

THE KAWELA PLANTATION WATER SYSTEM

Description, History, Current Condition and a Plan for the Future

The water system that serves the Kawela Plantation is owned entirely by Kawela Plantation Homeowners' Association (KPHA). This means each individual lot owner has both a legal and financial stake in its operation. We are not regulated by the Public Utilities Commission with regard to rates charged for the treatment and delivery of water to individual lots. However, as regards to potable water, we must follow the regulations set by the Federal Safe Water Drinking Act as well as those regulations set by the State Department of Health.

The State of Hawaii does not recognize individual mineral rights, which includes water. The entire island of Moloka'i is a dedicated water conservation island and the Commission on Water Resources under the Department of Land & Natural Resources regulates all water use.

Description:

The Kawela Plantation was developed with two separate water delivery systems, one for agricultural purposes and another for delivery of our potable water.

The Ag system is comprised of two wells, 4 reservoir tanks and a distribution system consisting of 2-inch diameter PVC pipe. It is currently unusable and our most recent engineering report indicates that the costs to rehabilitate it are prohibitive.

Your current board and those residents of the community that have lived here for many years and have an in-depth knowledge of our water delivery systems agree with the engineer's analysis of the Ag system. A combination of factors such as questionable design, poor quality of construction and a lack of maintenance has resulted in this reality. Therefore, this report will not consider any options relative to restoring the delivery of agricultural water to our lots. There are no plans to abandon these wells and our system operator will continue to exercise the pumps until a decision is made relative to their future.

The potable water delivery system consists of three deep wells and their pumps; six booster pumps to assist in the movement of water thru-out the Plantation; three concrete reservoir tanks with a total capacity of 450,000 gallons and one steel tank with an estimated capacity of 50,000 gallons. The distribution system consists of 8-inch ductile iron pipe as well as a significant amount of 3-4 inch HDPE (high density polyethylene). A chlorination system treats the water pumped from the wells prior to its delivery to the initial storage reservoir. The entire delivery system is controlled, and its data collected, by an electronic monitoring system, referred to as SCADA, Supervisory Control And Data Acquisition. Water pumped is measured at the wells and delivery is measured at each lot with an installed meter.

Each of the three potable wells sits at an elevation of approximately 250 feet and all three are located in Unit 1 of the Plantation. Each was originally drilled to a depth of approximately 235 feet and utilizes a cast iron casing with an inside diameter of 6 inches. They are designed to tap into a lens of fresh water that, by its lesser density, sits above the salt water table.

Simply, water is pumped from the ground, goes thru a chlorination process, and is then pumped into transfer tank #1 which supplies the lower elevation lots in units 1 & 2 with their water, albeit at a lower pressure than the rest of the Plantation. Water from this tank is then boosted to a higher-level tank and thru gravity flow supplies the upper part of unit 1. Water from tank #1 is also transferred thru both gravity flow and a system of

booster pumps to a tank in the lower part of Unit 2 where it is further boosted to a tank at the top of unit 2. That tank supplies water to the upper part of unit 2 and all of unit 3 thru gravity flow. Each tank along the way is monitored electronically and a re-filling process begins as they drop to pre-determined levels.

Please re-read this description of your water system, refer to the accompanying diagram, and get a feel for how our homes and lots are supplied with water. This is the lynchpin to your health, safety and very life on Moloka'i. Not to mention your property value! Having a basic understanding of our asset and how it works will help you assess and understand our options for its stabilization and long term viability.

History:

The original developer envisioned a green and lush Kawela Plantation environment and the plantation's zoning was designated for agricultural use. Many of the unsold lots had various types of tree farms planted with drip irrigation and the entrances and roadways were lushly planted and maintained.

KPHA was allocated 285,000 gallons per day by the State of Hawaii when the water systems were originally permitted. That amount included both potable and agricultural use. It was also given a *tentative* allocation of an additional 285,000 gallons once build-out justified the increase, emphasize *tentative*. It will be necessary to seek additional allocation as the Plantation continues to build out. FYI, less expected system losses, 285,000 gallons represents about 1200 gallons per lot per day.

The Plantation's original DC&R's declared that expenses for water use were borne by/within the monthly assessments paid by each lot. For some early owners the developer's vision of a green Kawela combined with fixed water charges translated into a mandate to plant heavy and water a lot. The systems were heavily used and as electrical costs grew and maintenance requirements increased the monthly assessments were strained. In that so many lots were undeveloped a majority of owners were not in favor of increased rates to subsidize the water use of a few. Maintenance suffered.

At the same time, water use continued to expand to the point that at only 40% build-out we were having trouble staying under the 285,000 gallon permitted pumping rate. After a two-year struggle the DC&R's were amended and a rate structure was put in place. The result has been a significant drop in usage although not enough to offset the need for an additional allocation as we approach full build-out.

The water systems were built in 1980 and based on the technology of the day their life expectancy was estimated to be in the 30-year range. Some components, electric pump motors for example, have a much shorter lifespan. Others, such as valves, require more maintenance. And some, like the ductile pipes that carry the water and the concrete reservoir tanks, are expected to serve the system for much more than 30 years. Cast iron well casings can last more than 30 years, or less, depending on the salinity of the water.

Early on it was recognized that our water system would require a hands on approach with considerable maintenance. We have been repeatedly told by the engineers and hydrologists who have studied our water system that it was poorly engineered and of mediocre construction. They have told us that our three potable wells, all-sitting at 250 feet, were drilled too low. The result being greater potential for salt water intrusion.

For much of the first 15 years KPHA employees operated the system. Those residents with time in Kawela acknowledge that it was operated in a professional manner, detailed records kept, and improvements made. They left KPHA in 1996-98.

In the latter part of the 1990's another water operator, Island Utility Services (IUS), was hired and initially performed to expectations. They were ultimately fired due to personnel issues. Former board members and residents have said that IUS had another major account on island (Molokai Ranch) and when they lost that customer they reduced on-island staff and our service suffered.

An off-island operator, Pural, replaced Island Utilities in 2004. It should be noted that KPHA boards have found it difficult to find qualified operators, in fact we have found it difficult to find any qualified water related companies that want to come to Moloka'i and when they do the costs reflect that reality.

Pural had no on-island management, untrained employees, no state certified Distribution Operator on island, and their performance was rated a failure in all regards. The system was not maintained, not operated properly, records were not kept, required reports not filed and we were lied to regarding their efforts. Here's an important example. The system is full of expensive control valves that must be exercised periodically or they freeze and will not function when required to do so. Pural failed to do this preventive maintenance and we now face the task of checking each valve, which, in the opinion of numerous professionals, have a high chance of failure and will require replacement. We'll address this reality later in this report but your understanding of our history is necessary in order for you to appreciate what will be required to get our system operating in a safe, reliable manner with long term viability.

KPHA failed to properly oversee Plural's performance and we failed to take proper action once failures were apparent. In defense of those homeowners involved as either board members or water committee members much of our failure was due to a lack of an operating model, strategic plan, management oversight and accountability, as well as a lack of options relative to other available, and interested, system operators.

Homeowners with sufficient years in Kawela admit that the mindset of KPHA has always been to save money and the contract with Pural was no exception. Needless to say, the contract was not renewed upon its expiration and the board determined at that time that legal action against Pural would be costly and the outcome of such action was unclear.

We must all realize and accept that KPHA has always been a loosely knit association of homeowners with little, if any, expertise in operating a complex water system. The intention of this report is not to assign blame but to explain how we got into the position we now find ourselves and how we are going to get to where we need to be.

As of July 2007 KPHA hired a new system operator with on-island management, Wai He Nui. They have been involved in bringing us up to speed on where we are relative to our legal responsibilities regarding state mandated health and safety laws and have brought us into compliance. They have also been working thru the process of identifying each system component, determining its condition, recommending repair or replacement, and they have undertaken numerous emergency repairs due to either age, quality of construction, or lack of maintenance.

In 2005 a sanitary survey was done by the State of Hawaii and KPHA's system was found to have number of significant deficiencies, none of which were resolved. We now know that the state will enact new, more stringent laws that will become effective in 2009. These new laws will increase enforcement and add severe penalties, up to \$25,000 per day, for some of the deficiencies we were cited for in 2005. Independent advisors have told us we should expect another inspection at any time. We recently undertook a mock sanitary inspection to discover and rectify all deficiencies and are working thru the process at this time.

There is some relatively recent repair history that you need to know about. Well #3 (our best well in terms of water quality) had problems with some in-well components of the pump in the late 80's and they were replaced. Those components failed again 7 years later, and again after another 5 years, and yet again about 3 years after that. At that time (2004) KPHA decided to install a different type of pump and it failed within 3 months due to damage at the time of installation. The replacement lasted 3 years. We'll discuss this well further on in this report.

Well #2 (our second best well) had a pump failure about 3 years ago. It took the company replacing the pump 3 days to remove the old pump due to corrosion in the well casing. No inspection of the well occurred and no cleaning was done. A different type of pump from the original was installed and it continues to run in a normal manner.

Well #1 (worst of the three based on salinity) has an old pump in place. It leaks around the shaft packing due both to age and lack of maintenance and recent work on this pump has determined that the shaft is frozen to the electric motor. Additionally, our water operator has told us that this pump is running at 75% capacity and continues to become less and less efficient.

The SCADA system that electronically monitors and controls the entire water system was purchased about 10 years ago. It had not been used, or used correctly, until WHN was contracted to run the system. KPHA has spent a considerable amount of money attempting to upgrade the original system but its viability is in serious question. The need for such a system is not.

The chlorination system has been improved and worked on and it functions properly at this time. However, the existing system may not provide disinfection sufficient to comply with pending State legislation regarding the EPA Ground Water Rule.

The tank interiors have never been properly inspected or cleaned. Tank #4 which is located in Unit #2 has a small leak at the base but our operator reports that there are no serious problems visible and all are doing their part in storing and supplying our water.

In almost 30 years we have had only two failures in the transmission lines. In both cases the interior of the pipe was like new. The failures were due to exterior damage caused by improper bedding at the time of installation. Normally these pipes are laid in smooth, back-filled trenches. Ours were installed directly on the rocks at the bottom of the trench and then covered over.

Current Condition:

Let's begin at the wells. Last year, as mentioned previously, a 3-year-old replacement pump failed in well #3. Upon its removal a video inspection of the well showed extreme degradation of the cast iron casing. Falling debris was easily visible as were large holes rusted thru to the earth. This is considered our best, least saline, well and our engineers agree that its condition is indicative of the probable condition of wells 1 & 2. This fact helps explain why it took three days to pull the pump at well #2. The recent failure of the pump at well #3 was due to its complete clogging by rust particles from the degraded casing.

The 2007-2008 board and the water committee acknowledged the serious problems we faced at well #3 and considered various options. Given the tenuous condition of the other wells and in order to insure a safe, adequate supply of water to our properties KPHA decided to again replace the pump and at the same time undertake a long term strategy to resolve the issues at hand. Within 6 months this replacement failed and

inspection revealed damage during installation to be the reason. Yet another pump was put down that well and it is running normally at this time.

As discussed, well #2 had problems three years ago that were not fully addressed and the pump replacement can only be considered as stopgap in nature. Given what we now know it is impossible to say with any certainty that this well will last another day or another few years.

Also previously mentioned, well #1 runs at partial capacity, has a leaking pump which is frozen to its electric motor, and it contains the most saline water in our system. Given the significant unknowns and the distinct possibility that pulling the pump could prove fatal to our use of this well it has been decided to baby it along in its current condition while a strategic plan is formulated and put into place.

The transmission lines are buried so inspection can only be accomplished by video equipment and given that only two breaks have occurred in almost 30 years it is felt that the cost and logistical issues to be overcome are not warranted given the other more pressing problems facing the KPHA water system. This is the professional opinion of qualified engineers and firsthand experience of two class four water operators.

The chlorination system is far from state of the art yet it serves our needs and is functioning properly. We will continue to use it for the time being and once more pressing problems are resolved we will upgrade this system.

Valves are a significant issue. Most of the valves, including those located in the streets that isolate the fire hydrants, have not been exercised (opened and closed) for years. Emergencies have arisen recently and valves that isolate sections of the system to allow for repair of a break in the transmission lines were found to be unusable and had to be replaced. We know this is a problem just waiting to happen and we are planning how to begin a testing and replacement program. This is not changing a faucet washer. Many of these valves require major excavation to even get to. Once uncovered, a replacement must be identified and ordered prior to scheduling its replacement.

We just completed testing all fire hydrants for water flow and the tests were successful. Our operator does an excellent job of keeping the tanks full so in case of fire we will have our best opportunity to support the fire department as they move thru the plantation protecting our homes and properties.

As discussed relative to health and safety, our tank interiors have never been cleaned or inspected and during the sanitary inspection numerous situations wherein contamination could occur were noted. Our operator has undertaken repair on many of those problem areas already. However, ladders were never installed on our tanks making regular inspection difficult. Lifts have been rented to facilitate inspection and repair work but that is an expensive and problematic approach to the on-going need to get to the top of those tanks. For this reason we have purchased a lift and engaged the services of Extech, a company specializing in tank inspection and cleaning. Purchasing a lift saved the association about \$50,000 over the cost of purchasing OSHA approved, custom made, ladders for each tank.

While we're talking about our storage capacity it should be noted that capacity directly relates to how often the system must cycle on and off and how hard the pumps must work to keep tank levels optimized. All of our current tanks are in units 1 & 2. All water used in unit 3 is transferred from the tank at the top of unit 2, via gravity. For years it has been commented on by professional water people that we must build a new tank above unit 3. Our current storage will not be sufficient at full build-out and the system will be strained to keep up with demand.

There are other major components of our system and the booster pumps used to help move water thru the system are at the top of that list. All but one has been replaced. It has a life expectancy that has come and gone. We are working with our operator to replace the old pump with a more efficient model that will use 1/3rd the energy.

The SCADA system has been inconsistent, inefficient, and due to its age is not compatible with new technology. We have undertaken some repairs over the past year so that it is reliable today but its long-term viability remains an issue, especially when we consider repairs, upgrades and improvements to the overall water system.

Today:

The truth about our thirty-year-old system is that, under the best of circumstances, it has lived its life to the greatest extent. We have three wells that are failing or running on a hope and a prayer. We have spent significant money on, what turns out to be, short-term repairs, inadequate pump replacements and engineering reports and studies that were seldom, if ever, acted upon. We have recently brought the system into compliance relative to safety and health regulations but were in jeopardy of being cited and fined for various issues we failed to address years earlier. We have valves that are likely not to work just when we need them. Given the lack of maintenance and the tendency of KPHA to undertake short-term repairs and stopgap measures things actually could be worse. We have clean, safe drinking water and as of the past year it has been delivered on a consistent basis.

Based on the due diligence of board members both past and present and the recommendations of Hawaii's best hydrologists and engineers we are at the end of the road in terms of applying band-aids to our aging, wounded system.

Over the past few years' considerable debate has gone on between board members, water committee members, and other homeowners with an interest in our water system. There was never a disagreement over the condition of the system rather it was with regard to how best to resolve the problems we face as a community. The debate was heated, the criticism direct. Questions over monies spent and results obtained were offered and discussed.

One of the main contentions regarding what to do with the existing wells was based on options for the long term viability of the system that were a part of engineering reports done at the request of prior boards.

In searching for an answer to how we might best develop a source for the additional water KPHA will require at full build-out and how we might best resolve the condition of our existing wells it was expressed by qualified hydrologists that drilling any new wells lower than 1500 feet would be fruitless in that finding fresh water with low salinity would be a crapshoot and even success could be temporary.

Given Moloka'i's long-term drought, the probable increase in Maui County water taken from the aquifer for island use, and the acknowledged increase in salinity at existing wells within the aquifer the only sure bet from a professional's point of view would be to drill a large well at a much higher elevation.

Due to the estimated cost of this option, as much as \$6,000,000, it has been questioned and discussed as to whether the KPHA membership would vote to spend \$30,000 per lot for this option. As importantly, due to the realities of water rights and water usage as well as the politics of water here in Hawaii it has been discussed as to whether we will even be able to acquire the permit to expand our water use when the time arises.

Given our water system problems and our inability to resolve them to the satisfaction of the association it has been suggested, and some preliminary work done, on the option of abandoning the system and turning it over to Maui County. You only need to follow the events surrounding the attempt by Molokai Ranch to abandon its water utility to know how the county feels about this option.

Your board has been told by experts in this area that Maui County would not even consider acquiring our water system until it was brought up to the specifications they require for their own systems, the cost of which we cannot even begin to estimate. This does not imply that our water delivery system is sub-standard. The Maui County standards referred to are goals they have set but are still trying to achieve. Moreover, they would then charge owners without existing water meters in the range of \$6000 per lot to connect to the system once they acquired it.

All options have been put on the table in discussing our water related future. In looking at the three wells we have talked to drillers about everything from reaming out the old casings and re-lining them or trying to extract them by drilling them out and then replacing the old cast iron with plastic or even stainless steel. We have talked about drilling new holes next to our existing wells. We have discussed the costs of our options and the most fiscally conservative board members have questioned what we will spend, why we'll spend it and what we will get for our money. We have talked about not using an engineer and undertaking a resolution on our own (hiring a driller, overseeing the project, applying for permits, etc.) thereby saving a great deal of homeowner money on the front end. We have discussed continuing on with the status quo while pressing forward on putting in that big well up at the 1500 foot level.

Past boards and your current board were/are comprised of individuals with distinctly different points of view and the discussion over the past 18 months has been wide open, very direct, at times contentious, and no issue has been minimized or swept under the rug. No option or idea was off the table. Today we know more about our water system and have had more truly meaningful discussions regarding how to make it right than ever before. We are ready to take action.

A Plan For the Future:

It is unanimous that we are out of time to deal with our degrading wells. To continue on with the status quo while we attempt to first, get permission and second, undertake securing the funding (up to \$6,000,000 and rising) as well as the logistical hurdles with regard to drilling a large new well at a higher elevation is unrealistic both from a timeframe as well as with regard to the issues surrounding water use on Moloka'i generally. Presently, we have neither the time nor the money.

To undertake any major work on our wells without professional oversight may save us big money on the front end but history has shown that without the adequate qualifications and expertise homeowners will end up spending a dollar to save a dime. It is the old adage 'pay me now or pay me later' and your board feels that a do-it yourself approach to the situation in front of us would be shortsighted and fiscally irresponsible. Moreover, state law requires professional oversight.

The idea of reaming out and lining the existing wells is not viable due to the small diameter of the casing and the potential for failure. It severely limits our choice of replacement pumps (both quality and volume-wise) and does not address our long-term needs. Ditto trying to remove the old casings and replace them. The risk/reward is just not in our favor and your board agrees that we cannot gamble the homeowner's money on iffy options with unclear outcomes.

After 18 months of debate, research, and consultation with a number of professionals including drillers (from as far away as California), engineers, hydrologists, non-profit federally funded advisors and many others with expertise in all things water your board has decided on the following course of action.

We hired an Oahu based group of engineers and hydrologists to assess our system and provide a certified, professional opinion on needed improvements and upgrades. They were given every piece of information available from our archives and history. They have physically toured the entire system, been given total access to our water operator so all questions could be answered factually and professionally, and have been told that all options must be explored. They have been asked to offer options that are more reflective of buying a Ford rather than a Mercedes. But, they have clearly been told that KPHA will no longer fail to see the dollar on the ground for the nickel in their eye. We want to do it right and do it once.

They agree that replacing wells 2 & 3 is our absolute highest priority. They have told us that we will be able to continue to use the existing wells until the new ones are completed (at the same locations), tested, and on-line. They have repeated to us that attempting to drill new, unproven wells lower than 1500 feet is a crashout with the odds stacked against us. If time and money were not issues they would advise us to pursue the higher well option and consider abandoning our old, low level wells. We have informed them that once we stabilize our existing system so that our homeowners have long term security in terms of both quality and adequate supply the board would then undertake further exploration of the larger, higher elevation well.

Their advice is to drill much larger holes, 12-inch casings vs. the 6-inch casings now in place. There are a few reasons for this change. One is that we expand our pump options and there are a number of important technical reasons for that consideration. Another is that should any future casing problems ever arise we will be able to re-line them rather than have to replace them. However, there is a much more important reason. The original testing of wells 2 & 3 showed that they are capable of pumping considerably more water than the current 75 gallons per minute with no drawdown of the aquifer. Larger casings allow for larger pumps, which will allow us to withdraw our permitted daily quantity of 285,000 gallons (annualized) from our two best wells.

This will allow us to take well #1 out of service and keep it as a back-up in case of an emergency situation. The reasoning is that to replace these wells is very expensive and for us to spend up to \$400,000 at well site #1 and still have water that is considerably more saline than at wells 2 & 3 is not fiscally responsible considering the lack of long-term viability.

FYI, well #1 consistently samples chlorides at 474 milligrams per liter (mg/l). Its original test sampled 250-280 so you can see the increase. Well #2 tests at 148 mg/l and well #3 at 55 mg/l. Their original samples tested at 76 & 23 respectively so you can see that they are much less salty than well 1 and considering that we pump them more heavily the engineers feel they are quite stable and will offer the association good quality water for many years to come.

There is no national standard on chloride levels. The EPA does have what is referred to as a secondary standard, or taste standard, and that is 250mg/l. Chlorides measured at 250 mg/l reflect a sodium level of 164 mg/l. That means you would have to drink 6 liters of water a day to take in 1 gram of salt from our water. A salt restricted diet for those with hypertension or heart, kidney, or liver disease is usually 2-2.5 grams of sodium daily. As a reference for you to use when discussing our water quality, skim milk has 500mg/l or about 3-4 times the salt in our drinking water.

In attempting to save money on the front end of this undertaking we had asked the engineers to give us a 5-10 year window so that we could insure consistent supply while working on the 'big well' concept. It is now

understood that much of the costs related to stabilizing our system will be the same whether we have a five-year target or a 40-year target.

There is one aspect of targeting 40 years vs. five that needs to be explained. Earlier in this report it was pointed out that our transmission lines were of two different sizes. For reasons related to limiting our water usage the original engineers put 3 and 4 inch ABS plastic pipe from wells to tanks thereby restricting flow which results in pumps working harder, using more energy to do so, and still not being able to move water thru our system at close to ideal rates. In order to take full advantage of the larger wells and increased pumping capacity these small diameter lines must be supplemented with 6-inch diameter pipe. The engineers tell us we're talking about 6760 feet of additional transmission line.

Your board has decided to pursue the 40-year target. It is our position, and that of the professionals we've consulted; that a system such as is described above will give association members' extraordinary value and security for many years to come.

Here's our thesis: To do nothing courts a major system failure that may include multiple wells going down at any given time. Short term fixes are quite expensive and, as history tells us, cost considerably more in the long run than doing the job right to begin with.

Here is one example. Over the past four years we have spent about \$100,000 to keep well #3 running and we're still don't know whether it will last a day or a year.

Applying band-aids to an aging system while we go thru the process of permitting and drilling a big well at a higher altitude jeopardizes our property values as well as our health and safety and at the end of the process we have no assurance that the state will permit additional usage or that we will decide to spend \$30,000 per lot to finance that option. Additionally, it has been estimated that to complete such a process will probably require 3-5 years.

Low bidding the process increases the risk of higher expenses and more intense maintenance during the life of the system and it puts responsibility in the hands of homeowners that are just not capable of handling it. Learning from mistakes of the past will get us to the future required for providing adequate, safe water to all property owners at full build-out. From your board's perspective we are sharpening our pencils and working diligently to insure we receive the best value for our money. This is considerably different from seeking the cheapest option.

Abandoning the system and turning it over to Maui County is not considered an option. Yes, the board has considered the 'what if' scenario, in fact, two of them. (1) What if Maui County was approached and said they'd consider taking over the system once we brought it up to spec. Experts assure us that aside from the millions of dollars that would be required for what we know needs up-grading, repairing or replacing there would be other issues, like a tank above unit 3 (cost estimated at \$500,000), that would end up costing property owners much more money than has previously been considered. (2) It is widely known that Maui County is looking for additional wells to supply the island 's increasing water needs and to replace wells that are inadequate or experiencing increased salinity. While they have been considering Kawela, and it was thought we might be able to join forces by allowing them to drill on our common grounds in exchange for them taking over our system, knowledgeable insiders tell us Maui County's primary target is another area of the island and that any decision is years down the road.

Remember, that does not take into account the time required to get from a decision to a completed well. Even if these 'what if' scenarios came to fruition each property owner without a meter in place would have to add an

additional \$6000 to the cost of restoring the system to Maui County's level of acceptability. Moreover, we would have to spend a great deal of homeowner's money just to keep the existing system operating while we wait for a positive outcome of these 'what if' scenarios.

So here's the plan. We have instructed the engineer and hydrologist to begin the process of planning and drilling new wells at sites 2 & 3. As discussed, these will be larger diameter holes capable of supplying our current water allocation at rates that will allow for full build-out with no degradation of quantity or quality based on the aquifer's condition in 2008. We are going to purchase high quality, commercial pumps that will give us many years of service with lower repair and maintenance requirements. In fact, these pumps will be specifically engineered to be compatible with our new wells and our system requirements. In order to insure that these pumps are used at their maximum efficiency and that we can move water thru the system in the volumes required we are going to supplement the 4-inch HDPE transmission pipe with 6 inch HDPE pipe.

We are going to minimize using well #1 and keep it in stand-by mode. This will reduce the salinity of our water and reduce the overall cost of this project by as much as \$400,000.

We are going to update the SCADA system to a level that complements our new wells, pumps, and re-designed system. Recently New Dimension, an Hawaiian based SCADA technology company, conducted a two day survey of the KPHA SCADA system and we are awaiting their report of findings and recommendations.

We have contracted for a certified tank cleaning company, Extech, to inspect and clean the inside of our tanks. This is scheduled to be completed by January 2009. This action is to bring our system into compliance with all 2009 health and safety laws.

We are working with our operator to identify any other component parts of the system that needs replacement or repair.

There is one other task we've accomplished that is paramount to our success. We have restructured the KPHA operating model to one of a more businesslike format. We have hired a general manager, Juanita Colon, who has the responsibility of overseeing the project (in conjunction with your board and under the supervision of the president), directly communicating with all contractors, and being accountable for their results insofar as work being done in accordance with the contracts vs. payments made. She is responsible to the President of the board, Pat Harris, and he is responsible to the board. The lines of communication and of responsibility are clearly drawn. We no longer have inexperienced, albeit well intentioned, homeowners making decisions based on committee recommendation. We will no longer pay for contractor errors and mistakes and poor quality work due to lack of oversight and accountability. We are organized, focused, and prepared to undertake a project of this magnitude.

Our goal is to have a reliable, efficiently operating, well maintained system in place and working within 24 months.

Based on our engineer's estimates we are budgeting \$1,500,000 for the project as it is explained above.

How will we pay for it?

As you know, all 210 lots share in a \$1, 380,000 Capital Reserve Fund. Until last year these funds were locked into a Maintenance Trust that actually prevented KPHA from accessing them. After a few years of hard work your previous board and some dedicated homeowners had this antiquated document revised to allow this money to be used as anticipated, for capital expenditures to repair and maintain the water system.

This major repair and upgrade of our community water system is exactly what that money has been held in trust for and given the urgency of the situation, the low interest rates in the market and the ever increasing costs of everything related to this project your board finds it fiscally prudent to access this money at this time.

A Capital Reserve Fund insures that the association plans for future repair and replacement of our larger and more costly assets thereby eliminating the need for 'special assessments' as situations such as the one we face with regard to our water system arise. It is a crucial component of a strong association. Even mortgage loans are contingent upon a sound Capital Reserve. The association is required by law to undertake a professional study to inventory our collective assets and determine their life expectancy and future replacement costs.

Our By-Laws speak to keeping the Capital Reserve Fund at 100% and using such a large amount of it for this work will require additional funding which means each lot will see higher quarterly contributions.

Your board is committed to this project but also to minimizing the financial burden on its members. We have reviewed the reserve study and eliminated those line items that are unlikely to ever be undertaken, extended repair or replacement times where possible, and reduced projected costs of certain repairs thereby reducing the overall amount to be funded, hence the amount of contribution from each lot owner. Moreover, due to the emergency nature of these well replacements we are able to restore the fund over a three-year period and that will also lessen our individual obligations on a quarterly basis. Included with this report is the financial position of the capital reserve fund and required contribution for 2009.

We are also working with a federally funded non-profit agency to find grants and low interest loans to help us offset the costs of our plan but we are moving forward regardless of that outcome.

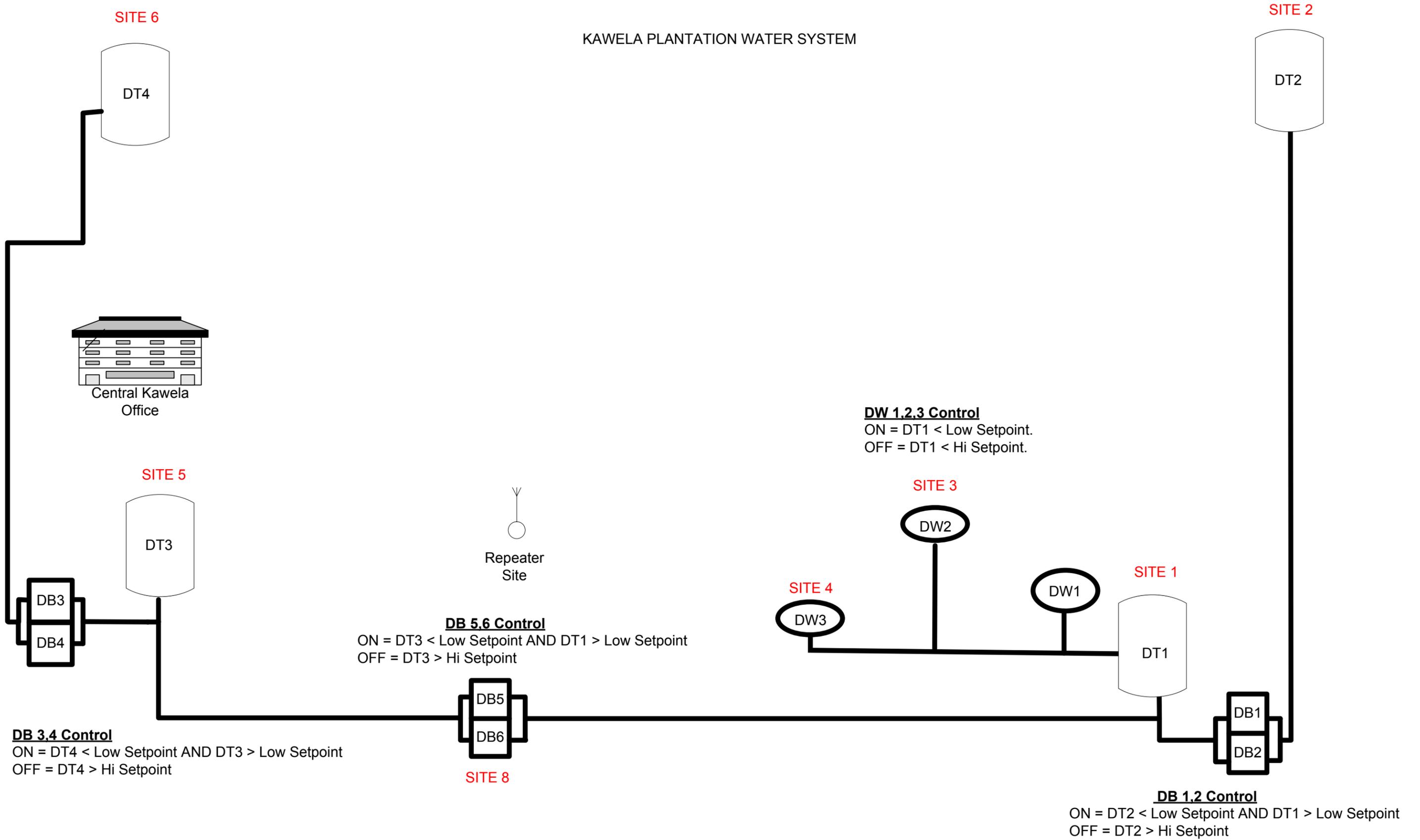
Your board understands that the numbers being presented in this report are more than any of us would have expected or even imagined but the facts are the facts. Our system is failing and time is of the essence. We cannot postpone the inevitable and if we try the costs will only be higher and the hardships for the property owners greater.

As we all know, water is the lifeblood of KPHA. No water, no life on Moloka'i, no property value. Your board's intention in presenting this document has been to help you understand the history and dynamics of a 30 year old water system and to explain how we intend to pursue its restoration based on extensive research and consideration of all options.

We encourage your questions and input and would direct you to the Blog on our new updated website, www.Kawelapha.com. We will answer all questions, as quickly as possible and under this format you will be able to follow the entire discussion and have access to all relevant communication.

This is an investment in our water system that will provide all the water we're currently entitled to and do it in a dependable, low maintenance manner for the next three to four decades. It is the best value we're going to get for our dollar. It will improve our property values, secure our investments, and retain control of one of the most important resources on the island.

KAWELA PLANTATION WATER SYSTEM

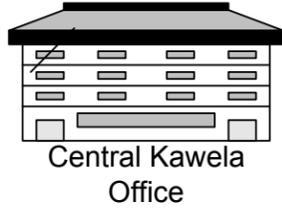


SITE 6

SITE 2

DT4

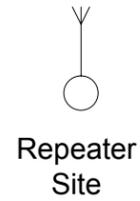
DT2



Central Kawela Office

SITE 5

DT3



Repeater Site

DW 1,2,3 Control

ON = DT1 < Low Setpoint.
OFF = DT1 < Hi Setpoint.

SITE 3



DW2

SITE 4



DW3



DW1

SITE 1



DT1

DB 5,6 Control

ON = DT3 < Low Setpoint AND DT1 > Low Setpoint
OFF = DT3 > Hi Setpoint



DB5

DB6

SITE 8

DB 3,4 Control

ON = DT4 < Low Setpoint AND DT3 > Low Setpoint
OFF = DT4 > Hi Setpoint



DB3

DB4



DB1

DB2

DB 1,2 Control

ON = DT2 < Low Setpoint AND DT1 > Low Setpoint
OFF = DT2 > Hi Setpoint



Terrain Aerial With Site Markings



Terrain Shot From The Ocean Looking Up The Mountain