APPENDIX C

Description of the
County of Hawaii
Department of Water Supply

-Ka Wai A Kane!
Water…Our most Precious Resource!

The County of Hawai'i Department of Water Supply

"The Department of Water Supply does not sell water; water is free – the department sells service…the charges collected by the Department of Water Supply are to cover the cost of pumping, treating, storing, and delivering potable water."

Water Board
The Department of Water Supply (DWS) is a semi-autonomous agency of the County of Hawai'i, which is governed by rules and regulations adopted by a nine-member Water Board. The board members are selected by the county mayor to represent the nine council districts around the county. As such, the county council is not involved in the Department of Water Supply's budgetary or policy decisions. The Water Board makes policy decisions, approves all of DWS' contracts and sets the budget for the Department. While each of the nine council districts are represented, the Board members do not so much advocate for their own particular districts as they do work together for the benefit of all DWS customers. The board also hires the Water Manager who runs the day to day operations of the Department. Currently, the Water Manager is Milton D. Pavao, P.E.

Function
The primary function of the Department is to deliver safe, clean, good tasting, potable water to its customers throughout its 24 water systems and 67 sources located around the island. Because of the immense size of the Big Island and the isolated nature of many of the communities, these individual water systems are typically not interconnected, except in the more densely populated districts of South Hilo and Kona. The Department continually strives to provide highly dependable, excellent quality water at a reasonable cost. The Department is fortunate to have dedicated water system operators. They routinely have to work late at night, weekends and Holidays to provide seamless service to DWS customers, and occasionally have to put their jobs ahead of their personal lives during emergencies and difficult times.

Revenues
The Department operates and maintains its water systems with revenues generated wholly through the sales of its water service. The DWS does not receive any money from the County's General Fund. It does not receive any property taxes or other taxes. DWS is purely customer-driven and must operate on revenue from the service it provides. In 2008, the Department had approximately 41,000 accounts serving well over 100,000 residents. Rates are structured such that monthly rates from customers pay only for normal operations and maintenance. Another fee, which is known as a facilities charge (FC), is a one-time charge to new customers for the privilege of connecting to the Department's water system infrastructure in order to obtain county water service (where available). Water systems are expensive and the existing infrastructure was paid for by past and current customers. The FC paid by the new customer is simply a "buy-in" to the existing water system. Over time, the FC monies help to provide for major capital improvement projects including new wells, reservoirs and transmission lines. An example of

such a project is the recent construction of a two-million gallon reservoir and production well in the Waiaha region in Kona.

Other Funds and Expenditures

For the past 15 plus years, the Department has not received any state appropriations. It has only received revolving fund loans provided by the U.S. Environmental Protection Agency (USEPA) via the state Department of Health for certain projects. Those funds are minimal and are used only to help update and bring the existing water systems into compliance with the USEPA's often changing criteria. In 2007, a $25M General Obligation Bond was secured by DWS in order to complete several critical, major water supply projects, including the Palani Road Transmission Waterline Project. Already underway, when completed, this $12.3M project will bring high quality, excellent tasting water from wells located above the Mamalahoa Highway down into Kailua-Kona. These wells produce very high quality water pumped from perched aquifers and the new pipeline will allow transmission of this water to large segments of North Kona, improving water quality for many of DWS' existing customers. For 2010, DWS is securing another $30M bond to carry out several more critical source, storage and transmission projects around the island.

There are many financial challenges associated with providing water service, including fixed costs and legal mandates that must be covered by DWS revenues. A good part of DWS operating funds are used to ensure that the water quality provided to our existing customers is in compliance with EPA standards. These standards are getting stricter over time. DWS spends more than $600,000.00 a year to test the water to ensure compliance. EPA mandates often require large expenditures from capital funds for well development and upgrades to existing water sources.

DWS is Hawaii Electric Light Company's (HELCO) biggest customer. It may be surprising for many to learn that 1/3 or more of DWS' total budget goes to pay HELCO for energy costs. In 2007 that amounted to $16.5 million dollars primarily to pay for the energy to operate the department's well and booster pumps around the island. The Water Board has recently approved a new policy giving the Department the ability to make adjustments every two months to the ***power cost*** portion of the customer billing as needed. This will allow DWS to better track changes in the energy costs, either up or down, which are administered by HELCO to DWS. Previously, the power cost adjustment only occurred annually. Power rates have been trending downward more recently and the ***power cost*** portion of customer billing has been reduced to follow suit.

Subdivisions and System Expansion

County Subdivision code requires that new subdivisions have a water system meeting county standards. Therefore, most expansion of the county water systems is accomplished by land owners and developers in conjunction with building their own projects, by adding onto and tying in to the county's existing water system infrastructure. When the proposed growth from new a development exceeds the water availability in a particular area, the developers are also responsible for adding source, storage, and transmission to provide the water needed for their own projects and allow them to move forward.

DWS' financial structure does not provide funding for significant expansion of its water systems to reach new customers in non-service areas, including existing subdivisions that were subdivided previously without water, prior to current subdivision code. Water rates and facilities charges are structured only to maintain the facilities and service of existing water systems. The rates do not provide for the high cost of expanding water systems in order to take on limited numbers of additional customers. It is important to note that because DWS does not receive any funding from property taxes, anyone not receiving county water is not paying into the county water system. Only DWS' customers pay into the water systems. DWS cannot put the financial burden of extending infrastructure to serve limited numbers of new customers spread out in scattered areas onto its existing customer base. Not when the cost to expand infrastructure is too great compared to the return gained by adding those new customers. If DWS did so, the department could go bankrupt or the water rates charged to existing and new customers would need to be drastically increased to pay for system expansion. Spending tens of thousands, hundreds of thousands, or even millions of dollars extending the water systems to pick up relatively low numbers of additional customers would never be cost effective or fair for our existing customers. It does not make economic sense. DWS' greater responsibility is to its existing customer base. DWS has to keep water costs as low as financially responsible. Instead, the financial burden of expansion is placed on the applicants wishing to become new customers and obtain water service from the county. The investment on the part of the land owners is typically compensated by an increase in the value of their properties because of the availability of county water. The cost of expanding county water systems needs to be borne by those benefitting directly from the new service, both in terms of the convenience and increased property values. Usually, landowners and homeowners who bought property without access to county water paid a proportionately lower price for their property than landowners and homeowners whose property has county water. Accordingly, the annual real property tax assessment of a lot without water also tends to be lower than a lot enhanced by having access to county water.

Improvement Districts

In the past, DWS has acquired or accepted substandard water systems from others, such as the old camp systems from the sugar cane days. Many years later, DWS is still in the process of paying to upgrade some of these systems to meet DWS standards. Nowadays, it is a requirement that any privately owned water systems wishing to be given over to DWS, must first be brought up to all DWS standards before the Water Board will accept the dedication of the system.

Another way that the county's water systems expand is through the efforts of existing communities using external funding such as low interest loans and the USDA's Rural Development Loan Grant program. Using a mechanism known as Improvement Districts (ID's), these low interest loans and federal grant funds can be made available to the communities desiring county water service. DWS encourages and works with those existing subdivision communities that wish to go through the ID process in order to become new DWS customers. An example is the Kona Coastview/ Wonderview subdivision. In that case, the Improvement District process, in combination with the USDA Rural Development Loan Grant Program, provided the funding to construct an upgraded water system meeting DWS standards to replace the existing sub-standard water system. By reconstructing a water system and meeting all of the county's water system standards, the subdivision's community was able to turn the system over

to DWS, who will then operate and maintain the water system in perpetuity and provide service to the community.

Out-of-Bounds Service

Currently, DWS does have an "*Out-of-Bounds*" policy, which may allow individual property owners to obtain county water even though their property does not front a county waterline or they may not be within a DWS pressure service zone. Where possible, these owners are limited to just one equivalent unit (EU) of water, which is adequate to serve a single-family residence. An EU allows a maximum day usage of 600 gallons for any one day. Maximum day usage is defined as 1.5 times the average day use, therefore one EU allows for an average day usage of 400 gallons.

To obtain an "*Out of Bounds*" service, the owners must sign a DWS policy agreement recognizing the customer's responsibilities in these cases, which may include obtaining legal easements over neighboring properties to run customer-maintained, private waterlines from the Department's water meter to their property. In addition, when the property is partially or completely outside of the pressure service zone, the owner is also required to execute an Elevation Agreement stating that the owner understands and accepts that the pressure to the property may be substandard and recognizes all conditions, limitations, and requirements placed upon the owner. When serving properties located outside the service pressure zone, the Department's water meter itself still needs to be located within the pressure service zone.

These "*Out-of-Bounds"* policies can lead to what are commonly known as "spaghetti lines" servicing some neighborhoods. Although there are a number of negative issues associated with these "spaghetti lines", this practice accommodates as many members of the community as possible without imposing extreme financial hardship on them by, instead, imposing greater responsibility upon the customer.

Land Applications and Water Commitments

New private development projects require water and the Hawaii County Planning Department works to ensure that water is available when considering approval of any changes in current zoning. When applications for projects affecting land use are submitted to the County Planning Department, such as for change of zone, subdivision, boundary amendments, additional farm dwellings, ohana dwellings, special management areas, etc., DWS is consulted as to whether water is available to meet the needs of the subject project. Copies of the applications are submitted to the Water Resources and Planning (WRAPS) branch of the Engineering Department. Water availability is researched for the subject area and WRAPS provides a letter to the Planning Department stating whether water is available for the proposed project and what improvements may be required to make water available. When looking at proposed projects, DWS often requires water usage demand calculations, which must include average day usage and peak hour flow rates, provided by the developer's engineer for DWS review and approval. Based on those calculations and the water availability policy for the subject area, DWS determines if it can support a particular project. If the water source, storage and transmission capabilities of the existing water system are adequate to meet the requirements of the project, the developer is then responsible for extending the water system infrastructure to serve the project.

This includes, but is not limited to, water lines of sufficient size and capacity to provide adequate pressure and flow to meet both domestic needs and fire protection.

DWS is not part of the building permit approval process. DWS is not generally consulted for building projects when there are no required changes to land use or zoning classification. On rare occasions, this has led to conflict when adequate water has not been available to projects already approved by the building department but most developers do come in beforehand to check with DWS to verify water is available before building their project. It is strongly recommended by the Department that they do so.

When applications are filed and it is determined that adequate water is available, which may or may not require onsite and offsite water system infrastructure improvements to be constructed at the expense of the applicant, the Department is able to provide water commitments to the applicant. Water commitments ensure that the water that is deemed to be available to the project at the time of the request is reserved and therefore will still be available to the project at the time of completion. This is important because water availability can change without notice. Water commitments are not issued unless a water commitment deposit of $150.00 per equivalent unit (EU) of water is paid to DWS. The commitment expires after three years but DWS, at its discretion, may extend water commitments a year at a time by an additional payment of $150.00 per EU, so long as tangible progress has been made on the project. Money paid as a deposit for water commitments and extensions will later be applied toward the customer's payment of the prevailing facilities charges at the time service is granted.

Water commitments ***go with the land*** and are not sellable, tradable, transferable or otherwise exchangeable, except upon rare approval by the Water Board and only to adjacent lands served by the same water system.

Water Availability and Developer Contributions

The Department's water availability policy varies around the island as different supply sources, system robustness, demand and potential demand based on zoning type, are encountered. The Department sets water availability policy based on the existing water system and the projects currently under construction relative to factors particular to an area or system, per the Rules and Regulations set forth and adopted by the Water Board:

> "If the Department, on the basis of population data, availability of water, existence of water sources, waterlines or other facilities, engineering requirements, and other related and relevant data, anticipates that a consumer, developer or subdivider can be provided with sufficient water for the estimated usage of a proposed new project or development, meeting the Department's minimum standards, the Department may commit to the consumer, developer or subdivider that there is, or it is anticipated that there will be, sufficient water to service the proposed new project or development. The Department, in giving such a water commitment, may impose time limits and other conditions for the use of such commitment upon the consumer, developer or subdivider, as the Department deems necessary. The Board may establish guidelines and policies for the issuance of formal written water commitments."

When DWS responds to a land application sent over by the Planning Department, DWS indicates in writing whether the affected water system has the capacity to accommodate the project being proposed. If the project's water demands fall within the water availability policy for the subject areas and the system is capable of handling the additional demand, DWS indicates the point of adequacy within the system and gives a very brief outline of system improvements, if any, required of the applicant to bring the water service to the subject property. The applicant would then need to provide the engineered design for any necessary offsite improvements such as storage, transmission, and distribution infrastructure required for the project. If the system does not have the capacity to meet the needs of the project, then the developer may need to scale back, combine adjacent properties, or provide additional source to meet the needs of the project.

In those cases where DWS simply does not have adequate source, storage and or transmission to satisfy the needs of a proposed development, major developers may enter into an agreement with DWS whereby the developer promises to provide a new water source, storage reservoirs and transmission systems. The agreements state the proportional share of the source water going to the developer and the proportional share going to DWS, which is currently allocated two-thirds to the developer and one-third to DWS for use by the its customers. As an example, a well capable of producing 700 gallons per minute (gpm) or one million gallons per day (1.0 MGD) provides enough water for 1,666 equivalent units of water. For a well this size, the developer's share at two-thirds would be 1,111 equivalent units and DWS' share at one-third would be 555 equivalent units.

When completed, those developer-paid facilities are dedicated to the Water Board. DWS then operates and maintains the facilities. The developer receives a credit toward the facilities charge on each equivalent water unit it receives based on standard percentages for each type of facility constructed by the developer. However, the investment by the developer must meet or exceed the total of the facilities charge for the equivalent units allocated to the developer in order to receive the credit. More information about these percentages can be found in the department's Rules and Regulations which are posted online at *www.hawaiidws.org*.

Water for the Future

It is important to take a look at the long term effects of continued development on the island's resources, especially water. Some areas of the island have more water than could ever be used by even the full build-out of potential development based on land classification and zoning. Other areas may have more limited ability to meet future demands. However, it is not a runaway train as far as potential overuse of the islands aquifers. Developers will always have to prove that they have source available before they are allowed to construct their projects. They not only have to commit to developing source wells, storage and transmission, they also have to prove that the water is actually accessible to their projects. In a practical sense, finding suitable locations to tap into the aquifers and still be able to serve specific project locations is typically a much greater limiting factor than the official safe yield of the underlying aquifers.

More information about the Department of Water Supply can be found at the DWS website at *www.hawaiidws.org*.

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