

Building Sustainable Communities for America's Military Families

By Claire Ridding-Johnston

THE STORY OF ARMY HAWAII FAMILY HOUSING

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COMMUNITIES FOR AMERICA'S MILITARY FAMILIES

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Designing for people, delivering in partnership

INTRODUCTION

In the early 1990s, the Department of Defense (DOD) came to the recognition that housing under its ownership and management, some 180,000 units across the United States, was in a state of significant disrepair. If the problem was to be addressed using a traditional military construction approach to replacement, the estimated costs were likely to be in excess of \$20 billion, and the housing would take 30 years to replace, accounting for the expected levels of appropriated funding that would be made available. (*Adapted from the Office of the Under Secretary of Defense, Installations and Environment, Military Housing Privatization Initiative – MHPI 101 presentation, September 2006*). Providing high quality housing was however identified as not only necessary, but a key factor in attracting and retaining high quality people to military service.

As housing is not a core competency of the DOD, it was decided to have the renewal of on post military housing delivered in partnership with private real estate professionals. A 1996 act of Congress ratified this intent, and became known as the Military Housing Privatization Initiative (MHPI).

Under MHPI, the government and military work in partnership with the private sector to improve both the quality of housing for and overall lifestyle



Improving the quality of life for soldiers and their families is a priority of the AHFH partnership, which supports the Army's desire to retain and recruit a volunteer defense force.

experience of families who choose to live on military installations in a manner that is innovative and more efficient than a traditional military construction approach affords. Essentially, the government provides private real estate companies, usually developers, with 50-year ground leases over land that contains previously government run housing. Developers, within a short period of time (generally 10 years), sequentially demolish old housing and replace it with new, architecturally designed and sustainably engineered modern housing, then manage the new housing for the 50-year duration of the ground lease, after which time, the management reverts back to the DOD (or other arrangements can be negotiated). Today, there are some 93 privatization projects totaling over 183,000 family

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What makes AHFH special is the combination of a strong vision to 'do what is right' for military families, and the commitment to create and maintain leading edge sustainable living experiences that are delivered in an environment of open and honest partnership.

housing units across the United States. (*Office of the Deputy Under Secretary of Defense, Installations and Environment website; Dec. 2008*).

Army Hawaii Family Housing is the largest of these privatization projects, with no other matching its complexity and scale, and is delivered in partnership with the Department of the Army by Actus Lend Lease, whose core business is developing, delivering, and managing military housing, with 33,000 houses currently under management across the United States. Actus Lend Lease is a division of the Lend Lease Corporation, a listed, fully integrated, global real estate organization with more than 50 years of experience. With over \$10 billion (Australian dollars) in funds under management; a market capitalization of \$3.5 billion (Australian dollars) as of July 20, 2009; over 10,000 employees worldwide operating in over 50 countries; as well as expertise across all aspects of the Property Value Chain (financing, development, design, construction, asset management), Lend Lease has the unique ability to develop and manage a project the scale of AHFH.

Spread across the island of Oahu, Hawaii (seven sites, 21 communities), the Project has a 50-year timeframe and has a value in excess of \$2 billion. The Project is funded mostly by debt (and interest earned on this borrowing) that is secured by lenders at the time that the Project is closed, a small amount of equity contributed by Actus Lend Lease, and soldiers' Basic Allowance for Housing (BAH), the contribution that the government makes to the housing costs of soldiers and their families.

In the first 10 years, old, run down homes will be demolished and replaced with over 5,000 new homes as well as undertaking significant renovations to 2,500 homes. New masterplanned communities include centrally located community centers that feature cinemas, multipurpose rooms and gyms, as well as a range of amenities that include swimming pools, spray parks, BBQ facilities, pavilions, basketball courts, and skateboard parks. The Project is currently five years into its initial 10-year period, and to date has built 2,692 new homes and renovated 618 homes.

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AHFH has applied Smart Growth principles, which is demonstrated by incorporating the news concept into its urban plan as shown at the Kalakaua Community at Schofield Barracks. Preserving the environment's natural beauty and creating interconnecting green open spaces with consistent landscaping has helped with visual integration of the site into home design, which provides a unifying character to communities. It also draws families outdoors and encourages interaction among neighbors.

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AN INTEGRATED MODEL

AHFH is structured as a limited liability company (LLC), in which Actus Lend Lease is the majority owner (the "Managing Member") and the United States government, represented by the Department of Defense, Residential Communities Initiative is the minority participant (the non managing member). Actus Lend Lease is responsible for providing financing, development and design, and asset management services for AHFH. Construction activities are undertaken also by Actus Lend Lease under a separate contractual arrangement. Performing these functions, Lend Lease delivers its "integrated delivery model".

Additionally, a complex, formal and binding series of relationships identify the specific roles and responsibilities of each partnership participant. While Actus Lend Lease has overall management oversight for AHFH and construction delivery, all major decisions require the consent of both Actus Lend Lease and the Army. This is achieved by the mutual consent of the project director (Actus Lend Lease) and the garrison commander (Army), and at times with the consent of the Office of the Deputy Under Secretary of Defense, Installations and Environment.

Both construction and operational management financing is generated through a combination of equity contribution, debt, and the Basic Allowance for Housing (BAH), the government contribution, all of which is arranged by Actus Lend Lease financing experts. The Actus Lend Lease development team sets the design vi-

sion, provides the overall project leadership, and is responsible for community planning and architecture. The asset management function, managed also by Actus Lend Lease, protects and promotes the financial interests of AHFH for the life of the Project and manages the day-to-day operations of the business. The Actus Lend Lease design.builder is responsible for design and construction management as well as safety and quality control.

PROJECT GOALS AND AMBITIONS

"You may recruit individuals, but you retain families. That's what has to be taken into account, the quality of life. The principal aspect of quality of life is family housing."

U.S. Representative Neil Abercrombie

While it is a beautiful place and a wonderful holiday destination for many people, Hawaii may seem foreign, unknown and uncertain, especially for military families who are moving so far away with little family support. This, coupled with the increased burden that multiple deployments are placing on military families, can make a posting on the island of Oahu especially tough. Providing safe, welcoming and inclusive communities as well as comfortable, high quality homes are more important now than ever. In delivering this at AHFH, the leadership team is guided simply by "doing what is right for soldiers and their families." The goals to achieve this are:

- In partnership, to develop thriving communities that stand the test of time,
- To regenerate our environment and enrich people's lives and
- To provide our military families with communities that feature attractive streetscapes and healthy indoor environments.

SUSTAINABILITY

"You can be out for the maximum amount of profit you can possibly squeeze from your efforts, or you can aim at a reasonable profit and have the feeling that when you retire that you leave something behind."

Dick Dusseldorp, founder of Lend Lease

Communities that withstand the test of time embody the principles of sustainable development. They:

- Balance and integrate the social, economic, and environmental components;
- Meet the needs of existing and future generations; and
- Respect the needs of other communities in the wider region.

Just as the Project adopts a vertically integrated model, so too the sustainability effort is woven into each element of the business, employing innovative programs, designs, methods, and technologies. Following are some examples, across the real estate chain, that demonstrate the sustainable effort at AHFH.

DEVELOPMENT PLANNING, SETTING THE STAGE

On existing military installations, development activity is mostly "brownfield". In Hawaii, communities undergoing redevelopment have existing housing that is being demolished and soil that generally needs remediating, the result of many years of herbicide and pesticide use, as well as other military activities. These sites also have the legacy of well thought out street and road networks as well as numerous mature trees that provide shady canopies and a sense of place and establishment. The original planning of the installations also considered centrally located and easily accessible shared places and spaces such as parks and playgrounds.



AHFH will be one of the largest solar-powered communities in the world as a result of its progressive integration of renewable technologies. Photovoltaic systems on homes will produce up to six megawatts for power, supplying nearly 30 percent of the community's energy needs.

In developing the new housing, the existing layouts have, where possible, been retained. This is not only efficient, but also preserves many hundreds of significant trees. The sense of place, the feeling of an established, yet fresh community is the result. Trees that are not kept are recycled as mulch or given to local artists and wood turners to be used in artistic endeavors.

Electricity prices are volatile, especially in Hawaii, a state that is almost 85 percent reliant on imported fossil fuels. An onsite renewable energy system has been developed which, when construction is complete in all 21 communities, will make the Project one of, if not the biggest solar powered communities in the world. As well as supplying solar generated domestic hot water systems to all homes, a six megawatt photovoltaic



An extensive tree preservation program was achieved by designing neighborhoods, streetscapes, community centers, jogging and biking trails, and parks around them. The effort garnered The Outdoor Circle's most prestigious award in Hawaii.

(PV) system responds to Hawaii's scarce energy resources and consequent high cost of power.

The PV program will provide up to 30 percent of AHFH's power needs. A meter calculates the power that is produced, the value of which is rebated against the Project's utility charges. With over 50 percent of the PV system completed to date, indications show that around 9000 KWH will be contributed back to the local grid annually.

DESIGN, THE TECHNICAL APPLICATION

All new homes in the AHFH inventory have been designed for certification in the LEED (Leadership in Energy and Environmental Design) program, an ecology-oriented building certification program run under the auspices of the U.S. Green Building Council. To meet the program's criteria, AHFH homes include compact fluorescent light bulbs (CFL), energy star appliances, double glazed windows, pre fabricated framing, low flow shower heads and toilets, ceiling fans, and building designs and orientations that maximize natural light and ventilation.

To further enhance home design, teams are exploring the delivery of Zero Energy Homes (ZEH) through a pilot program. A ZEH home, on an annual basis, consumes no more energy than it generates. By considering load reduction and power generation collectively, solar attic fans, reflective paints, and radiant barriers have been installed to reduce the heat gain on the homes, thus reducing the overall load requirement which will in turn deliver further utility cost savings.

CONSTRUCTION, BEING CONSCIOUS OF THE POTENTIAL

The construction team recycles no less than 90 percent of the concrete and asphalt that is removed from old homes, roads, and sidewalks. An onsite crusher breaks down the materials which are then used as road base for new communities, reducing the burden on limited landfill space in Hawaii as well as generating savings to the project. At this time, over 200,000 tons of debris have been kept out of landfills and expectations are that this number will reach over 1 million tons by the end of the new construction program. Additionally, recyclable items such as gutters, louvers, and pipe work are stripped from old homes and locally reused.

This deconstruction and salvage approach coupled with a sustainable approach to strategic procurement (achieving bulk savings on the purchase of new, environmentally appropriate raw materials and household fixtures such as bathtubs and carpets) not only creates substantial efficiencies, but also contributes to reducing the Project's environmental footprint more broadly.

With a commitment to supporting the local economy through job creation (91 percent of construction contracts are with locally owned businesses), a Construction Academy established in partnership with local high schools in the surrounding areas provides practical training and skills opportunities for local teenagers, with a defined pathway to trade and construction employment. Seven participants graduated from the program this year, four of whom went on to construction apprenticeship programs, one has commenced an engineering degree, and one has joined the military.

"The Construction Academy has been an excellent enhancement to our shop program. It truly focuses our kids on the merits and opportunities in the construction industry. We are grateful to Actus for the partnership they provided. They have been more than mentors to our kids. They have been our Ohana, part of our family."

Curtis Goya, Leilehua High School, teacher and construction academy supervisor

ASSET MANAGEMENT, CONSIDERING THE FUTURE

Designing and building sustainably is only part of the picture. Equally as important is ensuring that people who live in AHFH homes know what their homes are intended to do, why they are unique, and how to use them efficiently and effectively. This can range from examples of providing instruction on the use of low flow shower heads or controlling house temperatures to maximize air conditioning efficiency, to providing kids' programs on composting.



Families new to the Simpson Wisser neighborhood participate in an extensive resident orientation that showcases the sustainable features of their home and community; residents also learn what role and responsibilities they have as a member of the community.



The AHFH partnership is helping lead the way in new sustainable development practices. One of a select group of private and public sector developers, AHFH's Simpson Wisser neighborhood is participating in a U.S. Green Building Council pilot that will establish standards for neighborhood development where none currently exist.



An existing golf course was the site of AHFH's first community at Schofield Barracks. The Kalakaua Community was completed ahead of schedule and served as a platform for sustainable development throughout the initial 10-year development plan.

sustaining a healthy community. Programs, such as SYNERGY (Saving Your Nation's Energy), create awareness about sustainable practices and teach residents how they can contribute to Department of Defense goals and goals in the communities where they live and work.

The best energy reduction efforts throughout the development and design phases of a project can be erased by residents who do not know how or do not have the right tools to make the small changes that lead to more sustainable living. The Saving Your Nation's Energy (SYNERGY) program is a strategic approach to resident education that concentrates on energy conservation by increasing awareness of how to create tangible outcomes. Through regular, interactive educational programs for adults and children alike, early efforts are reaping substantial rewards.

Operationally focused initiatives are also in place to further contribute to the asset management sustainability effort, including weekly curbside pickup of green waste - glass, paper, cardboard, aluminum and can recycling; an approach to maintenance that repairs first, then replaces; and a community fund directed towards providing additional educational activities for residents, for example classes on starting a small business or tutoring for children.

There are 380 historic homes in the AHFH portfolio. Most of the homes were built between 1919 and 1923, with the exception of stately homes on Palm Circle, Fort Shafter (currently home to the senior leadership of the Pacific Command) which are more than 100 years old. As well as Fort Shafter (one of the AHFH housing locations) being the center of military operations in the Pacific region for over 100 years, Schofield Barracks, another location of historic homes under AHFH management, played a huge part in the Second World War, with its military base acting as a defensive back-up for the American Army's naval site on Pearl Harbor.

To preserve the historical significance of these homes, a significant effort is made in attending to their rehabilitation in a manner that returns them as close to their original state as possible.

Creative approaches to this work include the reuse of existing and integration of modern materials as homes undergo their transformation. Honoring the legacies of those who have designed and lived in these homes, while at the same time incorporating progressive thinking, is an important consideration in any complete sustainability effort.

THE COMMERCE OF BEING SUSTAINABLE

"When you have a garrison energy bill that's in the tens of millions of dollars a year, like we do, we simply can't afford not to look for ways to save money and conserve resources."

Colonel Matthew Margotta, USAG - HI Commander

With a 50-year responsibility for the financial and operational performance of AHFH, the partnership is interested in the long term. The approach to decision making reflects this. The partnership has also made a commitment to delivering innovative new approaches to development, design, construction, and asset management activities. Combined, these factors have enabled AHFH to demonstrate that taking a sustainable approach is the right thing to do, as well as providing tangible, financial benefits to the Project and the military families that it serves.

A long-term approach to cost-benefit decision making enables the payback periods for the extra investment in sustainability initiatives to be extended, in an acceptable manner.

Examples of commercial sustainability in action include:

- The photovoltaic programs' early estimates indicate that, over 50 years, up to \$100 million in utility costs will be saved.
- In 2008, more than 80,000 compact fluorescent lights (CFL) were retrofitted in existing housing. Adding to the more than 160,000 CFLs that are being installed in new construction, this will reduce the energy required to light AHFH homes by up to 75 percent. Projections estimate that between \$800,000 and \$2.1 million per year in utility cost savings will be realized. An additional rebate on the purchase price for each bulb further enhances the savings potential.

- All new homes have solar hot water heaters. It is projected that the utility cost-savings will be between \$1.5 and \$2.55 million annually.
- Crushing and reusing concrete and asphalt on site benefits the project in the order of \$3 million.

SUCCESS FACTORS

The project is a clear success and with over 2,600 new homes already built, military families in Hawaii are enjoying living experiences that reflect the partnership's original goals. Four conditions have been critical to AHFH's success to date, which are applicable to any public-private partnership project, regardless of its location, size, and complexity.

1. An agreed and executed shared vision

AHFH has a fiduciary responsibility to the American public because the project is largely funded by their taxes, but just as important is the social responsibility of providing military families with safe, known, and positive environments while their soldiers are at war. "Doing what is right for soldiers and their families" is easy to say, but ensuring delivery requires constant attention.

Agreeing on the vision and goals was done very early in the project. Partners were aligned in their desire to provide communities that were designed sustainably. This was interpreted differently for each partner, so reconciling differences towards a common definition was important early on. Setting the course early has been the Project's foundation as every aspect now responds to it.

Executing the vision then becomes the responsibility of all participants. All decisions, regardless of their size and complexity, must consider the outcome in the context of the vision. Leadership demonstrates this continually, reinforcing the message. Additionally, everyone involved must not be afraid to challenge a decision if it is contrary to the vision, and the partnership does not hesitate to make corrections where goals and objectives may have been compromised.

2. A culture of mutual trust and transparency

Within the AHFH partnership, removing a perceived veil of secrecy has been critical to the Project's success. Achieving this has taken a considerable amount of consistent effort on the part of the key Project leadership to



Engaging families and giving them ownership in their communities is achieved through a robust resident activities program. Community-based activities at each community center are planned each month, and community-wide activities such as Arbor Day and Earth Day give AHFH an opportunity to partner with military and community organizations to showcase important initiatives like sustainability.

build a framework in which all can work together with trust. Decisions are made in partnership and always with prior consultation among key stakeholders. Debates on matters, while often heated, are conducted respectfully and honestly. Over time, an environment has developed in which everyone's opinion is equally valid and considered, which is a new way of approaching decision making for Actus Lend Lease, the Army, and the government.

Additionally, a culture of trust has been established between AHFH and the military families that it works with. Together, neighborhood issues that can range from safety and parking management to event organization are discussed, planned for, and enacted. Interactive resident advisory boards and town hall meetings are examples of formalized methods of collaboration, but the informal interactions that occur every day are just as critical. Although AHFH provides management services, residents are participatory and responsible tenants, and take ownership for their neighborhoods. The result of this is a heightened sense of community, in which everyone is accountable for creating a high quality living experience.

3. Timely and collaborative decision making

In a challenging economic climate coupled with concurrent wars in two countries, resources are constrained at unprecedented levels. In the current situation, there is



The AHFH partnership is building more than just homes, it is building communities. Community centers serve as a gathering place for families, giving them an opportunity to develop new friendships and expand their network of support, which is especially important for families that move to a new Duty Station every two to three years.

less room for mistakes and less tolerance for inefficiency than ever before. The AHFH team has significant decision making autonomy, which more effectively aligns needs with resources and streamlines the bureaucracy that can sometimes stall innovative decision making. In doing this, an effective example of accountability and responsibility has been demonstrated, that propels forward and sets a benchmark for other privatization projects, be they military or otherwise.

4. Education, education, education

In new and different endeavors, a key success ingredient is the willingness of everyone involved to learn. Learning is a journey that spans the life of projects such as AHFH and requires self reflection and a commitment to trying new ways of thinking and doing. There was (and still is) much to learn and all stakeholders are committed to continuing this investment as it has proven to enable much of the innovation that has occurred to date.

AHFH in many ways has made the mistakes that others can learn from. Its size, scale, and unique environmental characteristics make it conducive to trying new innovations and approaches. Not every idea is a great one, and some ideas are great but need adjustment. AHFH has been proactive in correcting mistakes when they are made, moving on, and then sharing the lessons learned with a broad audience.

As well as at home, those in other parts of the world are looking towards AHFH as a successful model of a public-private partnership and are visiting the Project to determine what can be achieved and replicated in their own environments. Delegations from Japan, Guam, Australia, and South Korea have visited Hawaii to tour the Project and exchange information with the AHFH teams.

Military families are also benefiting from the education that the Project is providing in both direct and indirect ways. Directly, residents are learning how to live more sustainably, and indirectly they are learning about the changes as a result of privatized housing. Residents do have to adapt to the increased responsibilities that they assume in the care of their homes and participation in their communities. At the same time, a range of interactive leisure and learning opportunities facilitates the ongoing education of residents, particularly in living sustainably.

Perhaps the most profound experience has been the education of ourselves about each other. Governments, armies, and corporate real estate developers have little in common. In terms of organizational and operational cultures, there could hardly be a more unlikely combination. Motivated by different principles, policies, and practices, it is inevitable that frictions will occur. By taking the time to understand what each needs and reconcile differences, an environment of trust has been created, and timely and collaborative decision making occurs.

IN THE END.....

AHFH will continue to deliver new homes and communities until at least 2015. The foundations were set early on and, through strong leadership and an absolute commitment to realizing the promise with integrity, over 2,000 sustainable homes have been delivered into communities that are safe, participatory, and inclusive. AHFH is clearly sending the message to military families that the American public cares and is committed to providing the best possible living, learning, and lifestyle experiences for those who put their life on the line for their country and their families. ☽



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