



## The Hawaii Ohana Eco-Village

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### ALOHA

"At the core of each Ohana Eco-Village will be the Community Vision Center that in many ways will be a facility to support the spirit, heart, soul and mind of the community. This facility is conceived to provide the most advanced support possible for each family and member of the community to work together as an Ohana (a family) that deeply trusts, respects and cares for one another. Along with plantation style 8 plex multi-family units, community gardens, aquaculture, solar power and a complete environmental and sustainable approach to living, the Ohana Eco-Village is a concept in living that will combine the best that modern technology can offer with an equally balanced approach that respects the traditional Hawaiian values of right action with respect for the land."

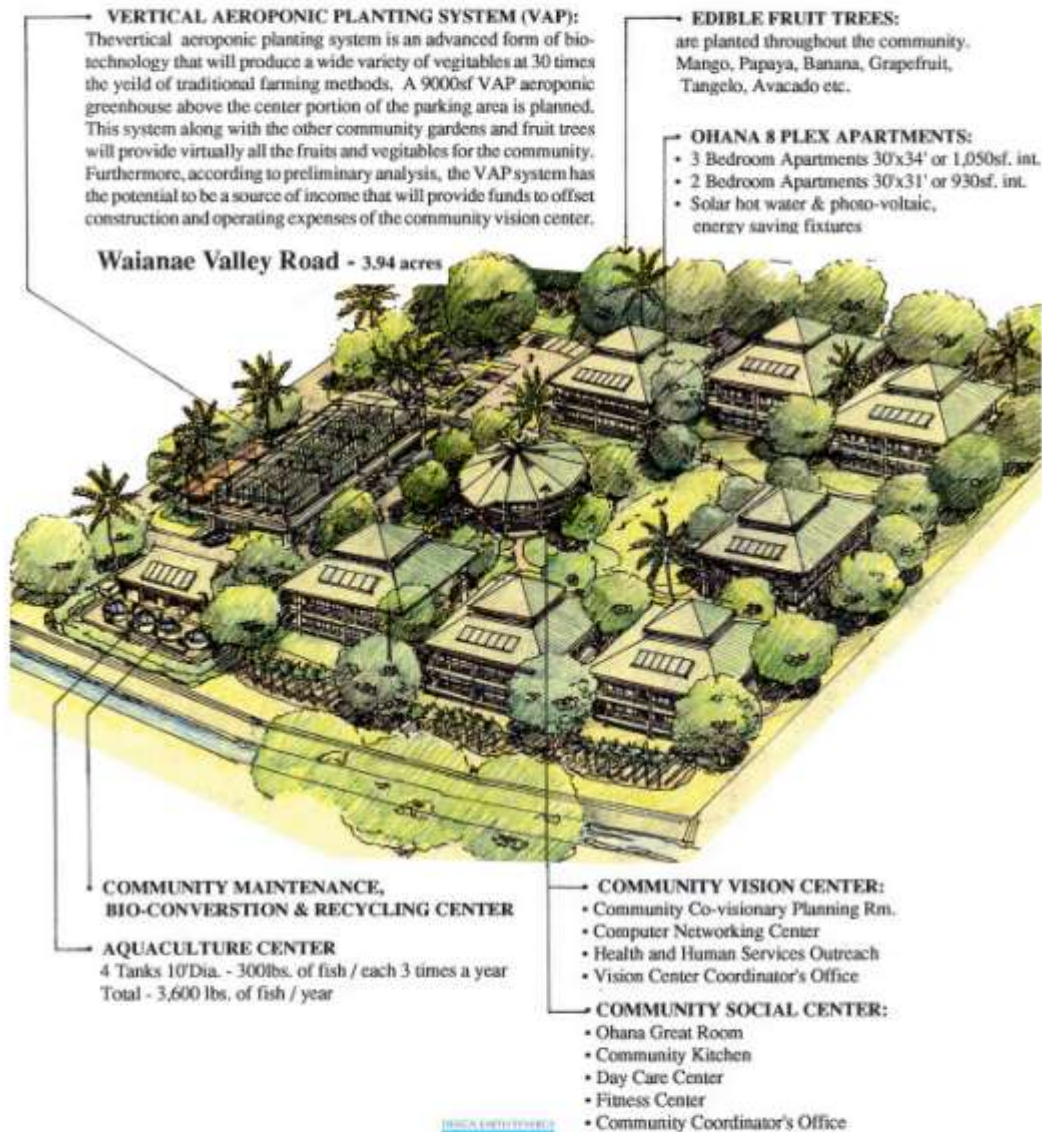
*Christopher Hyde Belknap*

### THE OHANA ECOVILLAGE CONCEPT:

In concept the Ohana EcoVillage is an innovative approach in co-housing that addresses the pressing need in Hawaii to develop economically attainable and environmentally sustainable housing. This concept goes much further than just providing shelter. It is our intention to develop a project, that will be an example of environmental responsibility, that respects the land (or the "Aina") through the implementation of community gardens that will bring families back to the land. Each project will support the long term viability

of community in Hawaii through a network of Community Vision Centers that are at the heart of each project. As an integrated approach to Hawaii's housing needs, Hawaii Ohana Eco-Villages will build upon the traditional Hawaiian principles of Ohana (family), Lokahi (unity), and Aloha (love). The Eco Village lifestyle can be supported by a whole systems approach of integrated technologies and community services including:

## Hawaii Ohana Eco Village



Christopher Belknap - Architect



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## 1. OHANA 8 PLEX APARTMENTS:

The Ohana 8plex Unit is a simple plantation style dwelling that will provide housing for eight families. There are 2 & 3 bedroom apartments. The 2 bedroom apartment is 30'x 31' or 930sf. and the 3 bedroom apartment is 30'x 35' or 1,050sf. Each unit is provided with a full kitchen and bathroom with a living dining and the second level units have an additional study/storage loft space of 90sf.

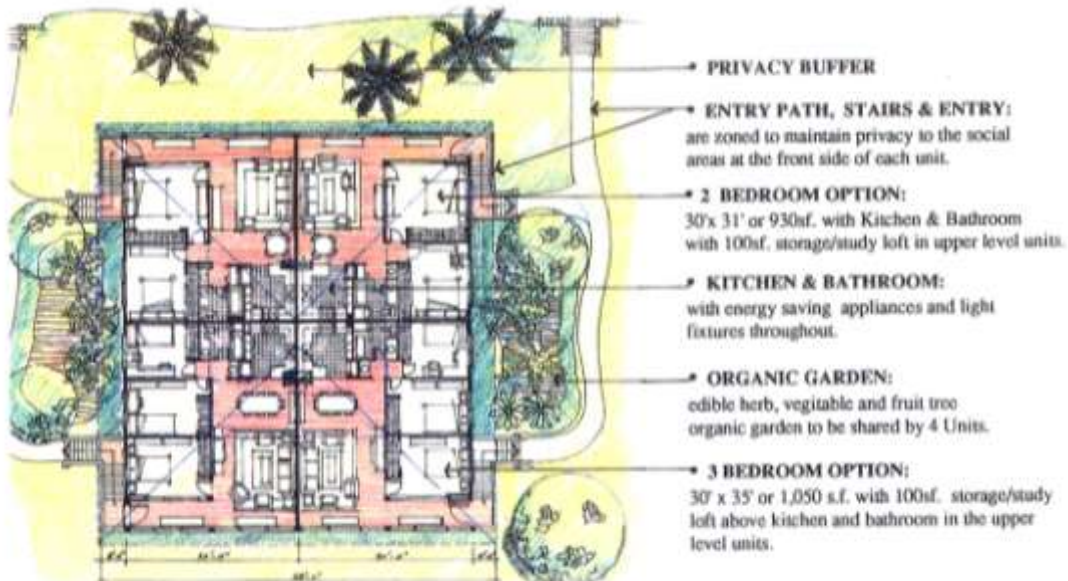


Ohana 8 Plex Apartments:

Front Elevation.

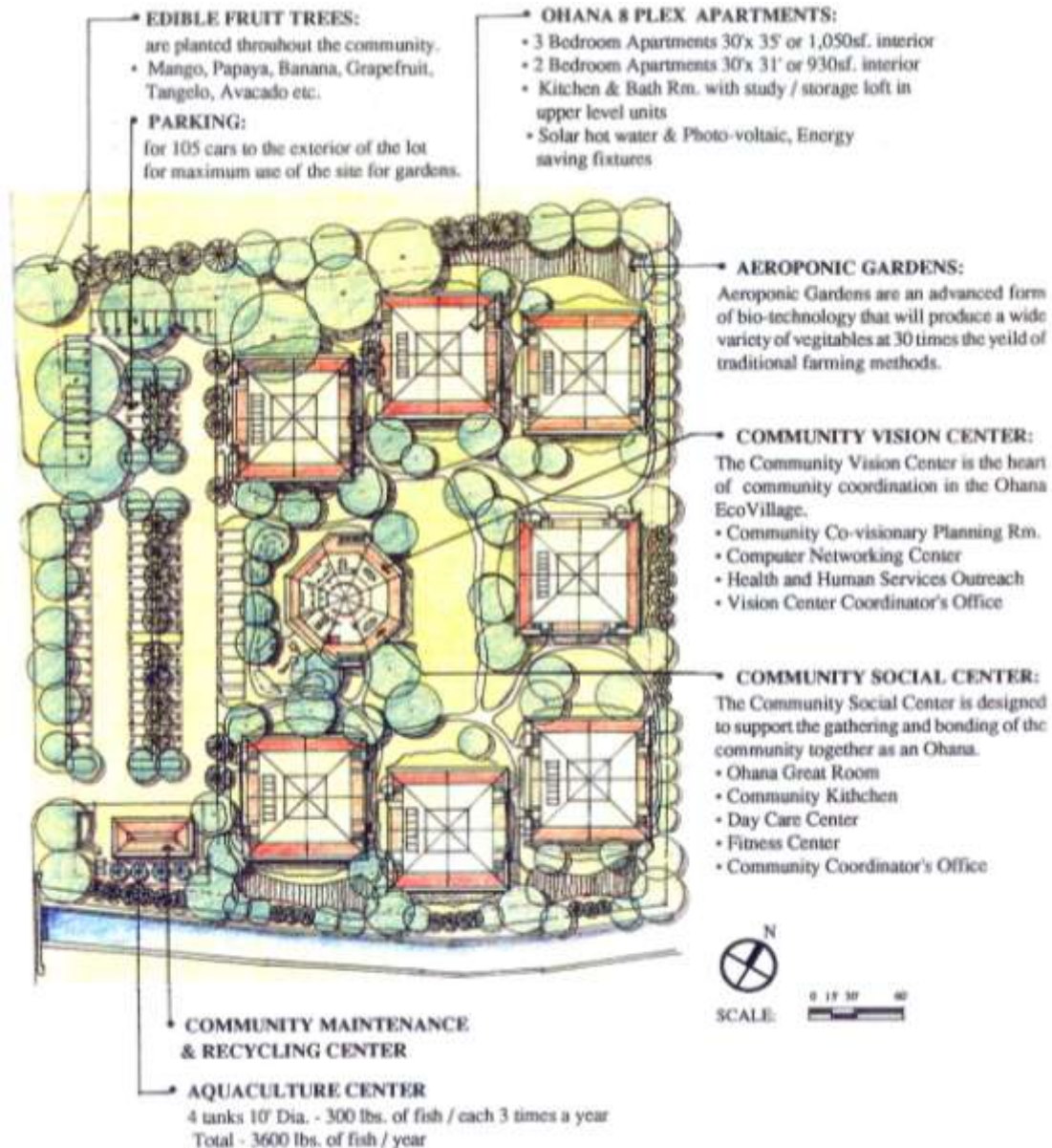
## 2. SUSTAINABLE WATER AND ENERGY:

Each community will be a model of energy self-sufficiency. Solar hot-water and rooftop photovoltaic electrical systems will provide hot water and electrical energy to each unit. Fresh air ventilation and low energy-use appliances and lighting will reduce overall energy requirements. Low-flush toilets, special shower heads, grey water use and rain collecting systems will all contribute to overall low-water consumption.



Ohana 8 Plex Apartments:

Upper Level Plan.



### 3. SUSTAINABLE FOOD AND COMMUNITY GARDENS

Each Ohana Eco Village community will utilize the Ohana 8plex Units in a cluster plan that will curtail the need for internal roadways to free up space for community gardens. Creative earthwork will channel rainfall runoff into irrigation and aquaculture tanks. Edible landscaping will provide fruits (banana, papaya, mango, tangelo, grapefruit, avocado) and nuts with areas for traditional taro as well as individual herb and flower gardens. Each Eco Village will incorporate the principles and bio-technology of aeroponics. One aeroponic greenhouse will produce up to 30 times the yield of traditional agriculture per square foot space required. By utilizing aeroponics over the parking lot with an overall community garden plan, it will be possible to provide an Ohana program where most of the fruits and vegetables for the residents of the community are supplied on site at greatly reduced cost.



**4. AEROPONIC GREENHOUSE & SOLAR / WIND ENERGY PLATFORMS**

To maximize efficient use of land / resources, above the parking lot, there will be placed Aeroponic Green House & Solar / Wind Energy Platforms. Utilizing a Sprung Structure on a raised platform the aeroponic green house will act as the first micro business venture for the community as well providing most of the communities' vegetable needs. On the Roof of the greenhouse will be placed an array of Solar Photovoltaic Collectors along with a series of Helical Wind Turbines, that have the capacity to be the primary source of electricity for the community.

**5. SUSTAINABLE FOOD AND AQUACULTURE**

In addition to providing the community with a continuous source of fruits and vegetables each Eco-Village will maintain an aquaculture facility. One 10' diameter - 4' deep tank, properly maintained, will provide a yield of 300 lbs. of fish 3 times a year. Our initial development will provide 4 tanks or approximately 3,600 lbs. of fish per year depending on the type of fish being raised. Possible species include opelu, catfish and tilapia. The combination of fruit and vegetables along with protein from fish will meet most of the community's basic sustenance needs at an exceptional standard of health and quality.

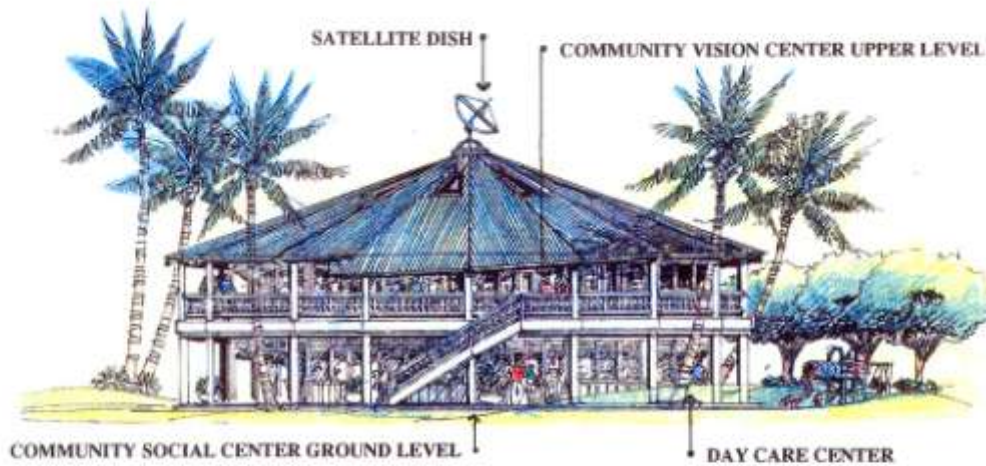
**6. RECYCLING & RESOURCE MANAGEMENT**

Advanced recycling systems will eliminate most solid waste, and will include recycling of household materials, purification and recirculation of water, and composting.

## 7. COMMUNITY VISION CENTER

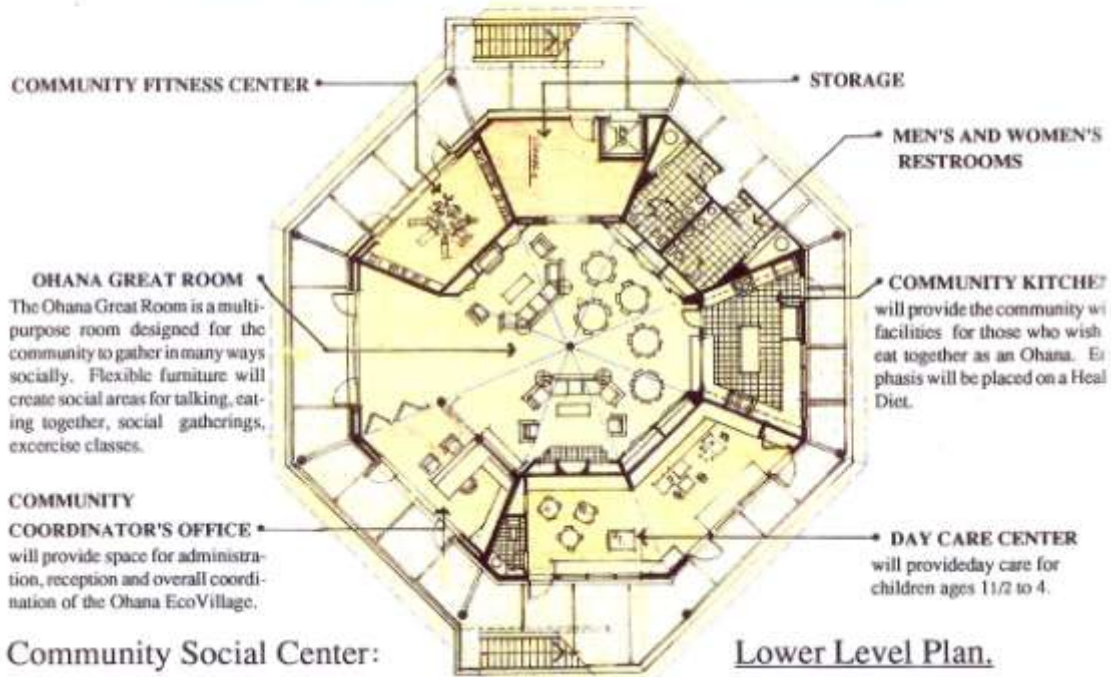
At the core of the Ohana Eco-Village will be the Community Vision Center. In many ways this Vision Center will be a facility to support the spirit, heart, soul and mind of the community. This facility is conceived to provide the most advanced support possible for each family and member of the community to work together as an Ohana that deeply trusts, respects and cares for one another. The Community Vision Center will be a multi-functional facility in an octagon form that has two levels. The Ground Level will be devoted primarily to social gathering as follows:

### Community Vision Center



Community Vision Center:

Side Elevation.



Community Social Center:

Lower Level Plan.

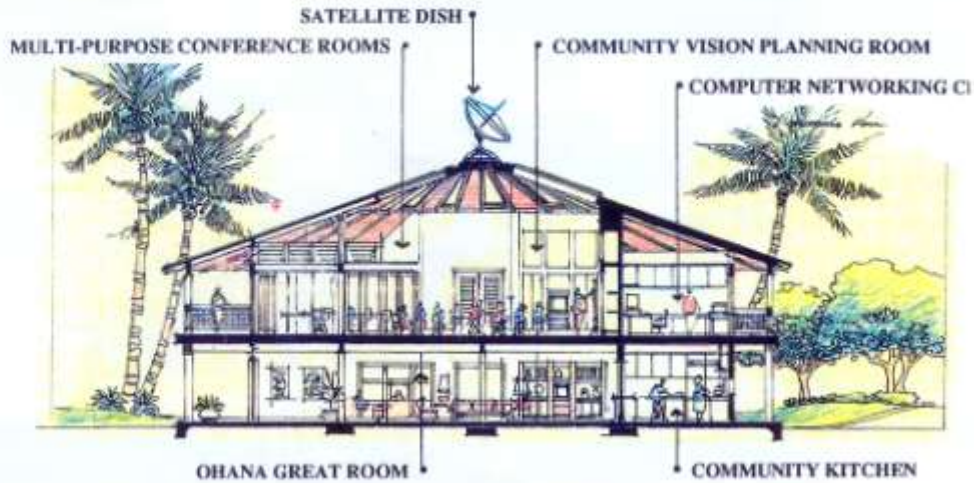
- **Ohana Great Room** - There will be a Great Room provided for the purpose of social gathering with emphasis on families spending time together with the elders telling stories to the young, singing, music, dancing. Outside there will be a large gathering area to sit under the stars, build a fire and talk story.
- **Community Kitchen** - There will also be a Community Kitchen, which will provide meals to be shared by community members who choose to eat together.
- **Exercise and Weight Room** - There will be an Exercise Room with weight lifting equipment.
- **Day Care Center**- There will be a Day Care Center to take care of the young children from ages 1.5 to 5 with both interior and exterior activity /play areas.
- **Storage and Restrooms** - Storage space for all the multipurpose furniture will be provided as well as men's and women's restrooms.
- **Directors Office** - Finally there will be an office space provided for the Community Vision Center Director's office who will be in charge of coordinating overall activities at the center.

The Upper Level will be devoted to the community coordination and the Vision Center as follows:

- **Community Vision Meeting Room**- There will be a large central space for Co-visionary Planning. Co-visionary planning is a method of facilitated group discussion that brings to light the community member's core values. From a base of shared core values, a vision of the community's future can be created to greatly assist individual members and families achieve their goals. The Community Vision Meeting Room will be the planning center for all the shared activities of the community.
- **Conflict Resolution – Ho'oponopono** - It will also be a place for conflict resolution based on the Hawaiian principle of Ho'oponopono. There will be two partitioned multi-purpose conference areas for committee planning sessions and for Health and Human Services outreach. There will be a T.V. VCR and Internet terminals along with a satellite dish that will allow the community to link into rapidly emerging global information remote educational programs and networks as Hawaii continues to move into the information age. There will be extensive information available on environmental, social and educational programs throughout the world that members of this community will be able to benefit from.
- **Electronic Town Hall** - The concept of the Electronic Town Hall will be possible with the technologies provided in co-visionary planning center. Through video streaming cameras we can connect various community meeting centers throughout the islands together in a statewide network. With this network in place people in each community will have the latest information on what is working in other communities which will

positively affects their lives. This way we can respond to the deeply felt Hawaiian understanding of Ohana and Lokahi utilizing the latest in modern communications technology.

## Community Vision Center



Community Vision Center:

Cross Section.



Community Vision Center:  
Upper Level Plan.

• **Computer Networking Center** - To support the activities of the co-visionary planning center there will be a Computer Networking Center. In the computer center there will be at least four personal computer stations, a fax and copy machine. This facility will provide a number of key resources for the community. Community members will be able



to organize their group activities and the running of the aeroponics gardens and the aquaculture center. They will be able to develop business plans, newsletters and organize worthy projects in and around the community. They will have full access to the Internet.

- **Remote Class Rooms** - There will soon be developed remote computer classes with our state community colleges and the University of Hawaii. Eventually they will be able to get information from around the world. The computer center and Co-visionary Director will have the necessary skills to train the community members in the use of the computers. The youngsters and teenagers will have a powerful resource available to them, through multiple educational programs, to truly understand their importance in the new emerging information era that will lead to new levels of human creativity.

#### **8. THE ONE-STOP CENTER, THE COMMUNITY VISION CENTER AND SOCIAL SERVICES OUTREACH:**

The concept of a Community Vision Center, with the range of services and support to the community, as envisioned in the Ohana Eco-Village, is innovative and will require creative support from a number State and Federal Agencies. To support the development of the social programs a nonprofit organization was formed on Oahu called the One-Stop Center. This center could be considered a model and it provided assistance to families and individuals who are either economically disadvantaged or had health and social issues. This program successfully supports many of these community members by providing a wide range of assistance such as providing funds for additional education if necessary, securing employment, and training etc. We envision that the Community Vision Center will be staffed and operated as an extension of the One Stop Center's program.

#### **9. SUSTAINABILITY AND THE GREATER COMMUNITY:**

The concept of Ohana Eco Villages is a complete design-response to one of the most complex and elusive problems that our modern society faces in Hawaii and in the Nation as a whole. Our current way of living is in many ways out of balance and one result is that the cost of living in Hawaii is continuing to rise beyond the reach of many more families every year. The human, social, health and environmental cost of this continuing situation to society is immense. Until we develop affordable housing projects and a sustainable way of living, that enhances our sense of community for every member of our society, the problems we face today will only grow exponentially.

The Ohana Eco-Village concept has the essential structure to support, create and develop community as family. It is founded in the wisdom and tradition brought to these islands by the Hawaiians, of respect and love for one's self, one's family, one's community and the Earth. Though the Hawaiians, along with other indigenous peoples, seem to be the most persistent stewards of this awareness, this same understanding is found in the best traditions of every culture group that moved to Hawaii, whether East or West We are all family. The innovations that will bring forward a sustainable way of life in the Ohana Eco-Village will require creative thinking not only by the Development Design Team, but by the new residents, the neighboring community and all the State and governmental agencies that will review and approve this project Working together we are confident that

sustainable community living will be enhanced in Hawaii, that the Hawaiian understanding of Ohana, Lokahi, and Aloha will be realized by all.

With aloha.....

A handwritten signature in black ink, appearing to read "Chris Belknap". The signature is fluid and cursive, with a large initial "C" and "B".

Christopher Hyde Belknap, *Architecture*

A handwritten signature in blue ink, appearing to read "Reinhold Ziegler". The signature is cursive and clearly legible.

Reinhold Ziegler, *Solartecture - Environmental System, Developers.*

## SPECIFICATIONS & BUDGET TO BUILD THE OHANA ECO-VILLAGE

Land Acquisition (minimum is 4 acres ideal is 10 acres) .....

7-PLEX Buildings, furnished:	@ \$ 1,000,000 x 7	\$7,000,000
Solar PV Power System @3 Kw/unit	@ \$ 6,000 x 56	\$ 400,000
Community Vision Center, furnished:	@ \$ 1,000,000 x 1	\$1,000,000
Aquaponic/Aeroponic Green House:	@ \$ 1,500,000 x 1	\$1,500,000
Edible Landscaping and Infrastructure:		\$ 500,000
<u>Contingencies 5%</u>		<u>\$ 600,000</u>

TOTAL \$ 11,000,000

The Village has several income streams from a variety of enterprises.

It could function as:

1. A residential community with 56 high-end apartments generating \$1,000/month with a “rent to own” mortgage.
2. An eco-resort with 30 apartments generating \$100/night each.
3. A private Eco-University campus with rooms functioning as student housing.
4. A Rehabilitation hospice or holistic healing center.
5. A private light-security “prison” for woman generating \$2,000 each/month per unit.

Contact us for a ProForma of the Project components.

These include revenue streams from:

1. The Restaurant and night club in the Community Vision Center.
2. The plant food revenues from the Aquaponic Synponic Growing Center.
3. The fish production revenues also from the Synponic Growing Center.
4. Ultra Water sales.
5. Craft sales and merchandise.

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