new experiences. The experiences of childhood are significant in developing memories. As an adult, memories of childhood could reflect and connect with new experiences. As a definition of a sense of place, the place has a "special meaning" through the combination of old and new experiences, and this place can create a good memory for visitors. In my research, hometown memory drawings were utilized as a way to understand this experience of past environments and their images, and new drawings of Waikīkī reveal the impact of new experiences on the sense of place.

4.2   Commonness and Safety

When I looked up favorite places of the Japanese in the world, I found out that many Japanese love Hawaiʻi and want to travel to Hawaiʻi.[20] But why do so many Japanese want to visit Hawai'i? Is it because of their good impressions or images of Hawaiʻi? Considering the commonness and newness in this region, is it a favorable

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[19] Tuan, 1977, 8

[20] "海外旅行に行ってみたい国" ("The Country where people want to travel"), #1. Hawaii-12.8 % #2.USA-8.4% #3.Europe-8.1% #4.Australia-7.6% (2009) http://www.tonashiba.com/ranking/pleasure/travel/04030045

and welcoming site that creates a sense of place for tourists? These factors create a sense of the experience during the visiting. Specifically, according to the visitors' answers described in Chapter 6, their image of Waikīkī is more favorable after the visit than before it. Just considering one factor, however, is not enough to fully understand why Japanese love the qualities of this space. I believe that understanding both factors is important in resolving the connection between their perceptions and memories of a place or building. As visitors will feel the quality of something being both common and new, there is a better and comfortable feeling, thus the region appears attractive to them. These qualities for visitors of Hawai'i of both a commonness and newness create new images for them that enhance their sense of place for this location.

There is also a relationship between common and new experiences with both the environment and culture. Usually, when visiting a new place, visitors might feel uncomfortable because of a new environment and culture. In Waikīkī, however, Japanese tourists tend to feel comfortable. Of course, this is due to several factors such as Japanese signs, magazines, restaurants and shops with staff, many of whom can speak Japanese. The great climate, attractive culture, and beautiful environment also makes them comfortable. In addition to this, according to my survey, there is spatial commonness related to previous experiences of their hometowns. In spatial qualities, the visitors seek common comfortable places that are much like those they have previously experienced in their hometown or childhood. This commonness can be connected to Tuan's "sense of place" and "prospect" and "refuge" theory, described by Jay Appleton in "*Experience of Landscape.*" This "safety" is a commonness between their hometown and new place, despite actually being two different places.

4.3　Previous Experience and New Experience

There are two types of previous experiences before visiting a place. One is a physical experience such as a bodily feeling through the senses. This could be reflected in the products of Hawai'i such as coffee, fruits, chocolate, nuts, Hawaiian music, aloha shirts and koa wood souvenirs. Through these products, people can feel thru their senses sounds, touch, taste and smells associated with Hawai'i. The other type of experience is perceived through media. These two types of previous experience are important in creating an image, especially after encountering the new experience. Without previous experiences or information such as this, visitors may not travel to Hawai'i, because people tend to be worried about going to completely new and unfamiliar places. Therefore, although these previous experiences may only come indirectly, they can help to promote positive images when new experiences complete the perception.

I have a personal example of a previous experience and a new experience in terms of a sense of place for a visitor. When I visited the Salk Institute in San Diego, designed by Louis Kahn, I felt a strong sense of place. There was an "imaginary form" when I entered the courtyard. Although this building is a biological laboratory, its configuration, spatial quality, materiality and the site, evoked a spiritual image of a great ancient shrine or temple with my "past memory." My "past memory" came from existing knowledge and information through media on Roman, Greek, Egyptian, Persian and Indian shrines or temples. Combined with this were my experiences of shrines, temples and old buildings in Japan. Thus, I unconsciously connected the new site with my past memories and experiences. In this way, an unconsciousness collection of past memories and experiences leads to a new image.

The next section describes "the five elements of imaginary form," which consists of "Symbol," "Boundary," "Frame," "Vista," and "Multi-Sensitivity." (See 4.4) A "Boundary," such as an entrance that hides a courtyard, evokes separate perceptions between the real world and the imaginary world. This was evident at the Salk Institute. Going through the entrance, visitors experience an open space within a "Frame." The "texture" of the exposed concrete and its form evoke an image of a "ruin" much like in great ancient temples or shrines. This "open space" and framing by the buildings on both sides of the buildings create a strong "Vista" which connects to horizontal line, the "Boundary." The combination of these elements with previous experiences, therefore, evoked an image of spirituality (Photo 12).

Photo 12. Salk Institute: The combination of the elements creates spirituality.

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4.4   Imaginary Form and Its Five Elements

What is "an imaginary form?" In this thesis, it is defined as a medium that creates a connection between "image" and "place," having a pattern from our imagination or fantasies. It also has a relationship with "symbol and communication."[21] As Venturi said, like a "duck and decorated shed," these are symbolic forms or representational

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[21] Venturi, 8

appearances that speak to us.[22] It promotes and evokes new images from past memories and experiences.

When visitors encounter new experience in a specific new site, this "imaginary form" will be a catalyst and mediation for people to feel comfortable and create positive images. The five elements are categorized below with descriptions of the characteristics of each element. These elements emerged from the visitors' drawings (hometown and Waikīkī) and were analyzed by the author. The arrangement and combination of these elements within Hawai'i's context identify what is the visitor's sense of place or what it is not. Additionally, a new arrangement and combination of these elements will be applied to the next stage of the design development.

4.4.1   The Element of "Symbol"

A symbol in a place usually creates an emphasis and focal point to promote and attract attention.[23] In my definition, in addition to this function a symbol also mediates a new appearance with a past memory and experience. Visitors' past memories and experiences could refer to a universal or a familiar object in their hometown among other previous conditions. For example, Picasso's "Bull's Head of 1944" (Fig. 2) describes a relationship between a new image and a past memory as well as having a "real meaning" and "imaginary meaning."[24] In present reality, this object is a combination of a bicycle seat and a handlebar. However, as an imaginary form with a past memory, this becomes a bull's head, although only for those who have experienced seeing a bull. These

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[22] Venturi, 87
[23] Lauer and Pentak, 50
[24] Rowe and Koetter, 138

relationships create a strong symbol because this promotes our imagination. In an architectural approach, this element of "Symbol" could be a landmark, building form, statue, sculpture or furniture. These symbols can connect to our dreams or fantasies.

 Fig 2. Picasso's "Bull's Head of 1944."

4.4.2 The Element of "Boundary"

According to Heidegger, "A boundary is not that at which something stops, but...from which something begins its presencing."[25] In other words, "a boundary" starts something by evoking our image through movement. For example, as shown in "*Plan of Peking Interpreted as Volume*" (Fig. 3), the centered design of the Forbidden City evokes an image. In Tuan's words, it is to go to "the top of the world or a sacred place"[26] by passing through the gates and via our movements. This perception of an urban form is based on the traditional Chinese concept of the emperor, called the "Son of Heaven," as a semi-religious figure ruling the citizens as Heaven's representative on earth in a "Mandate of Heaven." Similarly, Japanese Shinto shrines, especially those in Ise, evoke an image of a sacred place connected to imperial rule in the visitors mind when they pass through several getaways (*torii* gates) and elevated platforms. This configuration of a boundary generates our image with connection to previous memories or beliefs. In a place, the element of "boundary" can be an emotional starter to create a spiritual experience.

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[25] Heidegger, 152
[26] Tuan, 39

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Heidegger sees boundary as the basic definer of place, like visual lines. Adding to this, my definition of the boundary includes non-visual or multi-sensory elements of a space to emphasize our emotions and images in perception.
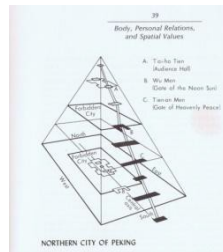
Fig. 3. "Plan of Peking Interpreted as Volume." Nelson I. Wu, *Chinese and Indian Architecture.*

4.4.3 The Element of "Frame"

Our movement and its sequence create a drama. When we take a pause in time and space, this evokes our emotion and associates past memories with a new, interesting image. If we look at the Japanese word, *Ma* (間- Ken, Kan, or Aida), which means time or space, the Chinese ideograph shows up as a spatial quality in a pause. The sides of the ideograph (門) mean "gate" and between this, there is the sun (日). Framing an object tends to give us an opportunity to evoke our poetic images. An intangible phenomenon or nature can be tangible within a "frame." Interestingly, this Chinese ideogram also means space and time, as well as a column of distance (Ken), interval, rest (in music), non-movement (Noh-drama), to name a few. According to Gunter Nitschke, *Ma* is to be stressed such that "a sense of place does not negate an objective awareness of the static or homogeneous quality of topological space with an additional subjective awareness of lived, existential, non-homogeneous space."[27] This can create a moment and frame beauty in a space.

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[27] Nitschke, 49

4.4.4 The Element of "Vista"

Depending on perception and memory, visitors feel comfortable or uncomfortable in particular places. In this study, these factors are referred to as the favorite and least favorite places of the visitors. According to the "prospect" and "refuge" theory by Jay Appleton in *Experience of Landscape,"* a balance of prospect and refuge creates a comfortable place because this balance creates a feeling of "safety."[28] When people associate safety or danger with a particular place, they tend to have a positive or negative image of it, respectively. This theory can be employed as one of the analysis tools for the memory drawings.

The relationship of "Vista" and "Shelter" and their arrangement can also be applied to identifying visitor images. In Hawaiʻi, there are cultural reasons for this balance of "Vista" with the mountains and oceans, according to Lewis Mumford's "*Report on Honolulu."*[29] (Published in 1945.) He does not mention the concept of *ahupuaʻa*, but in his plan for Honolulu vistas, he wrote of the importance of views of the mountains from the city and its park zones.

4.5.5 The Element of "Multi-Sensory"

When we experience an object, its appearance not only evokes the sense of vision, but it also triggers touch, smell, taste and sound. In childhood experiences, we learned these concepts through physical materials. Therefore, when we see a picture of a material, we can imagine its properties. "Multi-Sensitivity" describes not only visible aspects, but

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[28] Appleton, 108
[29] Mumford, 33-34

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also the quality of our vision, which can collaborate with the other senses (touch, smell, taste and sound) to recall our memories and impact our emotions. This element is a feeling or emotion about natural phenomena (senses of soil, rock, water, fire, sun, wind and their materiality) and social phenomena (e.g., homeless people, activities of community, economy and politics). These phenomena provide what Pallasmaa calls "existential experience"[30] in a space. A great architecture or landscape creates "Multi-Sensory" existential experiences.

As for the sense of touch, according to Pallasmaa, "Architecture and sculpture employing actual materials have what is called tactile texture -texture that can be felt."[31] He describes the relationship between architecture and the sense of touch in, "*The Embodied Image: Imagination and Imagery in Architecture,*" in which Pallasmaa claims that great arts and architecture with texture evoke our five senses and connect or mediate our mental and physical world through our imagination.[32] Applying his category of image in my research, textures affect our perception and memory to connect reality and imagination. For example, the great works of Alvar Aalto, the "brick collage" with old (discarded bricks from a previous structure) and new material, create a new experience with a past memory. This technical approach to a collage came from the Cubist idea that shows, "time, space, and emotion (nostalgia, longing and rootedness)" [33] within a place. Because the sense of touch from a texture has a memory of "old," it stimulates our emotions when in a new place.

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[30] Pallasmaa, 2005, 41-46
[31] Lauer and Pentak, 166
[32] Pallasmaa, 42
[33] Pallasmaa, 73

Chapter 5   Research Methods

5.1   Clare Cooper Marcus Method

My research is based on the visitor's new perception and their previous memory. Because of this, I employed Clare Cooper Marcus's drawing analysis method. The method can analyze a relationship between "self" and "place." To determine a cause and effect, the method can be a conveyance of sense of ontological perception. Drawings of her study show the experiences for each person and reflect his/her view of a place with her participants' emotion. In my survey, the participants also described in their drawings their position of view, emotions, changing perceptions, and new experiences.

5.2   Memory Drawings by Tourists

I asked tourists to draw an image of their hometown and an image of Waikīkī. Comparing these images, I analyzed commonness and newness in the visitors' perception. I created data and diagram or maps for a place. There is a physical form for people's images of a place. Additionally, by finding out where people frequently visit (the most dense place), checks or compares the data (perception and memory) to the place (real world). This data defined what the key elements are for an "imaginary form" for a place.

For example, if a visitor draws houses and trees in an image of his/her hometown, and then if the visitor draws palm trees and the ocean in the Waikīkī image, the commonness of these perception is a tree, but the form changes into palm tree. Also, if an ocean appears in Waikīkī's image, it is a new perceptional element from the visitor. This newness will be a memorable value for Waikīkī. In contrast, some visitors may draw

negative images of their hometown or Waikīkī, and this also provides valuable information to understand the weakness of a city.

My participants were adult tourists in Waikīkī (approximately 50 people). The place of my research was a friend's restaurant (the owner is my friend and I obtained permission for this research). While the customer waited for their meals or after meal, I asked if the customer would agree to participate in my research. If the customer agreed, I started my research (total 10-15 min). This restaurant's customers are mostly Japanese and this semester I focused on the perception of Japanese tourists. (In the future, my research will include tourists from other countries. I am Japanese, so it is easiest for me to explain and ask Japanese tourists to participate.) I gave a consent form to the participants and orally explained about this consent and research. When I received agreement, I asked them to draw images and asked some questions about their drawings.

5.3   Mapping Favorite and Least Favorite Places

In another research activity, on a street in Waikīkī, I asked people (tourists and locals, approximately 50 people) about their favorite and least favorite places utilizing a Waikīkī map. The purpose was to identify specific places of visitors' images in Waikīkī. When they chose a favorite place, this place was a focus to seek physical elements of the "imaginary form." When they defined a least favorite place, this place was an object to be considered for development with "imaginary form" as guideline.

5.4   Sorting Photographs of Waikīkī

The last stage of the qualitative research included a mapping method, which consisted of showing approximately 36 photograph cards of Waikīkī to people who sorted each card into three categories (like, neutral, and dislike). This research included

50 people (visitors and residents). This research identified the actual appearance and

materials in a specific place by the data defined in table of data.

Chapter 6   Analysis of Three Research Activities

6.1   Analysis of Memory Drawings (Hometown and Waikīkī)

The memory drawing sessions started on October 6 and lasted until November 1, 2011 at Ginza Won, Korean B.B.Q. restaurant in Waikīkī at the waiting area chairs of the entrance. I visited the restaurant to conduct this research activity nine times (Oct 6, 7, 11, 14, 18, 21, 28, 31 and Nov. 1). The total number of participants was 52 people: Japanese tourists (41 people), some were Korean tourists (5 people), while the others were Japanese and Koreans who are living in Hawai'i (6 Hawaiʻi residents). After each participant finished their drawing, I asked them whether they liked Waikīkī or not. Most answers were "yes," and some people said, "I don't know much because I just got here." Some people commented that they like Waikīkī, especially the beach and ocean side, although they didn't like Kalākaua Avenue (around the shopping area). Some of the reasoning was, "it's the same as Tokyo," "It is not like Hawaiʻi," "I don't like high-rise buildings," and "I don't like concrete buildings." I think these comments reflect "placelessness," which comes from an international style.

Interestingly, the drawings of Waikīkī are very unique images that are different from their hometowns. It seems like the participants have visualized their dreams. Through the beautiful natural surroundings and real activities, they created their own images of Waikīkī. Of course, some tourists are still attached to media images obtained before visiting Hawaiʻi, but some tourists, even on a first visit, discovered new experiences in Waikīkī (Fig. 4).

Fig. 4. (1) New experience, Tiki torch at Royal Hawaiian Hotel. (2) Fireworks and Waikīkī. (3) Rainbow from hotel room.

Both drawings, hometown and Waikīkī, showed the relationship between the participants and their places. All drawings represent the people and their environment. Based on my analysis, the participants tended to reflect their own surroundings in their images of Waikīkī and their hometowns. In their hometown drawings, some people show balances or relationships between nature and their cities. Positive hometown drawings have the five elements of an imaginary form (Fig. 5). Negative hometown drawings also seem to have the five elements; however, because there are no elements of fantasy/dream, spirituality, framing beauty, safety and feeling nature, these drawings do not reflect the five elements as described in my definition. Rather, several drawings described the problems of their environment (Fig. 6). More specifically, these drawings revealed unconscious feelings and ideas about their own hometowns. Figure 6 illustrates the different objects, places, and/or problems the Japanese and Korean tourists associate with their hometown.

Fig 5. Relationship with nature and city (positive hometown)
A. Open space and view to Mt. Fuji ("Frame" and "Vista")
B. Activity between mountain and ocean ("Boundary")
C. Historical building ("Symbol")
D. Food (*takoyaki an octopus cake*) and a place ("Multi-sensitivty")
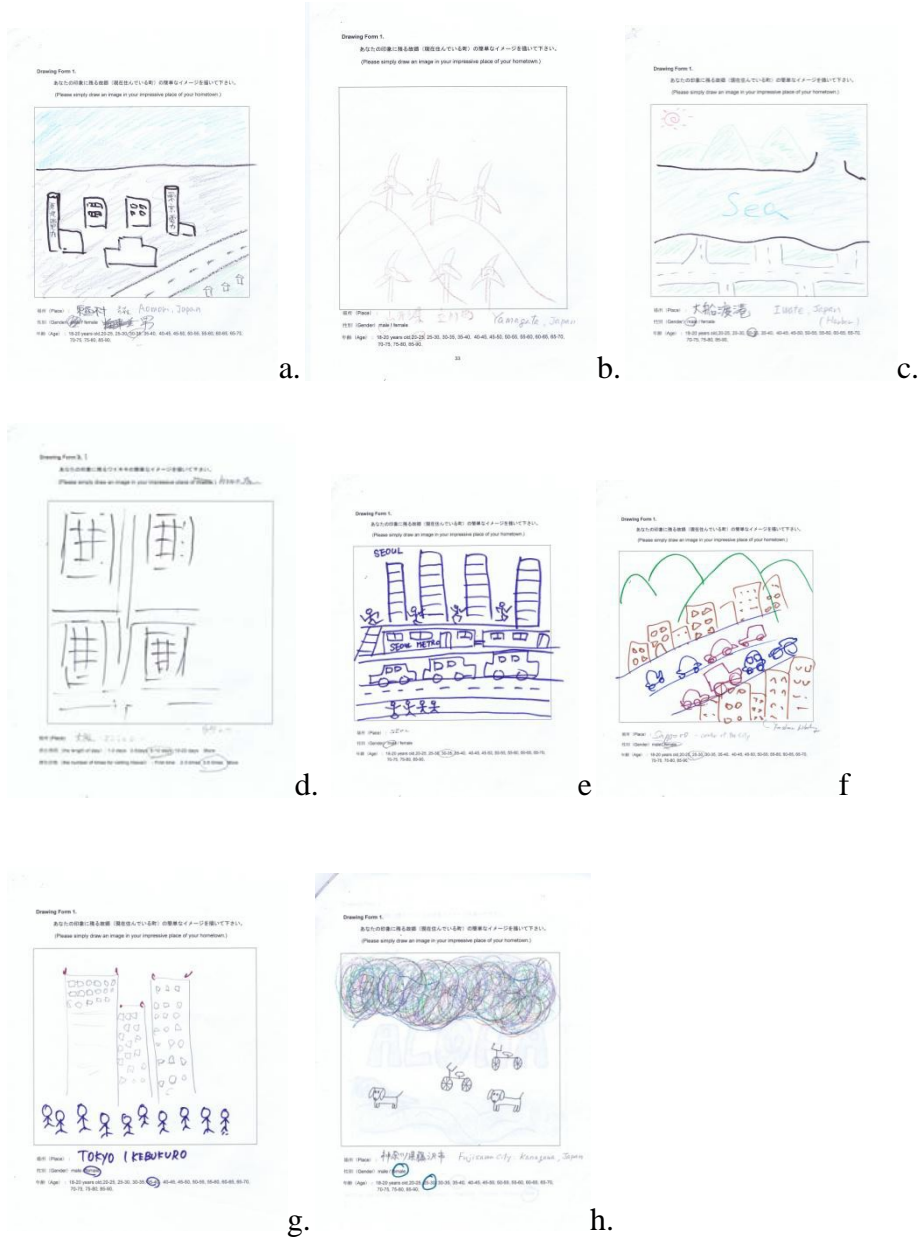
Fig. 6. Each hometown drawing depicts current issues.
a. Nuclear plant and energy problem (Aomori, Japan).
b. Wind power plant (Yamagata, Japan).
c. After Tsunami (3.11.2011), "no buildings" (Iwate, Japan).
d. "Less green" and "old apartment complex"(Osaka, Japan).
e. "Busy life" in the city (Seoul, Korea).
f. "Too many cars" and "Noisy" (Sapporo, Japan).
g. Density of people (Tokyo, Japan).
h. "Dirty ocean, many dogs and bikes" (Kanagawa, Japan).

In contrast, all participants drew very positive images of Waikīkī (Fig.7). Of course, they don't know Hawaiʻi's issues because they don't have much time to recognize them during their visit, although some commented negatively about Kalākaua Avenue. There is a huge gap between the tourists' representations of Waikīkī and the "real" Waikīkī. When I first moved to Hawaiʻi, I too had an ideal image of a paradise beautiful ocean, tropical weather, and hospitable people. After some time, however, I realized that Hawaiʻi also has its share of problems, such as waste, water pollution, and unsafe roads for pedestrians and cyclists. In order to eliminate such problems, we need to think about sustainable ways of living.

Sustainability is a universal issue. All the Waikīkī drawings of my participants depicted their dream or ideal environment. Even though Waikīkī has many buildings and structures, my participants focused on nature. Regarding this point, these perceptions of natural beauty and circumstances tell us how important the natural environment (mountain and ocean) is, and how we can live with nature. Waikīkī has a strong connection with concept of a beautiful natural environment.

As I conceive of a design, I try to picture the boundary between the ideal image and a sustainable approach. I plan to use this beautiful image in creating a sustainable image for Hawaiʻi. Like my participants' drawings, it should have strong image of sustainability that has a balance between nature and man. Based on their perception, we can prepare for new sustainable design development for the future.

Previously, I defined five elements of an imaginary form (Symbol, Boundary, Frame, Vista, and Multi-Sensory), which describe spatial qualities with regard to

participants' perceptions and memories. Using these elements, I analyzed what kind of spatial elements evoke positive images of Waikīkī. These elements will connect to new sustainable design development in order to create a new image of Waikīkī as a sustainable and/or eco-friendly city.

Fig.7 Positive images of Waikīkī

All participants felt the beautiful nature of Waikīkī. These images shows their ideal sense of place.

6.1.1 Multi-Sensory Perception as the Foundation of an Imaginary Form

Multi-Sensory perception is difficult to show in the drawings, as this feature reflects elements evoking the senses. Most drawings show natural features such as the

ocean (sea water), mountains (soil and greenery), trees/flowers (greenery), beach (sand), and sun (light) (Fig. 8). These features strongly stimulate all our senses (sight, smell, taste, touch, and hearing), which can be based on physical perception (actual feelings) or experiential perception (past experiences). For example, participant comments include, "I could smell the ocean in a room of the Moana Surfrider hotel," "I felt sunshine on my skin at a beach, " and "I felt comfortable hearing ocean sounds at a night." These comments are actual feelings. A participant, who drew a picture of a street with trees and flowers, said, "I sensed a good smell on a street." I think this person recalled flower smells along with her past experiences because she knows the names of many trees and the flowers. Because of the above phenomena, natural sources that produce these smells, sounds, taste, and touch, are elements of Multi-Sensory perception that are very important in promoting our images. In the Waikīkī image, many natural sources informing Multi-Sensory perception are the foundation for elements of the imaginary form. This also creates a strong sense of a memorable place and the experience.

Fig. 8. Multi-Sensory and Elements
(Lights, Water, Vegetation and Sands).

6.1.2   Elements of Symbols in Dreams

Many participants drew symbols in their memory drawings of hometowns and Waikīkī. Of course, the symbols of Waikīkī are different from the symbols in their

hometowns. The element of Symbol reflects the unique culture and environment of each context. The symbols of Waikīkī (surfing, coconut tree, tiki torch, fireworks and rainbow) are unique and unusual symbols depending on the natural environment or phenomenon in question (Fig. 9, 10 and 11). For example, many participants drew surfers/surfing/swimmers in October, while nobody drew those in their hometown memory sketches. For the Japanese and Korean tourists, scenes of a perpetual summer connects to their dreams of Waikīkī. Also, seeing a rainbow is unusual for the tourists. Some participants said, "I saw a rainbow many times during my stay here." These unusual elements are very important symbols that enhance their sense of place. When a site or building can introduce a unique and compelling element, images become stronger.

Fig. 9. Symbol as a Dream: Wave and Surfing
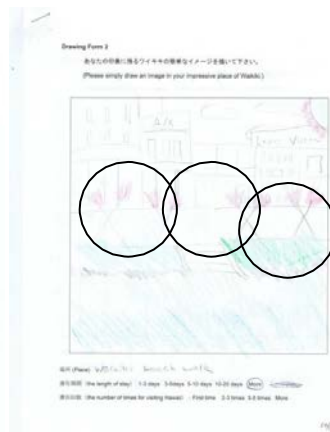
Fig. 10. Symbol as a Dream: Tiki Torch and Street

Fig. 11. Symbol as a Dream: Sun, Rainbow and Coconut Tree.

6.1.3 Frame and Vista/Symbol

Some people's images of Waikīkī were viewed from their hotel rooms (Fig. 12). The drawing frame could be seen as the frame in a compositional way. Framing focuses an object or scenery into a picture (Fig. 13). We tend to memorize good images as a

composition of an object and nature. For the design of a site or building, I had to consider this picturesque vision and framing.

Fig. 12. Frame & Vista: View from window frame.
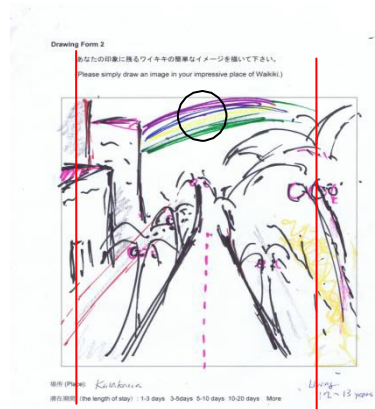
Fig. 13. Frame & Symbol: Rainbow between buildings and coconut trees.

6.1.4 Boundary and Vista/Symbol

In the drawings of Waikīkī, there are many kinds of boundaries such as the horizon, coastal lines, streets, buildings and trees. They distinguish boundaries in a perceptional way and these lines emerge within people's imaginations. For example, drawings with the horizon evoke spirituality when combined with the elements of Vista or Symbol (Fig. 14 and 15). The idea of the element of Vista connects with the "prospect" and "refuge" theory, which creates a feeling of safety. When we feel spirituality in a safe environment or see a fire (Tiki torch) as a boundary, our senses create an emotion (excitement, fun or ease).

Fig. 14. Boundary and Vista: the horizon and sunset view.
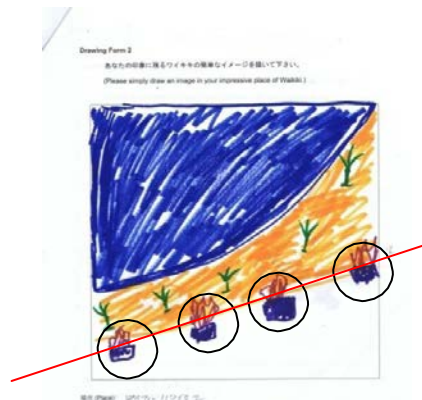
Fig. 15. Boundary and Symbol: Tiki torches create a boundary.

6.2   Analysis of Mapping Favorite and Least Favorite Places

The mapping research session took place four times (Oct 18, 21, 31 and Nov. 2, 2011) in Waikīkī. The participants were randomly chosen from the people walking on the street (Lauula St.) and customers of Ginza Won restaurant. The participants for this mapping research (Japanese, Korean, local, mainlanders) were different people from the participants in the two other surveys.

In this research, many people were able to label their favorite places. However, some participants were not able to label their least favorite places because they hadn't had much experience in Waikīkī. Some told that they had just arrived, so they didn't yet have a favorite or least favorite place. Some persons had stayed close to their hotel and walked only along Kalākaua Avenue and Lewers Street. Lastly, some who had had many experiences, and loved Hawai'i and answered, "There is no least favorite place in Waikīkī."

As the result of this mapping (Fig. 15.), most tourists (Japanese and Korean) put the favorite label around their hotel (ocean side) and Waikīkī Beach. Local people

indicated to a bar or a restaurant, a dance club and park areas. Most Japanese participants said they feel positive about all areas of Waikīkī because of the climate, beautiful ocean, and activities (relaxing, shopping and surfing). Many Japanese participants also answered that the reasons for their selection of a least favorite place was because of, "too many people/ Japanese," "busy traffic," "aggressive flyer distributors" (Kalākaua Avenue in front of DFS and so on). On Kūhiō Avenue at night, many people answered "too dark" and "scary." On Lauula Street, some customers of the Ginza Won restaurant said, "When we enter the street, we were hesitant about going to the restaurant," "I felt scared about that pathway."

As a result, Kalākaua Avenue and the "dark areas" of Kūhiō St. and Lauula St. are both perceived with strong negative associations, but for different reasons: Kalākaua Ave is "too busy of a street" and Kūhiō and Lewers St. are "streets that are too quiet" even though these streets are close to each other. Therefore, improvements for these streets would require different approaches. In the former case improvements that facilitate the flow of people, in the latter case attractions to bring in more people.
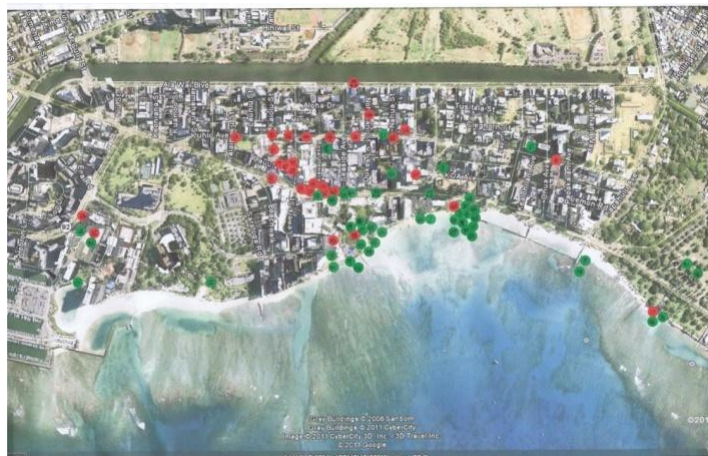
Fig. 15. Mapping results Red dots are negative (least favorite places) and green dots are positive (favorite places).

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6.3   Analysis of Waikīkī Photograph Sorting

In the early mapping research, I located positive and negative spaces in Waikīkī.
Based on these spaces and elements of Hawai'i's images, I took pictures for the research
phase of sorting photographs of Waikīkī. Starting on October 24, 2011 (Oct. 25, 26, 28
and 31), the research also took place at Ginza Won restaurant. All participants were
restaurant customers (Japanese, Korean and locals, a total of 52 participants). I asked the
participants to sort 36 photo cards into a box in three categories (like, neutral and dislike).
After each participant finished the sorting, I recorded the numbers on the table (Table 3,
also see appendices)

In this research, I found common trends with the other research activities(memory
drawings and mapping) in positive and negative perceptions of certain   Table 3.   ny
participants liked the picture of Duke's statue, the beach, Monkey Pod tree, Moana
Surfrider Hotel and views of Diamond Head (Photos13, 14, 15, 16, 17). Many
participants disliked the open spaces (view from Kūhiō),
Lauula St. and the parking lot, former Nike Town building
(Photo18, 19, 20).

The result of this research and the mapping analysis
indicate that the parking lot and open space between Kūhiō
Avenue and Lauula Street needs improvement and
therefore were selected as my design development site (Photo. 18, 19 and Map 1).

Photo 13. Duke's Statue.   Photo 14.   Photo 15.   Photo 16.   Photo 17.

Photo 18.   Photo 19.   Photo 20.

6.4   Combination of Research Outcomes

When I combined these surveys (my image of Kalākaua Ave., memory drawings, mapping and sorting photographs of Waikīkī), I found several important perspectives to consider for developing a new design. These include:

- People want to see, feel, and experience something new or have an unusual encounter that is different from their hometowns (visitors want to have a feeling of being in Hawai'i, not in their hometowns or any other place).

- People like an open space to view the mountains and the ocean (and the horizon), but the open space should not be an abandoned patch.

- People like a focal point, such as a symbol that is familiar or interesting to them (Dukes, surfing, Diamond Head, Monkey Pod tree, palm tree, Royal Hawaiian Hotel, Moana Surfrider Hotel, Tiki torch, rainbow, or fireworks).

- People like plants, water, beach sand, sunlight, waves, and wind that can be perceived by their senses (they don't like hard materials, like concrete).

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- People tend to walk short distances (around their hotels, especially first time visitors and older persons).

- People don't like crowded and narrow streets, but they tend to go to the busy areas (e.g., DFS on Kalākaua Ave.) that are wide enough for a crowd.

- People don't like dark places and open parking lots.

- Many tourists don't like Kūhiō Street because, from this street, it is hard to see the mountains and ocean. Some tourists also mentioned that they feel uncomfortable regarding prostitution and nightclubs.

- People strongly feel an affinity for "nature," but it is felt as a "resort."

- People are interested in Hawaiian culture, but they don't know much about the history of Hawai'i.

6.5   Development Site

The result of my surveys, especially the mapping and sorting of photographs of Waikīkī, defined a development site. The site is located between Kūhiō Avenue and Lauula Street. I propose that the center of an exhibition building for Expo 2020 Hawai'i be built on this site. After the Expo, it can be used as a Hawaiian Cultural Center.

Map. 1 The Design Development

Chapter 7   Design Development of the Site

7.1   Site Analysis

Combining the results of my surveys and the context of Waikīkī, I analyzed the site with a consideration and connection to the concept of *ahupua'a*. This sustainable concept will activate the site with a new design.
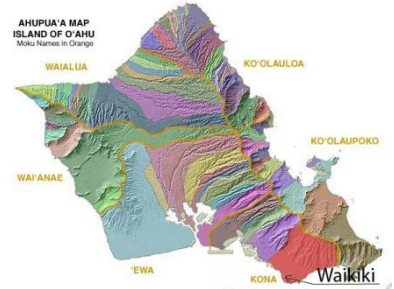
7.1.1 History of Waikīkī

Old Waikīkī ("Waikīkī" means "spouting water") was a swampland and had abundant resources for agriculture and aquaculture to sustain the population of the area. During the territorial era, the Ala Wai Canal was constructed (completed in 1928). Waikīkī was drained and landfilled. With the opening of the Moana Hotel (1901) and the Royal Hawaiian Hotel, the number of visitors increased. These results created a foundation for tourism. Today, Waikīkī is one of the great resort destinations of the world and Waikīkī has a strong image as a resort destination. In my proposal, supplementing this image of a resort, Waikīkī should develop a new image of a "sustainable city" with the ancient cultural concept of *ahupua'a*.

Edward Clifford (1844-1907): Diamond Head, Honolulu, watercolor painting, 1888

Waikīkī Beach, 1930.

Present day: Waikīkī and Diamond Head.

7.1.2 *Ahupua'a*

As a cultural concept of ancient Hawaiʻi, *ahupua'a* is important for today's land use sustainability. *Ahupua'a* was a system of land division designed to sustain the community and the environment of each *ahupua'a*. The approach often was delineated by an area that stretched from the mountains of a volcano to the shore, which also creates views to the mountain from the ocean and vice versa. Waikīkī is part of an exceptionally large *ahupua'a*, meaning that the site has access to abundant resources and various views to the mountains and the ocean. As such, the concept of the new design development is to use plants, water, drainage, wind and sunlight in order to sustain a community

7.1.3 Climate and Solar Path

- Mild temperature, humidity and wind: therefore, the proposal building should use natural light and ventilation.

- The precipitation of Honolulu has varying amounts of rain in the summer and winter, so it would be important to consider water use for the site (rain tank).
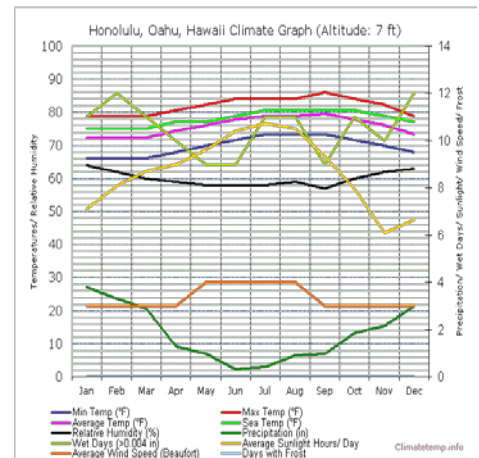
Wind Analysis of the Site

In general, the trade winds blow from the northeast, but

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the wind direction on the site varies because of surrounding buildings. Some areas have a strong wind created by narrow pathways. These are important for ventilation of the new building.

Solar path of the Site

- If a tall building is built on the site, its shadow would naturally affect surrounding areas. This Rhino animation can help to lessen the impact for the site.

- For plantings at the site, the light angle is important in order to determine what are favorable areas for certain types of plants.
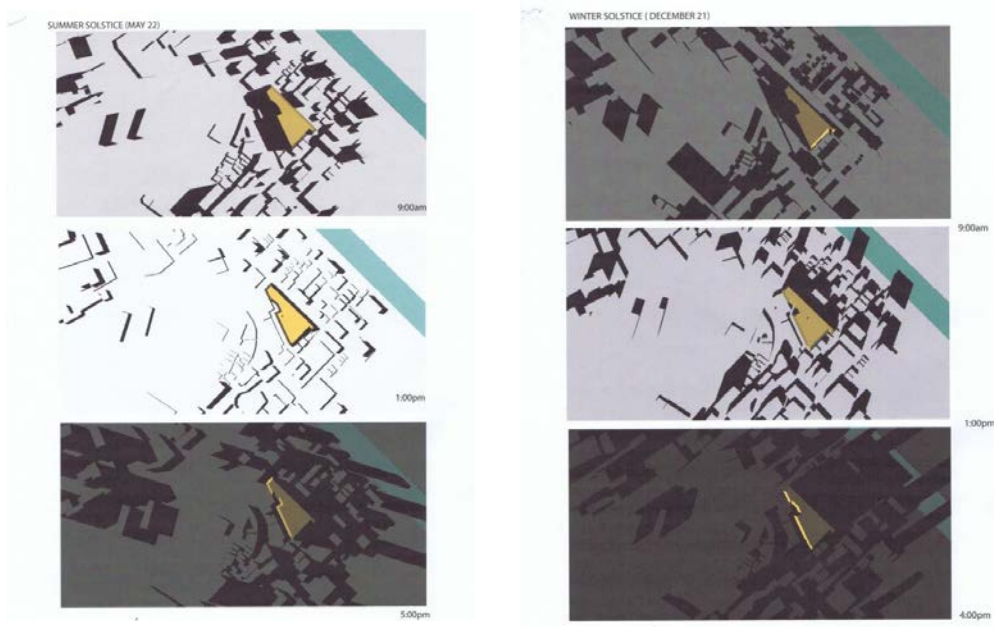
7.1.4 Zoning

Zoning District = Resort Mixed-Use Precinct: commercial uses as well as apartments and hotels are allowed.

Maximum building height = 300 ft.

Minimum lot area = 10,000 sq ft.: the lot area of the site = 204,547 sq/ft.

Minimum lot width and depth = 50 ft.

Minimum Yards

Front + 20 ft. along Kūhiō (A in the site zoning map)

15 ft. along Lauula (B in the site zoning map); yards may be averaged

Side and rear = 0 ft.

Floor Area Ratio = 1.0, but may be increased up to **3.5** with the following floor area bonuses:

• For each square foot of public open space provided, exclusive of required yards,

10 square feet of floor area may be added;

• For each square foot of open space devoted to pedestrian use and landscape area at ground level provided, exclusive of required yards,

five square feet of floor area may be added;

• For each square foot of arcade area provided, exclusive of required yards,

three square feet of floor area may be added; and

• For each square foot of rooftop landscaped area provided,

one square foot of floor area may be added.

  Following the above considerations, the total floor area for the site can be 715,914 sq/ft. (204,547 sq/ft. x 3.5).

- Transitional Height Setbacks: For any portion of a structure above 40 feet in height, an additional front height setback equal to one foot for each 10 feet in height, or fraction thereof, shall be provided. When a zoning lot adjoins a zoning lot in the apartment precinct, the same additional side and rear height setbacks shall also be provided. Within the height setback, buildings with graduated, stepped forms shall be encouraged.

7.1.5 Sectional Site Analysis

These sections of the site show possible views to the ocean and the mountains. In section A, a 200-foot altitude allows a view to the ocean and the mountains. In section B, many buildings block the views, while in section C, an altitude of only 70-foot altitude allows very wide views to the ocean and the mountains. Section D determines a size of

the new building (the orange color is maximum building envelope) related to other

buildings. Also, floors above a 200-foot altitude allow a view to the Waikīkī area, Ewa

and Diamond Head.
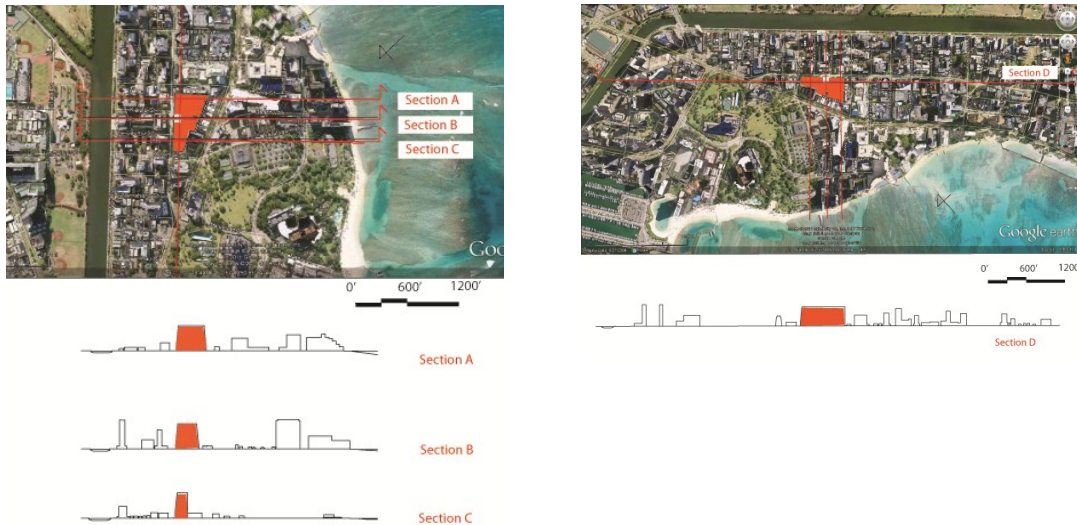
7.1.6   Building Concept Proposal for the Site

- Maximum height of the building is 300 feet (total floor area is 715,914 sq/ft.).

- Green roof for reducing heat island effect

- A floor between 200 feet and 300 feet altitude with an observatory deck for
  visitors

- Open floors and ground level with open green gardens

- This building has the five elements of the imaginary form (Symbol, Boundary,
  Frame, Vista, and Multi-Sensory).

Kuhio Ave.   Kalakaua Ave.

Proposed Building Section

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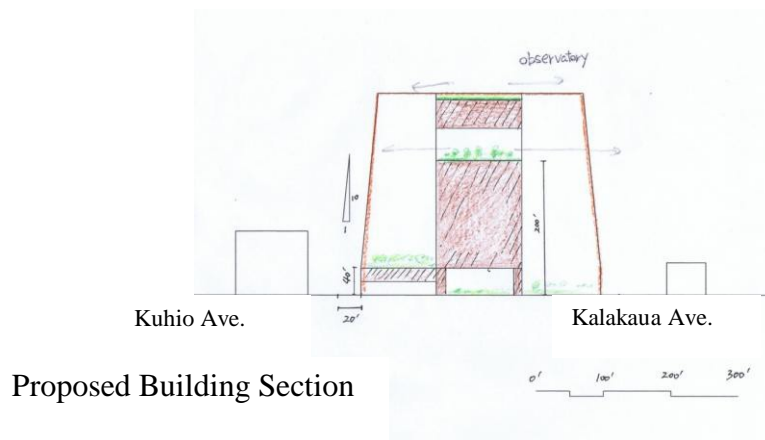
7.2   New Program for the Site

Hawaiian Cultural Center (During Expo: Exhibition Center)

- Exhibition space

- Art gallery or museum

- Conference rooms

- Condo, affordable or market-rate housing. (During Expo: visitors' hotel)

- Offices

- Shop and restaurant

- Observatory gardens and parks for residents and visitors

- Elevated public parking spaces

- Bicycle rental machine.

Chapter 8   Create a Sense of Place in Waikīkī

8.1   Expo Hawai'i 2020

In my research, visitor images were important to gain insight into their thoughts or dreams about urban development and design. To reveal their images of a place, I sought out their perceptions and memories utilizing drawing analysis method of Clare Cooper Marcus. The method analyzed the relationship between "self" and "place." The drawings of Waikīkī by the study participants showed very positive feelings about Hawai'i's beautiful natural surroundings and culture, even when their hometown drawings were filled with negative feelings. Their perceptions or memories of Waikīkī seem like their dreams or fantasies. This is a contrast from their hometowns in which they live and feel the concerns of daily life. As most visitors spend only a limited amount of time in Waikīkī, they were able to maintain and primarily held these positive images. In other words, temporal and unusual experiences in a beautiful and safe environment promote positive images.

From each visitor's perception, I found several common spatial qualities that create positive and negative images. To create positive images, It was necessary to define the five elements of imaginary form. These elements create a fantasy/dream (Symbol), spirituality (Boundary), moment (Frame), safety (Vista) and feeling of the environment (Multi-sensory) with a combination of Hawai'i's nature, culture and history.

I realized that the visitors believe Hawai'i has a perfect balance between man and nature, but actually, there is not much image or "sustainability" designs in Waikīkī that are recognizable to people. Thus, I am planning a new image of a "sustainable city" or

"eco-city" shifting from the ideal of a "resort." To create the new image, I propose "Expo Hawaiʻi 2020" as an "Imaginary Form." This event will provide new image of Waikīkī by applying the five elements. This temporal and extraordinary event will promote a strong image of a new Waikīkī, and also create new physical forms or ideas for the future.

Like Shanghai Expo 2010, this large event will bring many benefits, not only to the economy, but as an opportunity to provide new infrastructure and construction, such as bike lanes, new pedestrian sidewalks, new bridges, restoration of abandoned spaces and new buildings with advanced sustainable design. For this plan, the entire Waikīkī area will be used.

My proposed site (defined from my research) will be the center of the event with a fixed building (after the Expo, this building will be a Hawaiian cultural center). Additionally, open spaces, parks, street and the ocean will be used as sites for temporal structures combining sustainable design (no impact to the land). Abandoned buildings, such as the old Kyo-ya building, Niketown building and Waikīkī Natatorium War Memorial will be restored via new designs. Each space for the event will be connected by existing pathways, bike lanes, signs, banners, and lighting. This approach will provide a new image for tourists and locals. Although this Expo is temporary, it will affect new development paradigm for Waikīkī by providing incentives for new designs (Plan 1). After the Expo, some pavilions, new pedestrian sidewalks and bike lanes will remain and be available for use.

Through my survey, I realized that Waikīkī has strong image as a resort, but lacks

an image of sustainability, even though there is a beautiful natural environment. This

Expo and the development of streets and open spaces will create and enhance a new

sustainable image of Waikīkī. For example, complete bike lanes (Image Drawing 1.) will

benefit people and the environment. Reducing cars will be important for Waikīkī to

sustain the beautiful environment. Like a new bicycle city, it will provide a clean, safe,

and healthy life. This can be furthered, not only thru street design, but also with the focus

on new sustainable design building, which will be part of my next design development

step.

Through the visitor images in my research, I was seeking a vision for how I can

develop a new Waikīkī with an image that enhances a Waikīkī sense-of-place for visitors.

Expo 2020 will be the vehicle to promote and achieve a new urban design for

sustainability toward the future. To create new image of Waikīkī as "sustainable city" or

"eco-city," this event importantly will reconnect with the Hawaiian sustainable concept

of *ahupua'a*. In the chapter 8.2. , based on the research, I focus on a new design in the site

to promote the image of a city of sustainability and create a sense of place.
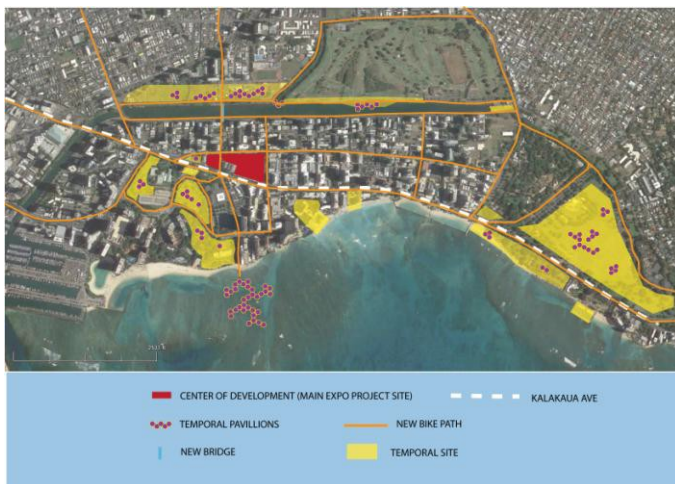
Plan 1. Temporal pavilions are connected by pedestrian pathways, bike lanes and a bridge.
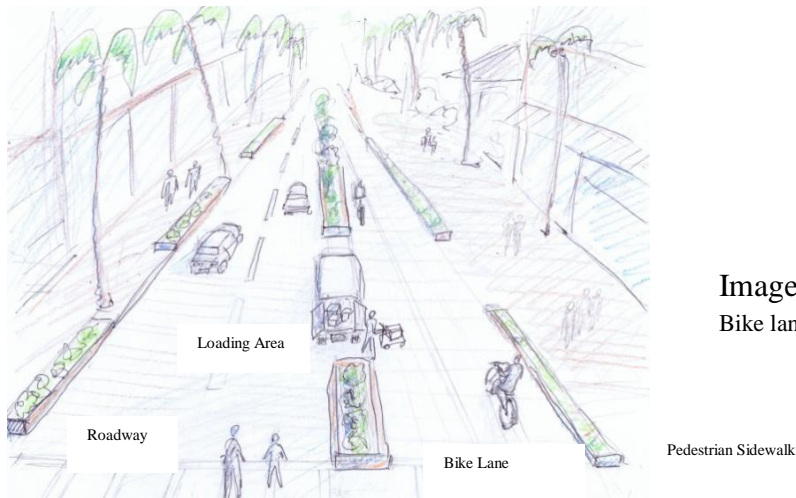
Image Drawing 1. Example of Complete Bike lane on Kalakaua Ave. (View to Diamond

8.2   Application of Research to a New Design

Based on memory sketches of the informants, a new design is applied. This chapter describes the relationship between the memory sketches and a design in order to create a new sense of place for visitors in Waikīkī.

8.2.1. From Hometown Image Drawings

The hometown image drawings show not only past images, but also personal preferences, satisfaction, hope, dislike and anxiety in regard to the society in question. In addition, the informants express what happened in their home town. For example, one person's drawing portrayed the nuclear plant in Japan that was destroyed by the tsunami in 2011. Natural disaster always cause anxiety because they threaten lives. The informant mentioned that although a nuclear plant helped many people in the community energy-wise, it is a threat to human beings as well, so safety is the most crucial aspect of design. Perfect safety may be impossible, but if a place feels safe, people can be hopeful about the future and be assured that they can continue living there. Positive associations and a

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strong sense of place also create hope and positive living among residents or visitors. Some informants drew negative images of their hometown such as too many cars, busy roads, not much green space, or the dirty ocean, while others portrayed positive images of historical and symbolic buildings, natural beauty, and community spaces. These images reflect a sense of place in their mind. This aspect has to connect to the image of Waikīkī in order to create a new sense of place.

8.2.2 From Waikīkī Image Drawings

The environment of Hawai'i creates new and positive images among visitors. The natural elements (geographical features, plants, climate, culture) are important aspects for a design. The Waikīkī image drawings show strong positive images among informants. The argument of this study is that these positive images are the imaginary forms that create a sense of place in Waikīkī. Most of the participants drew symbolic images, such as the sun, ocean, mountains, trees/flowers, buildings/structures, rainbows, fireworks and surfing. The Waikīkī drawings are unique as they represent an intersection between culture, history, and economy. Based on the analysis of these drawings and other survey outcomes, the five elements were identified and applied to a new design.

8.2.3 The Five Elements and the Design

8.2.3.a Design of Symbol

The memory drawings show many symbols such as plants, water, and mountains that connect to agriculture, aquaculture and ancient Hawaiian culture. Therefore, the new design connects to these images in order to create new images, as people seem to love

the natural phenomena and outdoor activities in Waikīkī, according to their memory drawings.

Tower

In the hometown drawings, tower structures were seen as positive images even though a tower structure is not shown in their Waikīkī drawings. However, based on their hometown memory sketches, one can deduce that a tower structure would be a positive symbol in Waikīkī. The tower structure represents an imaginable form. This new design of a tower in Waikīkī represents an organic form associated with planting or growing as a symbol of urban agriculture.

Skin Structure

The super- light skin structure envelops the green spaces, pathways, and buildings. The gentle form and greenery evoke an image of a mountain in the distance. This is not an oppressive structure like the concrete or glass buildings in the negative images of memory sketches. Instead, the skin is made of translucent material supported and operated by wires of a curtain wall structure. It can open and close as a response to the climate conditions and also provides different images depending on time of day, season of year, and other variables. On the street level, the materials/texture/pattern of the skin appear as a fisherman's net or the sail of a boat. After visitors experience or recognize the references to ancient Hawaiian voyagers and fishermen, this skin facade will connect in their mind to create a symbol.

Bridges/Ramps

The bridges/ramps of a voronoi structure and the skin represent water flow in imaginary form, and they are also irrigated with actual water. The sketches of positive memories often related to nature, especially water. The voronoi structure breaks with today's usual approaches to architecture, such as rectangular forms or windows, and provides an image of nature because of its organic form. With a sun-light path, the shadows create an interesting natural phenomenon that people can admire. Also, when the inside of the voronoi bridge is lit at night, it becomes a lantern which creates attractive lighting. Light and shadow were important phenomena in their drawings of positive images and dramatic settings, such as the scenes of sunshine, rainbows, sunsets, lighted buildings, fireworks, and tiki torches. By applying light and shadow with the voronoi structure, this unusual design provides a new symbolic form that people can memorize.

8.2.3.b Design of Boundary

The boundary, by definition, distinguishes changes that may occur across physical, emotional, conceptual, and non-visible lines. In the drawings of hometowns and Waikīkī, many participants show "lines" that distinguish boundaries such as road/street, sky, horizon on ocean, coast, buildings, etc. In the real world, these lines do not necessarily exist in physical form; they are conceptual lines instead. These conceptual lines affect the mind of the participants and are visualized in their drawings. In other words, these conceptual lines evoke a sense of space, which create new images and triggers emotional changes. These boundaries can create a feeling of safety with visible

or physical lines, such as, pedestrian walk/bike paths with lines, pavement, guardrails, or dividers. The boundaries between conceptual or non-visible lines can make a connection between our mind and nature which creates a feeling of spirituality.

In this new design, there are three boundary lines. One of the boundaries is the covered skin structure, which is isolated from the buildings. This skin creates or distinguishes inside and outside in the urban area. Therefore, when visitors enter through the skin, they can recognize a unique open green space that is different from outside. They then start to feel a sense of peace of mind. The second boundary is the bridge/ramp layer, which creates walkable and bikable pathways separated from car traffic. These physical lines make people feel safe so people can concentrate their five senses on experiencing the beautiful environment. The third boundary is the layer of elevated spaces (performance area, roof garden, observatory, and pool bar) that, in our mind, continues to the horizontal line of the ocean. The design of the spaces is an application of an East Asian landscaping method, "借景" (*jièjǐng* in China, *shakkei* in Japan), which means "borrowed scenery."[34] Incorporating background landscape into the composition of the garden spaces provides non-physical lines, while connecting or harmonizing with the ocean as a borrowed scenery. This harmonious connection of non-physical lines begins to change our emotions dramatically and creates a spiritual transformation.

8.2.3.c Design of Frame

The frame is a device that defines an abstract space. In the memory drawings, for example, the participants are given a sheet of paper and they drew their images within its

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[34] "Borrowed View" http://intypes.cornell.edu/expanded.cfm?erID=117

frame. They captured the beautiful image in this framed space. In architecture, frames with sequences create a rhythmical pattern for spaces. A sequence of stopping and movement such as Japanese *ma* concept (space, place, time, etc.) creates a dynamic feeling (see section 4.4.3).

In the new building design, this sequential framing is created by the circulation of bridges/ramps and their floors. In a exhibition space with a voronoi skin ramp, visitors can experience Hawaiian history and culture when moving along this ramp, which refers to the two meanings of *ma*, that is, both space and time. When they reach the flat floor with a wide open window, they stop there and they can see the real world of the environment. This creates a contrast to the rather closed voronoi skin ramp, in a similar way that East Asian gardens block views, and then suddenly reveal framed views.

8.2.3.d Design of Vista

Physically the beautiful ocean and mountains are hard to see from the street level of Waikīkī. However, the Waikīkī drawings showed that the participants' view points were higher than ground level, and they drew mountains and ocean, such as from the perspective of high floors in hotel rooms. Culturally, the view of the mountains and ocean is very important in Hawai'i. Also, according to "prospect" and "refuge" theory, a vista is a necessity in an urban area. Therefore, the new design has spaces with views of the ocean and mountains. In addition, the Waikīkī drawings often included rainbows and fireworks. Hence, it seems that these views can create a sense of place for visitors, so these lookout spaces were incorporated as part of the higher-floor plans in the overall building configuration.

8.2.3.e Design of Multi-Sensory

The memory sketches illustrate the five senses of the informants, through which they share their experiences of a place. They saw, smelled, listened, tasted and touched a place. A combination of these senses and the five elements provide a strong impression or image and serves as the basis for the new design. The Waikīkī drawings show new experiences related to the beach, ocean, palm trees, flowers, human activities, and natural phenomena. To combine these features in Hawaiʻi with new experiential sequences is to awaken our senses and create memorable scenes. Also, the slower speed of walking and traveling by bike provides an opportunity to feel the environment with all the senses. A multi-sensory experience allows visitors to more fully appreciate the other elements, such as plants, natural rocks, water and building materials/texture. This design for the multi-sensory experience promotes a sense of place in Waikīkī. The new building is designed around natural and cultural experiences in Hawaiʻi.

8.2.4 Design Meaning for the New Building

SAFETY

- Elevated ramps for sea rising or tsunami.

- Agriculture and green space for food production

- Protection from urban crisis (noise, pollution, the sun, wind ,and rain)

- View and sounds of water flow psychologically creates relax

- Vista and Refuge

- Path way for pedestrian and bike

BEAUTY

- Vista and Capture ("*ma"*) spaces

- Association of nature (metaphor of nature = organic form- mountain/water/coral/ tree)

- Association of Hawaiian culture (metaphoric form = *ahupua'a*/ sail/fisherman's net)

MUTI-SENSORY

- Skeleton or open space to evoke our sense and communicate with the environment = touch

- Plants/ vegetables/ flowers = smell/taste

- Water features = vision and sounds

SPIRITUALITY

- Elevated performance area = Experience of the culture and beautiful environment, our feelings are uplift/ exaltation

SYMBOLISM AND METAPHOR

- Sculptural tower = Visually focal point and landmark

- Organic form Design = Metaphor of nature (a mountain, water and trees)

8.3Process and Revise of the Design

8.3.1 First Stage - Metaphor of Nature

Biological Expression

In all the memory sketches of Waikīkī and the positive images of hometowns the informants presented natural environments. My design shows how buildings can be in symbiosis with nature. Plants and animals grow and die, but their species continues in a balance with nature. A city or building also needs to grow in harmony with nature. Animals, plants, and other organisms have evolved to survive in a variety of climates created by the local climate and geology. In keeping with Darwin's theory, to survive, a species must adapt and evolve through each generation. Today, all living things contine to evolve in their own ways to live in symbiosis with nature. Human beings also have to live in symbiosis with nature. Because our actions have been destroying nature or working against the environment, "respond to nature" is necessary in architectural design today.

Expo 2020 and its buildings are the seeds and buds that will help to create an infrastructure for a more sustainable future. In my design, biological expression is important to create an image and functions that respond to climate and time. Buildings can grow vertically and horizontally, such as a grid or modular structure, which allows for flexible growth. Also, like the metabolists' idea, " plug in" and "plug out" systems can change depending on time/situation (aquaponics, hotel, office units). The skin or shell is important to protect the interior from the harsh weather.
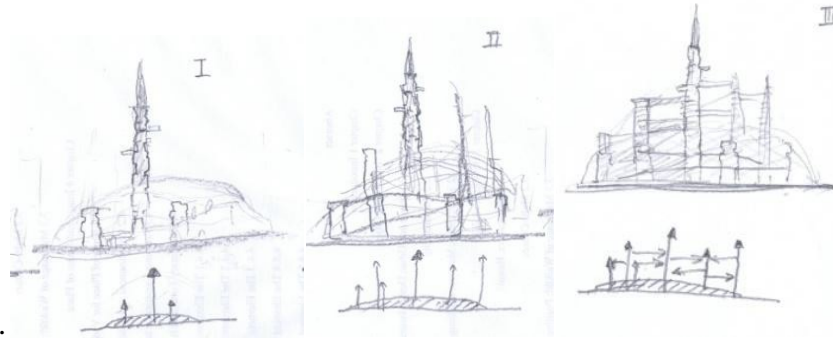
Initial Image Drawing

Connect to *Ahupua'a*

In my design, I create an artificial stream and landscape on the site, like a stream from a mountain, to mimic the ancient Hawaiian agricultural system, *ahupua'a*. The name, *"Waikīkī,"* means "spouting water" (*Wai* = Water, *kīkī* = Spout), a reference to rivers and springs that richly flowed into the area from the neighboring valleys of Manoa and Palolo. It's said that in the 1400s, chief Kalamakua designed an irrigation system to take advantage of Waikīkī's abundant resources.[35] Based on the word alone, ancient Hawaiian had an image of Waikīkī. Waikīkī was once rich and abundant, with an ocean brimming with fish and fertile lands where crops could grow; however, after tourism started, there are many water features such as fountains and waterfalls, but there is no symbolic image of agriculture and aquaculture with "spouting water" in Waikīkī. The memory sketches did not show this image, but it is from the ancient Hawaiians' image of Waikīkī. My intention is to restore the meaning of Waikīkī with a new design and technology. For a new design, abundant water is important to create the image of "spouting water" and a new irrigation system. Under the new building (tower structure), a

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[35] Playground of the pacific Waikiki, Oahu. http://www.aloha-hawaii.com/oahu/waikiki/

new grey water purification system will be installed, and the clean water will be pumped up to the large water reservoir in the middle of the tower. Then, the clean water in the water reservoir will be circulated along the ramps and bridges (See Ch.10.1.3).
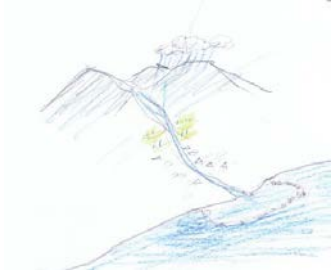
Image Drawing of *Ahupua'a*

8.3.2 Previous Designs

The first plan was developed with the building program, parking, hotel, office, retail/restaurant, and cultural center connected by irrigation ramps. At first, the parking building was located in the northern area of the site, but later it was moved to the middle of the site because the parking is for transit to walking and biking, and the new location makes it easy to access other buildings. Also, the northern area of the site has good views over Fort DeRussy Park. Therefore, the hotel building and office building were moved to this area. I was considering plans and elevations with Rhinoceros 3D software because of the winding ramps, the organic form of the tower structure, and the curving skin structure. This software also makes it possible to create 2D plans, sections, and elevations from a complex form. However, at this stage, I could not show the building functioning logically. Therefore, the design was considered and drawn for each floor plan (from the ground floor to the observatory floor) along with the functions of each building.

Initial Plans

GROUND FLOOR PLAN

PARKING   BUILDING

HOTEL BUILDING

OFFICE BUILDING

CULTURAL CENTER
BUILDING

RETAIL AND RESTAURANT BUILDING

KALAKAUA AVE.

KUHIO AVE.

LEWERS ST.

0   100'   300'   500'

N

7TH FLOOR PLAN

PARKING LOT BUILDING

HOTEL BUILDING

OFFICE BUILDING

CULTURAL CENTER
BUILDING

RAMP

UP   UP

0   100'   300'   500'

N

AQUAPONIC UNIT

66
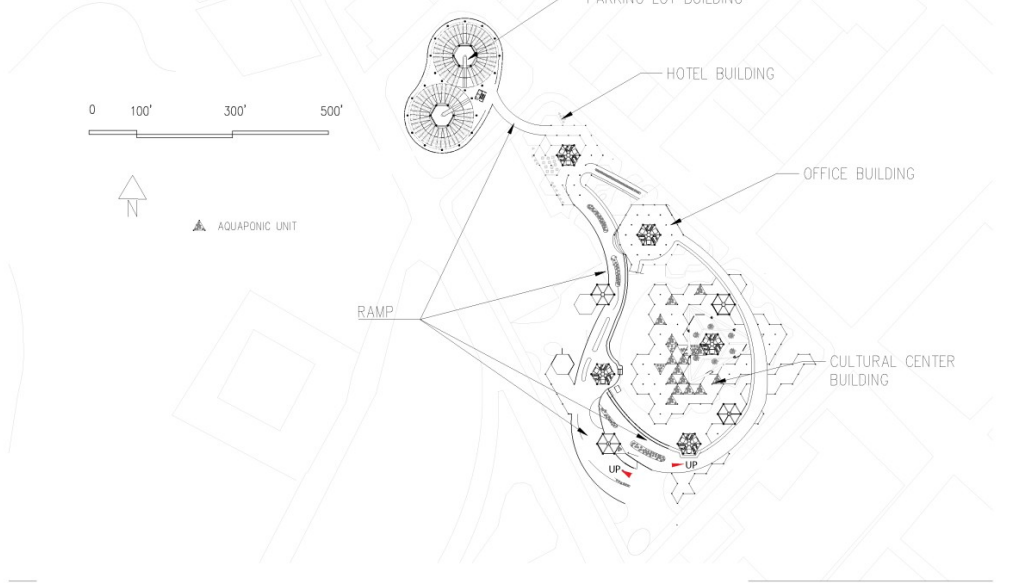
LONGITUDIAL ELEVATION (Kalakaua Side)

VIEW TO DIAMODHEAD

0   100'   300'   500'
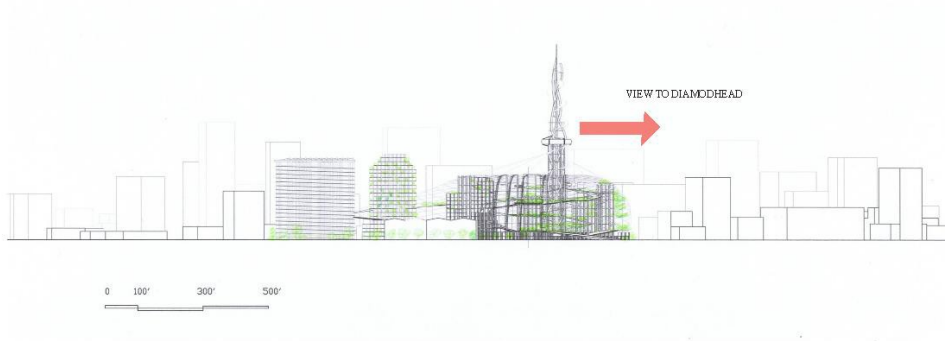
Initial Elevation

Chapter 9   Outcomes of the Design

9.1 Building Program and Concept

The building program and concept were formed from the survey and five elements. Based on these outcomes, the building should help people create a sense of place with new images. The key program is mixed-use building including the tower structure, cultural center, parking, office, retail/restaurant, hotel building, and agricultural space. These buildings are connected by ramps or bridges in order to create experiences following the elements, symbol, boundary, frame, vista, and multi-sensory.

The site mainly has exhibition spaces for EXPO 2020 to introduce a new Hawaiʻi agricultural system and its culture. This site also has a parking building, an office building and a hotel with shops and restaurants. These "mixed-use" buildings are connected by ramps for pedestrian and bike circulation, while they also provide exhibition spaces, green spaces and irrigation. From this center, people can access other decentralized pavilions in the Waikīkī area by biking and walking.

This building concept has two goals. One is to "perpetuate a sense of place associated with Hawaiian culture/history and its natural resources." The second is to be a "sustainable catalyst for the future in order to shift toward a healthier urban life."

Creating a sense of place is important for visitors and locals. Even though my informants were almost all tourists, I received a few negative comments from locals. One local said, "I don't like Waikīkī much, it is too tourism-oriented." Another local said, "I like Haleiwa rather than Waikīkī, because the town, which has a good old environment, feels nostalgic." These were only few comments like this, but I guess many locals think

similarly. Both tourists and locals are important in creating a sense of place. Hawaiʻi beautiful and spiritual culture, history, and environment are familiar to locals, but they still feel a sense of pride about their home. Of course, visitors are also interested in these aspects. Therefore, the new building has a Hawaiian cultural center, where visitors and locals can experience old and new traditions of Hawaiʻi. As one local mentioned, Waikīkī may have too many tourist -traps; however, I would say that the balance between cultural education and tourism is important in creating a sense of place for visitors and locals. Integration of visitors and locals creates a lively urban life.

To strike a balance between culture and economy, mixed-use building is necessary. Also, adding urban agriculture provides new urban life in Waikīkī. Once, Waikīkī was known for its rich and fertile land for crops and the nearby ocean brimming with fish. Ancient Hawaiians had created a great concept of sustainability with a balance between food production (economy) and the environment. Their observation of natural cycles (eco-system) introduced and created a perfect balance. Such as ancient Hawaiian taro fields, they did divert stream system worked, and they did not waste resources by borrowing water from a stream and going back to below the stream. The concept of irrigation in the building is derived from the idea of *ahupua'a.* However, there is not a stream or irrigation in Waikīkī today. A new water circulation system will be created for the site. The water purification system uses gray water, which is purified and stored in the water reservoir. This can produce plenty of pure water in dry weather that can be used for watering plants. The water also circulates through the irrigation ramp and bridge, which has its own eco -system including microbes, water plants and fish. This stimulation of nature stimulates our five senses (multi-sensory).

9.2   Location of Each Building

The site is the most negative place in Waikīkī based on the research results To change this negative image, the new buildings are more attractive, culturally specific, safe and ecologically sustainable. The location of each building also depends on its function and views from each building. The hotel building is located on the northern site overlooking the Fort DeRussy Park and the ocean. The cultural center is located on the southern site which is the largest space (currently a parking lot) and closest to the other activities in Waikīkī. The area is next to the DFS Galleria, which many foreign tourists visit for shopping. The visitors will be able to recognize the new buildings from a distance, and the complex will function as a new landmark in Waikīkī. The cultural center building has a symbolic tower with a performance area and an observatory which provides 360 -degree views from two levels. Both spaces create new views and promote new images of Waikīkī. The parking building is located in the center of the site, with less favorable views but easy access to the office building and the cultural center. The top of the parking building has a green garden roof, which connects the building to the Fort DeRussy Park and the ocean. Also, every Friday, people will be able to enjoy the fireworks at the Hillton Hawaiian Village from the roof.

9.3   Landscaping and Aquaponics

Urban agriculture and aquaculture are important features in creating a new and more ecological image of Waikīkī. Historically, old Waikīkī was the seaside portion of an *ahupua'a,* which had both agricultural and aquacultural spaces. Today, Waikīkī is largely build around the tourism industry, but the goal of this new design is to honor the region's

rich history and share it with the next generation of locals and visitors. In accordance with the respect for land (*aina*) in Hawaiian culture, agriculture and aquaculture are incorporated into the design as sustainable food production. The design intention is to create an artificial mountain with a new food production system in an urban area. Also, for Hawaiʻi's image and increased density in an urban area, landscaping is important. Connecting to the open green space of Fort DeRussy Park, the new site also provides green spaces, especially space for agriculture and community. Introducing aquaponics which combines aquaculture (raising aquatic animals) with hydroponics (growing plants in water)**,** sustainable food production is showcased as part of the functions of the cultural center. Aquaponics can produce safe food that grows fast in less space.[36] It can create a new image of an *ahupua'a* and strengthen the sense of place in Waikīkī. In addition, water features, plants, and fishes provide good landscaping features that correspond to the original meaning of " Waikīkī," which is "spouting water."

Landscaping Design

Landscaping design is important in creating positive images of Hawaiʻi. Many informants were familiar with Hawai'i's flowers and trees, such as the palm tree. These plants are different from those in their hometown and theyare attractive and provide a tropical image. Plants engage our senses and moderate or harmonize between human beings and building structures. For the design, along pathways, plants are feature in an aesthetically pleasing variety of sizes, colors, and shapes. In my landscaping design,

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[36] "Aquaponics systems grow food sustainably"
http://www.hawaii.edu/malamalama/2011/04/aquaponics/

flowers and trees such as indigenous, Polynesian bringing, and Western bringing, that create and evoke an image of Hawaiʻi (see section 10.1.5).

The landscaping design is considered according to the five elements. Plants mainly affect our senses (Multi-Sensory), but they also provide "boundary" and "frame." For example, the corner of Lewers Street and Kalākaua Avenue is the main entrance for the new building. As symbols, two monkey- pod trees (Hitachi Tree), which have a huge canopies, are planted for the gate (*Ma*= Frame). Also, the landscaping design of the site creates a sequence which can create an experience and image of beautiful Hawaiʻi with water feature.

9.4   Introduce Urban Agriculture and Cooking Space

Agriculture is an important agent to sustain our life and it has been the primary force in creating cultures. Urbanism separated these two functions. For sustainability, these two functions should be combined in order to provide a new urban image, as well as promoting the economy and a healthy urban life. If we can produce healthy foods and immediately eat them in the same place, it introduces a fresh and new life style. Joining in food production and preparation creates a joyful community, promoting safety and a healthier life. To contribute to a new image for Waikīkī, futuristic and sustainable functions can create lasting memories for visitors. Also, healthy living creates positive images. When people see that healthy food is produced in an urban area and they can eat it there, too, they will have a good experience. Healthy food "Made in Waikīkī" will create a new healthy image. Also based on my research, people appreciate new experiences more fully if they use their five senses. This multi-sensory aspect involves

touch through soil and wind, smell through flowers and other plants, taste through food and sound through water.

9.5   Building Function and Sustainable Images

- Tower; water reservoir and wind power generator (both are visible)
- Core units and plug -in /plug -out (prefabricated units); aquaponics and dwelling space
- Ramps; irrigation, green spaces, walkable and bikable path
- Elevated parking building with car elevator (only smart cars) and public transit and bike rental space; reduce car traffic

9.6   Sequence and Experience with Pathway and Spaces

The super -complex pathways create an attraction for visitors, while also providing transportation corridors for pedestrians and bikers. In other words, the ramps and bridges provide both spatial-temporal experiences and contribute to a healthy life style. In creating new memories through architecture, sequences of experience are important. Unexpected sequences along a pathway create a feeling of anticipation, in the same way that winding pathways do in East Asian gardens. Gentle ramps rather than stairs or elevators feel safe and introduce unusual sequences with their views and with the experience within the space. Like climbing a mountain by gradually going up the ramp, people have different views of Waikīkī, the ocean, and the mountains. This experience provides the visitors with emotional changes, which become part of their memories of the sense of place in Waikīkī.

9.7   Bikable and Walkable Pathway

As one of the intentions of the proposed design is to reduce car traffic in Waikīkī, it is important to create a new urban community with amenities that support the future lifestyle. Not only reducing carbon dioxide emission/carbon footprint, but also providing for parking and rental bikes increases safety and the health of both the residents and visitors. Fewer cars and walkable and bikable pathways contribute to a new urban image for sustainable Waikīkī. In the future, I hope that Kalākaua Avenue will be only for pedestrian and bike traffic. For this ambition, with the EXPO 2020 and new buildings, the proposal reduces one car lane and installs wider pedestrian pathways and bike roads on Kalākaua Avenue as a catalyst.

9.8   Structure - Skeleton and Skin

Because this building is for people and plants, the design considers how sun light, wind and rain can be modified in order to create the most comfortable and functional building complex. The skeleton allows light to penetrate, and facilitates natural ventilation, while it also protects against rain and too much sun or wind. The skin structure can also open and close according to the circumstances. This is not only a response to weather, but it also provides interesting images for people. Both the physical form and lighting can change depending on weather conditions, time of day, and season.

Chapter 10 Design Diagrams, Drawings, and Rendering Images

N

0   100'   300'   500'

← KONA WIND

← TRADE WIND

← MAUKA VIEW

← MAKAI VIEW

↶ SUN PATH
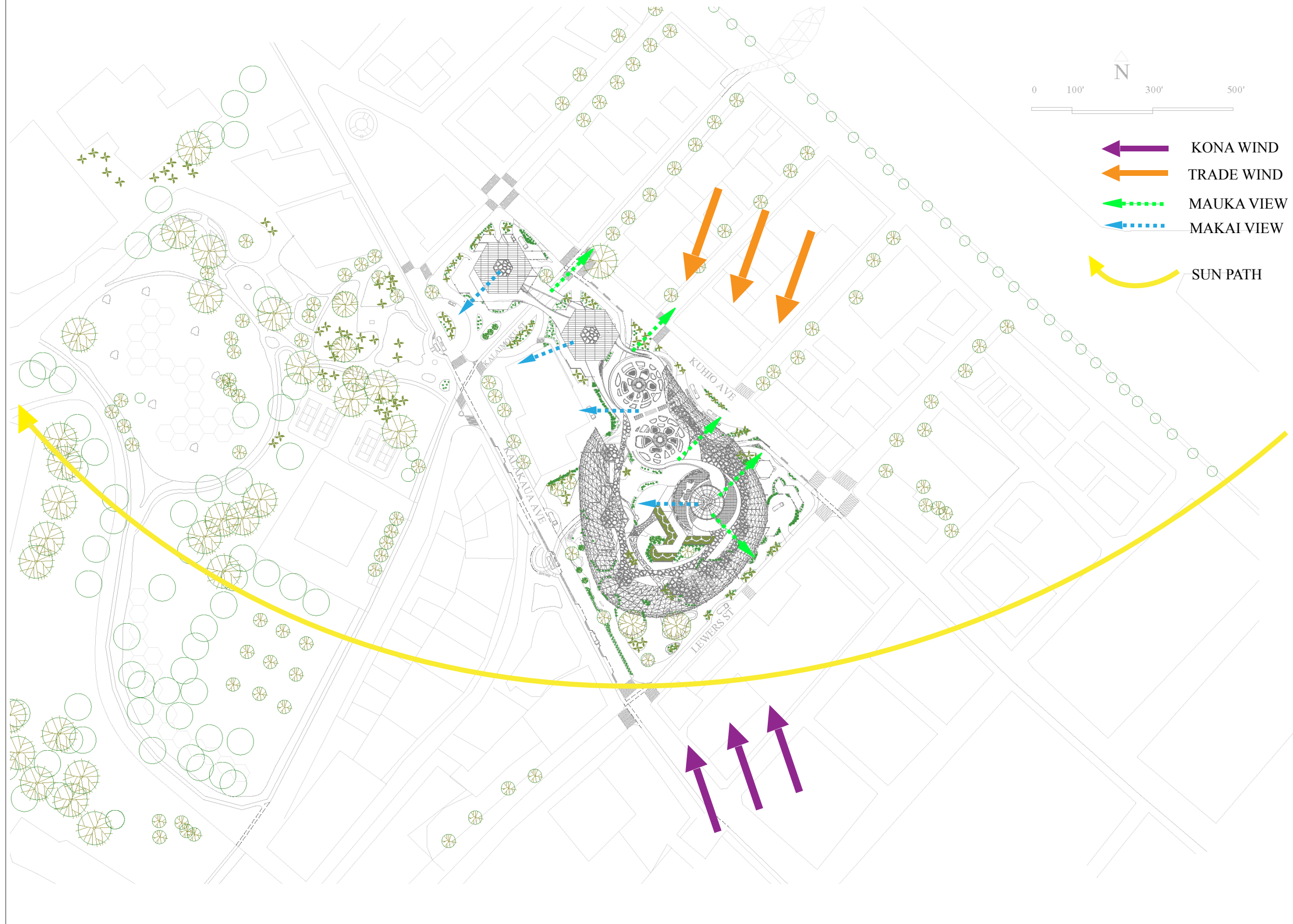
10.1 DIAGRAMS OF THE DESIGN

10.1.2 GROUND LEVEL CIRCULATION

HOTEL BUILDING

OFFICE BUILDING

PARKING BUILDING

CULTURAL CENTER

KALAKAUA AVE

KUHIO AVE

KALAKAUA AVE

LEWERS ST

N

0   50'   150'   300'

NEW BUILDINGS

GREEN SPACE

PEDESTRIAN PATHWAY

BIKE ROAD

ROAD TRAFIC

THE BUS

LOADING AREA

PICK UP & DROP OFF

MAUKA VIEW

BIKE PATH

PEDESTRIAN

EXHIBITION SPACE
(CULTURAL CENTER)

WATER

OBSERVATORY

PERFORMANCE AREA
(WATER RESERVE)

ROOF GARDEN

OFFICE

HOTEL

POOL BAR

KALAKAUA AVE

MAKAI VIEW

OBSERVATORY

PERFORMANCE AREA
(WATER RESERVE)

OFFICE

HOTEL

PARKING

CAR EXIT

KUHIO AVE

CAR ENTRY

SECTIONAL
DIAGRAM

WATER RESERVIOR

WATER PIPE

ROOF GARDEN

TO OTHER BUILDINGS

WATER TO AQUAPONICS

GRAY WATER
PURIFICATION

TARO POND
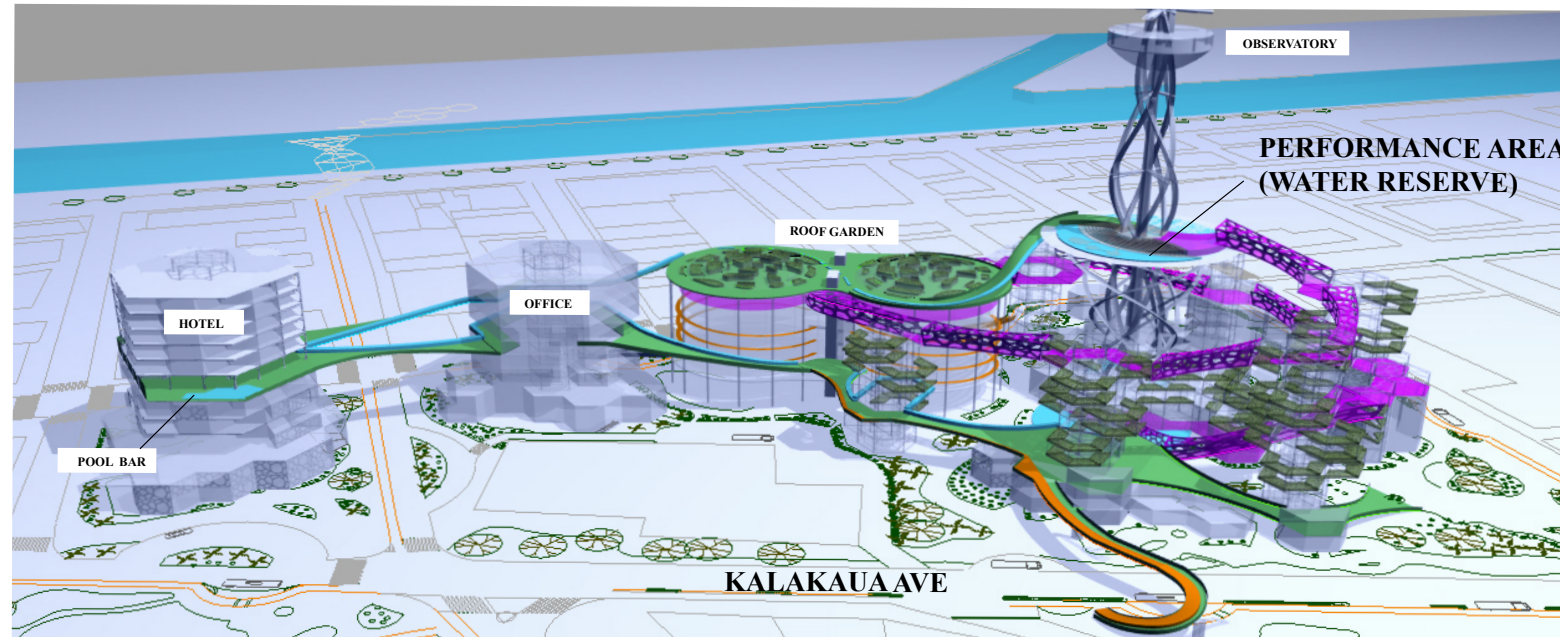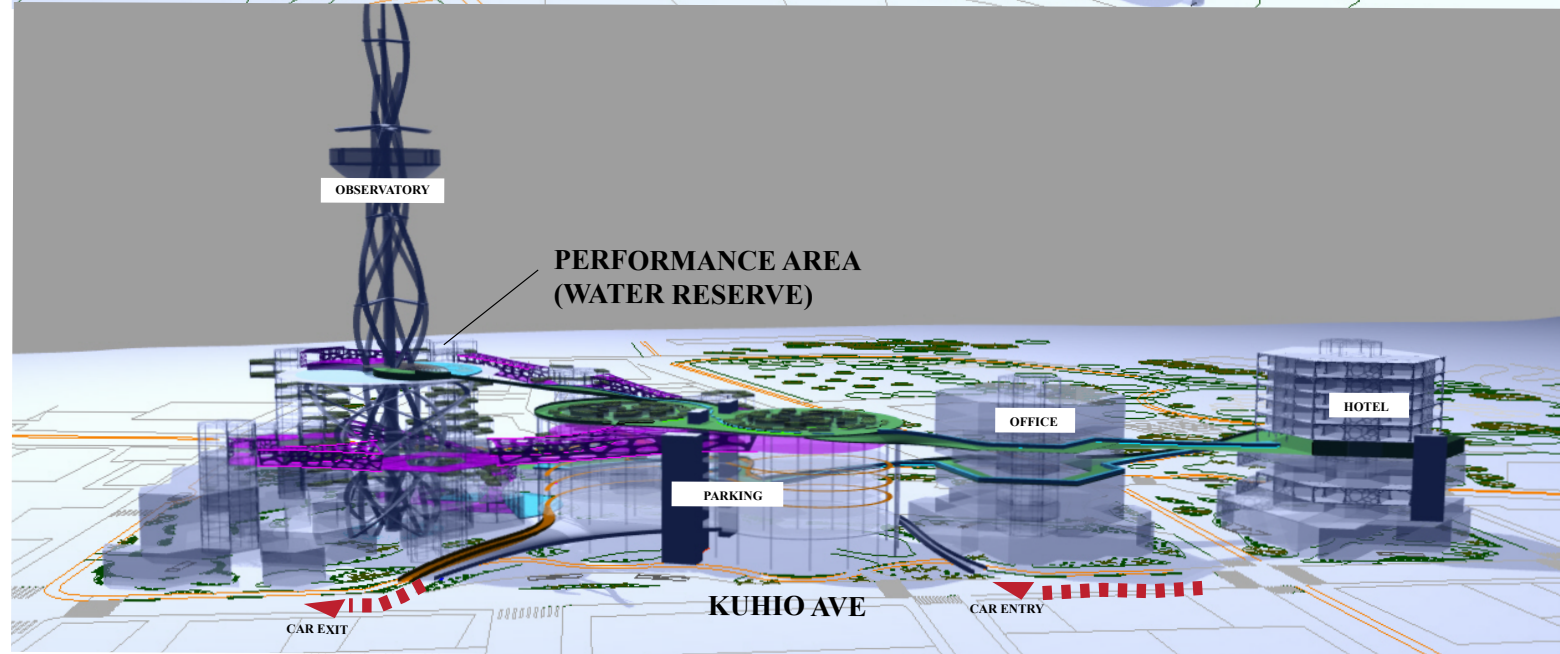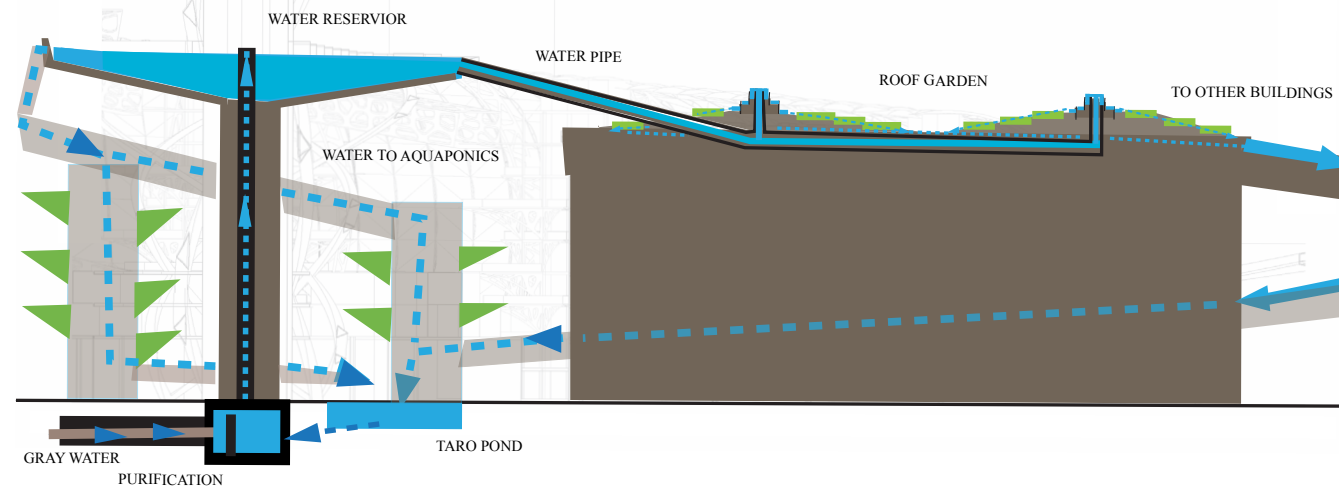
10.1 DIAGRAMS OF THE DESIGN

10.1.4 DIAGRAMS OF FLOOR PLANS

GROUND & 2ND FLOOR PLAN

W.C.

W.C.

W.C.

BIKE ELEVATOR

BIKE RAMP

KALAIMOKU ST

KALAKAUA AVE

KUHIO AVE

LEWERS ST

3RD FLOOR PLAN

0   50'   150'   300'

N

TENNIS COURT

BREAK AREA

ENTRY

EXIT

WATER FALL

TO BIKE ROAD

FOOD EDUCATION CENTER

MAIN ENTRANCE	
LOBBY	
EXHIBITION SPACE	
OFFICE	
SHOP/ RESTAURANT	
ORGANIC SUPERMARKET	
STORAGE/MAINTENANCE	
AQUAPONICS	
IRRIGATION	
CAR ELEVATOR	
HOTEL ROOM	
BIKE RAMP	
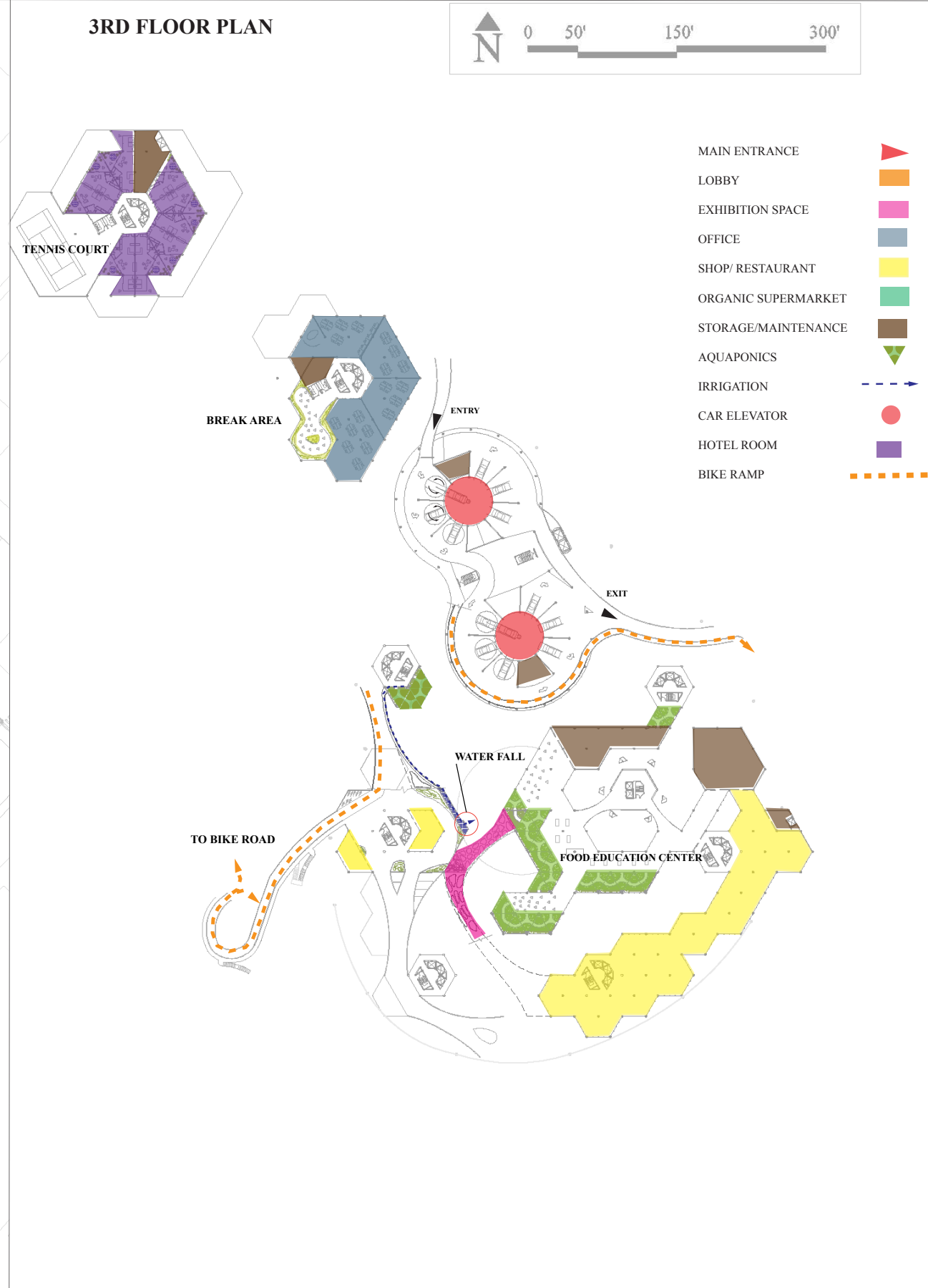
10.1 DIAGRAMS OF THE DESIGN

10.1.4 DIAGRAMS OF FLOOR PLANS

4TH FLOOR PLAN
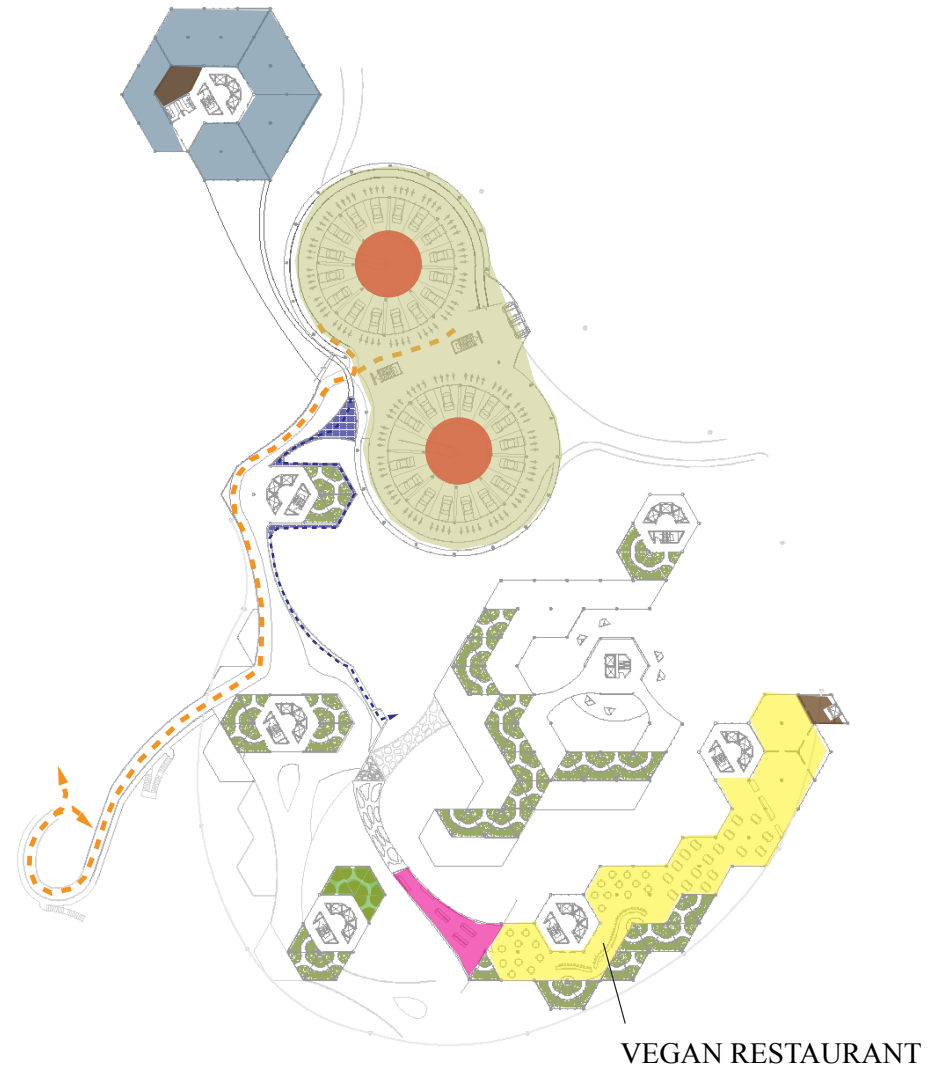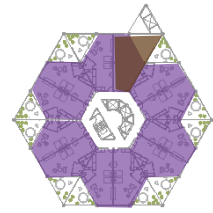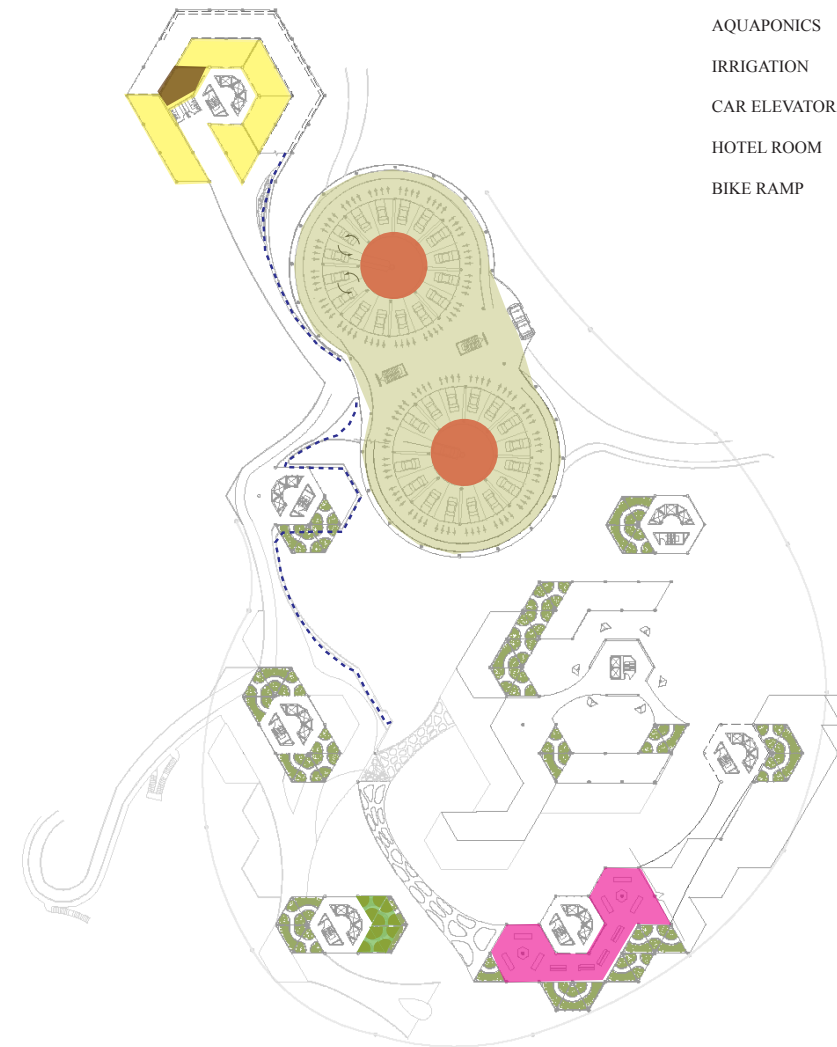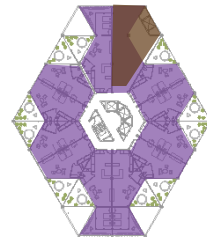
VEGAN RESTAURANT

5TH FLOOR PLAN

	0	50'	150'	300'

EXHIBITION SPACE

OFFICE

SHOP/ RESTAURANT

CAR PARKING/BIKE RENT

STORAGE/MAINTENANCE

AQUAPONICS

IRRIGATION

CAR ELEVATOR

HOTEL ROOM

BIKE RAMP

10.1 DIAGRAMS OF THE DESIGN

10.1.4 DIAGRAMS OF FLOOR PLANS

6TH FLOOR PLAN

MECHNICAL ROOM

DOWN

7TH FLOOR PLAN

N   0   50'   150'   300'

DOWN

EXHIBITION SPACE

OFFICE

SHOP/ RESTAURANT

CAR PARKING/BIKE RENT

STORAGE/MAINTENANCE

POOL BAR

AQUAPONICS

IRRIGATION

CAR ELEVATOR

HOTEL ROOM

BIKE RAMP
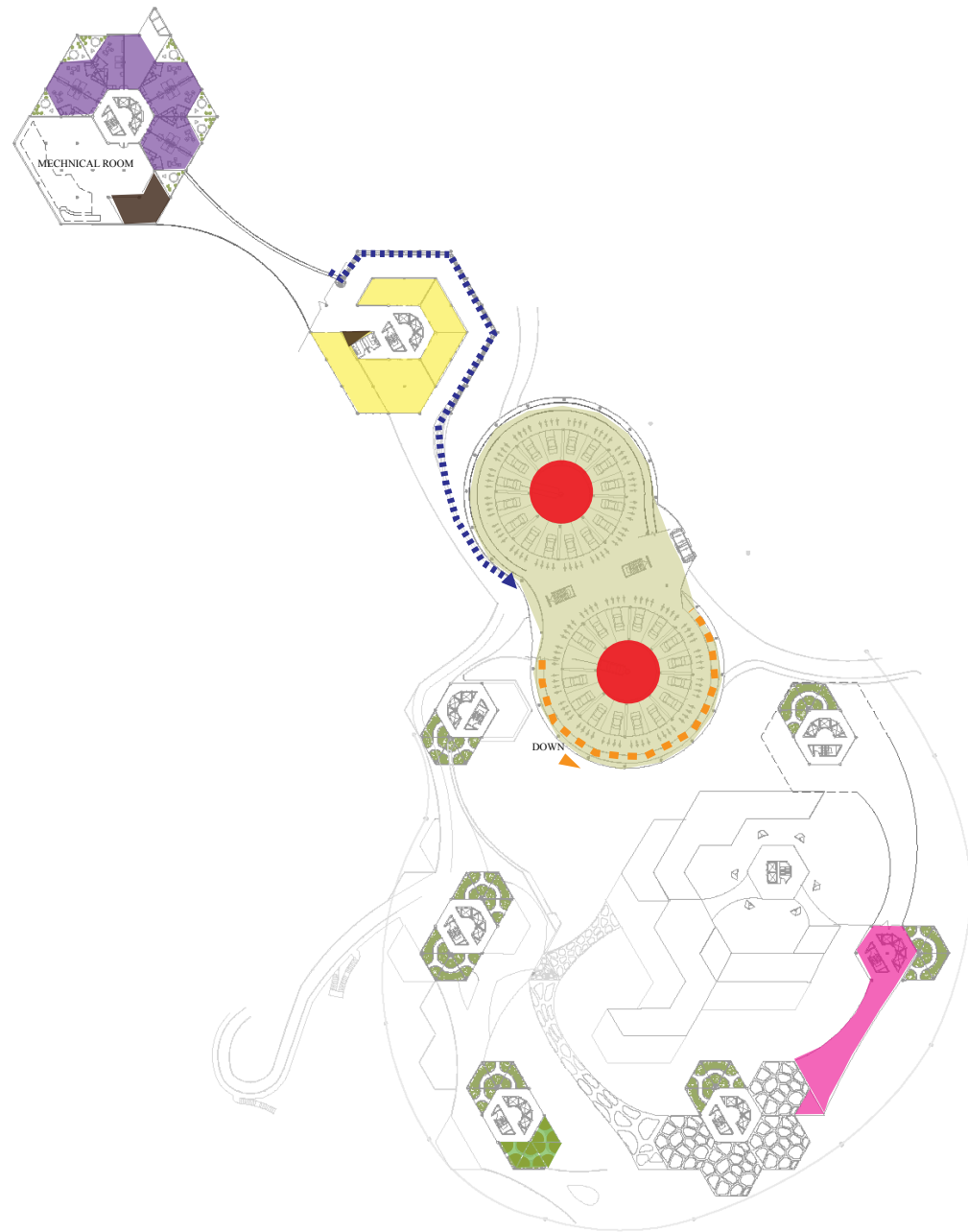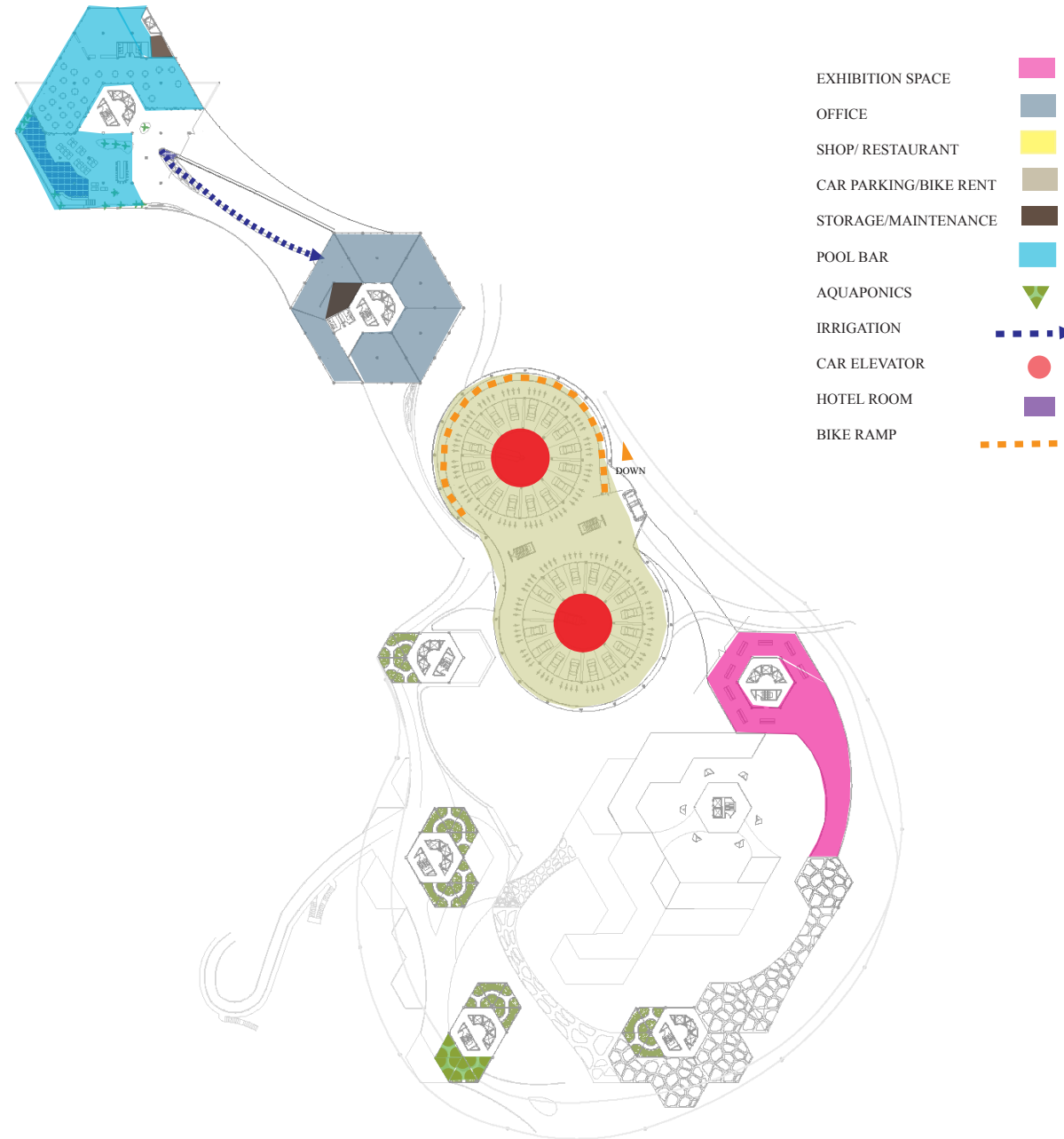
10.1 DIAGRAMS OF THE DESIGN

10.1.4 DIAGRAMS OF FLOOR PLANS

8TH FLOOR PLAN

9 TH FLOOR PLAN

N   0   50'   150'   300'
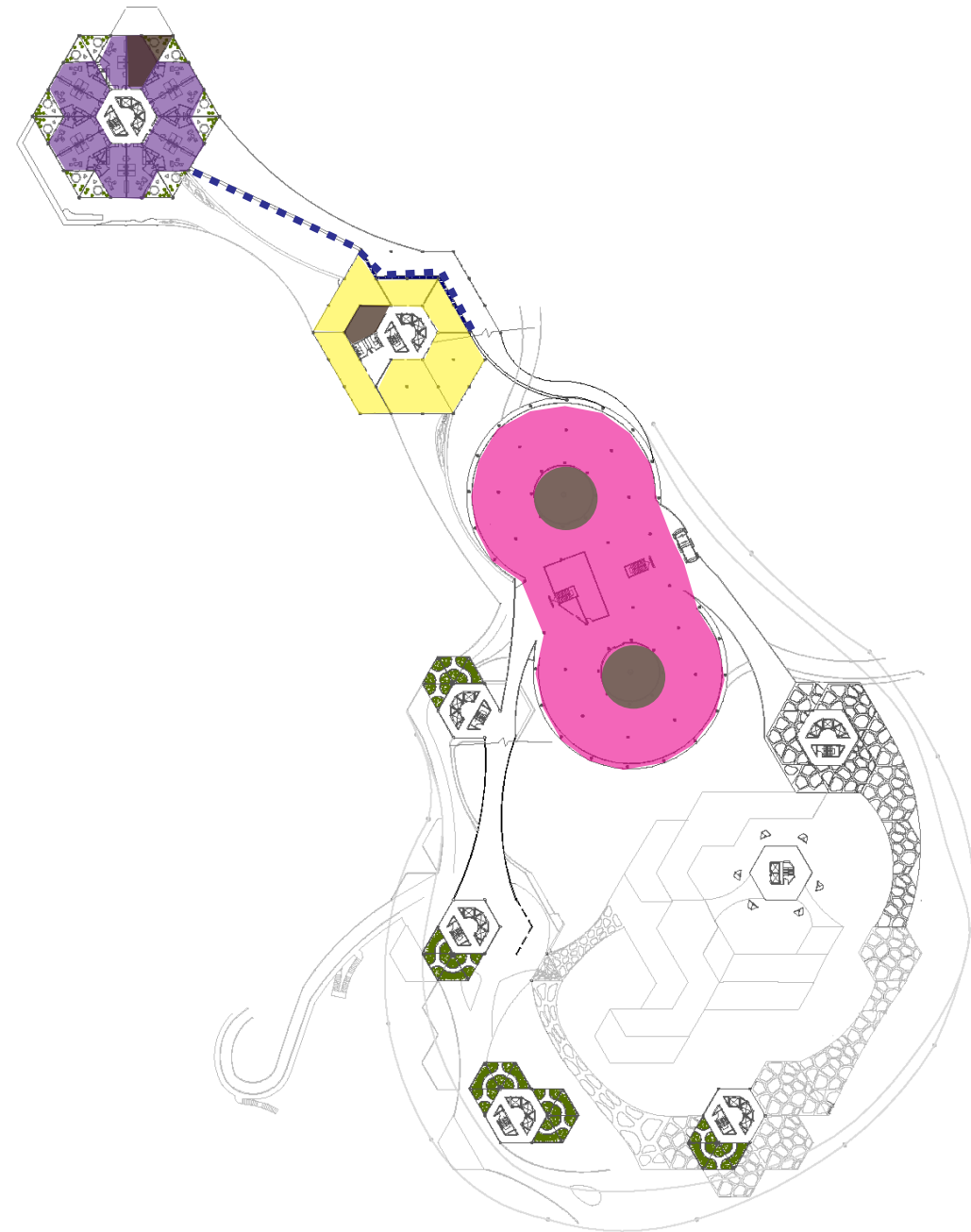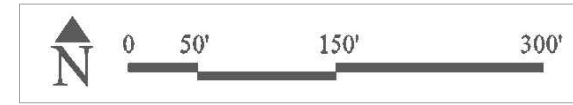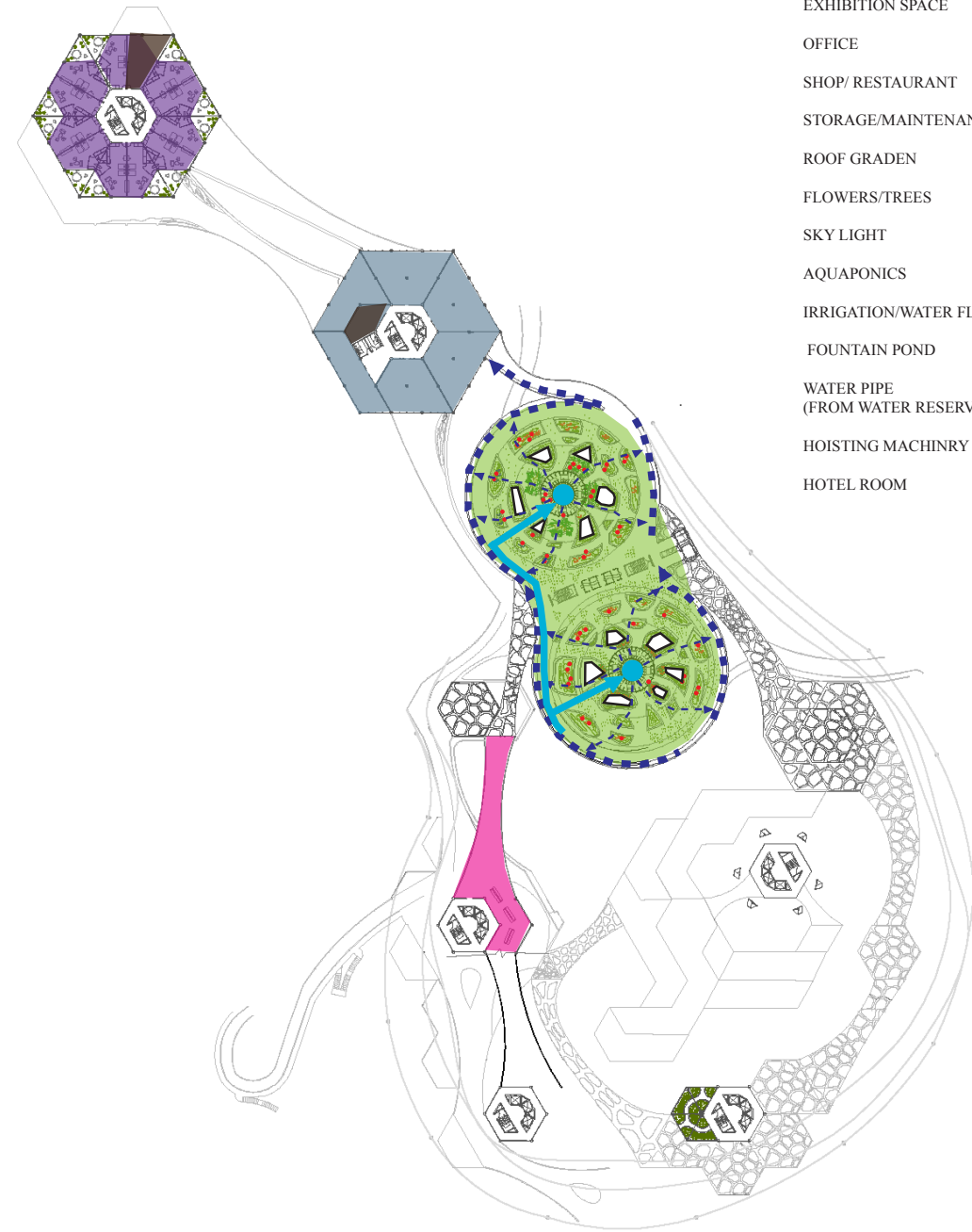
EXHIBITION SPACE	
OFFICE	
SHOP/ RESTAURANT	
STORAGE/MAINTENANCE	
ROOF GRADEN	
FLOWERS/TREES	
SKY LIGHT	
AQUAPONICS	
IRRIGATION/WATER FLOW	
FOUNTAIN POND	
WATER PIPE (FROM WATER RESERVOIR)	
HOISTING MACHINRY	
HOTEL ROOM	

10.1 DIAGRAMS OF THE DESIGN

10.1.4 DIAGRAMS OF FLOOR PLANS

10 TH FLOOR PLAN

11 TH FLOOR PLAN

N   0   50'   150'   300'
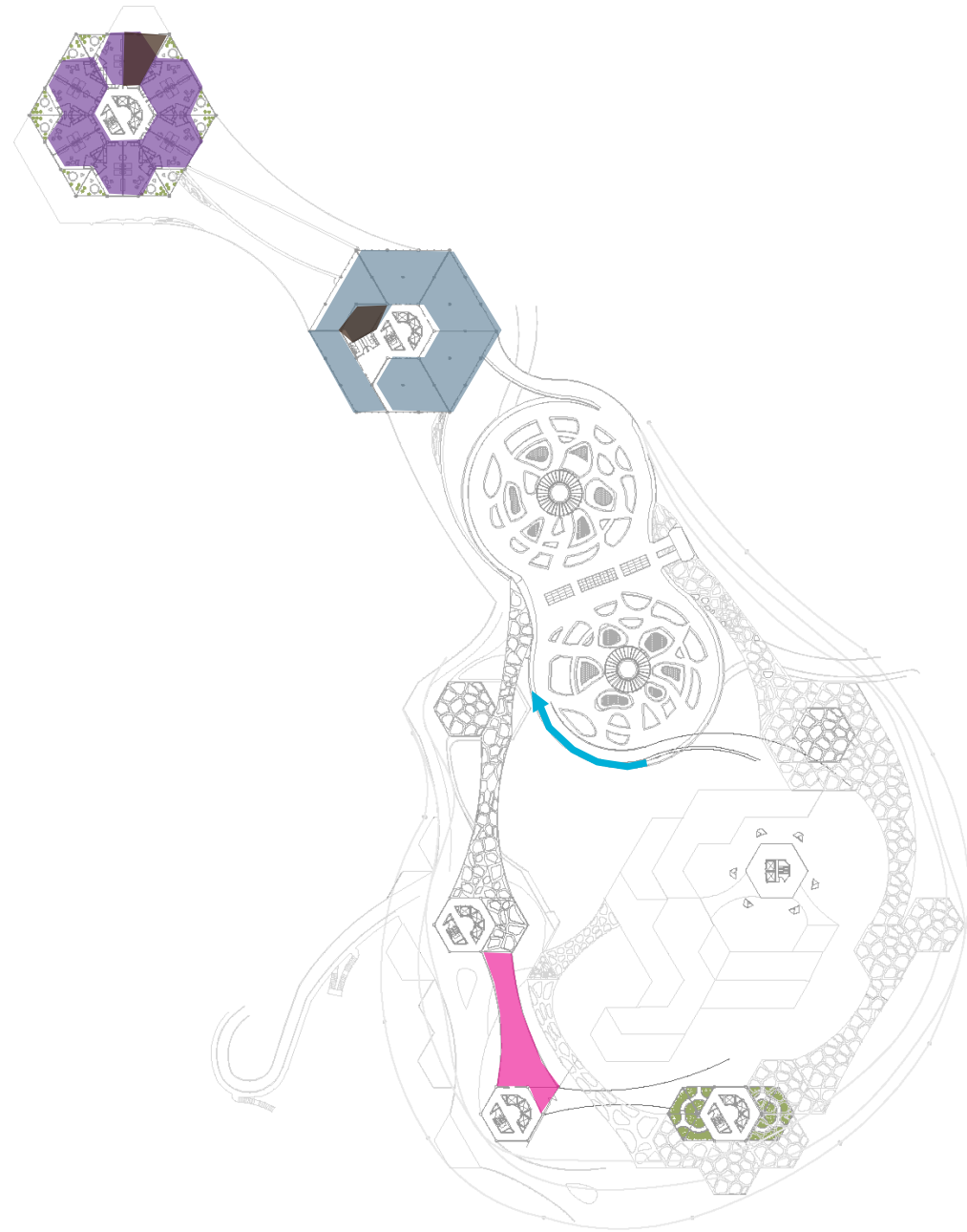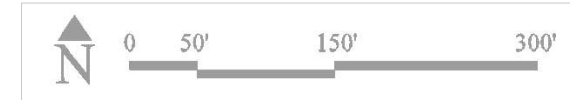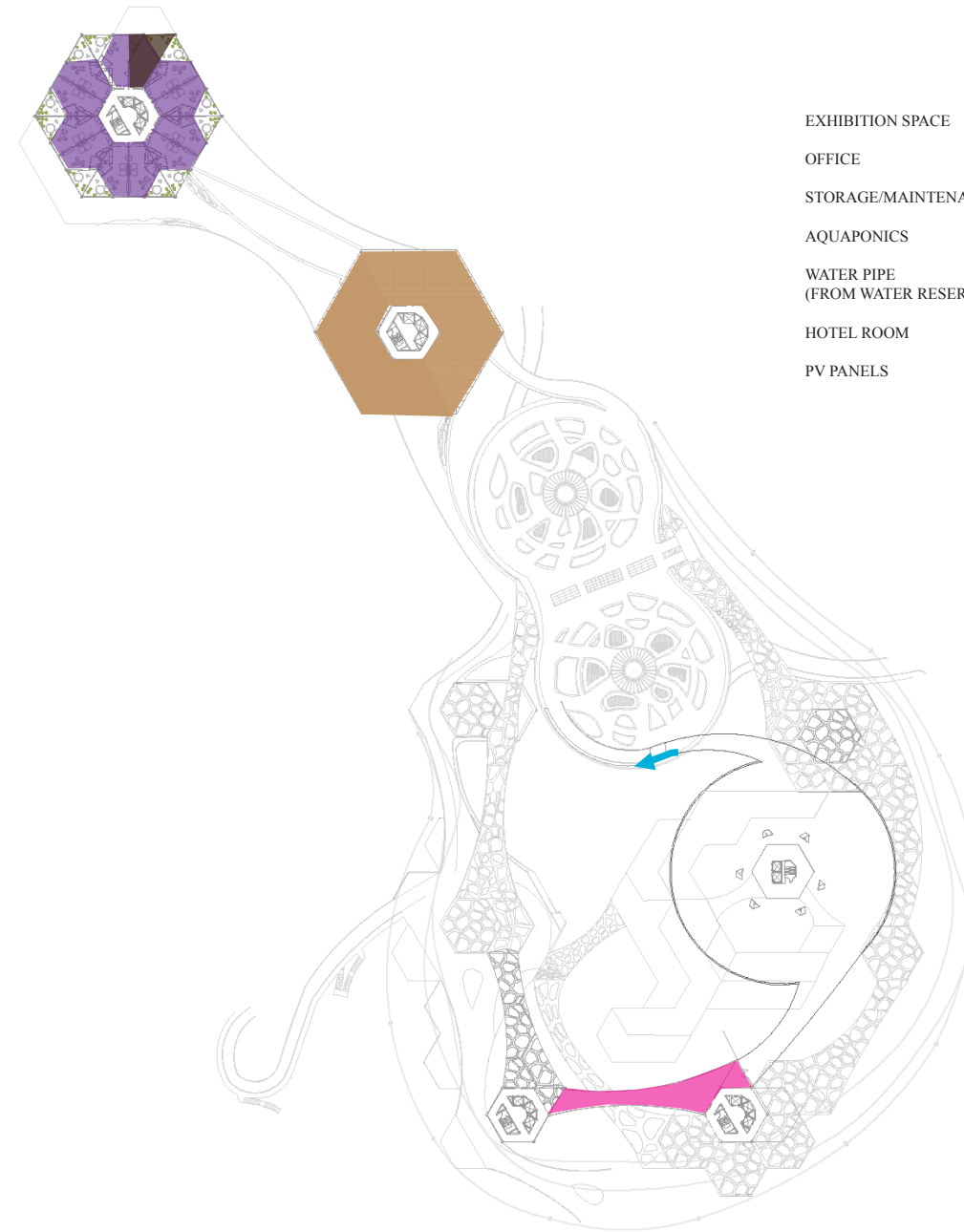
EXHIBITION SPACE

OFFICE

STORAGE/MAINTENANCE

AQUAPONICS

WATER PIPE
(FROM WATER RESERVOIR)

HOTEL ROOM

PV PANELS

10.1 DIAGRAMS OF THE DESIGN

10.1.4 DIAGRAMS OF FLOOR PLANS

12TH FLOOR PLAN

TOP FLOOR PLAN

0 50' 150' 300'
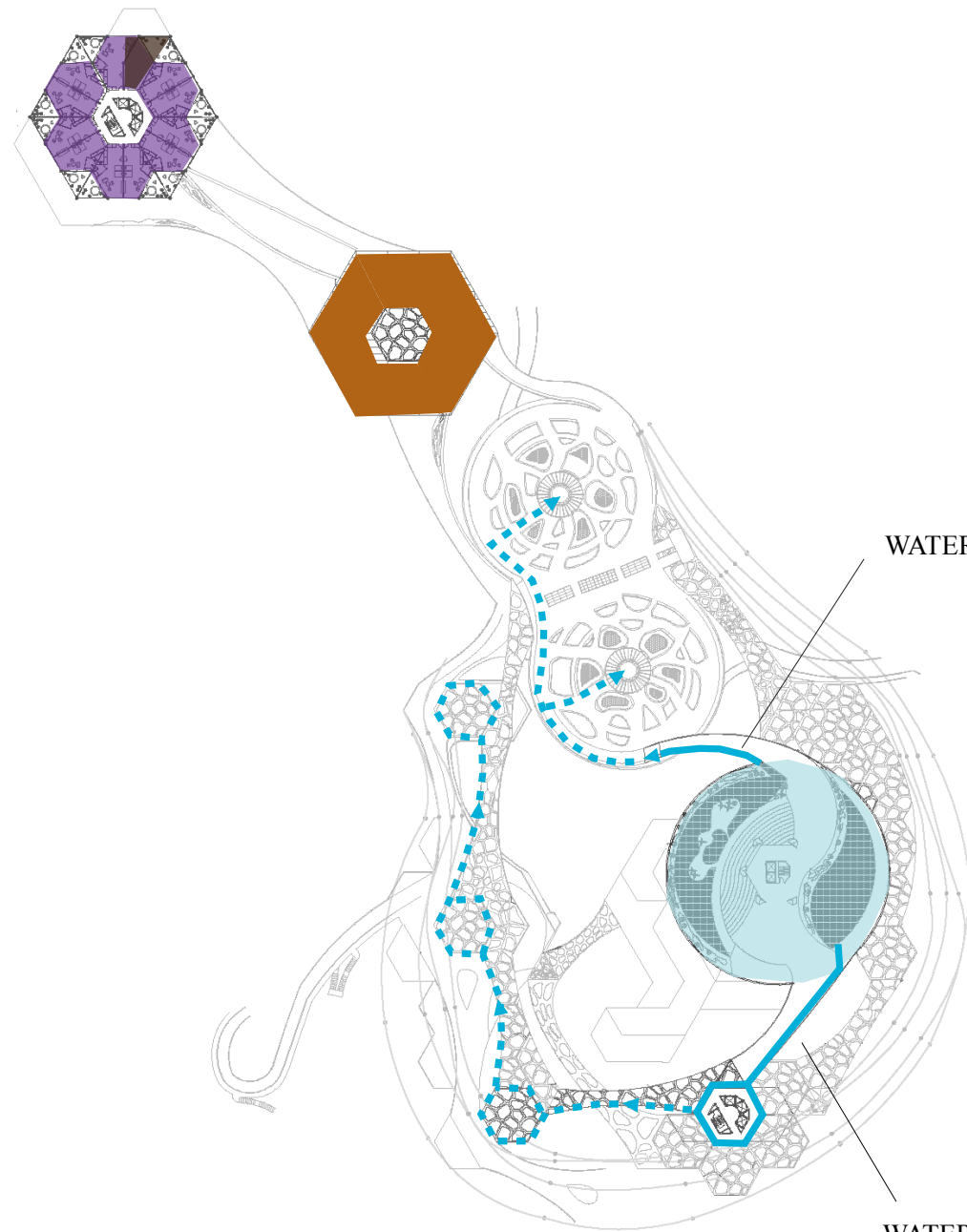
WATER PIPE TO THE FOUNTAINS

WATER PIPE TO AQUAPONICS UNITS

PERFORMANCE AREA
(WATER RESERVE)

STORAGE/MAINTENANCE

WATER PIPE

HOTEL ROOM

OBSERVATORY

PV PANELS

10.1 DIAGRAMS OF THE DESIGN

10.1.5 LANDSCAPE DESIGN

GROUND LEVEL LANDSCAPING (SOUTHERN AREA)

Bike Pathway

Entry to Organic
Supermarket

Entry to Exhibition

Up to Ramp

Main Entry

Bike Pathway

Bike Pathway

KALAKAUA AVE

LEWERS ST

PAVING 2: Pervious Paving

PAVING 1: Typical in Kalakaua Ave

N 0 10' 25' 50' 100'

Monkey Pod

Hala

Shower Tree

Bread Tree Fruit

Plumeria

Coconut Palm

Royal Palm

Foxtail Palm

Cycads

The Red Ohia

Laua'e

Areca Palm

Bamboo

Taro

10.1 DIAGRAMS OF THE DESIGN

10.1.5 LANDSCAPE DESIGN

GROUND LEVEL LANDSCAPING (NORTHERN AREA)

N 0 10' 25' 50' 100'

KALAIMOKU ST

KUHIO AVE

PAVING 2: Pervious Paving

Bike Pathway

PAVING 1: Typical in Kuhio Ave

Entry to Hotel Lobby

Entry to Office Building

Bike Pathway

Entry to Organic Supermarket

10.1 DIAGRAMS OF THE DESIGN

10.1.5 LANDSCAPE DESIGN

OFFICE

DOWN

TRELLIS

TRADE WIND

SKIN FACADE

OCEAN VIEW OVER
FORT DE RUSSY

PAVEMENT

WATER FOUNTAIN

SKIN FACADE

SKY LIGHT

POLISHED CONCRETE

WATER PIPE

DOWN

KONA WIND

WATER RESERVE

ROOF GARDEN (Parking Building)

N   0   10'   25'   50'   100'

Indigenous

Red Ohia

Native Hibiscus

Illima

Hala

Mauna Loa Vine

Polynesian Settlement

Uala (Sweet Potato)

Ti

Western Contact

Bird of Paradis

Dwarf Heliconia

Spider Lily

Ixora

Blue Plumbago

Bougainvillea

Cup of Gold

10.2 PLANS, ELEVATIONS, AND SECTIONS
10.2.1 FLOOR PLANS

GROUND FLOOR

N

0   50'   150'   300'

MAIN ENTRANCES

PAVING 1
("BOUNDARY": TYPICAL IN
KALAKAUA AVE)

PAVING 2
(PERVIOUS PAVING
MATERIAL)

KUHIO AVE

THE BUS

ELEV.

ORGANIC
SUPERMARKET

SHOPS

OFFICE
LOBBY

OFFICE

OFFICE

W.C.

RESTAURANT

LOADING
AREA

EXISTING
BUILDING

KALAIMOKU ST

LOADING
AREA

STORAGE

SHOPS

SHOPS

HOTEL
OFFICE

HOTEL
LOBBY

SHOPS

RESTAURANT

PICK UP &
DROP OFF

THE BUS

TARO POND

EXHIBIT

EXHIBIT

OFFICE

EXHIBIT

SHOPS

SHOPS

SHOPS

SHOPS

LOADING
AREA

STORAGE

PICK UP &
DROP OFF

PICK UP &
DROP OFF

THE BUS

KALAKAUA AVE

LEWERS ST

10.2.1 FLOOR PLANS

3RD FLOOR PLAN

N

0   50'   150'   300'

HOTEL ROOMS

MAINTENANCE

TENNIS COURT

BALCONY & JACUZZI

OFFICES

MAINTENANCE

BREAK AREA

CAR ELEVATOR

ENTRY

MECH. ROOM

MECH. ROOM

EXIT

STORAGE

STORAGE

WATER FALL

SHOP

SHOP

UP

SHOP/RESTAURANT

FOOD EDUCATION CENTER

BIKE PATH RAMP

PEDESTRIAN PATH RAMP
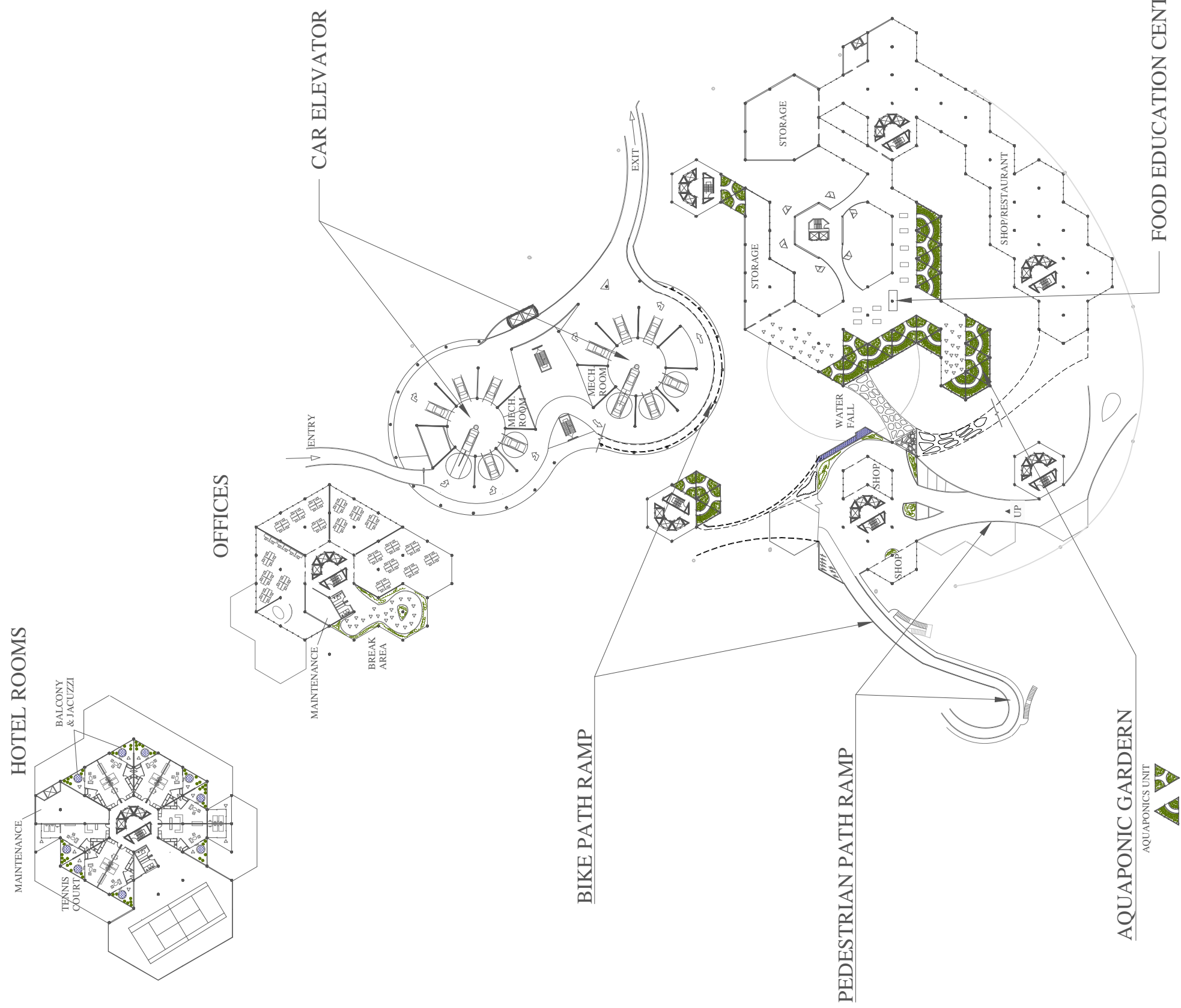
AQUAPONIC GARDERN

AQUAPONICS UNIT

10.2.1 FLOOR PLANS

N

4TH FLOOR PLAN

0   50'   150'   300'

HOTEL ROOMS

MAINTENANCE

MAINTENANCE

OFFICES

MAINTENANCE

CAR PARKING &
BIKE RENTAL

BIKE ELEV.

UP

BIKE RAMP

EXHIBIT

VEGAN RESTAURANT

10.2.1 FLOOR PLANS

5TH FLOOR PLAN

N

| 0 | 50' | 150' | 300' |

HOTEL ROOMS

MAINTENANCE

SHOPS/RESTAURANT

MAINTENANCE

UP

CAR PARKING &
BIKE RENTAL

BIKE ELEV.

DOWN

UP

EXHIBIT

10.2.1 FLOOR PLANS

6TH FLOOR PLAN

N

0   50'   150'   300'

HOTEL ROOMS

MAINTENANCE

MECH. ROOM

RAMP

UP

MAINTENANCE

OFFICES

CAR PARKING & BIKE RENTAL

BIKE ELEV.

UP

DOWN

EXHIBIT
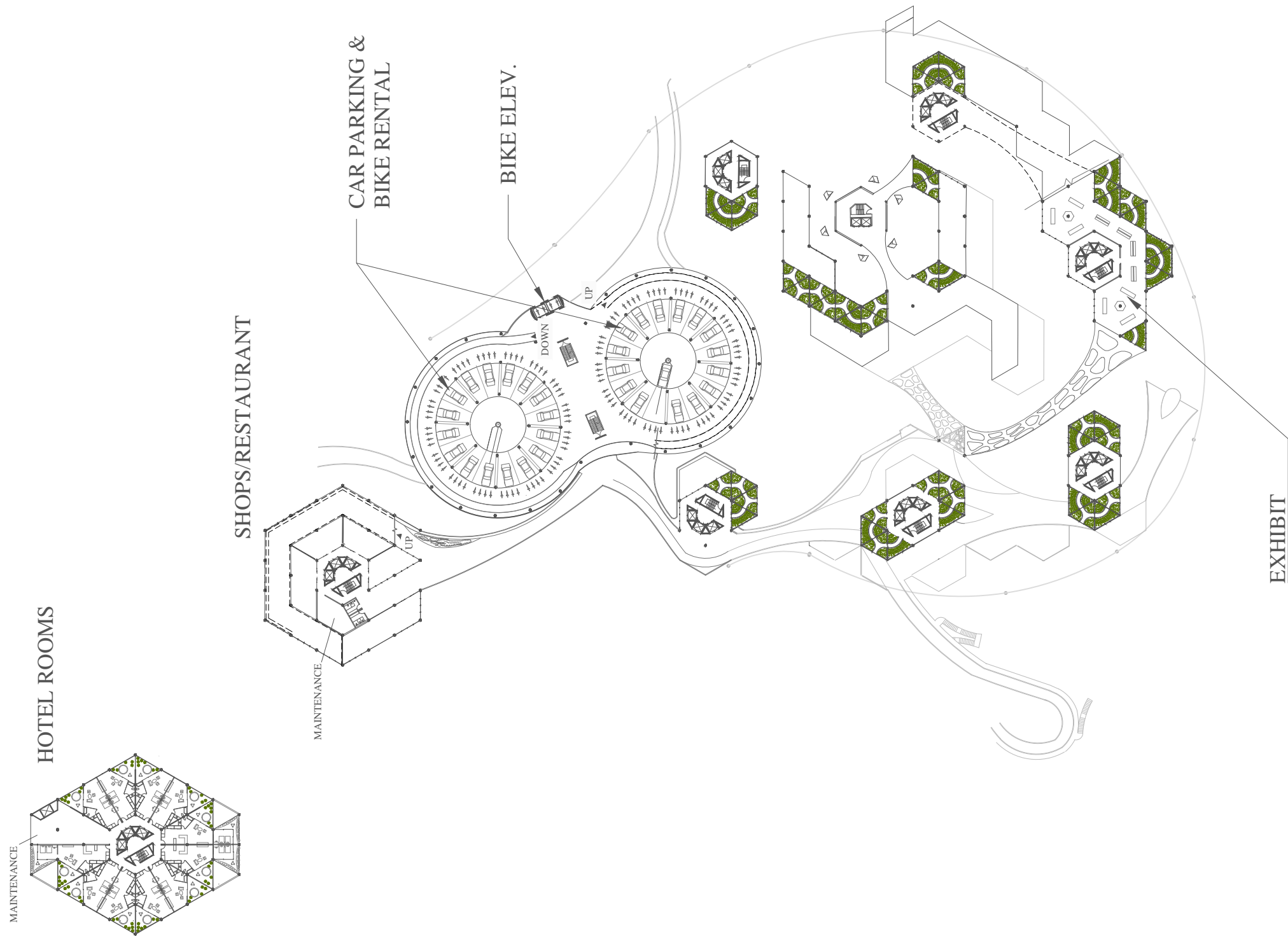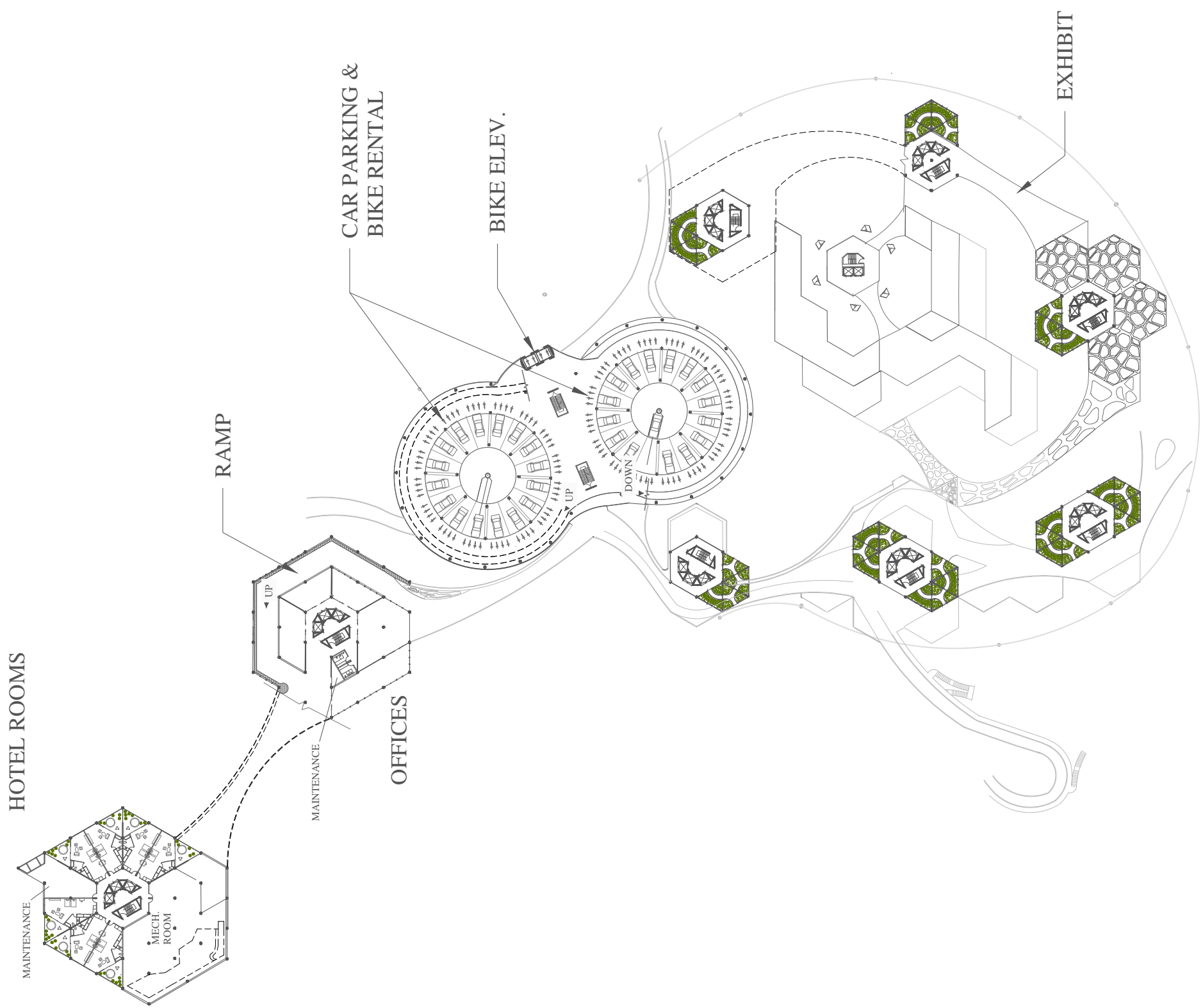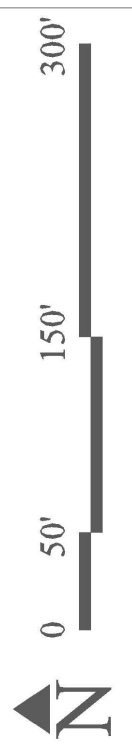
10.2.1 FLOOR PLANS

7TH FLOOR PLAN

N

0   50'   150'   300'

POOL BAR

MAINTENANCE

POOL

OFFICES

MAINTENANCE

CAR PARKING &
BIKE RENTAL

BIKE ELEV.

DOWN

EXHIBIT

10.2.1 FLOOR PLANS

8TH FLOOR PLAN

N

0   50'   150'   300'

MAIN EXHIBIT

MECH. ROOM

MECH. ROOM

UP

UP

OFFICE

OFFICES

MAINTENANCE

HOTEL ROOMS

MAINTENANCE
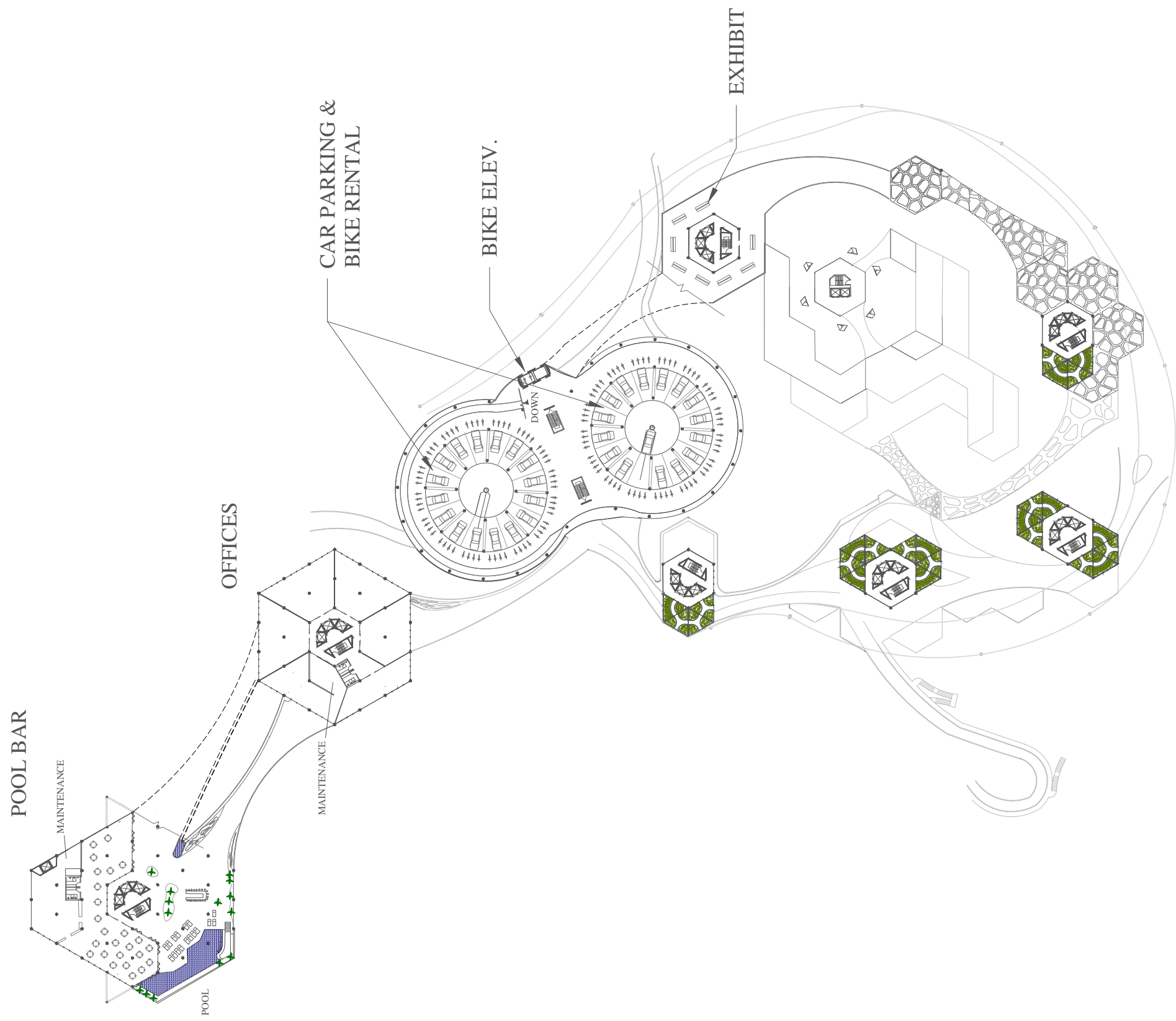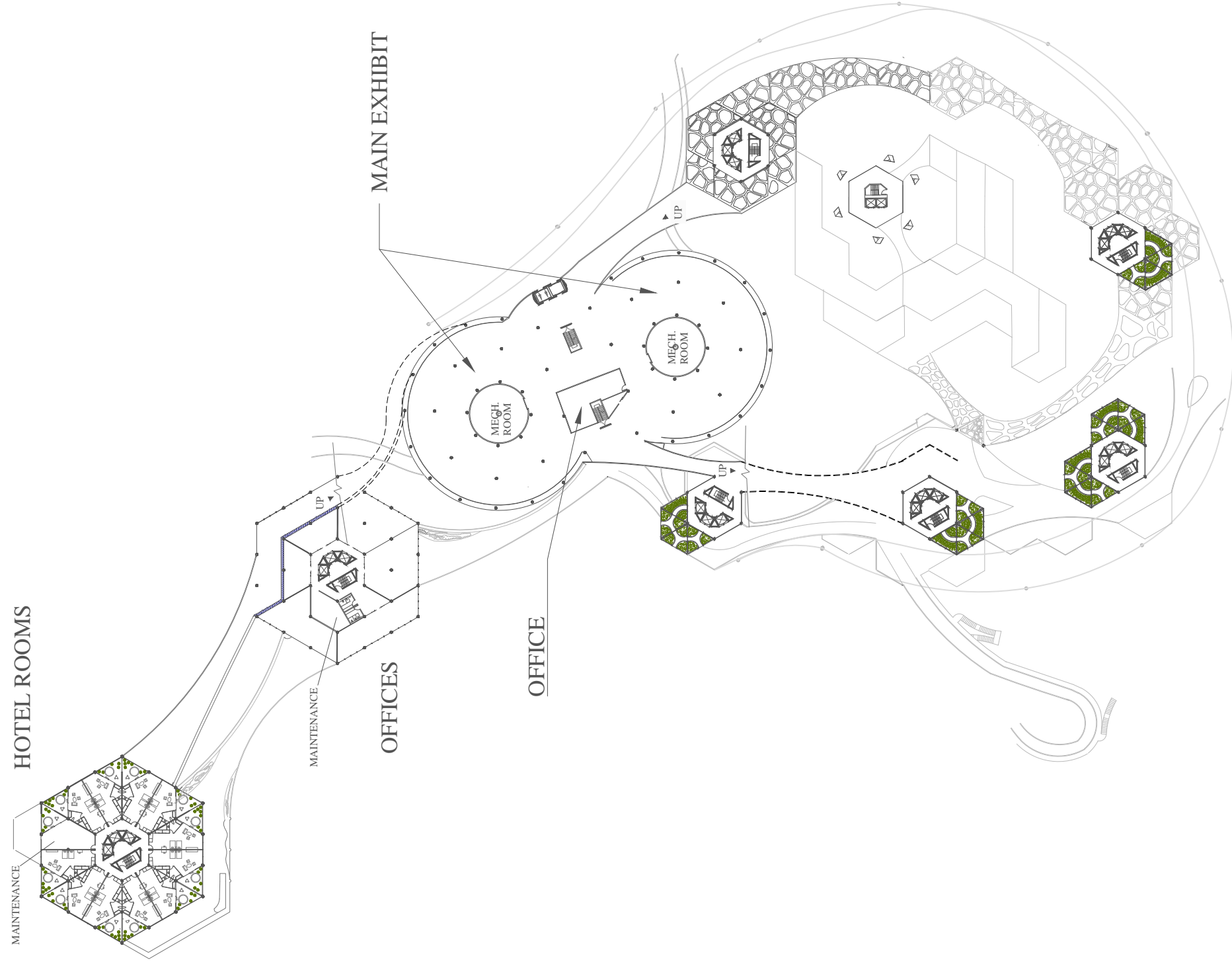
10.2.1 FLOOR PLANS

9TH FLOOR PLAN

N

| 0 | 50' | 150' | 300' |

HOTEL ROOMS

MAINTENANCE

OFFICES

MAINTENANCE

ROOF GARDEN

SKY LIGHTS

PAVEMENT

FOUNTAINS

WATER PIPE
(From The Water Reservoir
To The Fountains)

EXHIBIT

10.2.1 FLOOR PLANS

10TH FLOOR PLAN

N

0   50'   150'   300'

HOTEL ROOMS

OFFICES

WATER PIPE

EXHIBIT
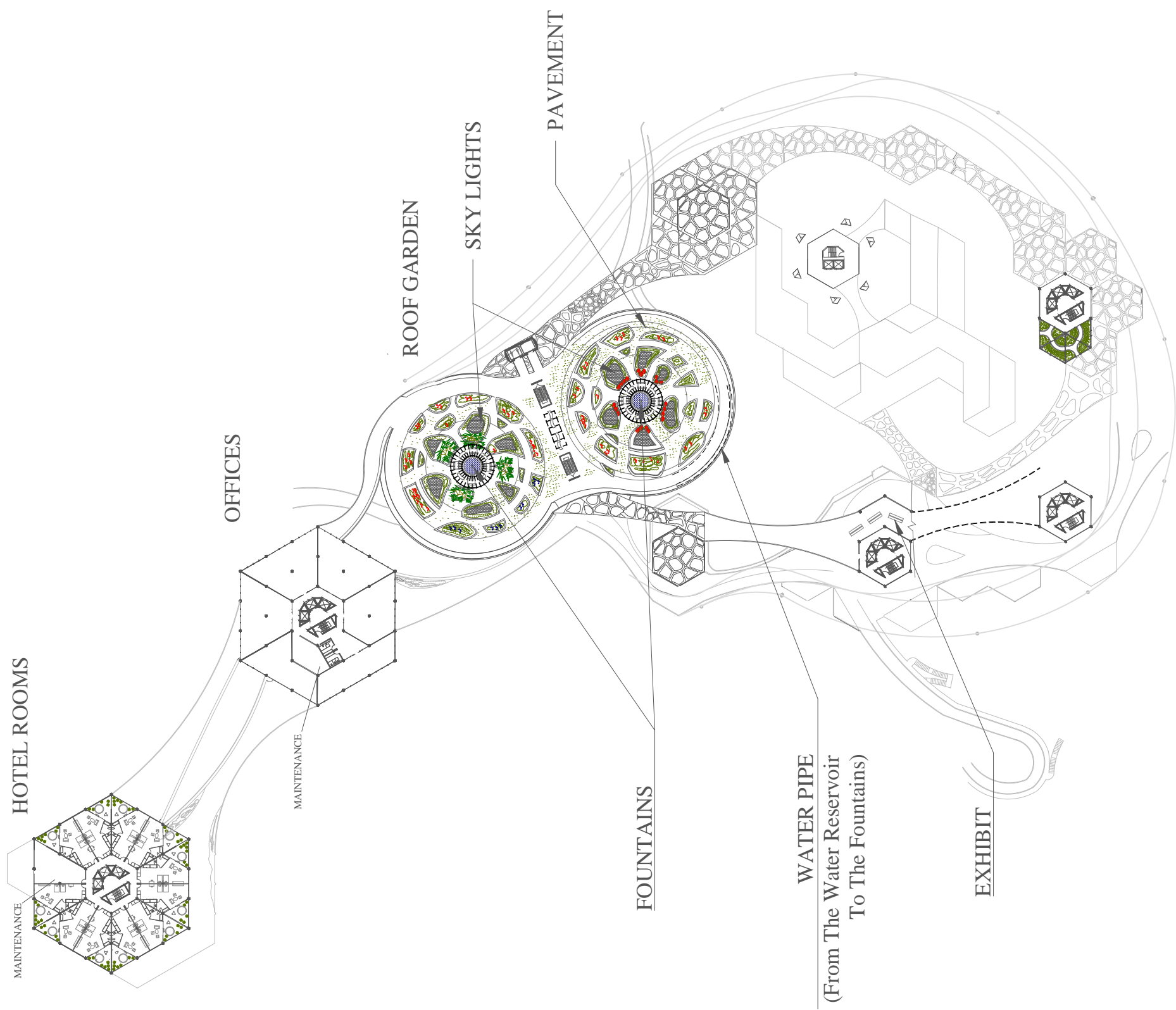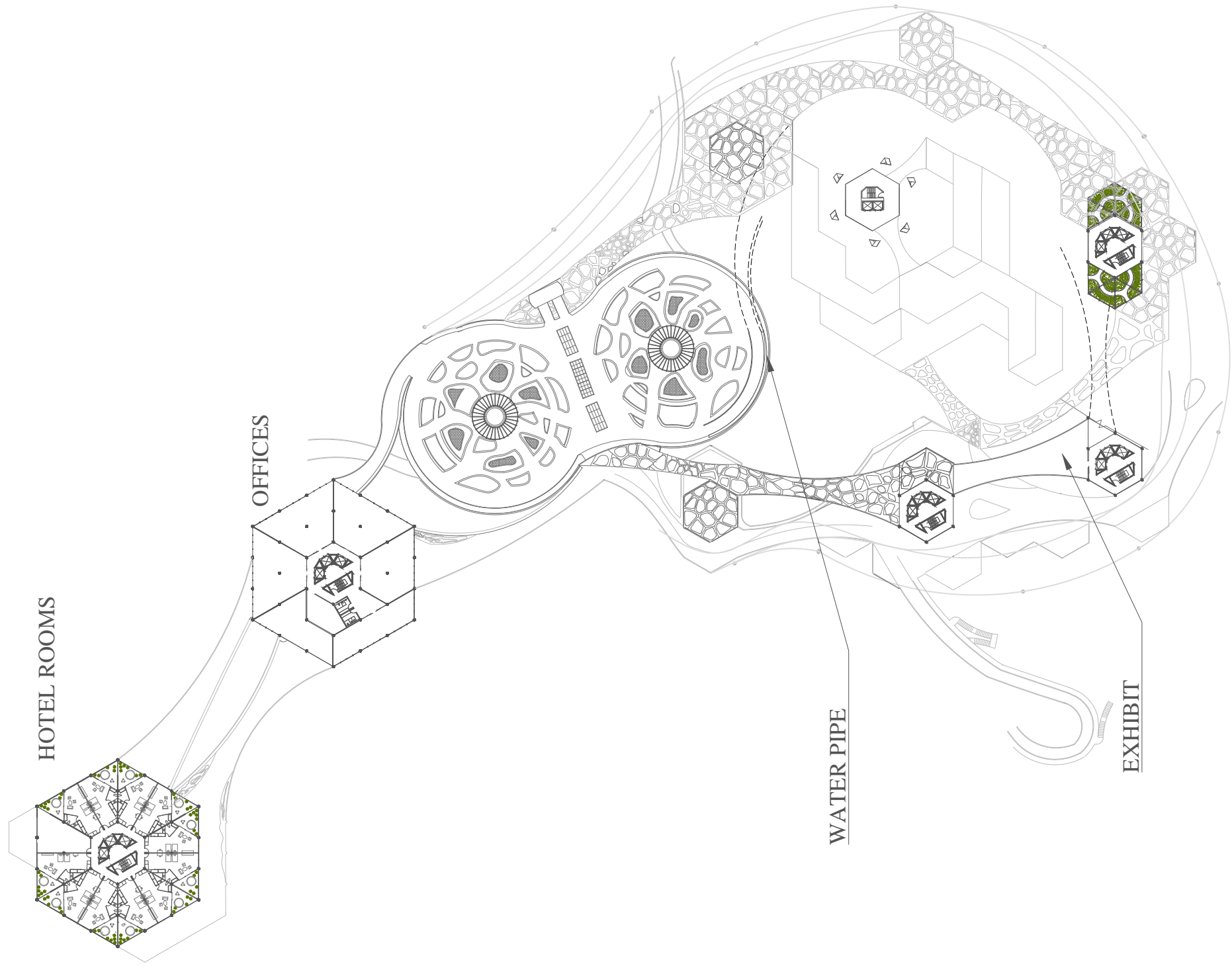
10.2.1 FLOOR PLANS

11TH FLOOR PLAN

N

0   50'   150'   300'

HOTEL ROOMS

PV PANELS

EXHIBIT

10.2.1 FLOOR PLANS

12TH FLOOR PLAN

N

0   50'   150'   300'

HOTEL ROOMS

OFFICES

PERFORMANCE SPACE
(WATER RESERVE)

PV PANELS

WATER PIPE
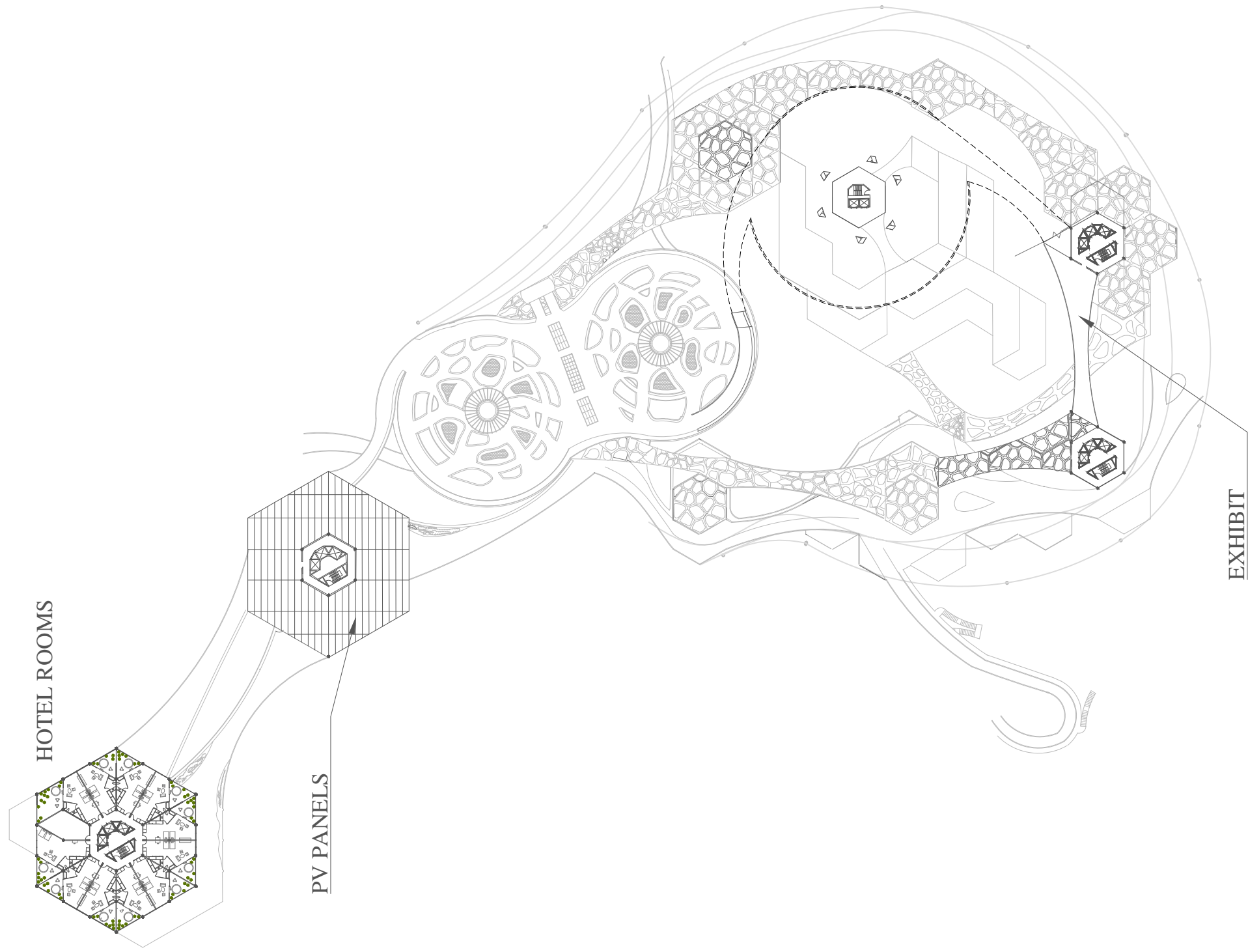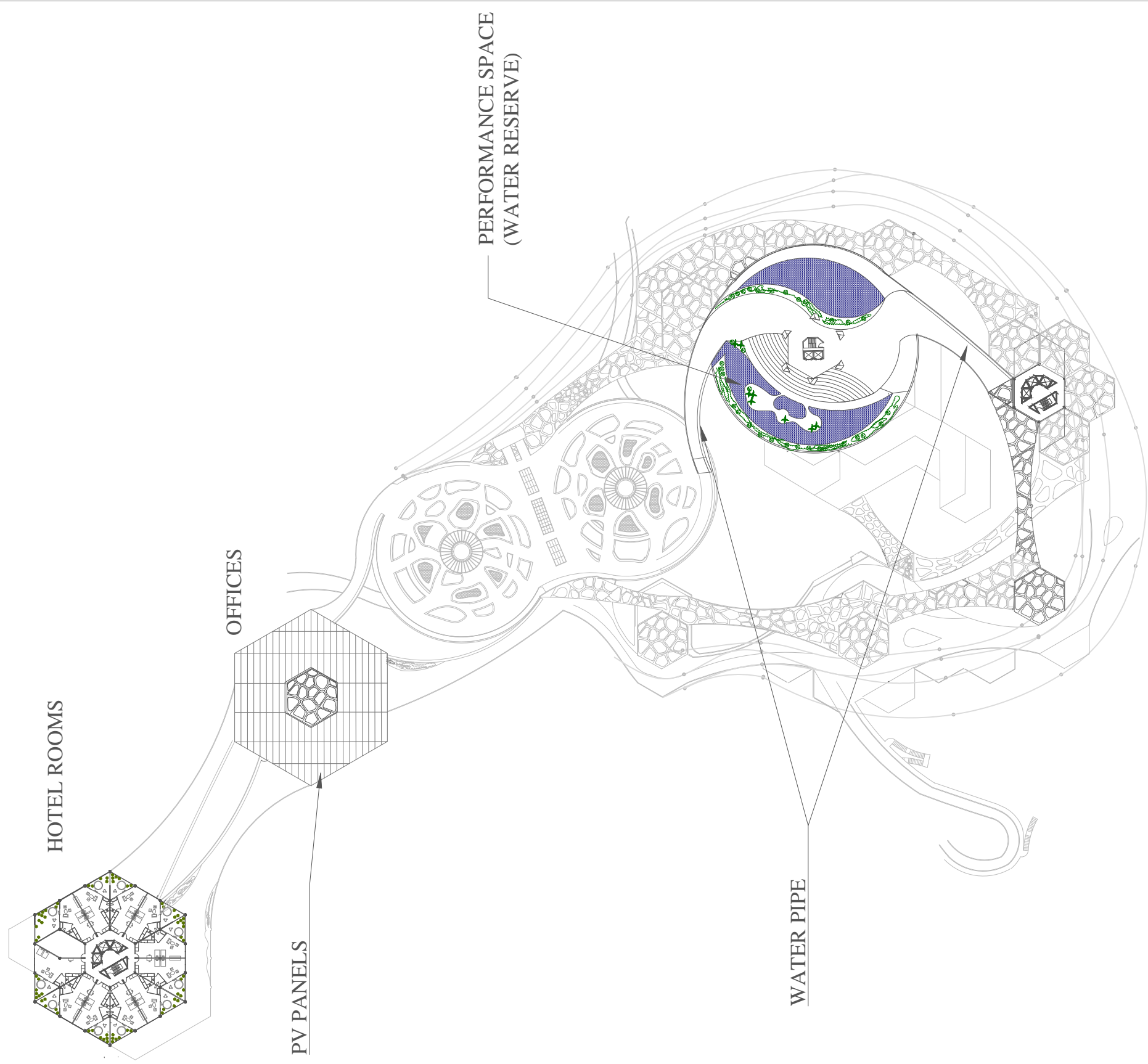
10.2.1 FLOOR PLANS

TOP FLOOR PLAN

N

0   50'   150'   300'

OBSERVATORY
(270' LEVEL)

PV PANELS
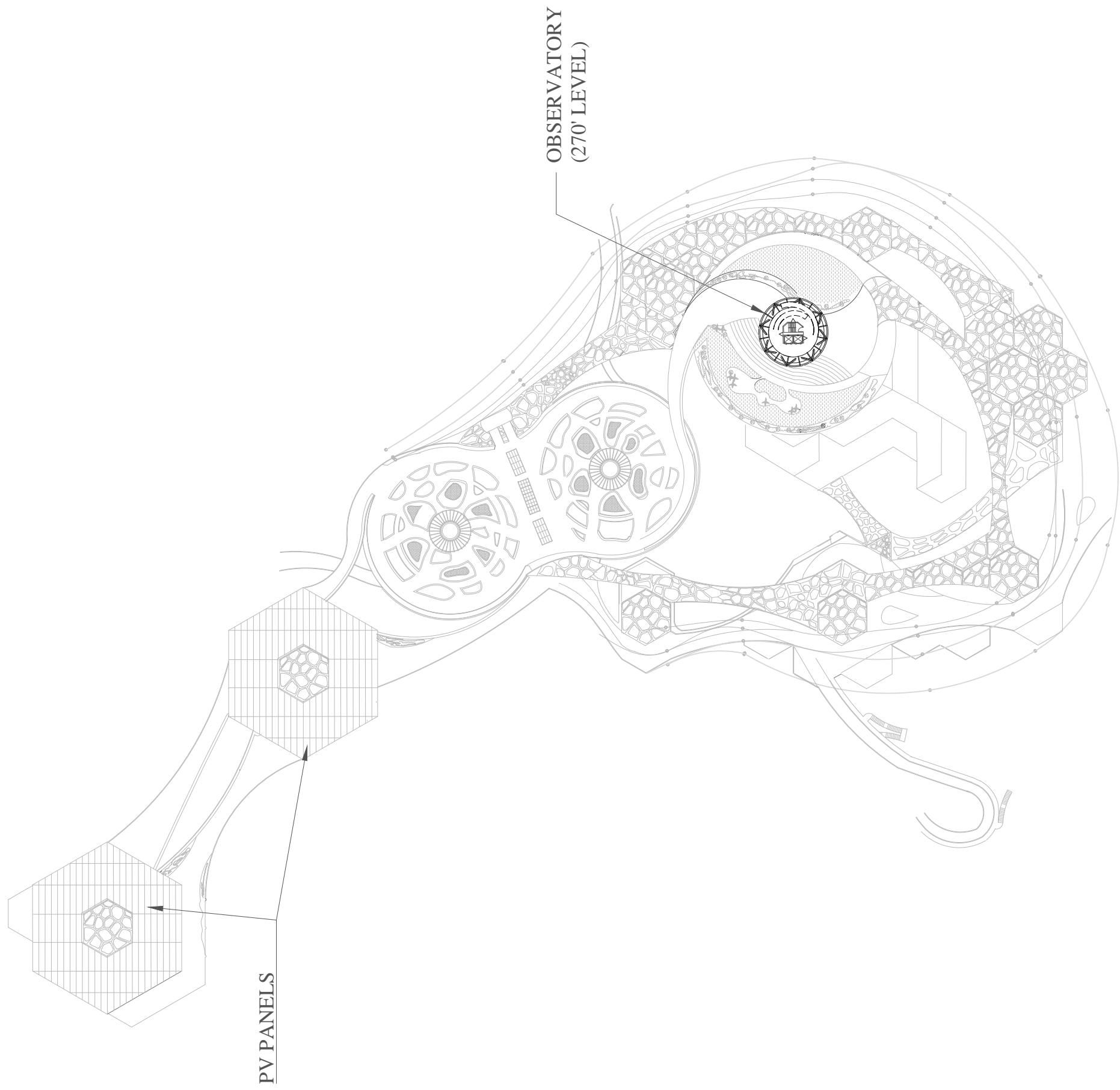
10.2.1 FLOOR PLANS

OBSERVATORY PLAN & SECTION

288' LEVEL PLAN

DOWN

UP

C

C'

270' LEVEL PLAN

DOWN

UP

N

0   10'   20'   50'

SECTION C-C'

300' LEVEL

288' LEVEL

270' LEVEL
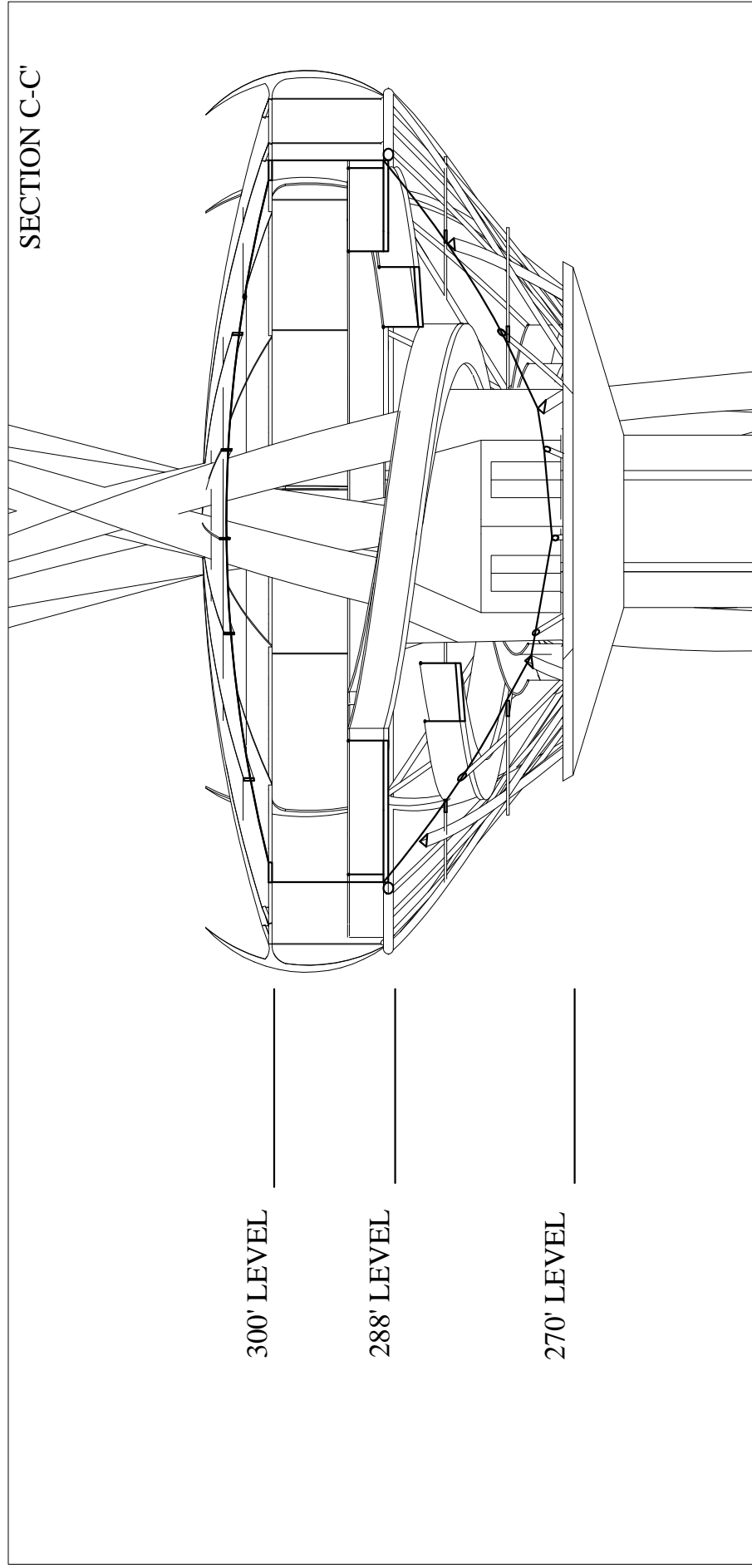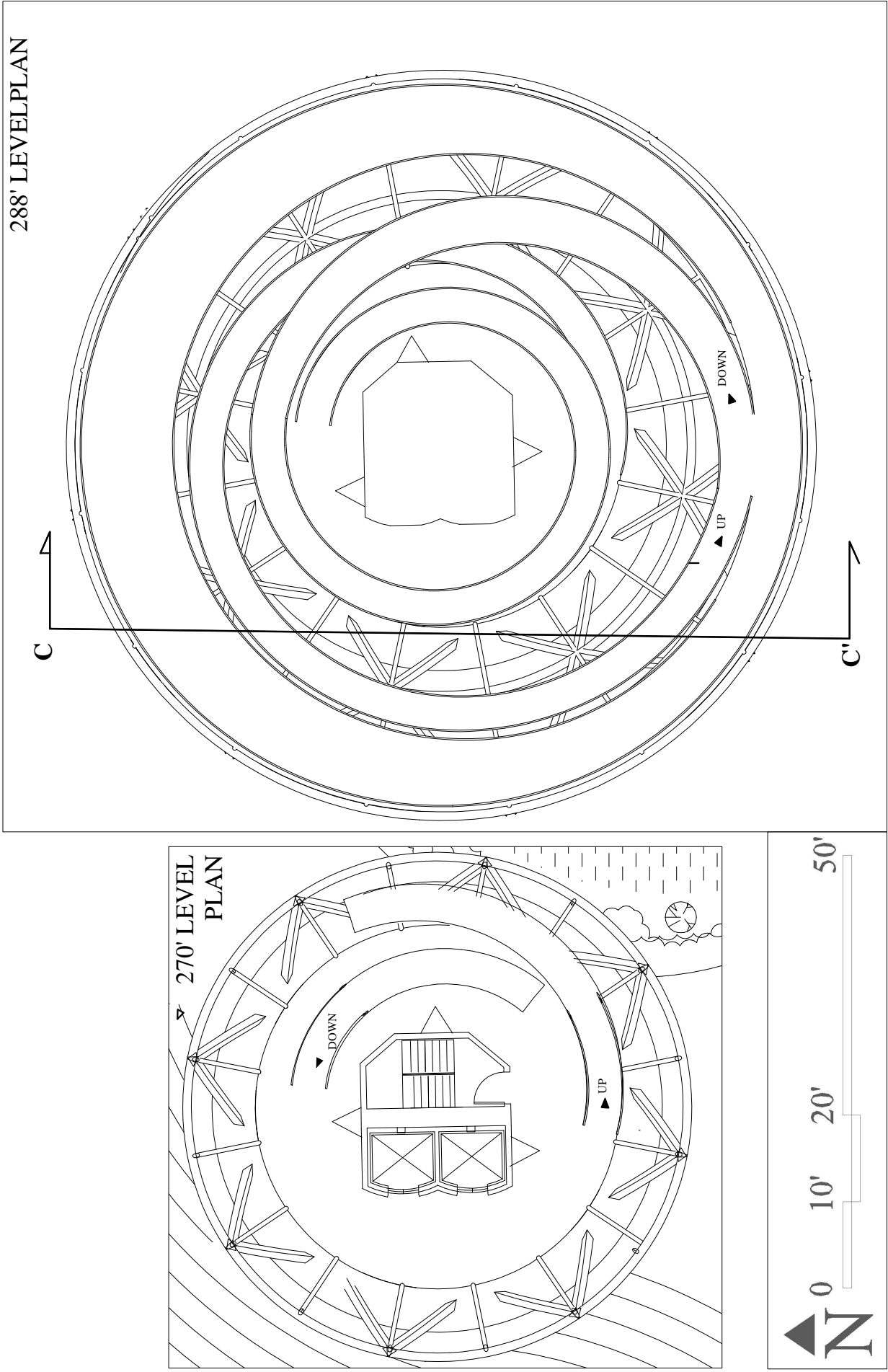
10.2.2 BUILDING ELEVATIONS

0 100' 300' 500'
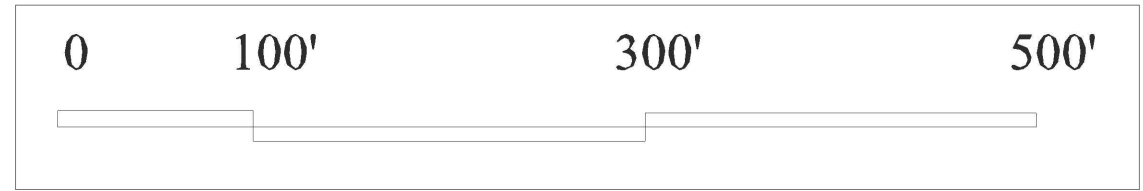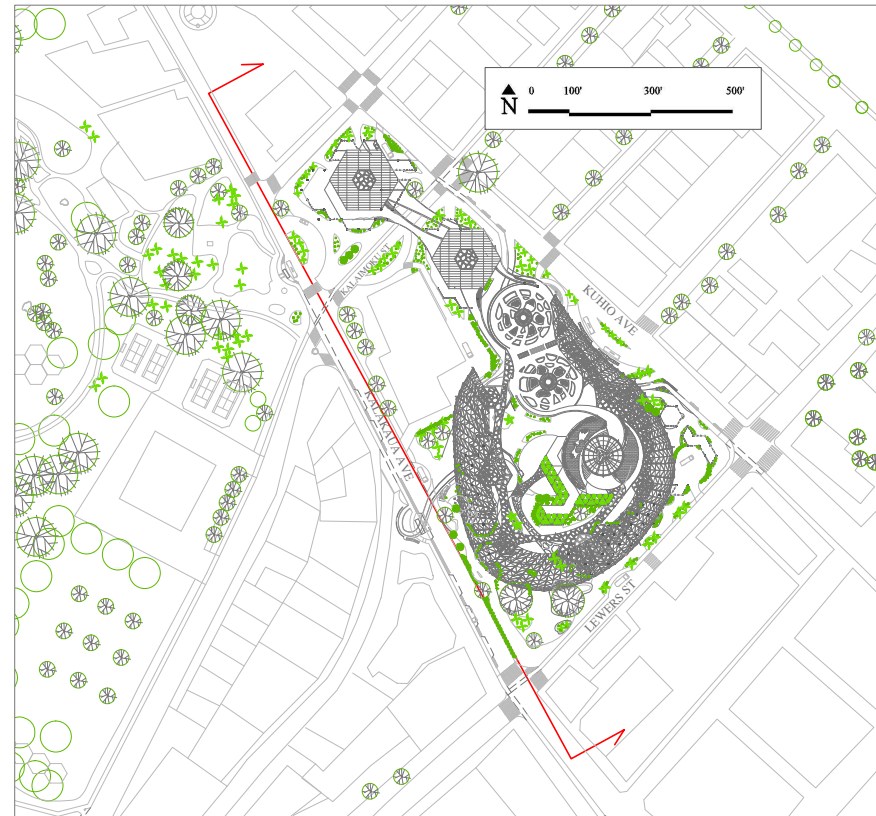
ELEVATION 1 (KALAKAUA AVE)

OBSERVATORY

300'

PERFORMANCE AREA

ROOF GRADEN

HOTEL
BUILDING

OFFICE
BUILDING

PARKING
BUILDING

CULTURAL
CENTER

0   100'   300'   500'

ELEVATION 2 (KUHIO AVE)

OBSERVATORY

300'

CULTURAL
CENTER

PARKING
BUILDING

OFFICE
BUILDING

HOTEL
BUILDING

0   100'   300'   500'

SECTION A-A'

A   A'

BIKE& PEDESTRIAN
BRIDGE

MAIN EXHIBIT
PARKING & BIKE RENT
PARKING & BIKE RENT
PARKING & BIKE RENT
PARKING & BIKE RENT
CAR ELEV. ACCESS
ORGANIC
SUPERMARKET

KUHIO
AVE.

KALAKAUA
AVE.

10.2.3 BUILDING SECTIONS

0   100'   300'   500'

SECTION B - B'

N   0   100'   300'   500'

WIND POWER
GENERATOR

OBSERVATORY

PERFORMANCE AREA
(WATER RESERVE)

| OFFICES |
| OFFICES |
| SHOPS/RESTAURANT |
| OFFICES |
| SHOPS/RESTAURANT |
| OFFICES |
| OFFICES |

HOTEL ROOM	HOTEL ROOM
HOTEL ROOM	HOTEL ROOM
HOTEL ROOM	HOTEL ROOM
HOTEL ROOM	HOTEL ROOM
HOTEL ROOM	HOTEL ROOM
POOL BAR & RESTAURANT	
HOTEL ROOM	HOTEL ROOM
HOTEL ROOM	HOTEL ROOM
HOTEL ROOM	HOTEL ROOM

12TH
10TH
8TH
6TH
4TH

| MAIN EXHIBIT |
| PARKING & BIKE RENT |
| PARKING & BIKE RENT |
| PARKING & BIKE RENT |
| PARKING & BIKE RENT |
| ORGANIC SUPERMARKET |

ELEV.
& STAIR

CAR
ELEV.

VEGAN RESTAURANT
RESTAURANT
RESTAURANT
SHOPS

EDUCATIN
CENTER

EXHIBIT

EDUCATIN
CENTER

EXHIBIT

LOBBY

ELEV.
& STAIR

SHOPS/RESTAURANT

CULTURAL
CENTER

PARKING
BUILDING

OFFICE
BUILDING

HOTEL
BUILDING

10.2.3 BUILDING SECTIONS

ELEVATOR & STAIR

SKIN FACADE

OPEN & CLOSE

AQUAPONICS DIAGRAM

POROUS MEDIA BED/FILTER

GROW BED

KOI FISH

FISH TANK

PUMP

60'

48'

36'

24'

12'

10.3   RENDERING IMAGES OF THE DESIGN

RENDERING 1   GROUND LEVEL - GARDEN SPACE

MEMORY SKETCHES OF INFORMANTS

- Trees, flowers, and water are a "Symbol" and a "Multi-sensory."
- A open space in a "Boundary" is a "Frame/*Ma*."

Hometown

Hometown

Waikiki

Waikiki

GROUND FLOOR PLAN

VIEW POINT
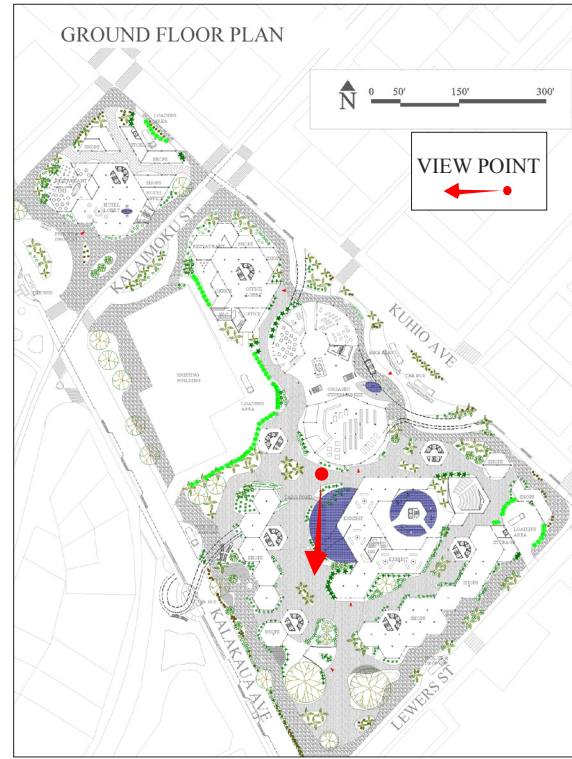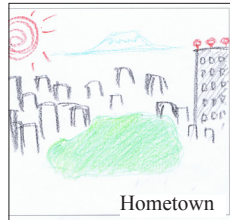
APPLICATION OF THE DRAWINGS

- SYMBOL=Building structure (volonoi structure).
- MULTI-SENSORY= Taro pond, water fall, toropical garden, and people.
- BOUNDARY= Skin facade.
- FRAME/*Ma* = Courtyard.
- VISTA = To the sky.

10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 2   3RD FLOOR BREAK AREA

MEMORY SKETCHES OF INFORMANTS

- A local production and a bridge are a "Symbol."
- Water and plannts are a "Multi-Sensory."
- A space between a pathway and shops is a "Frame/*Ma*."

Hometown

Hometown

Waikiki

Waikiki
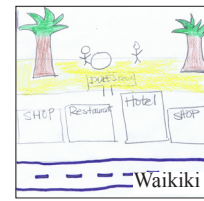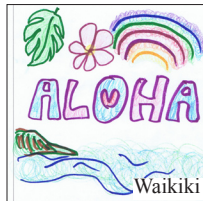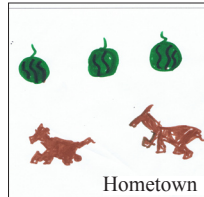
APPLICATION OF THE DRAWINGS

- SYMBOL= Lei shop, bridge, and aquaponics units.
- MULTI-SENSORY= Flowers, irrigation, aquaponics, and walking/biking people.
- BOUNDARY= Pathway/ramp.
- FRAME/*Ma* = The 3rd floor break area.
- VISTA = View to the courtyard.
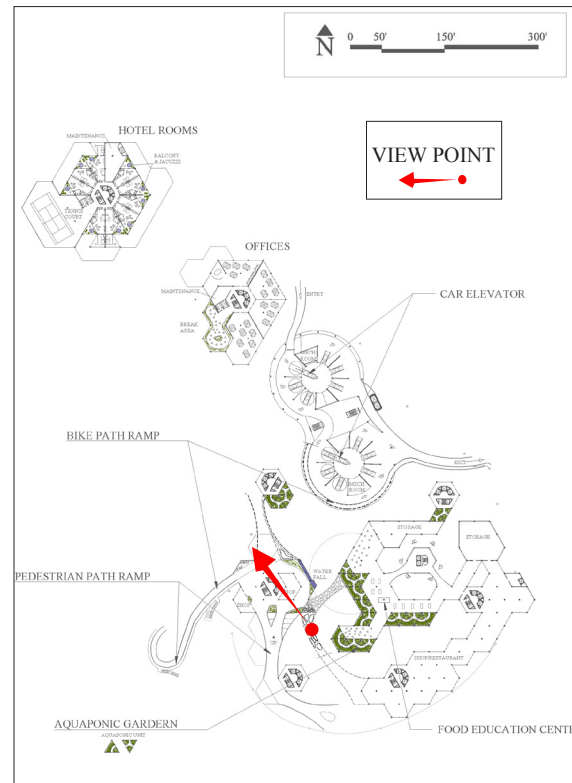
10.3   RENDERING IMAGES OF THE DESIGN

RENDERING 3   POOL BAR (7th floor)

MEMORY SKETCHES OF INFORMANTS

- A bar, restaurant, and water activity are a "Multi-Sensory.
- The horizon is a "Boundary."
- A palm tree and ocean are a "Symbol" for a resort.

Hometown

Hometown

Waikiki

Waikiki
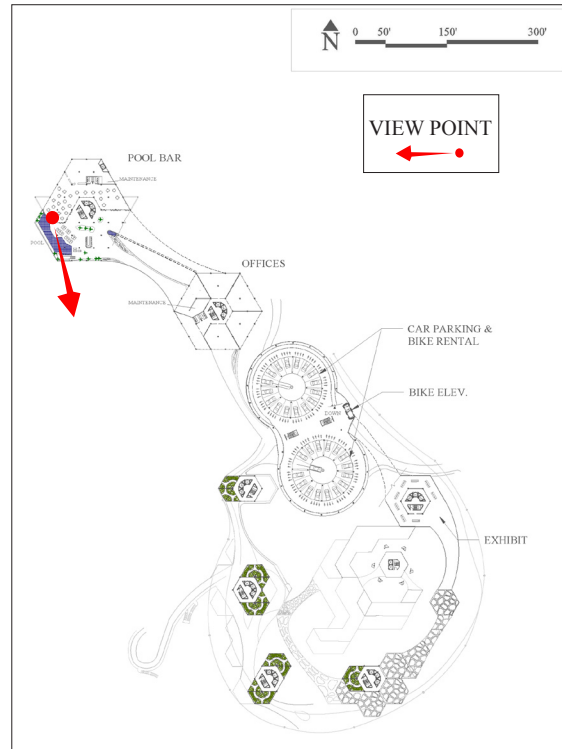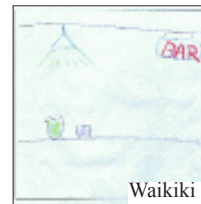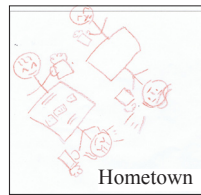
APPLICATION OF THE DRAWINGS

- SYMBOL= Structural columns like a tree and ocean view.
- MULTI-SENSORY= Pool, bar, restaurant, and plants.
- BOUNDARY= The horizon.
- FRAME/*Ma* = Relaxation spaces.
- VISTA = View to Makai (Ocean).

10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 4   ROOF FLOWER GARDEN (9th floor)

MEMORY SKETCHES OF INFORMANTS

- A tower, sculpture, and reneable energy uses are a "Symbol."
- Makai and Mauka view (Ocean & Mountain) is a "Vista."
- Fish, water, and plants are "Multi-Sensory."

Hometown

Hometown

Waikiki

Waikiki
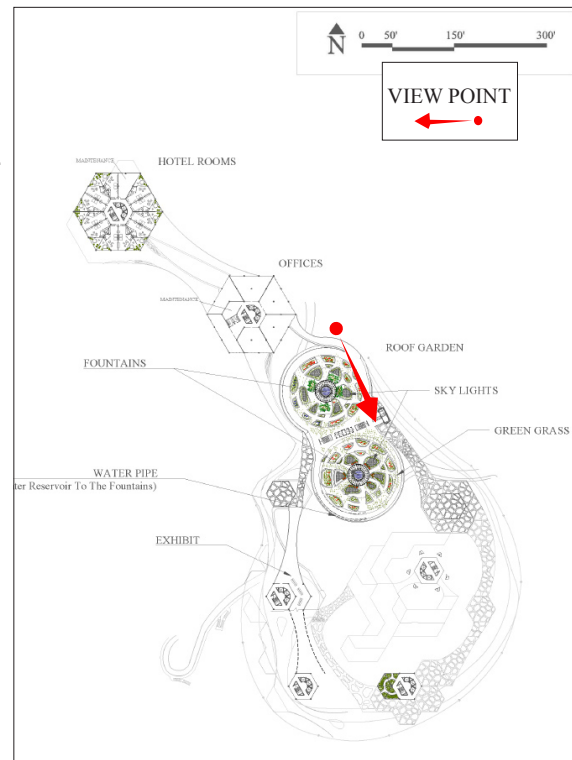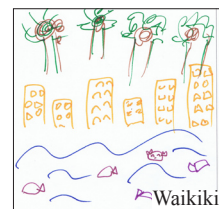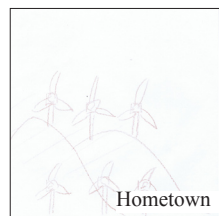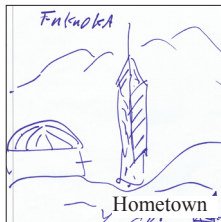
APPLICATION OF THE DRAWINGS

- SYMBOL= The sculptural tower with a wind turbine.
- MULTI-SENSORY= Fish, irrigation, and plants.
- BOUNDARY= The elevated garden space and the horizon.
- VISTA = A view to Makai and Mauka.

10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 5   ROOF FLOWER GARDEN (9th floor)

MEMORY SKETCHES OF INFORMANTS

- An image of water and the sun is a "Symbol" of Waikiki.
- A movement of water and a variety of plants/flowers are a "Multi- Sensory."
- A view from a space (refuge & prospect theory) is a " Vista."

Hometown

Hometown

Waikiki

Waikiki
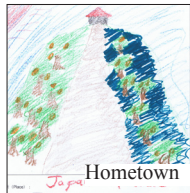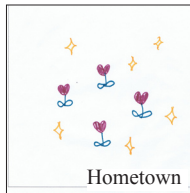
APPLICATION OF THE DRAWINGS

- SYMBOL= The structure of water fountain and trellis.
- MULTI-SENSORY= A sounds of the water fountain and a smell of the flower space.
- BOUNDARY= The horizon.
- FRAME/*Ma* = A space in the trellis.
- VISTA = Makai and mauka view.
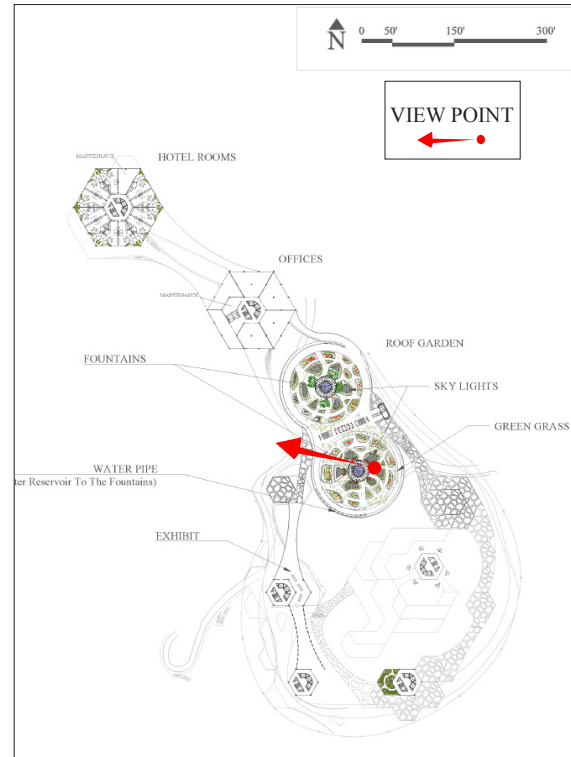
10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 6   ROOF FLOWER GARDEN (9th floor)

MEMORY SKETCHES OF INFORMANTS

- A night view with lightings is a "Symbol."
- A sound and a beauty of the fireworks at Hillton Hawaiian Village are a "Symbol," and "Multi-Sensory."

Hometown

Hometown

Waikiki

Waikiki
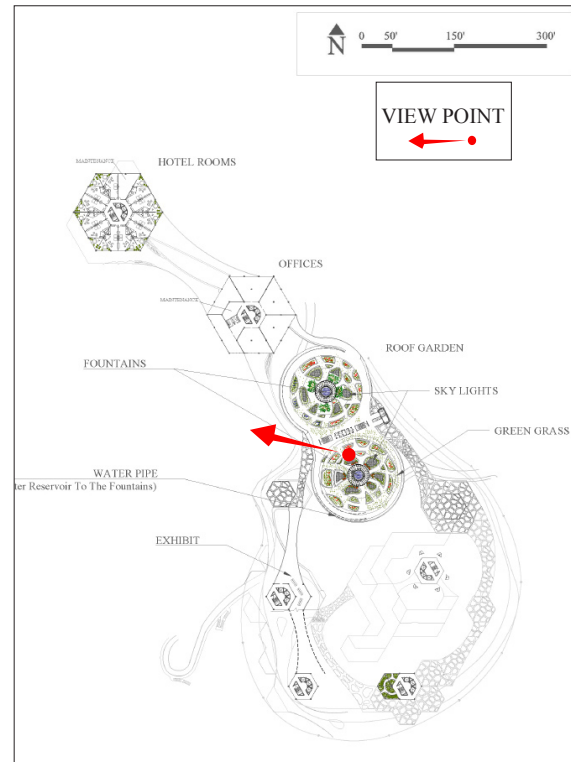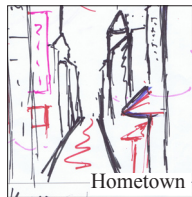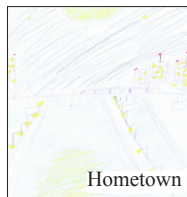
APPLICATION OF THE DRAWINGS

- SYMBOL = View to the fireworks and the night view.
- MULTI-SENSORY= The sounds and visual beauty of the fireworks.
- BOUNDARY= The elevated space.
- VISTA = View to Makai.

10.3   RENDERING IMAGES OF THE DESIGN

RENDERING 7   ENTRY OF EXHIBIT (Ground floor)

MEMORY SKETCHES OF INFORMANTS

- A sculptural structure is a "symbol."
- Activities among a space is a "Frame/ *Ma*."
- A line between a land and water is a "Boundary."
- Water and green is a "Multi-Sensory."
- A view to outside is a "Vista."

Hometown

Hometown

Waikiki

Waikiki

GROUND FLOOR PLAN

VIEW POINT
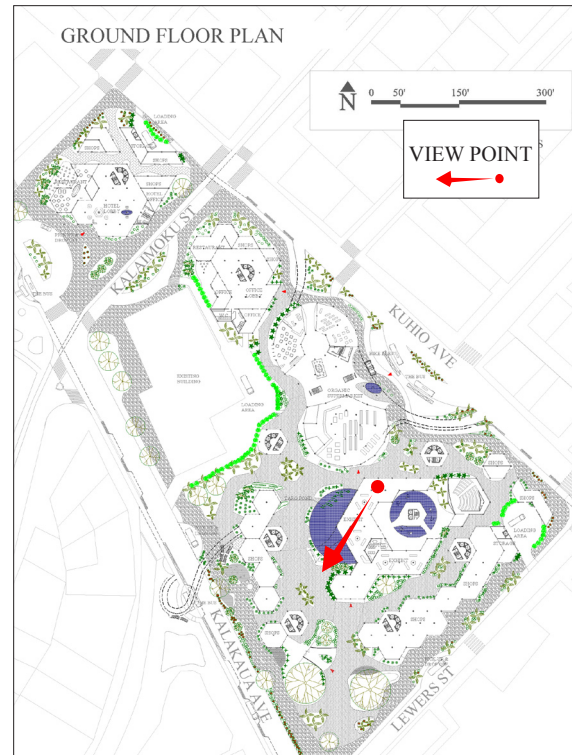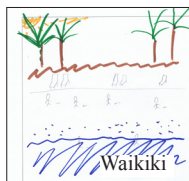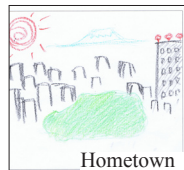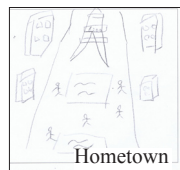
APPLICATION OF THE DRAWINGS

- SYMBOL= The structure of columns and joists. (an image of palm trees)
- MULTI-SENSORY= Taro pond, water fall, toropical garden, and people
- BOUNDARY= Between inside and outside.
- FRAME/*Ma* = The space among the columns.
- VISTA = View to the garden.
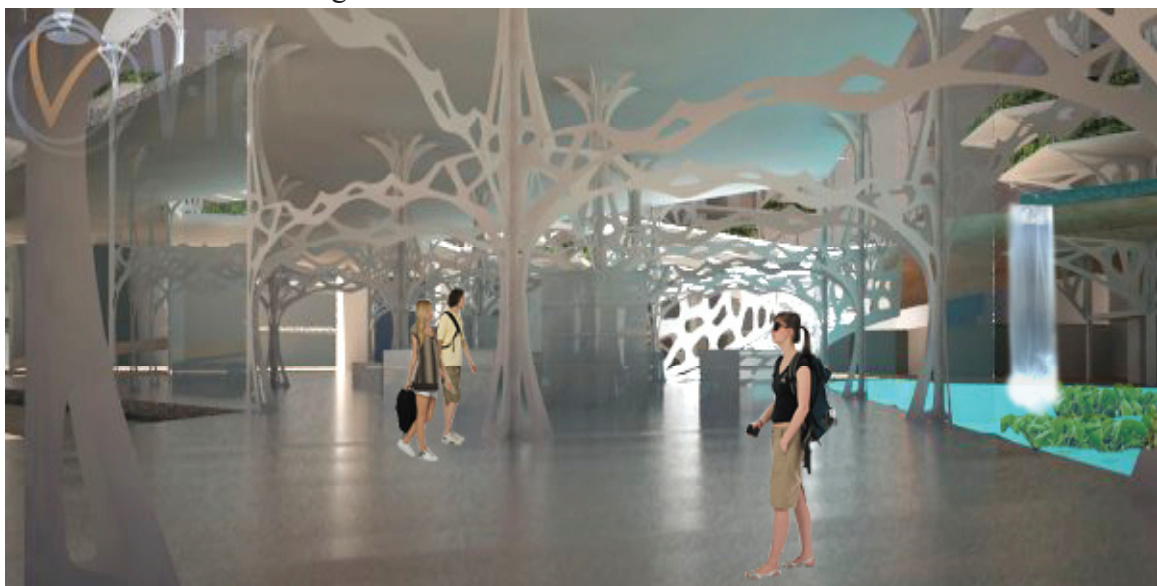
10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 8   FOOD EDUCATION CENTER (3rd Floor Cooking Space)

MEMORY SKETCHES OF INFORMANTS

- A local food production and dining are a "symbol."
- An image of fresh and price of food is also a "symbol."
- An experience of food production and eating is a "Multi-Sensory."

Hometown

Hometown

Waikiki

Waikiki
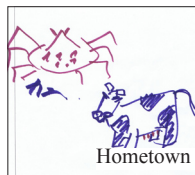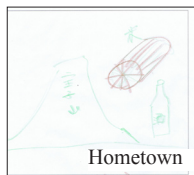
APPLICATION OF THE DRAWINGS

- SYMBOL= Local food production spaces (aquaponics) and the structure.
- MULTI-SENSORY= Experience spaces of food production, cooking, and eating.
- BOUNDARY= Aquaponics, lecture room, cooking space, and eating space.
- FRAME/*Ma* = The space among the columns.
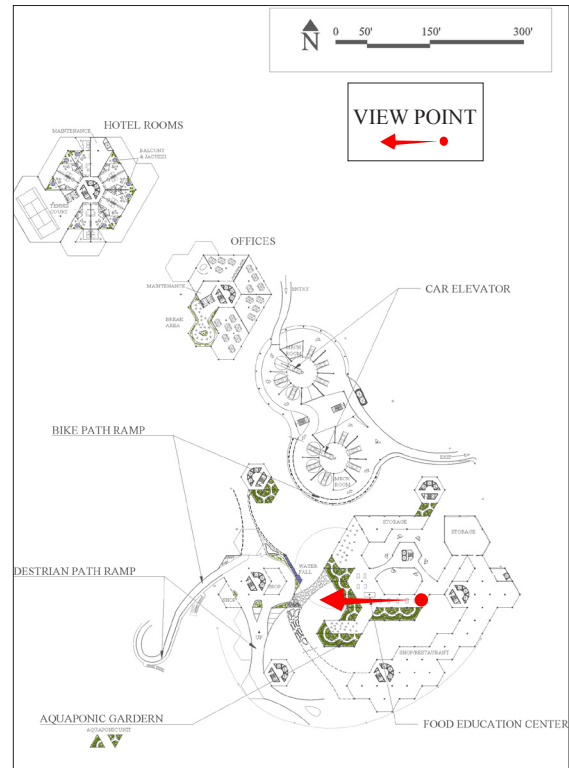
10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 9   MAIN EXHIBITION SPACE (8th floor)

MEMORY SKETCHES OF INFORMANTS

- Cultural expression is a "symbol."
- Ocean and boat are also a "symbol."

Hometown

Hometown

Waikiki

Waikiki
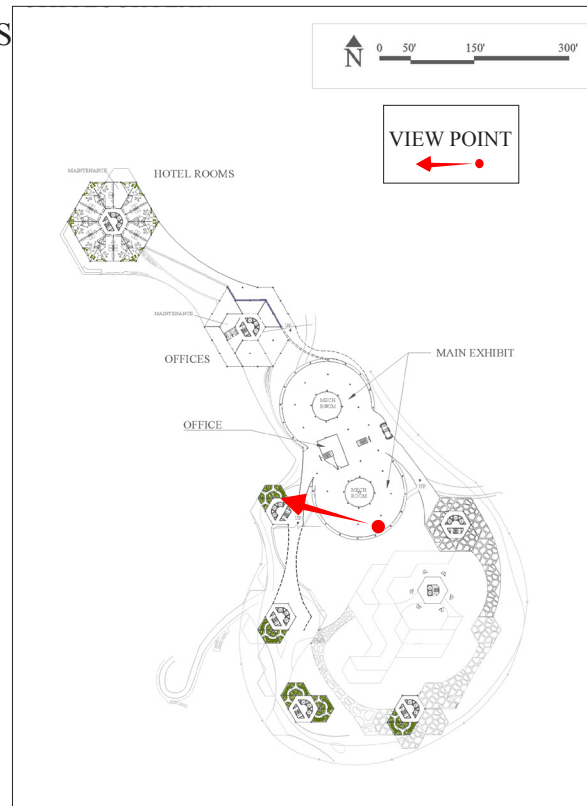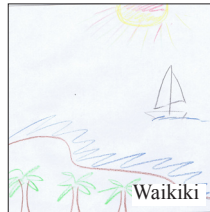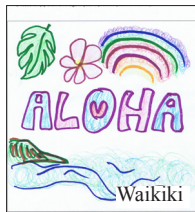
APPLICATION OF THE DRAWINGS

- SYMBOL= Exhibits of Hawaiian history and culture, as well as a space of an ocean image.
- MULTI-SENSORY= Lights from the sky light.

10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 10 EXHIBITION BRIDGE (Between 8th floor and 9th floor))

MEMORY SKETCHES OF INFORMANTS

- An water expression is a "Symbol."
- Sun light and shadow evoke a "Multi-Sensory."
- A bridge/pathway is a "Frame/*Ma.*"

Hometown

Hometown

Waikiki

Waikiki

VIEW POINT

HOTEL ROOMS

OFFICES

FOUNTAINS

ROOF GARDEN

SKY LIGHTS

GREEN GRASS

WATER PIPE
(Water Reservoir To The Fountains)
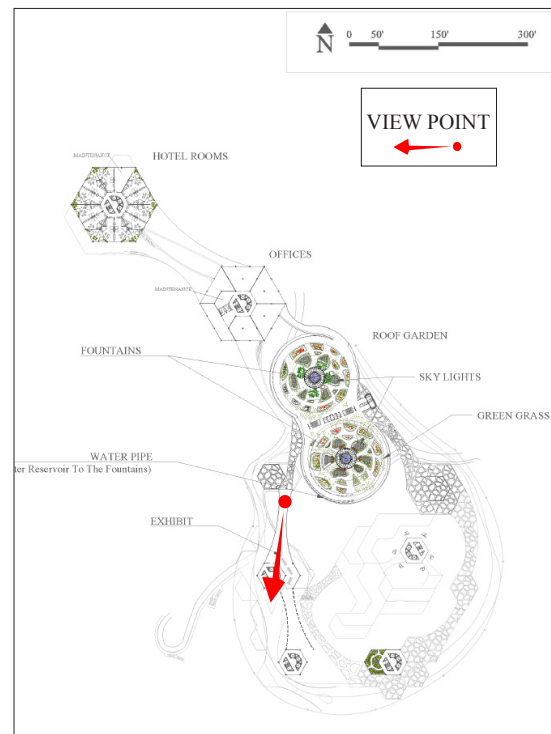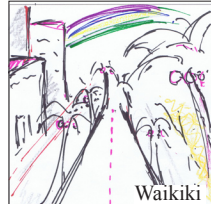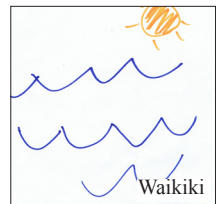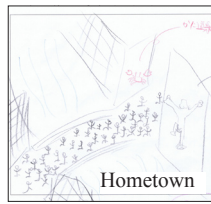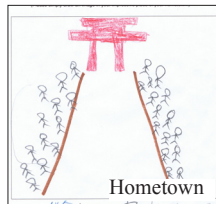
EXHIBIT

APPLICATION OF THE DRAWINGS

- SYMBOL=Volonoi skin structure
- MULTI-SENSORY= Sun light and shadow.
- BOUNDARY= Skin facade
- FRAME/*Ma* = The exhibit space
- VISTA = View to Makai and Mauka.

10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 11   EXHIBITION (9th floor)

MEMORY SKETCHES OF INFORMANTS

- A view to outside is a "vista" with a "Frame/*Ma*."

Hometown

Hometown

Waikiki

Waikiki
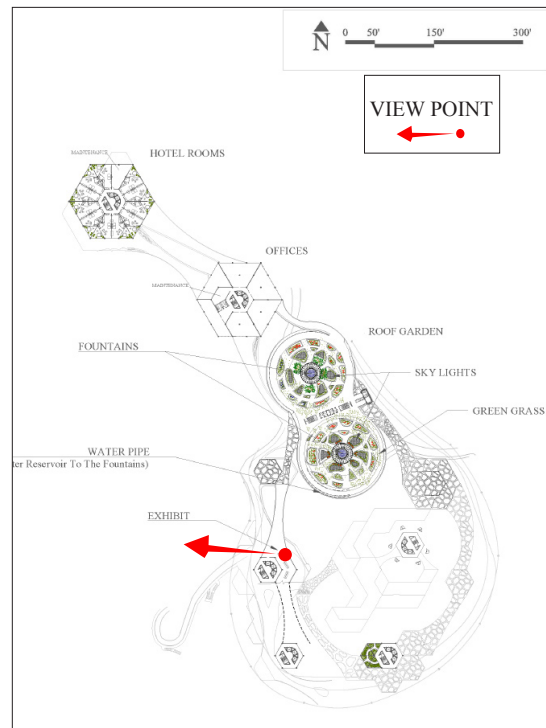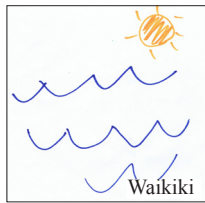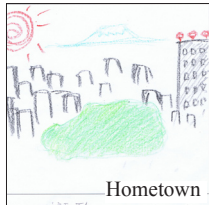
APPLICATION OF THE DRAWINGS

- SYMBOL= Volonoi structure.
- MULTI-SENSORY= Sun light and shadow.
- BOUNDARY= Skin facade.
- FRAME/*Ma* = An break area and large Windows.
- VISTA = View to Makai.
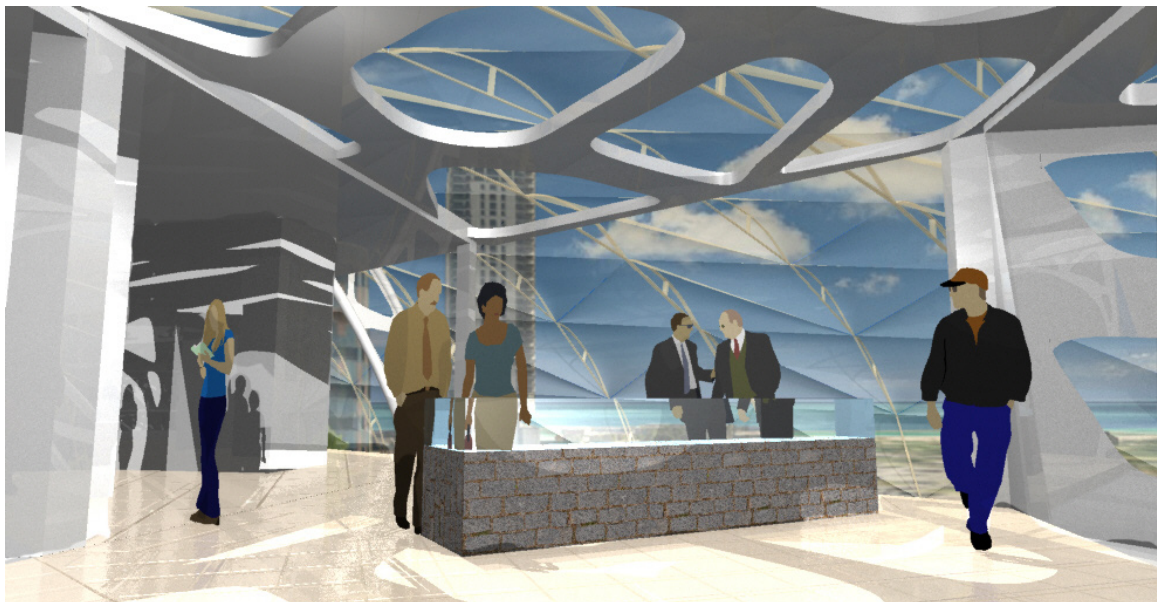
10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 12 PERFORMANCE AREA (12th floor)

MEMORY SKETCHES OF INFORMANTS

- "Borrowed scenery" (*Shakkei*) is a "Boundary."
- A cultural expression is a "Symbol."
- A natural phenomenon evokes a "Multi-Sensory."

Hometown

Hometown

Waikiki

Waikiki
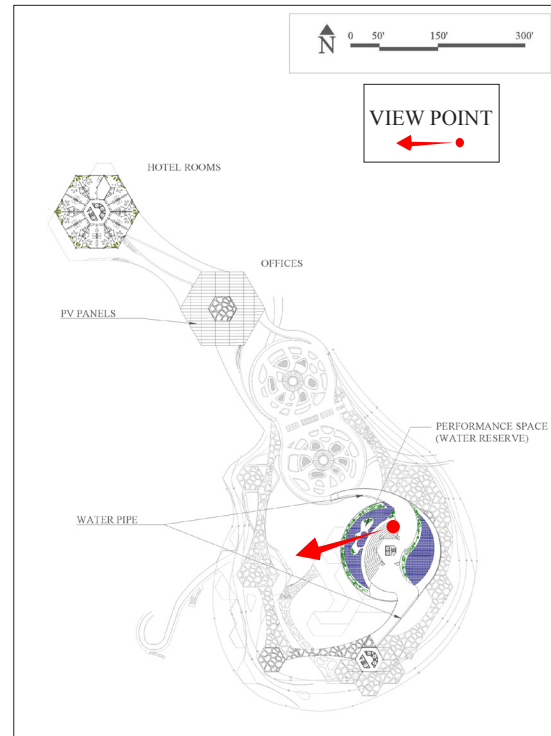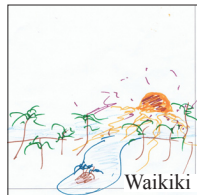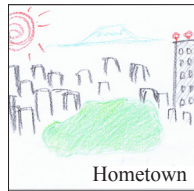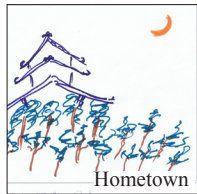
APPLICATION OF THE DRAWINGS

- SYMBOL= Luau and hula.
- MULTI-SENSORY= A natural phenomenon and performance
- BOUNDARY= The horizon and the edge of the floor.
- VISTA = View to Makai

10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 13   OBSERVATOTY IN THE TOWER (View to Diamondhead)

MEMORY SKETCHES OF INFORMANTS

- An observatory creates a "Vista."
- A view of mountain and ociean is a "Symbol."

Hometown

Hometown

Waikiki

Waikiki
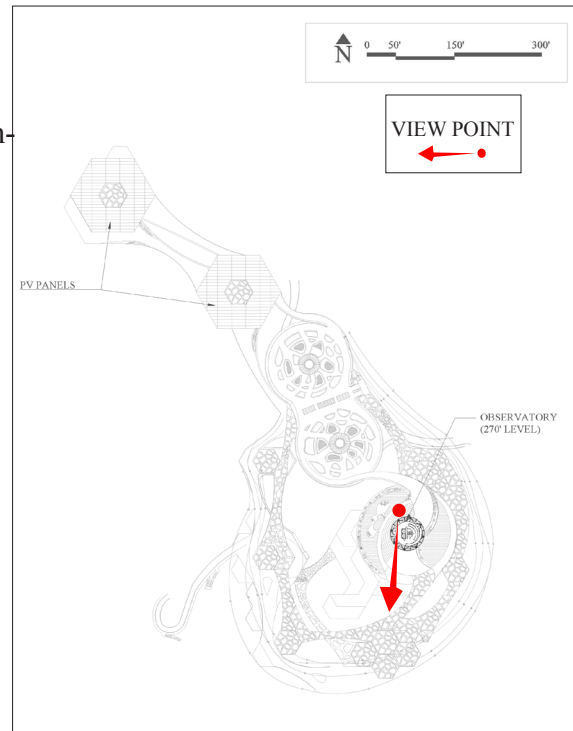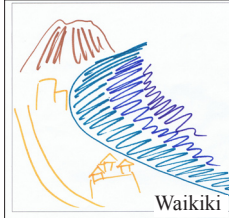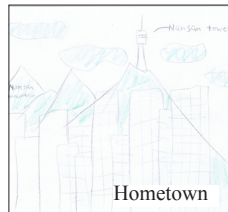
APPLICATION OF THE DRAWINGS

- SYMBOL= Diamondhead.
- BOUNDARY= The pathway.
- FRAME/*Ma* = The framing window.
- VISTA = View to Diamondhead and the ocean.
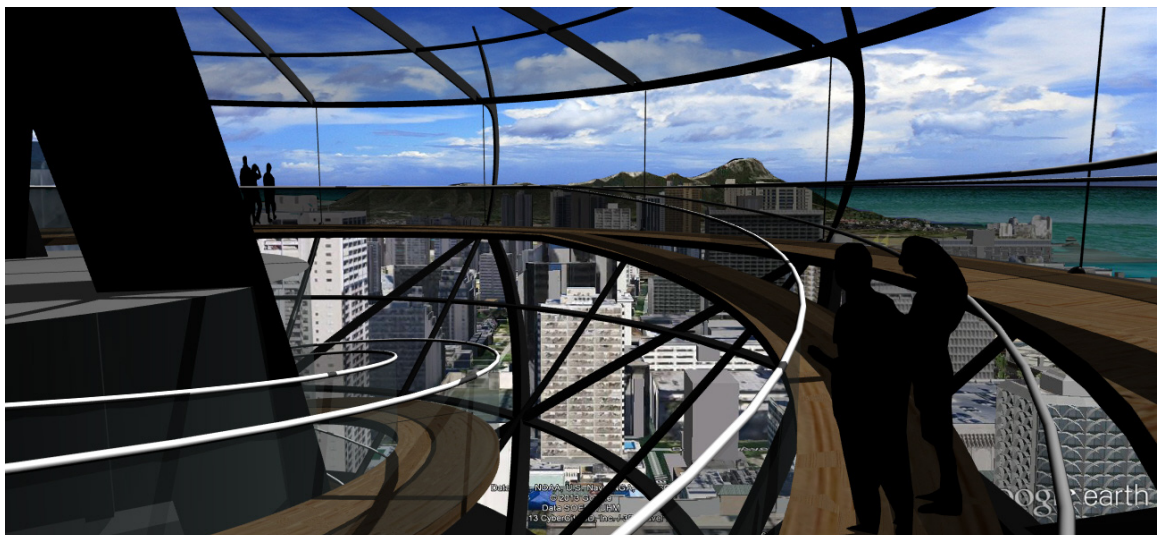
10.3   RENDERING IMAGES OF THE DESIGN

RENDERING 14   OBSERVATORY IN THE TOWER (View to Manoa)

MEMORY SKETCHES OF INFORMANTS

- An observatory creates a "Vista."
- A rainbow and mountain is a "Symbol."
- A pathway is a "Boundary."

Hometown

Hometown

Waikiki

Waikiki

VIEW POINT

PV PANELS

OBSERVATORY
(270' LEVEL)
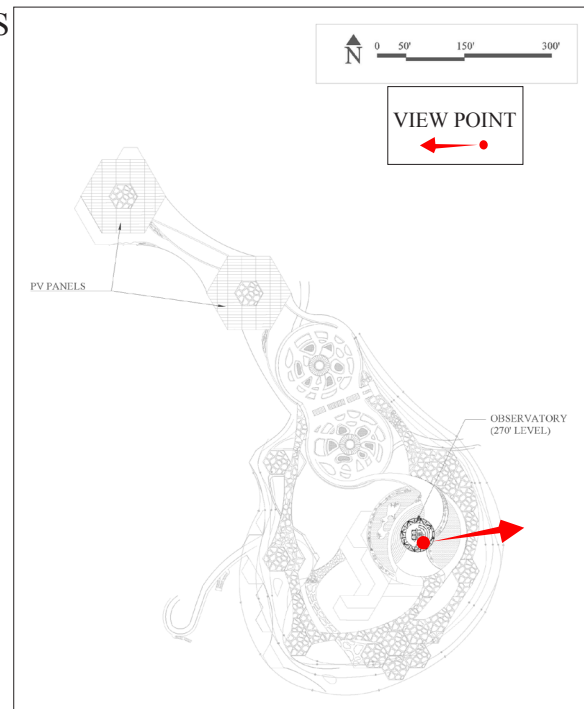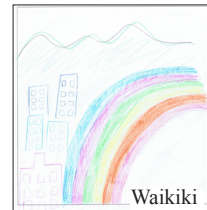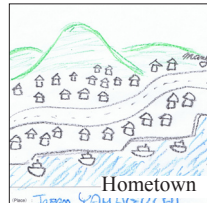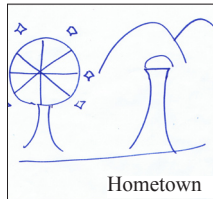
APPLICATION OF THE DRAWINGS

- SYMBOL= A rainbow and mountain.
- BOUNDARY= The pathway.
- FRAME/*Ma* = The framing window.
- VISTA = View to Mauka.
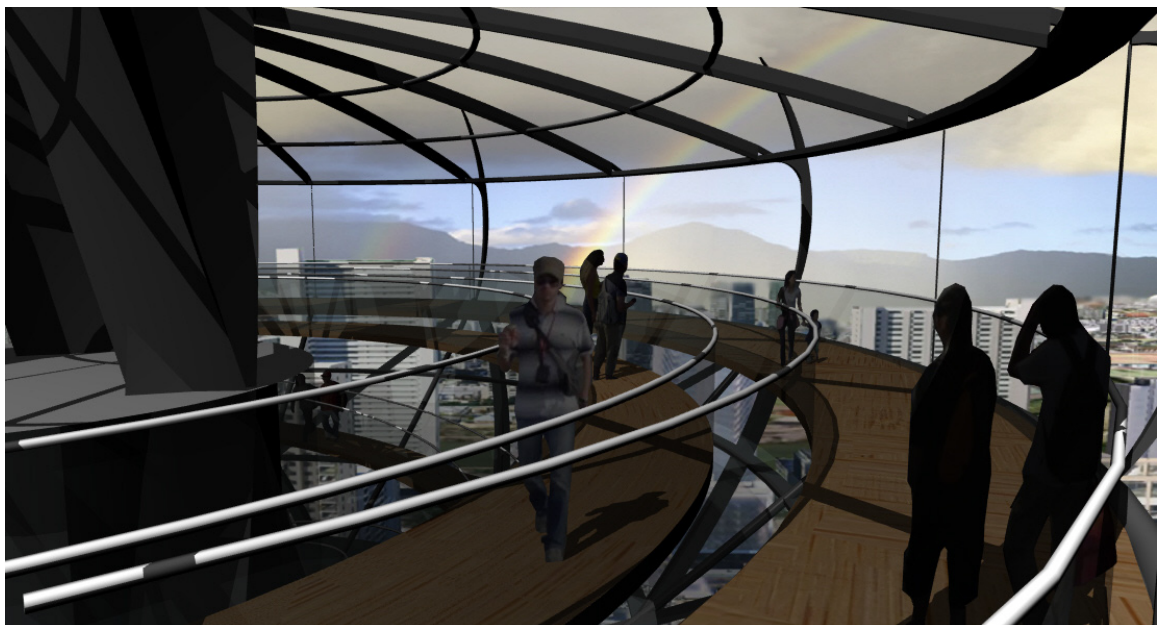
10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 15   MAIN ENTRANCE

MEMORY SKETCHES OF INFORMANTS

- A mountain form is a "Symbol."
- A different texture creates a "Boundary."
- Many kinds of trees provides a "Multi-Sensory."

Hometown

Hometown

Waikiki

Waikiki

VIEW POINT
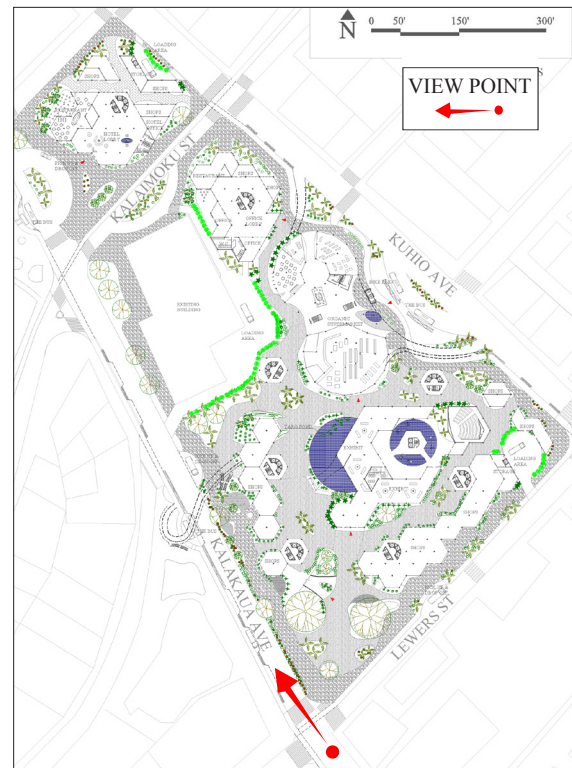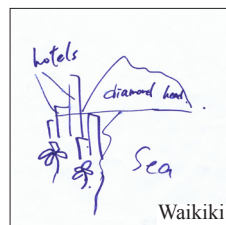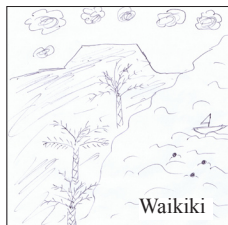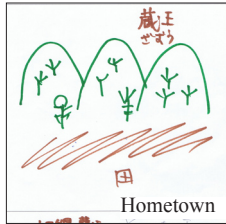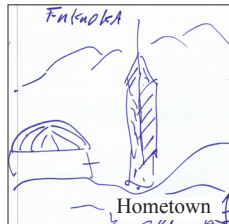
APPLICATION OF THE DRAWINGS

- SYMBOL= A mountain form/coral shape for the skin facade.
- MULTI-SENSORY= Open and close skin facade ,and trees.
- BOUNDARY= Skin facade and the two different types of the paving.

10.3 RENDERING IMAGES OF THE DESIGN

RENDERING 16   MAIN ENTRANCE (Night)

MEMORY SKETCHES OF INFORMANTS

- A street/pathway is a "Boundary" for people.
- At a night, a lighting enhances a building as a "Symbol."
- Tiki torch is a "Multi-Sensory."

Hometown

Hometown

Waikiki

Waikiki
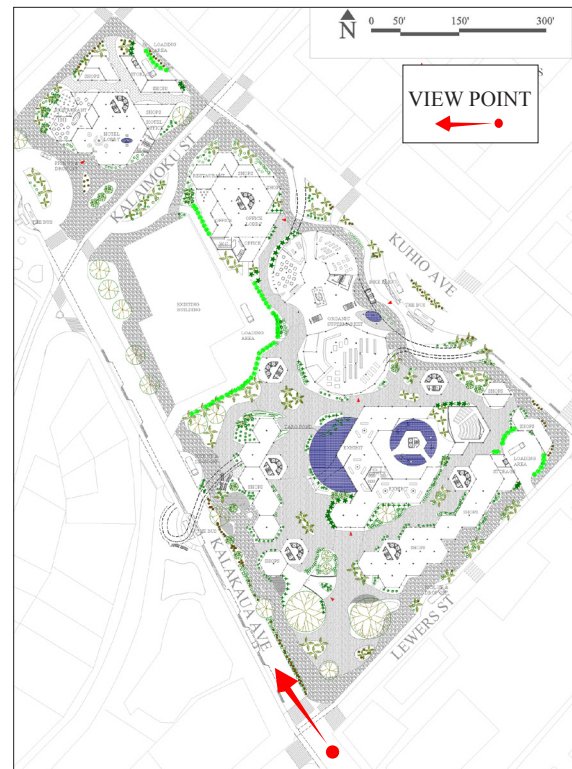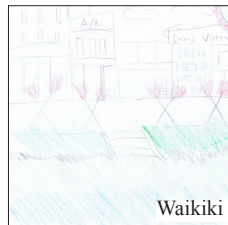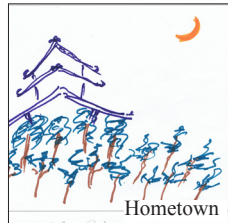
APPLICATION OF THE DRAWINGS

- SYMBOL= Night view of the new building ("Lantern.")
- MULTI-SENSORY= Tiki torch.
- BOUNDARY= The street or the skin facade.

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APPENDICES

Consent Form

調査研究への協力と参加同意書 Consent to Participate in Research Project

ハワイ大学建築学部大学院(School of Architecture University of Hawaii, Manoa)

大学院生 （Graduate student）

山口　幸博（Yamaguchi, Yukihiro）

博士論文のテーマ　　（Doctorate Projectictlte）　；夢の都市: ワイキキの仮想的形態での風土性

（The Dream City: Sense of Place in Imaginary Form of Waikiki）

この調査は、博士論文の為のデータとなり、この分析から人々の場所への認識や記憶を知る為の重要な過程となります。

(This research project is being conducted as a component of a dissertation for a Doctor of Architecture degree. The purpose of the project is to learn visitor's perception and memory in a specific place.)

この調査に協力される場合、この場をお借りして、二つの簡単なスケッチ、もしくは図形を描いて頂きます。（下記参照）

(If you agree on this participation, two simple sketches and some questions will be given in this place. Participation in the project will consist of following below.)

1. あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of your hometown.)
2. あなたの印象に残るワイキキの簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of Waikiki.)

3. この描いて下さったイメージについて、そしてその他簡単な質問を致します。
(I will ask some questions of these images and others- age, length of stay, the number of times for visiting.)
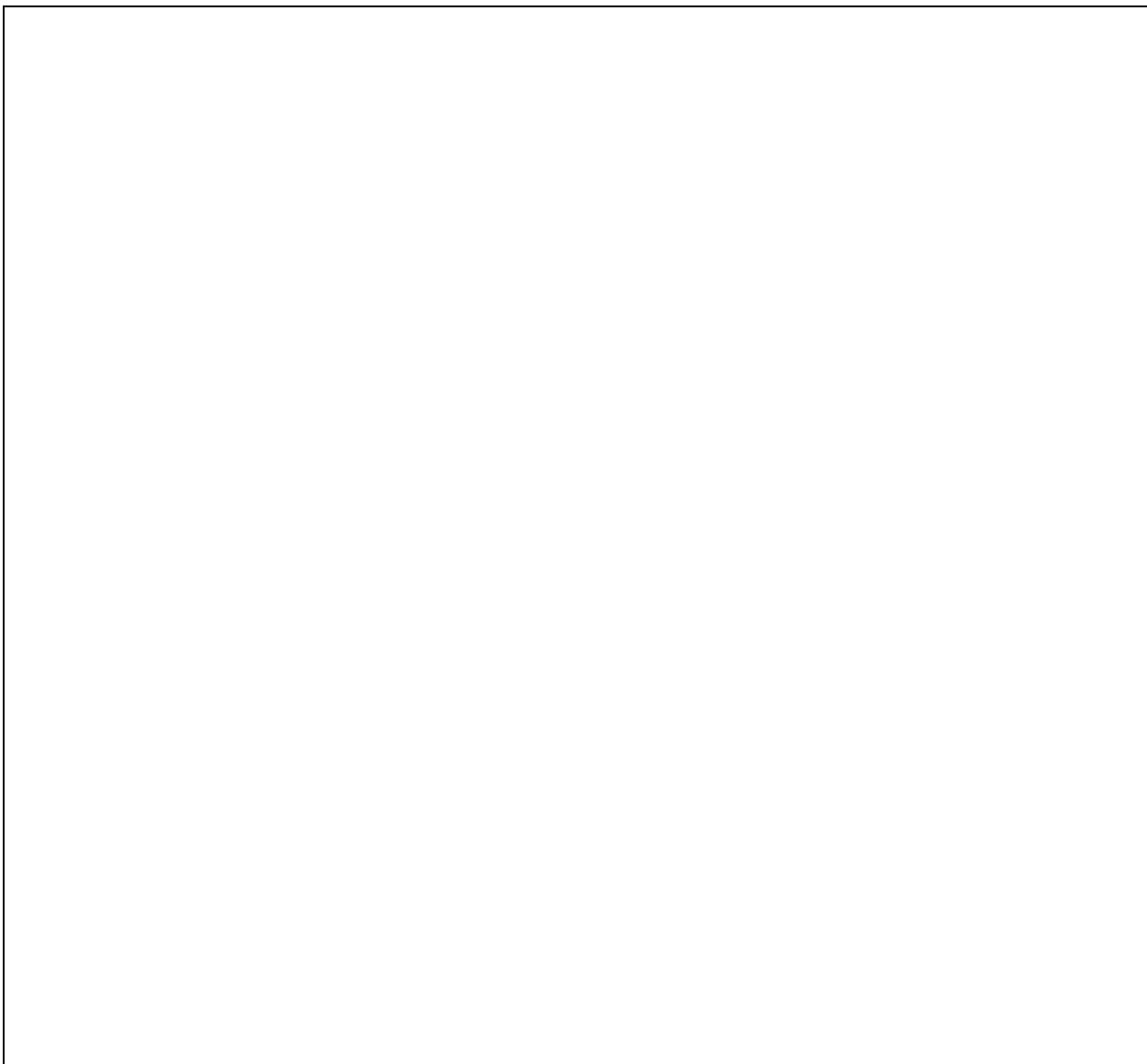
これら匿名のイメージスケッチとその分析は、私の博士論文を通じて公表され、そしてさらに、ワイキキの新たな都市の向上のため、建築、都市計画に携わる人々への一つの資料として提供されるでしょう。

(Research data will be processed anonymously. Some example will be integrated in the thesis and possible on the published paper. This research will give the information for the planners, architects and policy makers to improve Waikiki.

Drawing Form 1

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)
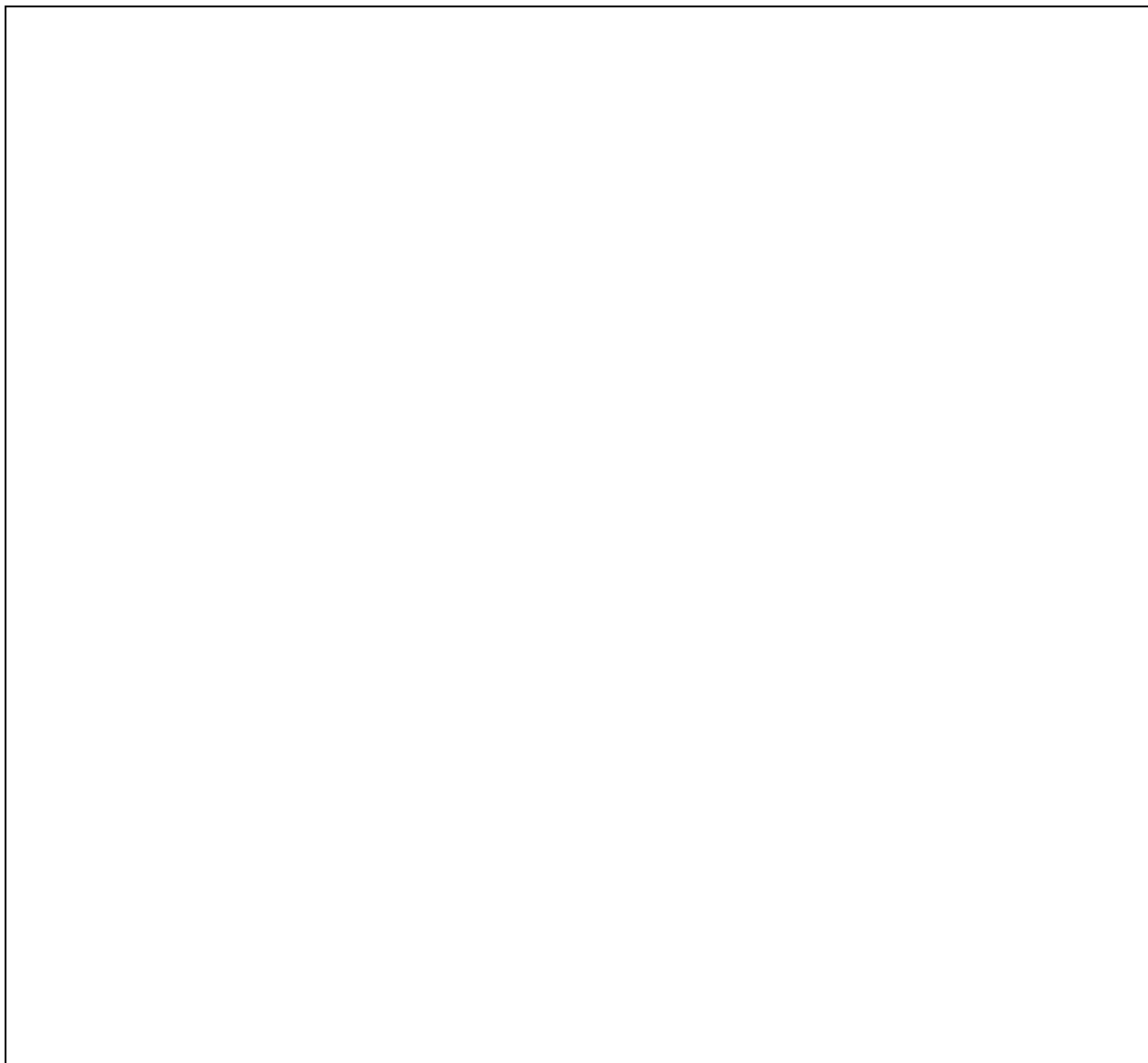
場所（Place）:

性別（Gender）male /female

年齢（Age）: 18-20 years old,20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60- 65, 65-70, 70-75, 75-80, 85-90,
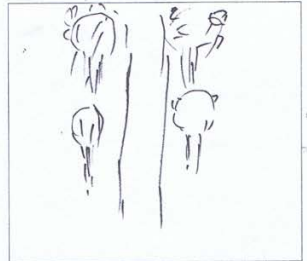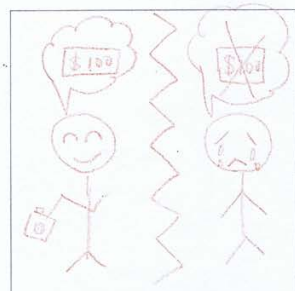
Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

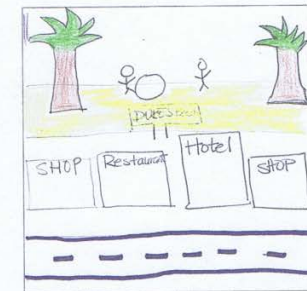(Please simply draw an image in your impressive place of Waikiki.)

場所（Place):

滞在期間（ the length of stay）1-3 days   3-5days 5-10 days 10-20 days   More

滞在回数（ the number of times for visiting Hawaii）First time   2-3 times 3-5 times   More

Participants' Drawings (Waikiki)

Participant 1

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

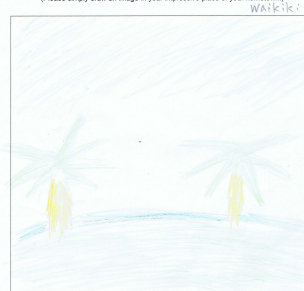(Please simply draw an image in your impressive place of Waikiki.)

Beach, Buildings

場所 (Place) : ビーチ＋ビル

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

14/7

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place) : ワイキキ ビーチ ＋ ホテル

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

14/7

Drawing Form 2

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。Waikik.

(Please simply draw an image in your impressive place of your hometown.)

場所 (Place) : 8 ホノルル Wooden object

性別 (Gender) : male / female

年齢 (Age) : 18-20 years old,20-25, 25-30, 30-35, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70,
70-75, 75-80, 85-90,

14/7

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

$100 $100

場所 (Place) : つくり

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

14/8

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place) : Kapiolani Park

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

1 year ~ 7 months

14/8

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

SHOP Restaurant Hotel SHOP DUKE'S

場所 (Place) : Dukes Beach

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

34 1 month 14/9

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place) : WAIKIKI, Kalakaua Ave

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

14/11

Drawing Form 1, 2 ワイキキ

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。 Waikiki.

(Please simply draw an image in your impressive place of your hometown.)

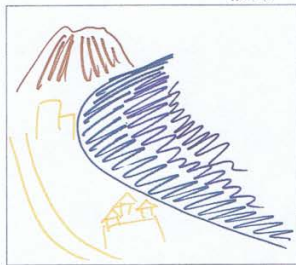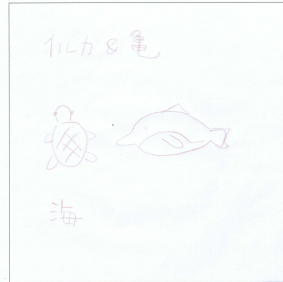場所 (Place) : ワイキキ

性別 (Gender) : male / female

年齢 (Age) : 18-20 years old,20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 60-65, 65-70,
70-75, 75-80, 85-90,

14/11

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

何度でも遊びに
来たい国
LOVE ♥ Hawaii

場所 (Place) :

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

14/11

Drawing Form 2 / From 2 ワイキキ

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

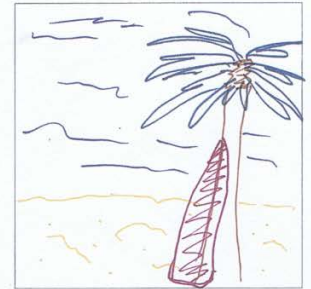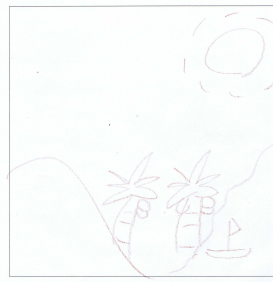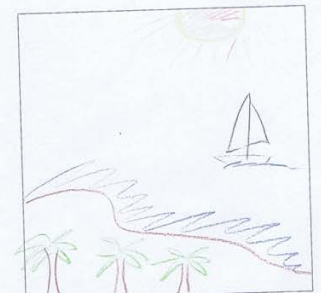(Please simply draw an image in your impressive place of your hometown.)

Waikiki

場所 (Place) : Japan. Yuis. Waikiki

性別 (Gender) : male female

年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 80-90.

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

イルカ & 亀

海

場所 (Place): Ocean

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Waikiki Beach

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

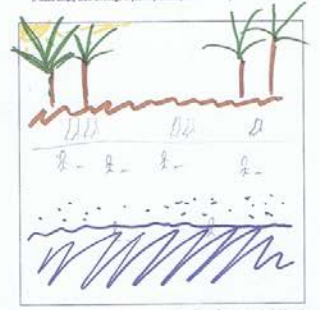(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Fort De Russy . Park

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Hill

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): ワイフ. Waikiki

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): View to EWA side

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Waikiki Beach

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Kailua

Usah
12 ~ 13 years

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

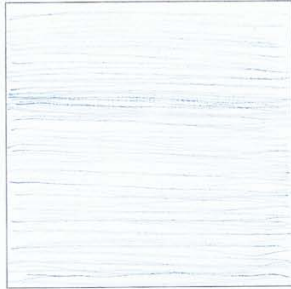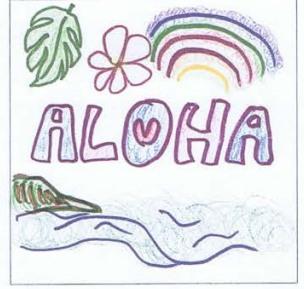(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Waikiki 海・空

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

3 years live 10/13

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Waikiki

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

10/18 9:45

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Waikiki

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Waikiki

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

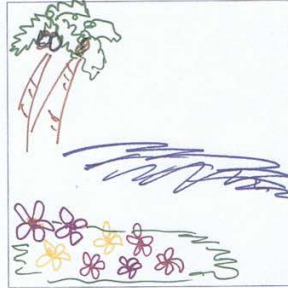(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Waikiki

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): ホテルからワイキキの町の景色 Towards ocean at Sheraton Waikiki Hotel

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Ocean

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

---

Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): 夜のワイキキ From ocean to Waikiki night

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

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Drawing Form 2

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Waikiki

滞在期間 (the length of stay) : 1-3 days 3-5days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

Drawing Form 2
あなたの印象に残るワイキキの簡単なイメージを描いて下さい。
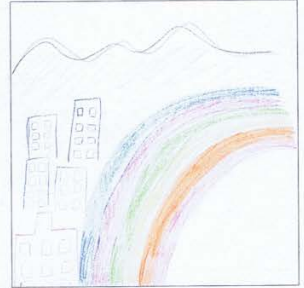(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): モアナサーフライダー・ホテル
滞在期間 (the length of stay): 1-3 days 3-5days 5-10 days 10-20 days More
滞在回数 (the number of times for visiting Hawaii): First time 2-3 times 3-5 times More
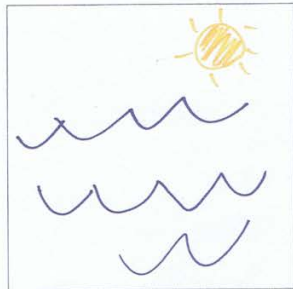
Drawing Form 2
あなたの印象に残るワイキキの簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Waikiki
滞在期間 (the length of stay): 1-3 days 3-5days 5-10 days 10-20 days More
滞在回数 (the number of times for visiting Hawaii): First time 2-3 times 3-5 times More

Drawing Form 2
あなたの印象に残るワイキキの簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Waikiki
滞在期間 (the length of stay): 1-3 days 3-5days 5-10 days 10-20 days More
滞在回数 (the number of times for visiting Hawaii): First time 2-3 times 3-5 times More

Drawing Form 2
あなたの印象に残るワイキキの簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): ワイキキ Waikiki
滞在期間 (the length of stay): 1-3 days 3-5days 5-10 days 10-20 days More
滞在回数 (the number of times for visiting Hawaii): First time 2-3 times 3-5 times More

Drawing Form 2
あなたの印象に残るワイキキの簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): ワイキキ
滞在期間 (the length of stay): 1-3 days 3-5days 5-10 days 10-20 days More
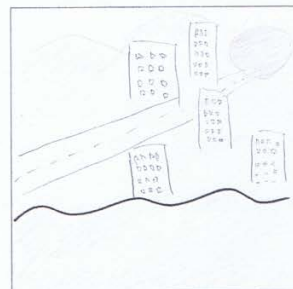滞在回数 (the number of times for visiting Hawaii): First time 2-3 times 3-5 times More

Drawing Form 2
あなたの印象に残るワイキキの簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place): Halfway in Waikiki Hotel
滞在期間 (the length of stay): 1-3 days 3-5days 5-10 days 10-20 days More
滞在回数 (the number of times for visiting Hawaii): First time 2-3 times 3-5 times More

Drawing Form 2
あなたの印象に残るワイキキの簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of Waikiki.)
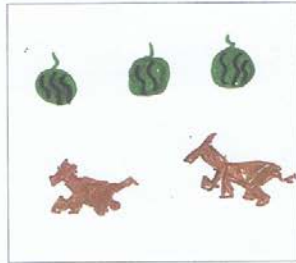
場所 (Place): WIKIKI
滞在期間 (the length of stay): 1-3 days 3-5days 5-10 days 10-20 days More
滞在回数 (the number of times for visiting Hawaii): First time 2-3 times 3-5 times More

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Participants' Drawings (Hometown)

Participant 1

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

Odori Park

場所 (Place) : Sapporo, Japan
性別 (Gender) : male / female
年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

場所 (Place) : Sapporo - center of the city
性別 (Gender) : male / female
年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 2.

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

場所 (Place) : 大阪
滞在期間 (the length of stay) : 1-3 days, 3-5days, 5-10 days, 10-20 days, More
滞在回数 (the number of times of visiting Hawaii) : First time, 2-3 times, 3-5 times, More

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5.

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

場所 (Place) : 大阪, Osaka, Japan
性別 (Gender) : male / female
年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

場所 (Place) : Cheong-Ju
性別 (Gender) : male / female
年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

11/7

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

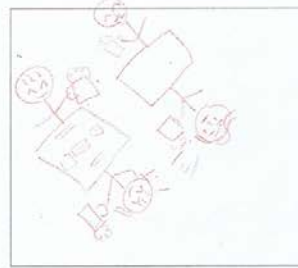(Please simply draw an image in your impressive place of your hometown.)

場所 (Place) : Seoul, Korea
性別 (Gender) : male / female
年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

33

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

場所 (Place) : Seoul city SeoDeDong Hong Je Dong
性別 (Gender) : male / female
年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 2.

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)

hometown

場所 (Place) : 大阪府吹田市
滞在期間 (the length of stay) : 1-3 days, 3-5days, 5-10 days, 10-20 days, More
滞在回数 (the number of times for visiting Hawaii) : First time, 2-3 times, 3-5 times, More

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7.

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

一生住みたい国

場所 (Place) : 宮城県 仙台市
性別 (Gender) : male / female
年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1

あなたの印象に残るワイキキの簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of Waikiki.)
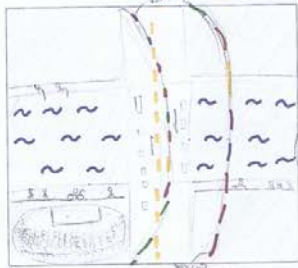
場所 (Place) : Japan, Sendai

滞在期間 (the length of stay) : 1-3 days 3-5 days 5-10 days 10-20 days More

滞在回数 (the number of times for visiting Hawaii) : First time 2-3 times 3-5 times More

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Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

千葉県柏市

柏レイソル

場所 (Place) : Kashiwa City, Chiba

性別 (Gender) : male / female

年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

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其10

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

湖（びわこ）

場所 (Place) : Japan shiga - Biwa Lake

性別 (Gender) : male / female

年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

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Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)
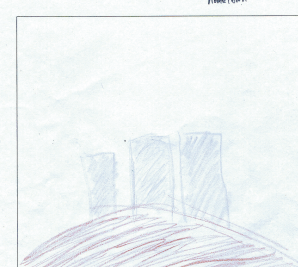
富士山

場所 (Place) : Niigata, Japan

性別 (Gender) : male / female

年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

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Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

場所 (Place) : Yamagata, Japan

性別 (Gender) : male / female

年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

33

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

場所 (Place) : 京都府 福知山市 Kyoto, Japan

性別 (Gender) : male / female

年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

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其9

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

場所 (Place) : Kagoshima, Japan

性別 (Gender) : male / female

年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

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Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)
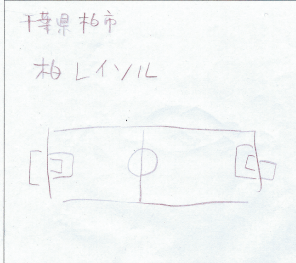
場所 (Place) : 鹿児島市

性別 (Gender) : male / female

年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

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Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

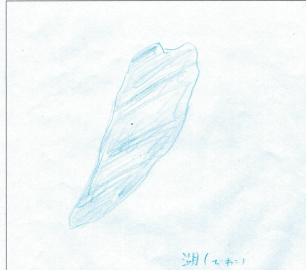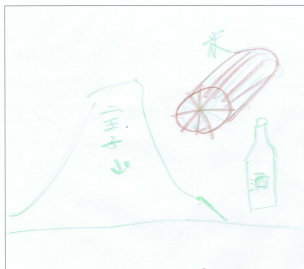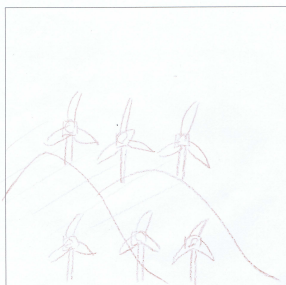(Please simply draw an image in your impressive place of your hometown.)

場所 (Place) : Korea, seoul

性別 (Gender) : male / female

年齢 (Age) : 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

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場所（Place）大阪城 Osaka castle
性別（Gender）male / female
年齢（Age）: 18-20 years old,20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

Hanshin Tigers

Hanshin Tigers

場所（Place）Osaka.Japan
性別（Gender）male / female
年齢（Age）: 18-20 years old,20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

さんま

場所（Place）北海道 根室市 Hokkaido.Japan
性別（Gender）male / female
年齢（Age）: 18-20 years old,20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

大阪 道頓堀.

場所（Place）: Osaka, Japan
性別（Gender）male / female
年齢（Age）: 18-20 years old,20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

場所（Place）KOBE
性別（Gender）male / female
年齢（Age）: 18-20 years old,20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

mountain

sea.

場所（Place）: Kobe.
性別（Gender）male / female
年齢（Age）: 18-20 years old,20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

場所（Place）北海道 根室市. Hokkaido, Japan
性別（Gender）male / female
年齢（Age）: 18-20 years old,20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

場所（Place）: Place of Honolulu HI. Bounce living
性別（Gender）male / female
年齢（Age）: 18-20 years old,20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

Namsan tower

Namsan mountain

場所（Place）: Seoul
性別（Gender）male / female
年齢（Age）: 18-20 years old,20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90,

Drawing Form 1.
あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。
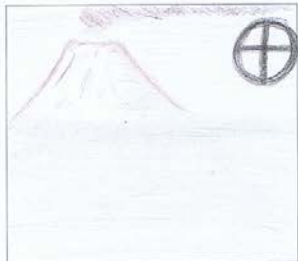(Please simply draw an image in your impressive place of your hometown.)

場所 (Place): 埼玉県朝霞市　Saitama, Japan
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.
あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。
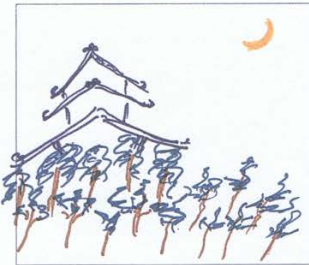(Please simply draw an image in your impressive place of your hometown.)

場所 (Place): Shiga, Japan Biwa Lake
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.
あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of your hometown.)

場所 (Place): 神奈川県藤沢市　Fujisawa City, Kanagawa, Japan
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.
あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。
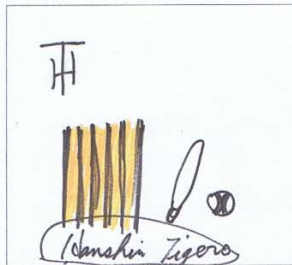(Please simply draw an image in your impressive place of your hometown.)

場所 (Place): 埼玉の国道　Saitama, Japan Road Way
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.
あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of your hometown.)

場所 (Place): TOKYO IKEBUKURO
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.
あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。
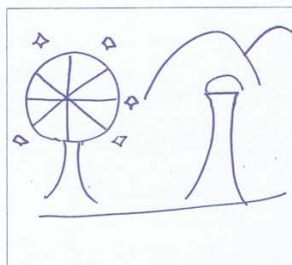(Please simply draw an image in your impressive place of your hometown.)

場所 (Place): 富士山（ふじさん）奈良　Mt. Sanji, Nara, Japan
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.
あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of your hometown.)

場所 (Place): 大阪　Osaka, Japan (Uozaki kamome)
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.
あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。
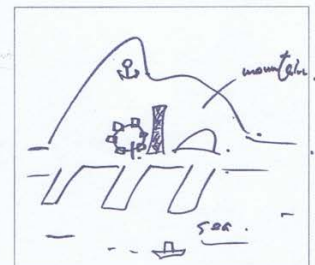(Please simply draw an image in your impressive place of your hometown.)

場所 (Place):
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.
あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。
(Please simply draw an image in your impressive place of your hometown.)

場所 (Place): 鎌倉　鶴岡八幡宮　Kamakura, Japan Shrine
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

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Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

蔵王
ざおう
田

場所 (Place): 山形県 蔵王　Yamagata, Japan
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

場所 (Place): 長野 Nagano 小諸 ..
性別 (Gender): male / female
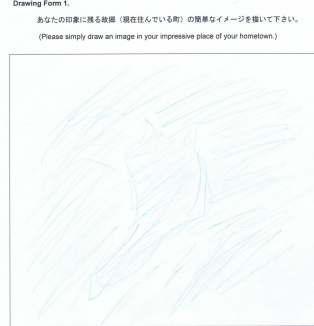年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

場所 (Place): Tokyo Chofu
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

場所 (Place): 東..科 .. Aomori, Japan
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

Japan Ehime

場所 (Place):
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

Sea

場所 (Place): 大船渡港　Iwate, Japan (Harbor)
性別 (Gender): male / female
年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Drawing Form 1.

あなたの印象に残る故郷（現在住んでいる町）の簡単なイメージを描いて下さい。

(Please simply draw an image in your impressive place of your hometown.)

many House
Sea

場所 (Place): Japan YAMAGUCHI
性別 (Gender): male / female
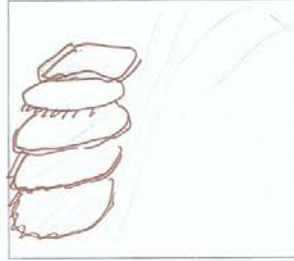年齢 (Age): 18-20 years old, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50, 50-55, 55-60, 60-65, 65-70, 70-75, 75-80, 85-90.

Sorting Photographs

The numbers in the parentheses show average points

(like +1, neutral 0, dislike -1)

#1 (+35)   #2   (+19)   #3 (+23)

#4   (+15)   #5 (+24)   #6 (+28)   #7 (+22)
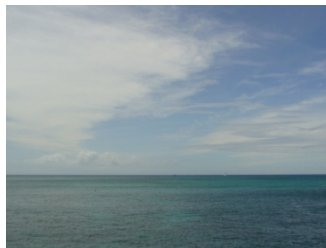
#8 (+5)   #9 (+29)   #10 (+33)

#11   (+14)   #12 (+12)   #13 (+16)

#14   (0)   #15   (+16)   #16   (+7)   #17 (+18)

#18 (+12)   #19 (+28)   #20 (-25)

#21 (+11)   #22 (+23)   #23 (-25)

#24   (+5)   #25   (+17)   #26 (-30)

#27 (-23)   #28   (-19)   #29 (-25)

#30 (-28) #31 (-24) #32 (+3)

#33 (-13) #34 (-7) # 35 (-15)

#36 (-8)

Tables for Sorting

Sorting Photo of Waikiki

PARTICIPANT	LIKE (+1)	NEUTRAL (0)	DISLIKE (-1)
Person 1	#1, 4, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 21, 25	#2, 3, 5, 6, 15, 16, 19, 20, 22, 24 28, 29, 31, 32, 33, 34, 35, 36	#23, 26, 27, 30
Person 2	#1, 2, 3, 4, 5, 7, 9, 10, 11, 12, 18, 19, 25	#6, 13, 14, 15, 16, 17, 21, 22, 24, 29, 31, 32, 33, 34, 35, 36	#8, 20, 23, 26, 27, 28, 30
Person 3	#4, 5, 6, 9, 12, 21, 22	#1, 3, 7, 8, 10, 13, 15, 16, 17, 18, 19, 24, 25, 28, 32, 33,35, 36	#2, 11, 14, 20, 23, 26, 27, 29, 30, 31, 34
Person 4	#6, 22	#1, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 23, 24, 28, 29, 30, 32, 34, 35, 36	#2, 18, 20, 21, 25, 26, 27, 31, 33
Person 5	#1, 7, 9, 11	#3, 4, 5, 6, 8, 10, 12, 13, 15, 16, 17, 18, 19, 21, 22, 24, 25, 29, 32, 34, 35, 36	#2, 14, 20, 23, 26, 27, 28, 30, 31, 33.
Person 6	#1, 4, 7, 9, 12, 19, 21, 22, 27, 36	#2, 3, 5, 10, 11, 13, 14, 16, 18, 20, 23, 24, 25, 30, 32, 34, 35	#6, 8, 15, 17, 26, 28, 29, 31, 33
Person 7	#1, 2, 4, 5, 10, 12, 15, 16, 17, 18, 25, 33	#6, 7, 8, 9, 11, 13, 19, 21, 22, 26, 28, 30, 32, 34, 35, 36	#3, 14, 20, 23, 24 27, 29, 31
Person 8	#1, 3, 5, 6, 7,9, 10, 12, 14, 15, 16, 17, 19, 21, 22, 24, 25,	#2, 4, 8, 11, 13, 18, 20, 23, 28, 29, 31, 36	#26, 27, 30, 32, 34, 35

	33		
Person 9	#6, 17, 18, 19, 21, 25	#1,5, 11, 12, 13, 22	#2, 3, 4, 7, 8, 9, 10, 14, 15, 16, 20, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
Person 10	#7, 10, 14, 16, 18, 19, 24,, 25, 31, 34	#1, 3, 4, 5, 6, 8, 9, 11, 13 15, 20, 21, 23, 32, 33, 35, 36	#2, 12, 17, 22, 26, 27, 28, 29, 30
Person 11	#1,2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 19, 22, 33, 34	#13, 16, 17, 18, 21, 23, 26, 27, 30, 32, 35, 36	#14, 20, 24, 25, 28, 29, 31
Person 12	#2, 5, 10, 12, 13, 16, 17, 18, 19, 22, 24,34	#1, 3, 4, 6, 7, 8, 9, 11, 14, 15, 20, 21, 23, 25, 26, 27, 28, 29 30, 31, 32, 33, 35, 36	
Person 13	#3, 4, 5, 6, 7, 11, 12, 13, 14, 17, 18, 19, 22, 24, 28, 33	#1, 2, 8, 9, 10, 15, 20, 21, 25, 27, 29, 30, 32, 34, 35,	#16, 23, 26, 31, 36
Person 14	#1, 2, 3, 4, 10, 12, 13, 15, 18, 19, 21, 22, 24, 25, 36	#5, 6, 8, 9, 11, 14, 16, 17, 32, 33, 34, 35	#7, 20, 23, 26, 27, 28, 29, 30, 31,
Person 15	#1, 3, 4, 5, 6, 10, 11, 17, 19, 31	#2, 7, 8, 9, 12, 13, 14, 15, 16, 18, 21, 22, 24, 25, 27, 28, 29, 30, 32, 34, 35, 36	#20, 23, 26, 33
Person 16	#3, 9, 14, 15, 25	#1, 2, 5, 6, 7, 8, 10, 11, 12, 13, 16, 18, 19, 20, 21, 22, 23, 24, 26, 28, 31, 32, 33, 34, 36	#4, 17, 27, 29, 30, 35
Person 17	#3, 5, 6, 8, 9, 11, 13, 15, 18, 22, 32	#1, 7, 10, 12, 14, 16, 17, 19, 21, 23, 24,	#2, 4, 20, 26, 31, 36

		25, 27, 28, 29, 30, 33, 34, 35	
Person 18	#1, 6, 10, 12, 16, 18, 22, 25, 31, 32	#2, 3, 4, 7, 9, 11, 13, 15, 19, 21, 24, 34	#5, 8, 14, 17, 20, 23, 26, 27, 28, 29, 30, 33, 35, 36
Person 19	#1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 17, 18, 19, 28, 31, 33	#11, 12, 14, 16, 20, 21, 22, 24, 25, 34, 35, 36	#23, 26, 27, 29, 30, 32
Person 20	#1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 13, 14, 15, 18, 19, 21, 24,	#8, 16, 17, 22, 25, 28, 29, 32, 33, 34, 35, 36	#12, 20, 23, 26, 27, 30, 31
Person 21	#1, 2, 3, 5, 7, 8, 9, 10, 11, 19, 25	#4, 6, 12, 13, 15, 16, 18, 20, 21, 22, 23, 24, 32, 33, 34, 35	#14, 17, 26, 27, 28, 29, 30, 31, 36
Person 22	#1, 3, 6, 9, 10, 13, 16, 18, 19, 22, 24, 25, 30, 32	#2, 4, 5, 7, 8, 11, 12, 14, 15, 17, 21, 23, 26, 27, 28, 29, 33, 34	#20, 31, 35, 36
Person 23	#1, 3, 4, 6, 9, 10, 18, 22, 25	#2, 5, 7, 8, 13, 16, 17, 23, 24, 32, 33, 34	#11, 12, 14, 15, 19, 20, 21, 26, 27, 28, 29, 30, 31, 35, 36
Person 24	#1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 19, 21, 22, 24, 28, 29, 32, 34, 36,	#15, 18, 20, 23, 25, 26, 27, 30, 31, 33, 35	
Person 25	#1, 2, 3, 4, 5,6, 7, 8, 9, 10, 11, 15, 19, 22, 32	#12, 13, 14, 16, 17, 18, 21, 24, 25, 26, 27, 30, 31, 33, 34, 35, 36	#20, 23, 28, 29
Person 26	#1, 4, 7, 15, 16, 19, 21, 22, 25, 31	#2, 3, 5, 6, 10, 12, 13, 17, 18, 20, 23, 24, 32, 33, 34, 36	#8, 9, 11, 14, 26, 27, 28, 29, 30, 35
Person 27	#3, 6, 7, 8, 9, 10,	#1, 2, 4, 5, 12, 13, 14, 15, 18, 19, 20,	

	11, 16, 17, 25	21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36	
Person 28	#1, 4, 7, 12, 15, 18, 19, 21, 22, 24, 35, 36	#3, 5, 6, 8, 9, 10, 11, 13, 14, 16, 17, 20, 23, 25, 26, 27, 30, 31, 32, 33,	#2, 28, 29, 34
Person 29	#1, 3, 4, 5, 7, 9, 10, 15, 17, 19, 22, 25, 32,	#2, 6, 8, 12, 21, 23, 24, 27, 30, 33, 34, 35, 36	#11, 13, 14, 16, 18, 20, 26, 28, 29, 31
Person 30	#1, 9, 19	#6, 7, 10, 13, 14, 25	#2, 3, 4, 5, 8, 11, 12, 15, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32,33, 34, 35,36
Person 31	#7, 9, 10, 12, 17, 19, 20, 24, 36	#1, 2, 3, 6, 8,13, 15, 16, 18, 22, 25, 27, 31, 32, 33, 35,	#4, 5, 11, 14, 21, 23, 26, 28, 29, 30, 34
Person 32	#3, 4, 5, 7, 8, 9, 14, 15, 26, 27, 28	#2, 6, 11, 12, 16, 17, 18, 23, 24, 29, 30, 32, 34	#1, 10, 13, 19, 20, 21, 22, 25, 31, 33, 35, 36
Person 33	#1, 4, 5, 6, 7, 10, 11, 12, 13, 15, 16, 19, 21, 24, 36	#2, 3, 8, 9, 17, 22, 23, 25, 26, 27, 30, 32, 34, 35	#14, 18, 20, 28, 29, 31, 33
Person 34	#1, 2, 4, 9, 10, 14, 16, 17, 28, 31,	#3, 5, 6, 7, 11, 12, 13, 15, 19, 20, 21, 22, 25,	#8, 18, 23, 24, 26, 27, 30, 29, 32, 33, 34, 35, 36
Person 35	#1, 3, 5, 6, 14, 17, 25, 28, 32	#4, 7, 8, 9, 10, 11, 16, 19, 21, 22, 23, 24, 26, 27, 30, 34, 35, 36	#2, 12, 13, 15, 18, 20, 29, 31, 33
Person 36	#3, 6, 7, 11, 16, 17, 22, 24, 26, 29, 34, 35, 36	#1, 4, 8, 9, 13, 15, 18, 19, 23, 27, 28, 32	#2, 5, 10, 12, 14, 20, 21, 25, 30, 31, 33

Person 37	#1, 2, 3, 5, 6, 9, 10, 12, 13, 14, 17, 19, 21, 24, 25, 28, 32,	#7, 8, 15, 18, 23, 27, 29, 30, 33, 34, 35, 36	#4, 11, 16, 20, 22, 26, 31,
Person 38	#1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 15, 29	#7, 12, 13, 14, 16, 17,18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 32, 33, 34, 36	#26, 30, 31, 35
Person 39	#1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15, 16, 19, 22, 25,	#12, 14, 17, 18, 21, 24, 27, 31, 33, 36	#20, 23, 26, 28,29, 30, 32, 34, 35
Person 40	#1, 2, 3, 8, 10, 13, 14, 18, 19, 22, 23, 29,	#5, 7, 9, 11, 12, 15, 16, 17, 21, 24, 25, 27, 30, 32, 34, 35	#4, 6, 20, 26, 28, 31, 33, 36
Person 41	#1, 2, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36		#3, 4, 8, 20, 23, 35
Person 42	#2, 3, 4, 5, 6, 7, 9, 10, 11, 13, 15, 17, 18, 19, 20, 22, 25, 28, 29, 33, 36	#1, 8, 14, 16, 26, 31, 32, 34, 35	#12, 21, 23, 24, 27, 30
Person 43	#1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 16, 18, 19, 21, 22, 29,	#7, 8, 14, 15, 17, 20, 23, 24, 25, 26, 32, 36	#27, 28, 30, 31, 33, 34, 35
Person 44	#1, 5, 9,10, 13, 17, 20, 25	#2, 3, 4, 6, 16, 19, 21, 22, 26, 27, 32, 33, 34	#7, 8, 11, 12, 14, 15, 18, 23, 24, 28, 29, 30, 31, 35, 36
Person 45	#9, 12, 14, 17, 19, 21, 22, 24, 25	#1, 2, 3, 4, 6, 7, 10, 13, 15, 16, 18, 32, 33, 34, 36	#5, 8, 11, 20, 23, 26, 27, 28, 29, 31, 30, 35
Person 46	#1, 2, 3, 6, 8, 9, 11,	#5, 7, 10, 14, 22, 24,	#4, 12, 16, 18, 20, 21, 23, 25, 26, 27,

	13, 15, 17, 19	35	28, 29, 30, 31, 32, 33, 34, 36
Person 47	#1, 7, 9, 10, 11, 13, 17, 19	#5, 6, 12,14, 16, 18, 20, 21, 22, 23, 24, 25, 32, 34	#2, 3, 4, 8, 15, 26, 27, 28, 29, 30, 31, 33, 35, 36
Person 48	#5,10, 12,17, 21, 22,	#1, 2, 3, 4, 6, 8, 9, 13, 14, 15, 16, 18, 19, 23, 24, 25 , 27, 30, 32, 35, 36	#7, 11, 20, 26, 28, 29, 31, 33, 34
Person 49	#2, 5, 8, 10, 11, 15, 17, 20, 21, 32	#1, 3, 6, 7, 9, 12, 13, 18, 19, 25, 35, 36	#4, 14, 16, 22, 23, 24, 26, 27, 28, 29, 30, 31, 33, 34
Person 50	#1, 3, 4, 5, 6, 7, 8, 10, 11, 14, 15, 19, 21, 22	#2,9, 12, 13, 17, 18, 24, 32, 34	#16, 20, 23, 25, 26, 27, 28, 29, 30, 31, 33, 35, 36
Person 51	#1, 5, 6, 8, 10, 11	#2, 4, 7, 9, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 25, 27, 32, 34, 35	#3, 23, 26, 28, 29, 30, 31, 33, 36
Person 52	#1, 3, 7, 9, 10, 12, 13, 15, 18, 19, 21, 22, 25, 32	#2, 4, 5, 6, 8, 11, 14, 16, 17, 20, 26, 27, 31, 33, 34, 35, 36	#23, 24, 28, 29, 30

Comments of Participants

#1. (No Drawing) Hometown: Sendai, Miyagi Prefecture, Japan **Age**: 55-60 **Sex**: Male

Visited Times: 10 more

- He have visited Hawaii many times(over 10 times). He always stay hotels in Waikiki.

- He doesn't like to walk outside. He wants to relax in a hotel.

- He likes Moana Surfrider Hotel because it has a balcony which has an ocean view.

- The balcony of Moana Surfrider Hotel is important for him to relax.

- His wife said, " when we visited Hawaii in several times, we went to many places in Oahu, but now we like to stay at only Waikiki area."

#2. Hometown: Tomizato, Chiba Prefecture, Japan **Age**: 25-30 **Sex**: Male

Visited Times: First time (Honey moon)

- He became to love Hawaii. He said, "I want to come again."

- He impressed night time in Waikiki.(Fire Torch)

- He likes Royal Hawaiian Hotel's courtyard.(ocean side)

#3. Hometown: Tomizato, Chiba Prefecture, Japan **Age**: 25-30 **Sex**: Female

Visited Times: First time (#2 Person's wife)

- She impressed view from the room of Royal Hawaiian Hotel.

#4. Hometown: Bunkyo-ku, Tokyo, Japan **Age**: 20-25 **Sex**: female

    Visited Times: 3-5 times

- She likes the courtyard of Moana Surfrider Hotel.

- She likes the climate, air, ocean smell, sunshine and the nature.

- "Feel Slow" (time)

#5. Hometown: Osaka, Japan **Age**: 30-35 **Sex**: female

    Visited Times: 3-5 times

- "If I were rich, Waikiki makes me happy."

#6. Hometown: Osaka, Japan **Age**: 55-60 **Sex**: female

    Visited Times: 3-5 times

- She impressed Tree's flowers on a street. (Pink/Red and White Color)