RIGHT-OF-ENTRY AGREEMENT

THIS RIGHT-OF-ENTRY AGREEMENT ("Agreement"), between ROD LLC, hereinafter referred to as the "Grantor", and the State of Hawaii, by its Board of Land and Natural Resources on behalf of the Commission on Water Resource Management, hereinafter referred to as the "Grantee", executed on the respective dates indicated below, is effective as of ________________, 2004,

WITNESSETH THAT:

WHEREAS, the Grantee requires entry onto certain property owned by Grantor located at Waihee, Maui TMK: 3-2-01:003, as shown on Exhibit A attached hereto, together with reasonable access thereto along existing roads as shown on Exhibit B attached hereto, hereinafter referred to as the Property, for a public works project known as Waihee Deep Monitor Well, Statewide, hereinafter referred to as the Project, for the public purpose of conducting construction activity on the Property.

WHEREAS, the Grantee is desirous of obtaining immediate entry onto the Property in order that construction of the Project may begin without delay; and

WHEREAS, the Grantor is desirous of cooperating with the Grantee, and

NOW, THEREFORE, in consideration of the promises contained herein, the Grantor and Grantee agree as follows:

1. **Grant of entry.** The Grantor hereby grants to the Grantee, its officers, employees, consultants and contractors, permission to enter upon the Property for the purpose of constructing the Project. The Grantee shall provide Mr. Eric Pilotin, the Grantor’s representative (phone no. [redacted] with not less than forty-eight (48) hours prior notice of its intention to enter onto the Property.

2. **Grantee’s responsibility.** Relative to the Grantee’s occupancy of the Property, the Grantee shall be responsible for damage and personal injury resulting from acts or omissions of Grantee’s employees while acting within the scope of their employment to the extent that the Grantee’s liability for such damage or injury has been determined by a court or otherwise agreed to by the Grantee. The Grantee shall pay for such damage and injury to the extent that funds have been authorized and appropriated by the Legislature for such purpose, and allocated.

3. **Insurance.** The Grantee shall require its consultants and contractors for the Project to procure and maintain, at their own cost and expense, in full force and effect throughout the term of this Agreement, the following insurance:
IN WITNESS WHEREOF, the parties execute this Agreement by their signatures, on the date below, to be effective as of the date first written above.

Grantor: RDD LLC

By: Doyle G. Betsill
Its: Member/Manager

Grantee: STATE OF HAWAI

By: 
Its: Chairperson, Board of Land and Natural Resources

Date: 

STATE OF HAWAI )
) SS.
COUNTY OF MAUI )

On this _____ day of ______, 20___, before me personally appeared ________________, to me personally known, who, being by me duly sworn or affirmed, did say that such person(s) executed the foregoing instrument as the free act and deed of such person(s), and if applicable in the capacities shown, having been duly authorized to execute such instrument in such capacities.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

______________________________
NOTARY PUBLIC, State of Hawaii
Print Name:
My commission expires:
THIS INDENTURE, made and entered into this __________ day of ________________, 20__, by and between RDD LLC, a Hawaii corporation, whose address is ______________________, hereinafter referred to as the "Grantor," and the STATE OF HAWAII, by its Board of Land and Natural Resources, whose address is 1151 Punchbowl Street, Honolulu, Hawaii, 96813, hereinafter referred to as the "Grantee."

WITNESSETH THAT:

The Grantor, for good and valuable consideration, the receipt of which is hereby acknowledged, and of the terms, conditions, and covenants herein contained, and on the part of the Grantee to be observed and performed, does hereby grant, unto the Grantee, the following non-exclusive and perpetual easement rights:

Right, privilege and authority to use Easement ____ for purposes of providing access to the proposed Waihee Deep Monitor Well, Tax Map Key No. (2) 3-2-01:003
in, over, under and across that certain parcel of land situate at Waimea, Maui, Hawaii, being identified as "Perpetual Non-Exclusive Access Easement," being all of Easement and containing an area of 4,000 square feet, more or less, covered by Transfer Certificate of Title issued to RDD LLC, TOGETHER WITH the rights of ingress and egress to and from the easement area for all purposes in connection with the rights hereby granted.

TO HAVE AND TO HOLD the easement rights unto the Grantee, its successors and assigns, in perpetuity, SUBJECT, HOWEVER, to the following terms, conditions and covenants:

1. Grantee shall, subject to the applicable provisions of Chapter 661, Hawaii Revised Statutes (Suits by and Against the State) and Chapter 662, Hawaii Revised Statutes (State Tort Liability Act), be liable in the same manner and to the same extent as a private individual under like circumstances, for all claims and demands for property damage, loss, personal injury or death on the easement area caused by the negligent or wrongful act or omission of any officer and employee of the State while acting within the scope of that person's office or employment, or persons acting for a State agency in an official capacity, temporarily, whether with or without compensation. "State agency" includes the executive departments, boards and commissions of the State, but does not include any contractor with the State.

2. The Grantor reserves unto itself, its successors and assigns, the full use and enjoyment of the easement area and to grant to others rights and privileges for any and all purposes affecting the easement area, provided, however, that the rights herein reserved shall not be exercised by the Grantor and similar grantees in any manner which interferes unreasonably with the herein Grantee in the use of the easement area for the purposes for which this easement is granted.

3. All improvements placed in or upon the easement area by the Grantee shall be done without cost or expense to the Grantor and shall remain the property of the Grantee and may be removed or otherwise disposed of by the Grantee at any time; provided, that the removal shall be accomplished with minimum disturbance to the easement area which shall be restored to its original condition, or as close thereto as possible, within a reasonable time after removal.

4. Upon completion of any work performed in or upon the easement area, the Grantee shall remove therefrom all
equipment and unused or surplus materials, if any, and shall leave the easement area in a clean and sanitary condition satisfactory to the Grantor.

5. The Grantee shall keep the easement area and the improvements thereon in a safe, clean, sanitary, and orderly condition, and shall not make, permit or suffer, any waste, strip, spoil, nuisance or unlawful, improper, or offensive use of the easement area. The Grantor shall help keep the easement open by removing vegetation from the access.

6. Should future development necessitate a relocation of the easement granted herein, or any portion thereof, the relocation shall be accomplished at the Grantee's own cost and expense; provided, however, that if other lands of the Grantor are available, the Grantor will grant to the Grantee without payment of any monetary consideration, a substitute easement of similar width within the reasonable vicinity of the original alignment, which substitute easement shall be subject to the same terms and conditions as that herein granted and as required by law.

7. Upon termination of the use, the easement area shall be restored to its original state, or as close thereto as possible, within a reasonable time and at the expense of the Grantee.
IN WITNESS WHEREOF, the RDD LLC, the Grantor herein, has caused its seal to be hereunto affixed, and the STATE OF HAWAII, the Grantee herein, by its Board of Land and Natural Resources, has caused the seal of the Department of Land and Natural Resources to be hereunto affixed and the parties hereto have caused this Indenture to be executed as of the day, month, and year first above written.

RDD LLC

Approved by the Board Of Land and Natural Resources at its Meeting held on

By ________________________________ 

Its

And By ____________________________

Its

GRANTOR

STATE OF HAWAII

By ________________________________

Chairperson and Member Board of Land and Natural Resources

GRANTEE

APPROVED AS TO FORM:

Deputy Attorney General

Dated: ______________________
STATE OF HAWAII )
) SS.
CITY AND COUNTY OF HONOLULU )

On this ______ day of __________, 20__, before me appeared ______________________________________
and ______________________________________, to me personally known, who, being by me duly sworn, did say that they are the
_________________________ and ________________________, respectively of RDD LLC, a Hawaii nonprofit corporation, and
that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was
signed and sealed in behalf of said corporation by authority of its Board of Directors, and the said ________________________
and ________________________ acknowledged said instrument to be the free act and deed of said corporation.

Notary Public, State of Hawaii

______________________________________________
Print Name

My commission expires: ________
GRANT OF NON-EXCLUSIVE EASEMENT

THIS INDENTURE, made and entered into this _____ day of ___________, 20____, by and between RDD, LLC, a Hawaii Corporation, hereinafter referred to as the "Grantor," and the STATE OF HAWAII, by its Commission on Water Resource Management, whose address is 1151 Punchbowl Street, Room 227, Honolulu, Hawaii 96813, hereinafter referred to as the "Grantee."

WITNESSETH THAT:

The Grantor, for good and valuable consideration, the receipt of which is hereby acknowledged, and of the terms, conditions, and covenants herein contained, and on the part of the Grantee to be observed and performed, does hereby grant unto the Grantee, the following non-exclusive and perpetual easement rights:

Right, privilege and authority to construct and monitor the proposed Waihee Deep Monitor Well, in, over, under and across that certain parcel(s) of land ("easement area") situate at TMK (2) 3-2-01:003, Waihee, Maui, being identified as "Easement for
Waihee Deep Monitor Well," containing an area of 13,500 square feet, more particularly described in Exhibit "A" and delineated on Exhibit "B", both of which are attached hereto and made parts hereof, said exhibits being respectively, a survey description and survey map prepared by a licensed surveyor, TOGETHER WITH the rights of ingress and egress to and from the easement area for all purposes in connection with the rights hereby granted.

TO HAVE AND TO HOLD the easement rights unto the Grantee, its successors and assigns, in perpetuity, SUBJECT, HOWEVER, to the following terms, conditions and covenants:

1. The Grantee shall be responsible for injury caused by the Grantee's officers and employees in the course and scope of their employment to the extent that the Grantee's liability for such damage or injury has been determined by a court or otherwise agreed to by the Grantee. The Grantee shall pay for such damage and injury to the extent permitted by law provided that an appropriation is enacted for that purpose.

2. The Grantor reserves unto itself, its successors and assigns, the full use and enjoyment of the easement area and to grant to others rights and privileges for any and all purposes affecting the easement area, provided, however, that the rights herein reserved shall not be exercised by the Grantor in a manner which interferes unreasonably with the Grantee in the use of the easement area for the purposes for which this easement is granted.

3. All improvements placed in or upon the easement area by the Grantee shall be done without cost or expense to the Grantor and shall remain the property of the Grantee and may be removed or otherwise disposed of by the Grantee at any time; provided, that the removal shall be accomplished with minimum disturbance to the easement area which shall be restored to its original condition, or as close thereto as possible, within a reasonable time after removal.

4. Upon completion of any work performed in or upon the easement area, the Grantee shall remove therefrom all equipment and unused or surplus materials, if any, and shall leave the easement area in a clean and sanitary condition satisfactory to the Grantor. The Grantor shall help keep the easement open by removing vegetation from the access.

5. The Grantee shall keep the easement area and the improvements thereon in a safe, clean, sanitary, and orderly condition, and shall not make, permit or suffer, any waste,
strip, spoil, nuisance or unlawful, improper, or offensive use of the easement area.

6. Should future development necessitate (a) relocation of the easement(s) granted herein, or any portion thereof, the relocation shall be accomplished at the Grantee's own cost and expense; provided, however, that if other lands of the Grantor are available, the Grantor shall grant to the Grantee without payment of any monetary consideration, (a) substitute easement(s) of similar width within the reasonable vicinity of the original alignment(s), which substitute easement(s) shall be subject to the same terms and conditions as that herein granted and as required by law.

7. Upon termination of the use, the easement area shall be restored to its original state, or as close thereto as possible, within a reasonable time and at the expense of the Grantee.

8. Grantee shall not maintain the easement area in such manner as to constitute an attractive nuisance.

IN WITNESS WHEREOF, RDD LLC, a Hawaii corporation, and the STATE OF HAWAII, by its Board of Land and Natural Resources, has caused the seal of the Department of Land and Natural Resources to be hereunto affixed and the parties hereto have caused this Indenture to be executed as of the day, month, and year first above written.

RDD LLC, a Hawaii corporation

Approved by the Commission on Water Resource Management at its meeting(s) held on 

By ____________________________________________
Its

GRANTOR

APPROVED AS TO FORM:

By
Chairperson
Board of Land and Natural Resources

GRANTEE

Deputy Attorney General
Dated: ______________________

3
STATE OF HAWAI\II

COUNTY OF

On this ______ day of ____________________, 20____, before me appeared ________________________, to me personally known, who, being by me duly sworn, did say that they are the ________________________, respectively of ________________________, a Hawaii corporation, and that said instrument was signed in behalf of said corporation by authority of its Board of Directors, and the said ________________________, and ________________________, acknowledged said instrument to be the free act and deed of said corporation.

Notary Public, State of Hawaii

__________________________________________

My commission expires:____________________
RIGHT-OF-ENTRY AGREEMENT

THIS RIGHT-OF-ENTRY AGREEMENT ("Agreement"), between RDD LLC, hereinafter referred to as the "Grantor", and the State of Hawaii, by its Board of Land and Natural Resources on behalf of the Commission on Water Resource Management, hereinafter referred to as the "Grantee", executed on the respective dates indicated below, is effective as of ________________, 2004.

WITNESSETH THAT:

WHEREAS, the Grantee requires entry onto certain property owned by Grantor located at Waihee, Maui TMK: 3-2-01:003, as shown on Exhibit A attached hereto, together with reasonable access thereto along existing roads as shown on Exhibit B attached hereto, hereinafter referred to as the Property, for a public works project known as Waihee Deep Monitor Well, Statewide, hereinafter referred to as the Project, for the public purpose of conducting construction activity on the Property.

WHEREAS, the Grantee is desirous of obtaining immediate entry onto the Property in order that construction of the Project may begin without delay; and

WHEREAS, the Grantor is desirous of cooperating with the Grantee, and

NOW, THEREFORE, in consideration of the promises contained herein, the Grantor and Grantee agree as follows:

1. Grant of entry. The Grantor hereby grants to the Grantee, its officers, employees, consultants and contractors, permission to enter upon the Property for the purpose of constructing the Project. The Grantee shall provide Mr. Eric Pilotin, the Grantor's representative (phone no. __________) with not less than forty-eight (48) hours prior notice of its intention to enter onto the Property.

2. Grantee's responsibility. Relative to the Grantee's occupancy of the Property, the Grantee shall be responsible for damage and personal injury resulting from acts or omissions of Grantee's employees while acting within the scope of their employment to the extent that the Grantee's liability for such damage or injury has been determined by a court or otherwise agreed to by the Grantee. The Grantee shall pay for such damage and injury to the extent that funds have been authorized and appropriated by the Legislature for such purpose, and allocated.

3. Insurance. The Grantee shall require its consultants and contractors for the Project to procure and maintain, at their own cost and expense, in full force and effect throughout the term of this Agreement, the following insurance:
1. **CGL Policy.** Comprehensive General Liability Insurance, including automobile accident liability, contingent liability, contractual liability, and products on Grantor's Property with a combined minimum single limit of One Million Dollars ($1,000,000) per occurrence for bodily injury, and property damage. If the policy is written on a "claim made" form, it shall provide for an extended reporting period of not less than three (3) years.

2. **Worker's Compensation.** Worker's Compensation Insurance is required by applicable Law.

3. **Employer's Liability Coverage.** Employer's Liability Insurance with limits of liability not less than the minimum single limit of One Hundred Thousand Dollars ($100,000).

4. **Insurance: other requirements.** The aforesaid insurance policies (except for the Worker's Compensation Policy) shall name the Grantor as an additional insured.

5. **No unreasonable interference.** The Grantor agrees not to unreasonably interfere with the Grantee's facilities, operation and activities, including the activities of the Grantee's consultants and contractor's, in, or connected with the Property. Grantee shall provide Grantor notice of when Grantee anticipates the drilling of the Project will occur so that Grantor and Grantee may coordinate their respective work on the Property.

6. **Term.** The term of this agreement shall be from the effective date of this Agreement until January 31, 2006, unless sooner terminated by the Grantee or extended by the Grantor.

7. **Long term right-of-entry or purchase.** Pursuant to a separate agreement commencing at a negotiated time between Grantor and Grantee covering the subject Property, a long term right-of-entry shall be granted to Grantee.

8. **Headings, captions.** The headings and captions used herein are for convenience of reference only and are not to be used to construe, interpret, define, or limit the paragraphs to which they may pertain.

9. **Binding effect.** The term "Grantor" wherever used herein shall include RDD LLC, its successors and assigns, and the term "Grantee" wherever used herein shall include the State of Hawaii, its consultants and contractors and permitted assigns. This instrument shall be binding upon and shall inure to the benefit of the Grantor and the Grantee.

10. **Assignments.** The Grantor may not assign or otherwise transfer any interest in this Right-of-Entry Agreement without the written consent of the Grantee.

11. **Amendment.** This Agreement shall not be amended except in writing signed by the parties.
IN WITNESS WHEREOF, the parties execute this Agreement by their signatures, on the date below, to be effective as of the date first written above.

Grantor: RDD LLC

By: Doyle G. Betsill
Its: Member/Manager

Grantee: STATE OF HAWAII

By: ________________________________
Its: Chairperson, Board of Land and Natural Resources

Date: ____________________

STATE OF HAWAII )
COUNTY OF MAUI ) SS.

On this _____ day of _______, 20___, before me personally appeared ________________________, to me personally known, who, being by me duly sworn or affirmed, did say that such person(s) executed the foregoing instrument as the free act and deed of such person(s), and if applicable in the capacities shown, having been duly authorized to execute such instrument in such capacities.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

____________________________________________
NOTARY PUBLIC, State of Hawaii
Print Name:
My commission expires:
STATE OF HAWAII  
)  
COUNTY OF MAUI  
)  

On this _____ day of _______, 20__, before me personally appeared ________________, to me personally known, who, being by me duly sworn or affirmed, did say that he is the ____________________, of the Board of Land and Natural Resources of the State of Hawaii, and that the seal affixed to the foregoing instrument is the lawful seal of the said State of Hawaii, and that the said instrument was signed and sealed on behalf of said State of Hawaii, and the said ________________ acknowledged the said instrument to be the free act and deed of the said State of Hawaii.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

____________________________
NOTARY PUBLIC, State of Hawaii
Print Name: ____________________
My commission expires: ______
MEMORANDUM OF AGREEMENT
FOR THE
INSTALLATION, MAINTENANCE, AND USE OF THE
WAIHEE DEEP MONITOR WELL
ISLAND OF MAUI

Parties:

RDD LLC hereinafter referred to as the "LANDOWNER", and the State of Hawaii by its Commission on Water Resource Management, hereinafter referred to as the "OPERATOR", agree on the "Joint Understanding" set forth below and agree to fulfill the undertakings specified herein.

RECITALS

WHEREAS, the purpose of this program is to provide for collection of ground water and other hydrologic data at various locations throughout the State to increase the knowledge and understanding of Hawaii’s ground water resources and to aid in the management of this resource; and

WHEREAS, the LANDOWNER would like to have access to hydrologic and ground water data collected on the Waihee Aquifer System in planning for future agricultural uses and/or development of their lands located in the Waihee Aquifer System area; and

WHEREAS, the LANDOWNER would also like to support the State in collecting ground water and hydrologic data for the State of Hawaii; and

WHEREAS, The program, to which this Memorandum of Agreement (MOA) applies, is part of the larger data collection program throughout the State, and shall be known as the Waihee Deep Monitor Well Program.; and

WHEREAS, under the Waihee Deep Monitor Well Program, the OPERATOR would like to install a deep monitor well and appurtenant equipment to monitor the Waihee Aquifer System.

NOW THEREFORE, the parties agree as follows:
Memorandum of Agreement for the Installation, Maintenance, and Use of the Waihee Deep Monitor Well Island of Maui

A. The LANDOWNER hereby consents and agrees to the OPERATOR’s drilling, installation, maintenance and exclusive use of a deep monitor well and appurtenant monitoring equipment on the parcel of land identified as Tax Map Key (TMK): 3-2-01: Portion of 3.

The LANDOWNER also consents and agrees to the OPERATOR’s use of the access road shown in Exhibit 1 to access the monitoring well site. The LANDOWNER reserves the right to redirect access from time to time.

The OPERATOR designated that the State of Hawaii, Engineering Division (ED), administer the preparation of contract plans and specifications, prepare and process applicable permits and approvals, advertise the project for bids, and perform the contract and construction administration.

The OPERATOR shall provide the LANDOWNER with hydrologic and ground water data collected on the Waihee Aquifer System. The LANDOWNER will use this data to determine future agricultural uses and/or development of their lands, located in the Ewa-Kunia Aquifer System area.

B. The LANDOWNER grants to the OPERATOR the right of entry, and ingress to and egress from the specified property to drill, install, maintain, and use said deep monitor well and appurtenant monitoring equipment during normal working hours. A contractor chosen by the OPERATOR shall conduct the actual drilling and installation of the well. Although the OPERATOR is being given the right of entry for these purposes, the contractor chosen to do the actual work shall be required to obtain a separate right of entry from the LANDOWNER solely for the purpose of drilling the deep monitor well, installation of well casing, and all other equipment necessary or desirable for operation and maintenance of a well, and the storage of all machinery, materials and equipment.

The LANDOWNER shall also grant to the ED the right of entry, and ingress to and egress from the monitoring access to the well site for the sole purpose of inspecting the drilling of the deep monitor well and for no other purposes. The ED acknowledges that the purpose of this right of entry, and ingress to and egress from access is for passive observation by ED of activities of others, each of whom must have separate authorization from the LANDOWNER for right of entry, and access to ingress to and egress from the monitoring well site.

C. The OPERATOR and ED hereby consents and agrees to abide by the LANDOWNER’s rules, regulations, and policies concerning security during right of entry, and ingress to and egress from the monitoring well site, as promulgated by the LANDOWNER from time to time upon approval of the OPERATOR.
D. Under normal conditions, hydrologic and ground water data will be collected on a quarterly schedule, however, should the analyses of such data warrant additional monitoring, the frequency of data collection may need to be increased from time to time.

Two (2) copies of the hydrologic and ground water data collected shall be submitted to the LANDOWNER.

E. The deep monitor well shall consist of a partially cased drilled hole (see Exhibit 2) constructed in accordance with the Hawaii Well Construction and Pump Installation Standards, and shall be used for the sole purpose of obtaining geologic, hydrologic and ground water data.

F. The deep monitor well and appurtenant monitoring equipment that may be sheltered or otherwise protected from the weather shall be located on the said property of the LANDOWNER as shown in Exhibit 1.

G. The deep monitor well and appurtenances shall be constructed, installed and maintained in a diligent and workmanlike manner at no cost to the LANDOWNER.

H. The deep monitor well and appurtenant equipment within said property shall remain the property of the OPERATOR and shall be removed, filled and plugged by the OPERATOR at its own cost and expense within a reasonable time after termination of this agreement. The OPERATOR shall thereupon restore said property as near as possible to its original condition.

I. The LANDOWNER shall not be liable for the following, unless the following are caused by the gross negligence or intentional act of the LANDOWNER:

1. Any damages or injury brought about by the use of property or appurtenant equipment by the OPERATOR.

2. Any contamination to the groundwater from the well.

J. This MOA shall be effective upon signature by both parties and shall remain in force as long as the well is in operation, unless earlier terminated by the OPERATOR. The OPERATOR shall provide a written notice of termination by certified mail to the LANDOWNER of its intent to either cease operation of the well or to terminate this agreement. Said notice shall be provided not less than 90 days in advance of the cessation of operation of the well or termination of this agreement.
K. Each party shall be responsible for ensuring that the provisions of this MOA are in accord with its program requirements. Either party to this MOA may request amendments by letter to signatories of this agreement and such amendments shall take effect upon the consent of all parties.

L. To put this agreement into effect, the parties agree to execute a grant of non-exclusive easement in substantially the form attached hereto as Exhibit 3.

LANDOWNER: RDD LLC

By: ____________________________

Date: __________________________

OPERATOR: Commission on Water Resource Management
State of Hawaii

By: ____________________________

Title: __________________________

Date: __________________________

Approved as to Form:

____________________________________
Deputy Attorney General

Date: __________________________
On this _____ day of __________ , 200__, before me personally appeared ____________________________
who, being by me duly sworn or affirmed, did say that such person(s) executed the foregoing
instrument as the free act and deed of such person(s), and if applicable in the capacity shown,
having been duly authorized to execute such instrument in such capacity.

Print Name: ____________________________
Notary Public, State of Hawaii
My commission expires: _______________
Exhibit 1. Map showing the route of the access road to the proposed Waihee Deep Monitor Well

Access to well site

Waihee Deep Monitor Well approximate location
TMK 3-2-01:03

Kanoa Well I
Exhibit 2
Proposed Waihee Deep Monitor Well
Waihee, Maui, Hawaii

Preliminary Section

Slab elevation 360 ft

Elevation top of casing 362 feet

Annulus grouted with 1:1 sand-cement slurry, 12 ¼” borehole

Solid Steel Casing
8” ID x 5/16” x 500 feet
ASTM A-53

2” nominal diameter chase tube installed in annulus with perforations in the gravel pack

Gravel pack
estimated water level
Bottom of Casing (shoe)

Open hole minimum diameter 7 7/8”
Bottom of Well

KLG
August 2005

(not to scale)
Exhibit 3. Grant of non-exclusive easement

THIS INDENTURE, made and entered into this _____ day of __________, 20___, by and between RDD, LLC, a Hawaii Corporation, hereinafter referred to as the "Grantor," and the STATE OF HAWAII, by its Commission on Water Resource Management, whose address is 1151 Punchbowl Street, Room 227, Honolulu, Hawaii 96813, hereinafter referred to as the "Grantee."

WITNESSETH THAT:

The Grantor, for good and valuable consideration, the receipt of which is hereby acknowledged, and of the terms, conditions, and covenants herein contained, and on the part of the Grantee to be observed and performed, does hereby grant unto the Grantee, the following non-exclusive and perpetual easement rights:

Right, privilege and authority to construct and monitor the proposed Waihee Deep Monitor Well, in, over, under and across that certain parcel(s) of land ("easement area") situate at TMK (2) 3-2-01:003, Waihee, Maui, being identified as "Easement for
Waihee Deep Monitor Well," containing an area of 13,500 square feet, more particularly described in Exhibit "A" and delineated on Exhibit "B", both of which are attached hereto and made parts hereof, said exhibits being respectively, a survey description and survey map prepared by a licensed surveyor, TOGETHER WITH the rights of ingress and egress to and from the easement area for all purposes in connection with the rights hereby granted.

TO HAVE AND TO HOLD the easement rights unto the Grantee, its successors and assigns, in perpetuity, SUBJECT, HOWEVER, to the following terms, conditions and covenants:

1. The Grantee shall be responsible for injury caused by the Grantee's officers and employees in the course and scope of their employment to the extent that the Grantee's liability for such damage or injury has been determined by a court or otherwise agreed to by the Grantee. The Grantee shall pay for such damage and injury to the extent permitted by law provided that an appropriation is enacted for that purpose.

2. The Grantor reserves unto itself, its successors and assigns, the full use and enjoyment of the easement area and to grant to others rights and privileges for any and all purposes affecting the easement area, provided, however, that the rights herein reserved shall not be exercised by the Grantor in a manner which interferes unreasonably with the Grantee in the use of the easement area for the purposes for which this easement is granted.

3. All improvements placed in or upon the easement area by the Grantee shall be done without cost or expense to the Grantor and shall remain the property of the Grantee and may be removed or otherwise disposed of by the Grantee at any time; provided, that the removal shall be accomplished with minimum disturbance to the easement area which shall be restored to its original condition, or as close thereto as possible, within a reasonable time after removal.

4. Upon completion of any work performed in or upon the easement area, the Grantee shall remove therefrom all equipment and unused or surplus materials, if any, and shall leave the easement area in a clean and sanitary condition satisfactory to the Grantor. The Grantor shall help keep the easement open by removing vegetation from the access.

5. The Grantee shall keep the easement area and the improvements thereon in a safe, clean, sanitary, and orderly condition, and shall not make, permit or suffer, any waste,
strip, spoil, nuisance or unlawful, improper, or offensive use of
the easement area.

6. Should future development necessitate (a) relocation of the easement(s) granted herein, or any portion thereof, the relocation shall be accomplished at the Grantee's own cost and expense; provided, however, that if other lands of the Grantor are available, the Grantor shall grant to the Grantee without payment of any monetary consideration, (a) substitute easement(s) of similar width within the reasonable vicinity of the original alignment(s), which substitute easement(s) shall be subject to the same terms and conditions as that herein granted and as required by law.

7. Upon termination of the use, the easement area shall be restored to its original state, or as close thereto as possible, within a reasonable time and at the expense of the Grantee.

8. Grantee shall not maintain the easement area in such manner as to constitute an attractive nuisance.

IN WITNESS WHEREOF, RDD LLC, a Hawaii corporation, and the STATE OF HAWAII, by its Board of Land and Natural Resources, has caused the seal of the Department of Land and Natural Resources to be hereunto affixed and the parties hereto have caused this Indenture to be executed as of the day, month, and year first above written.

RDD LLC, a Hawaii corporation

APPROVED AS TO FORM:

Deputy Attorney General

Dated:

By

Its

GRANTOR

Chairperson

Board of Land and Natural Resources

GRANTEE
STATE OF HAWAI'I

COUNTY OF

On this ______ day of ________________, 20____, before me appeared __________________________, to me personally known, who, being by me duly sworn, did say that they are the __________________________ and __________________________, respectively of __________________________, a Hawaii corporation, and that said instrument was signed in behalf of said corporation by authority of its Board of Directors, and the said __________________________ and __________________________ acknowledged said instrument to be the free act and deed of said corporation.

Notary Public, State of Hawaii

__________________________________________

My commission expires: __________
RIGHT-OF-ENTRY AGREEMENT

THIS AGREEMENT, between Koolau Cattle Company, hereinafter referred to as the "Grantor", and the State of Hawaii, by its Board of Land and Natural Resources on behalf of the Commission on Water Resource Management, hereinafter referred to as the "Grantee", executed on the respective dates indicated below, is effective as of xxx x, 2004,

WITNESSETH THAT:

WHEREAS, the Grantee requires entry onto certain property owned by Grantor located at Waihee, Maui TMK: 3-2-01:003, as shown on Exhibit A attached hereto, together with reasonable access thereto along existing roads as shown on Exhibit B attached hereto, hereinafter referred to as the Property, for a public works project known as Waihee Deep Monitor Well, Statewide, hereinafter referred to as the Project, for the public purpose of conducting construction activity on the Property.

WHEREAS, the Grantee is desirous of obtaining immediate entry onto the Property in order that construction of the Project may begin without delay; and

WHEREAS, the Grantor is desirous of cooperating with the Grantee, and

NOW, THEREFORE, in consideration of the promises contained herein, the Grantor and Grantee agree as follows:

1. Grant of entry. The Grantor hereby grants to the Grantee, its officers, employees, consultants and contractors, permission to enter upon the Property for the purpose of constructing the Project. The Grantee shall provide Mr. Doyle Betsill, the Grantor's representative (phone no. [redacted]) with not less than forty-eight (48) hours prior notice of its intention to enter onto the Property.

2. Grantee's responsibility. Relative to the Grantee's occupancy of the Property, the Grantee shall be responsible for damage and personal injury resulting from acts or omissions of Grantee's employees while acting within the scope of their employment to the extent that the Grantee's liability for such damage or injury has been determined by a court or otherwise agreed to by the Grantee. The Grantee shall pay for such damage and injury to the extent that funds have been authorized and appropriated by the Legislature for such purpose, and allocated.

3. Insurance. The Grantee shall require its consultants and contractors for the Project to procure and maintain, at their own cost and expense, in full force and effect throughout the term of this Agreement, the following insurance:

   a. CGL Policy. Comprehensive General Liability Insurance, including automobile accident liability, contingent liability, contractual liability, and products on
Grantor's Property with a combined minimum single limit of One Million Dollars ($1,000,000) per occurrence for bodily injury, and property damage. If the policy is written on a "claim made" form, it shall provide for an extended reporting period of not less than three (3) years.

b. Worker's Compensation. Worker's Compensation Insurance is required by applicable Law.

c. Employer's Liability Coverage. Employer's Liability Insurance with limits of liability not less than the minimum single limit of One Hundred Thousand Dollars ($100,000).

4. Insurance: other requirements. The aforesaid insurance policies (except for the Worker's Compensation Policy) shall name the Grantor as an additional insured.

5. No unreasonable interference. The Grantor agrees not to unreasonably interfere with the Grantee's facilities, operation and activities, including the activities of the Grantee's consultants and contractor's, in, or connected with the Property.

6. Term. The term of this agreement shall be from the effective date of this Agreement until January 31, 2006, unless sooner terminated by the Grantee or extended by the Grantor.

7. Long term right-of-entry or purchase. Pursuant to a separate lease agreement commencing at a negotiated time between Grantor and Grantee covering the subject Property.

8. Headings, captions. The headings and captions used herein are for convenience of reference only and are not to be used to construe, interpret, define, or limit the paragraphs to which they may pertain.

9. Binding effect. The term "Grantor" wherever used herein shall include Koolau Cattle Company, its successors and assigns, and the term "Grantee" wherever used herein shall include the State of Hawaii, its consultants and contractors and permitted assigns. This instrument shall be binding upon and shall inure to the benefit of the Grantor and the Grantee.

10. Assignments. The Grantor may not assign of otherwise transfer any interest in this Right-of-Entry Agreement without the written consent of the Grantee.

11. Amendment. This Agreement shall not be amended except in writing signed by the parties.
IN WITNESS WHEREOF, the parties execute this Agreement by their signatures, on the date below, to be effective as of the date first written above.

Grantor:  Koolau Cattle Company

By: ____________________________
Its:

By: ____________________________
Its

Date: ____________________________

Grantee:  STATE OF HAWAII

By: ____________________________
Its: Chairperson, Board of Land and Natural Resources

Date: ____________________________
Date: July 12, 2004

TO: Kevin Gooding
Fax No: 7-0219

FROM: Linda L.W. Chow, Deputy Attorney General
Fax No: 7-2999

RE: Right of Entry agreement

NUMBER OF PAGES INCLUDING COVER PAGE: 4

IF YOU HAVE NOT RECEIVED ALL OF THE PAGES LISTED ABOVE, PLEASE CONTACT THE SENDER AT [REDACTED]

MESSAGE:

Kevin:

Attached is a right of entry agreement that was drafted in connection with the State entering private land for the purposes of construction of a project. I have reviewed the agreement and I think it will work fine for the purposes you outlined to me last week. The only changes that need to be made would be the information specific to this right of entry.

If you do not think this agreement form will be appropriate for your transaction, let me know and we can work on revising it to suit your purposes.

Please call me if you have any further questions.
RIGHT-OF-ENTRY AGREEMENT

THIS AGREEMENT, between Molokai Properties, Limited, hereinafter referred to as the "Grantor", and the State of Hawaii, by its Board of Land and Natural Resources on behalf of the Department of Accounting and General Services, hereinafter referred to as the "Grantee", executed on the respective dates indicated below, is effective as of July 1, 2004.

WITNESSETH THAT:

WHEREAS, the Grantee requires entry onto certain property owned by Grantor located at Puu Nana, Kaluakoi, Molokai, TMK: 5-1-1: 4, as shown on Exhibit A attached hereto, together with reasonable access thereto along existing roads as shown on Exhibit B attached hereto, hereinafter referred to as the Property, for a public works project known as Anuenue Radio Facilities and Towers, Statewide, hereinafter referred to as the Project, for the public purpose of conducting construction activity on the Property.

WHEREAS, the Grantee is desirous of obtaining immediate entry onto the Property in order that construction of the Project may begin without delay; and

WHEREAS, the Grantor is desirous of cooperating with the Grantee, and

NOW, THEREFORE, in consideration of the promises contained herein, the Grantor and Grantee agree as follows:

1. Grant of entry. The Grantor hereby grants to the Grantee, its officers, employees, consultants and contractors, permission to enter upon the Property for the purpose of constructing the Project. The Grantee shall provide Mr. Harold Edwards, the Grantor's representative (phone no. [REDACTED]) with not less than forty-eight (48) hours prior notice of its intention to enter onto the Property.

2. Grantee's responsibility. Relative to the Grantee's occupancy of the Property, the Grantee shall be responsible for damage and personal injury resulting from acts or omissions of Grantee's employees while acting within the scope of their employment to the extent that the Grantee's liability for such damage or injury has been determined by a court or otherwise agreed to by the Grantee. The Grantee shall pay for such damage and injury to the extent that funds have been authorized and appropriated by the Legislature for such purpose, and allocated.

3. Insurance. The Grantee shall require its consultants and contractors for the Project to procure and maintain, at their own cost and expense, in full force and effect throughout the term of this Agreement, the following insurance:

   a. CGL Policy. Comprehensive General Liability Insurance, including automobile accident liability, contingent liability, contractual liability, and products on
Grantor's Property with a combined minimum single limit of One Million Dollars ($1,000,000) per occurrence for bodily injury, and property damage. If the policy is written on a "claim made" form, it shall provide for an extended reporting period of not less than three (3) years.

b. **Worker's Compensation.** Worker's Compensation Insurance is required by applicable law.

c. **Employer's Liability Coverage.** Employer's Liability Insurance with limits of liability not less than the minimum single limit of One Hundred Thousand Dollars ($100,000).

4. **Insurance: other requirements.** The aforesaid insurance policies (except for the Worker's Compensation Policy) shall name the Grantor as an additional insured.

5. **No unreasonable interference.** The Grantor agrees not to unreasonably interfere with the Grantee's facilities, operation and activities, including the activities of the Grantee's consultants and contractors, in, or connected to the Property.

6. **Term.** The term of this agreement shall be from the effective date of this Agreement until January 31, 2005, unless sooner terminated by the Grantee or extended by the Grantor.

7. **Rent.** Pursuant to a separate lease agreement commencing July 1, 2004 between Grantor and Grantee covering the subject Property.

8. **Headings, captions.** The headings and captions used herein are for convenience of reference only and are not to be used to construe, interpret, define, or limit the paragraphs to which they may pertain.

9. **Binding effect.** The term "Grantor" wherever used herein shall include Molokai Properties, Limited, its successors and assigns, and the term "Grantee" wherever used herein shall include the State of Hawaii, its consultants and contractors and permitted assigns. This instrument shall be binding upon and shall inure to the benefit of the Grantor and the Grantee.

10. **Assignments.** The Grantor may not assign or otherwise transfer any interest in this Right-of-Entry Agreement without the written consent of the Grantee.

11. **Amendment.** This Agreement shall not be amended except in writing signed by the parties.
IN WITNESS WHEREOF, the parties execute this Agreement by their signatures, on the date below, to be effective as of the date first written above.

Grantor: MOLOKAI PROPERTIES, LIMITED

By: __________________________
Its: __________________________

By: __________________________
Its: __________________________
Date: __________________________

Grantee: STATE OF HAWAII

By: __________________________
Its: Chairperson, Board of Land and Natural Resources
Date: __________________________
RIGHT-OF-ENTRY

THIS INDENTURE made this 21st day of June, 2000, by and between OAHU SUGAR COMPANY, LIMITED, a Hawaii Corporation, whose address is c/o Amfac Land Company, Ltd., 700 Bishop Street, Suite 501, Honolulu, Hawaii 96813, hereinafter called the "Grantor," and the STATE OF HAWAII, hereinafter referred to as the "State," by its Board of Land and Natural Resources, called the "Board," whose address is 1151 Punchbowl Street, Room 130, Honolulu, Hawaii 96813.

WITNESSETH:

For good and valuable consideration to the Grantor paid, the receipt whereof is hereby acknowledged, the Grantor does hereby grant to the State, its respective successors and assigns, a right-of-entry, as shown on the attached map, which parcel is hereinafter referred to as the "Premises," subject to the following terms and conditions:

1. The right-of-entry shall be valid from January 1, 2000 to December 31, 2000. This right-of-entry may be extended to correspond to the completion of the project with the prior written approval of the Grantor.

2. The right-of-entry shall be an area over and across that certain Premises situate, lying and being at Waipahu, Oahu, State of Hawaii, which is denoted by the cross-hatched areas shown on Exhibit A, attached hereto and made a part hereof.
3. The right-of-entry shall be used by the State solely for the purpose of drilling an exploratory well, installation of well casing, pumps and all other equipment necessary or desirable for operation and maintenance of a well and the storage of all machinery, materials and equipment, hereinafter referred to as the "project." The State acknowledges that Grantor maintains a production well, known as "Waipahu Pump 1," in the vicinity of the Premises, and the State agrees that the State shall not exercise its rights under this right-of-entry so as to adversely affect the quality or quantity of water produced by Waipahu Pump 1.

4. The State shall be responsible for injury caused by the State's officers, employees, agents and contractors in the course and scope of their employment to the extent that the State's liability for such damage or injury has been determined by a court or otherwise agreed to by the State. The State shall pay for such damage and injury to the extent permitted by law.

5. The State, as a sovereignty is self-insured and therefore insurance, including but not limited to, public liability and property damage, is not required.

6. The State, its officers, employees, agents and contractors shall observe and comply with all laws, ordinances, rules, and regulations of the federal, state, municipal, or county governments affecting the Premises or improvements, and the use or disposal of materials utilized in the project.

7. The Grantor reserves the right for itself, its agents, and/or representatives to enter or cross any portion of the premises at any time in the performance of its duties.

8. It is understood that the State has inspected the Premises and knows the conditions thereof and fully assumes all risks incident to its use.

9. The acceptance of rent by the Grantor shall not be deemed a waiver of any breach by the State of any term, covenant or condition of this right-of-entry nor of the Grantor's right to declare and enforce a forfeiture for any breach, and the failure of the Grantor to insist upon strict performance of any term, covenant or condition, in any one or more instances, shall not be construed as a waiver or relinquishment of any term, covenant, or condition.

10. The use and enjoyment of the Premises by the State shall not be in support of any policy which discriminates against anyone based upon race, creed, color, sex, national origin, religion, marital status, familial status, ancestry, physical handicap, disability, age or HIV (human immunodeficiency virus) infection.

11. The State shall be responsible for cleaning and restoring the Premises to its original condition or a condition satisfactory to the Grantor, upon completion of this project.

12. All tools, machinery, materials and other property brought or placed upon the Premises by the State shall remain the property of same and be removed within a reasonable time upon expiration of the subject right-of-entry, except for the well casing and monitoring equipment.

13. Upon completion of construction of the project ("Completion Date"), the State shall promptly give written notice of the Completion Date to Grantor, and a representative of the
State shall thereupon provide the Grantor with a 24-hour notice to schedule a field inspection of the Premises.

14. The Premises shall not be used at any time by the State, its guest(s) or invitee(s) for parking, storage and/or purposes other than described in paragraph 3.

15. No open burning of any type shall be permitted on the Premises.

16. State shall not cause or permit the escape, disposal or release of any hazardous materials in, upon or from the Premises, except as permitted by law. State shall not allow the storage or use of such materials in any manner not sanctioned by law or by the highest standards prevailing in the industry for the storage and use of such materials, nor allow to be brought onto the Premises any such materials except to use in the ordinary course of State's business, and then only after written notice is given to Grantor of the identity of such materials. If any lender or governmental agency shall ever require testing to ascertain whether or not there has been any release of hazardous materials by State, then the State shall be responsible for the reasonable costs thereof. In addition, State shall execute affidavits, representations and the like from time to time at Grantor's request concerning State's best knowledge and belief regarding the presence of hazardous materials on the Premises placed or released by State.

For the purpose of this right-of-entry "hazardous material" shall mean any pollutant, toxic substance, hazardous waste, hazardous material, hazardous substance, or oil as defined in or pursuant to the Resource Conservation and Recovery Act, as amended, the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, the Federal Clean Water Act, or any other federal, state, or local environmental law, regulation, ordinance, rule, or bylaw, whether existing as of the date hereof, previously enforced, or subsequently enacted.

17. The State and its contractor shall not store lubricants, oils or other hazardous materials; service equipment or vehicles on areas covered by the right-of-entry.

18. This right-of-entry or any rights hereunder shall not be sold, assigned, conveyed, leased, mortgaged, or otherwise transferred or disposed of by the State, and any attempt to do so shall automatically terminate this right-of-entry and any rights of the State thereunder.

19. Time is of the essence in all provisions of this agreement.

20. In the event burial sites, archaeological or historical artifacts or sites are uncovered during the course of construction, work in the immediate vicinity shall cease and the Historic Preservation Division in Honolulu ("SHPD") contacted at  State shall also give Grantor immediate notice of such discovery, and State agrees that it shall not enter into any agreement or plan with SHPD for the recovery, relocation, reburial or preservation in place of any human remains, including the creation of any burial preserve or easement, without first obtaining the written consent of Grantor, which consent shall not unreasonably be withheld.

21. The State shall comply with all applicable federal and state environmental impact regulations.
22. Any and all disputes and/or questions arising under this right-of-entry shall be referred to the Chairperson of the Board.

23. The Grantor and its employees shall be named as additional insureds on the contractor's liability insurance policy for the Premises covered by this right-of-entry.

24. The State shall send final plans to Grantor for review and approval.

25. The State shall limit construction activities to 6:30 A.M. TO 5:00 P.M., Monday through Friday, except for the pump testing and in the event of emergencies. The State shall be responsible to limit access to the areas covered by the right-of-entry to its personnel, Honolulu Board of Water Supply personnel, contractor, subcontractor and manufacturer representatives.

26. Vehicle and construction equipment shall be restricted to access roads designated by Grantor.

27. The State shall provide Grantor with a construction schedule prior to the start of construction. If the State desires to enter the Premises on a date not covered by the construction schedule, the State agrees to give Grantor reasonable notice of such entry.

IN WITNESS WHEREOF, the Grantor and the STATE OF HAWAII, by its Board of Land and Natural Resources, has caused the seal of the Department of Land and Natural Resources to be hereunto affixed and the parties hereto have caused this Indenture to be executed as of the day, month, and year first above written.

Approved by the Board of Land and Natural Resources at its meeting held on October 22, 1999.

OAHU SUGAR COMPANY, LIMITED

By ____________________________
Its VICE PRESIDENT

By ____________________________
Its GRANTOR

STATE OF HAWAII

By ____________________________
Chairperson and Member
Board of Land and Natural Resources

APPROVED AS TO FORM:

L. H. Keating
Deputy Attorney General

Dated: 5/19/00

256287.06 4
SUMMARY OF
DRILLING AND HYDROGEOLOGIC CONDITIONS
FOR
WAIHEE DEEP WELL NO. 5631-09

Prepared for

Prepared by

The Commission on Water Resource Management
Department of Land & Natural Resources

Shimabukuro, Endo & Yoshizaki, Inc.

December 2011
Table of Contents

1.0 Synopsis......................................................................................................... 1
  1.1 Location and Description........................................................................... 1
  1.2 Importance/Pertinence of Project......................................................... 1
  1.3 Geology................................................................................................. 1
  1.4 Hydrological Conditions........................................................................ 4

2.0 Summary of Well Information ..................................................................... 4
  2.1 Well Location......................................................................................... 4
  2.2 Well Elevation....................................................................................... 7
  2.3 Well Water Level................................................................................... 7
  2.4 Depth and Size of Drilled Hole............................................................. 7
  2.5 Casing Installed.................................................................................... 7
  2.6 Drilling Contractor............................................................................... 7
  2.7 Construction Schedule........................................................................ 9

3.0 Location Map............................................................................................. 9
4.0 As-Built Cross Section of Well................................................................. 9
5.0 Driller’s Log............................................................................................ 9
6.0 Plumbness Data....................................................................................... 9
7.0 Drilling History....................................................................................... 9
8.0 Water Chemical Analysis......................................................................... 10
9.0 Conductivity and Temperature Profiles.................................................. 10
10.0 Rock Chemical Analysis......................................................................... 10
11.0 Photos – Before and After Well Completion.......................................... 10
12.0 Summary................................................................................................ 10
13.0 References............................................................................................. 14

List of Figures

Figure 1  Location Map..................................................................................... 2
Figure 2  Project Site and Plans................................................................. 3
Figure 3  Property Tax Map........................................................................ 5
Figure 4  Aquifer Systems for Maui............................................................ 6
Figure 5  As-Built Well Section................................................................. 8
Figure 6  Conductivity and Temperature Profiles, November 8, 2011........ 11
Figure 7  Photo of Proposed Well Site...................................................... 12
Figure 8  Photo of Completed Well Site.................................................... 13

Appendix A  Project Data: Well Completion Report & Plumbness Drift Record
Summary of Drilling and Hydrogeologic Conditions for 
Waihee Deep Well No. 5631-09

1.0 SYNOPSIS

1.1 Location and Description

The Waihee Deep Monitor Well (Well No. 5631-09) was constructed for the State of Hawaii Department of Land and Natural Resources (DLNR) Commission on Water Resources Management (CWRM) as part of Job No. G55CM18B. The well resides at the North Waihee 1.0 million gallon (MG) reservoir site operated by the County of Maui Department of Water Supply in Waihee, Maui as shown in Figure 1. Access to the site is via a paved 10-foot wide road that starts at Kahekili Highway and winds upland for approximately 1,500 feet to the reservoir site as shown in Figure 2.

The reservoir site is situated on Kanoa Ridge at an elevation of approximately 400 feet above mean sea level (msl). The Waihee River flows from west to east in the valley to the south of the well and discharges at the coast near Waihee Point. The undeveloped area around the well site is vegetated by grass and shrubs.

1.2 Importance/Pertinence of Project

The CWRM operates a statewide groundwater monitoring program consisting of ten deep monitor wells. The objective of this program is to collect groundwater level and vertical salinity data that can be used to interpret and analyze the behavior of Hawaii’s principal groundwater aquifers. The Waihee Deep Monitor Well will be the first monitor well installed in the Waihee Aquifer System. Proceedings to designate the Waihee Aquifer System as a groundwater management area have been deferred by the CWRM. However, the adjacent lagoon Aquifer System was designated as a groundwater management area in July 2003. The Waihee Deep Monitor Well will provide vital long-term scientific data that will be used to track the movement of the transition zone to better understand and improve management of the Waihee Aquifer System.

1.3 Geology

The Waihee Aquifer System lies on the north flanks of the West Maui Volcano. The West Maui Volcano is a deeply eroded volcano consisting of a central caldera and two main rift zones (northwest and southeast trending). Three volcanic series: shield-stage Wailuku Basalts, post-shield Honolua Volcanics and the rejuvenated Lahaina Volcanics formed the volcano. The Wailuku Basalts are the oldest series and comprise approximately 97 percent by volume of the West Maui Volcano. This series consists predominantly of numerous thin-bedded a‘a and pahoehoe lava flows of tholeiite, olivine tholeiite and oceanite. The subsurface formation of the Waihee Aquifer System is composed primarily of the lava flows from the Wailuku Basalts.
The formation of the Wailuku Basalts was followed by a period of weathering and erosion before the eruptions of the Honolua Volcanics. The Honolua Volcanics are mostly a’ a lava flows that formed a thin, discontinuous veneer of andesitic and trachytic basalts over parts of the Wailuku Basalts. The veneer of Honolua lava flows is more prevalent in the northern half of West Maui and consists of only one or two flows with an average thickness of approximately 65 feet (Macdonald, Abbott and Peterson, 1983). The Honolua lava flows overlie the Wailuku basalts at the well site according to the geologic map of Maui (Stearns and Macdonald, 1942).

The cessation of the Honolua Volcanics was followed by a long period of erosion before the renewed eruptions of four small vents on the west slope of the West Maui Volcano near Lahaina. These eruptions were part of the Lahaina Volcanics and rocks of this series are not present at the well site.

1.4 Hydrological Conditions

The groundwater system in the Waihee Aquifer System consists of both dike-impounded water and basal water. Dike impounded water is present in the interior mountainous areas where dike intruded lava flows exist in the rift zone. Dikes are low-permeability barriers that impound groundwater within compartments formed between dikes. Groundwater heads are typically high and water quality is generally good in dike impounded water wells. Basal water occurs in the dike-free lava flows dowgradient of dike intruded lava flows. Groundwater occurs as a freshwater lens floating on an intermediate transition zone and underlying denser saltwater. Groundwater heads are typically less than 10 feet msl and water quality is dependent on head and withdrawal rate for basal water wells. Basal water exists at the well site.

2.0 SUMMARY OF WELL INFORMATION

2.1 Well Location

The Waihee Deep Monitor Well is located at the County of Maui Department of Water Supply North Waihee 1.0 MG Reservoir Site on Tax Map Key (2) 3-2-01: Portion 3 as shown in Figure 3. The land occupied by the reservoir is owned by Koolau Cattle Company, LLC; and the County of Maui has a reservoir easement for the 1.0 MG reservoir and the State has an easement for the well site. The approximate location of the well is Latitude 20°56’45” and Longitude 156°31’11” (North American Datum 83).

The Waihee Deep Monitor Well is located in the Wailuku Sector, Waihee Aquifer System according to the Aquifer Identification and Classification For Maui: Groundwater Protection Strategy for Hawaii (Mink and Lau, 1990) as shown in Figure 4. The aquifer type is basal, unconfined and the geologic code is flank (horizontally extensive lavas). The sustainable yield for the Waihee Aquifer System is estimated to be 8 million gallons per day in the State’s Water Resources Protection Plan (Wilson Okamoto Corporation, 2008).
2.2 Well Elevation

The ground surface elevation at the well is approximately 396.5 feet msl and the benchmark elevation at well completion is 397.13 feet msl. The top of casing is 1.5 feet above the benchmark elevation. The surveyor for the project was ControlPoint Surveying, Inc. and the elevation was carried by differential levels from the brass disk near the fire hydrant at Kanoa Well 1, elevation 306.27 feet msl as provided by the DLNR.

2.3 Well Water Level

The groundwater level at the well was measured by Wailani Drilling, Inc. to be 4.8 feet msl on September 25, 2011. No permanent water level measurement device was installed in the well. Groundwater level is measured by an external device during site visits.

2.4 Depth and Size of Drilled Hole

The total depth of the Waihee Deep Monitor Well is 903 feet below ground surface (bgs). The well is a 14-inch diameter boring with an 8-inch outer casing and cemented annular space between the borehole and outer casing to a depth of approximately 403 feet bgs. Below 403 bgs, the boring was initially an uncased 8-inch diameter hole extending to a depth of 903 feet bgs as shown in Figure 5.

2.5 Casing Installed

The outer casing installed from the ground surface to a depth of approximately 403 feet bgs was constructed of carbon steel satisfying American Society of Testing and Materials A139. The solid outer casing has a nominal diameter of 8 inches and a wall thickness of 5/16 inches.

Video logs of the borehole revealed that the geology of the uncased borehole consists of alternating layers of moderately competent basalt, weakly consolidated ash and cinders and highly fragmented basalt. The weakly consolidated ash and highly fragmented basalt led to loose material clogging the borehole. As such, 4-inch 304 stainless steel schedule 40 slotted casing was installed in the bottom 500 feet of the uncased borehole. The milled slotted casing has 32 slots per foot with each slot opening being 0.25 inches wide by 2.5 inches long. An inner 4-inch solid casing of galvanized pipe with a wall thickness of 0.25 inches was installed in the upper 403 feet of the well. Thus, the upper 403 feet of the well consists of double casing: 4-inch galvanized steel inside of 8-inch carbon steel.

2.6 Drilling Contractor

The Waihee Deep Monitor Well was constructed by Wailani Drilling Inc. Their office is located at 110 Uahi Way, Wailuku, Maui, Hawaii. The licensed driller for this project is Michael Robertson.
8" SOLID x 5/16" THK. STEEL CASING - 0-403'

CEMENT GROUT

4" SOLID x 0.25" THK. GALV. STEEL INNER CASING - 0-403'

ROCK/GRAVEL PACKING

4" SLOTTED x 0.25" THK. TYPE 304 S.S. CASING - 403'-903'

8" OPEN HOLE - 403'-903'

SECTION THRU WELL
NOT TO SCALE
2.7 Construction Schedule

The CWRM authorized the release of funds for the construction of the Waihee Deep Monitor Well on June 21, 2006. The purpose of the well was to provide long term monitoring data to manage the groundwater resources in the Wailuku Aquifer Sector. The drilling contractor was issued notice to proceed on May 14, 2007. The permit to construct the well was approved by the CWRM on August 8, 2007. Drilling of the well and installation of the outer solid casing was completed in late September 2007. Additional construction related activities including fencing the site and establishing the benchmark at the well were performed in 2008. The installation of the inner 4-inch casing of 500 feet of slotted casing below 403 feet of solid casing was completed by September 2011.

3.0 LOCATION MAP

The location of the Waihee Deep Monitor Well is shown in Figures 1 and 2.

4.0 AS-BUILT CROSS SECTION OF WELL

The as-built cross section of the well is shown in Figure 5 as recorded on the Well Completion Report prepared by Wailani Drilling, Inc. contained in Appendix A.

5.0 DRILLER’S LOG

A copy of Wailani Drilling Inc.’s drilling log is included in Appendix A.

6.0 PLUMBNESS DATA

The plumbness of the borehole was checked by Wailani Drilling, Inc. to a depth of 893 feet bgs. A copy of the drift record is provided in Appendix A.

7.0 DRILLING HISTORY

The notice to proceed for well drilling was issued in May 2007. The well was drilled and the outer casing was installed to a depth of 403 feet bgs in late September 2007. Site work including grading and fencing was performed in 2008. Rock obstructions were observed in the uncased portion of the well in video logs recorded in July 2008 and January 2009 that prevent instrumentation from passing through the well. The CWRM approved lining the open-hole portion of the well with slotted casing in March 2009 because of unanticipated unstable geology in the borehole. The installation of the lining was completed by September 2011 and provided safe passage of instrumentation throughout the well.
8.0 WATER CHEMICAL ANALYSIS

Wailani Drilling Inc. personnel collected a grab sample of water at approximately mean sea level on September 25, 2011. The water sample had a concentration of chloride of 20 milligram per liter (mg/l) and temperature of 69 degree Fahrenheit. No water samples were provided to the consultant for chemical analysis by the CWRM for the Waihee Deep Monitor Well.

9.0 CONDUCTIVITY AND TEMPERATURE PROFILES

Conductivity, temperature and depth were measured by the CWRM personnel on November 8, 2011. The depth profiles of conductivity and temperature are shown in Figure 6. The top of the transition zone is located at elevation -169.37 feet msl, the fresh water layer is approximately 172 feet thick, and the midpoint of the transition zone is located at elevation -359.24 feet msl.

10. ROCK CHEMICAL ANALYSIS

No rock chemical analysis was requested from the consultant by the CWRM for the Waihee Deep Monitor Well.

11. PHOTOS – BEFORE AND AFTER WELL COMPLETION

Photos of the before and completed well site are shown in Figures 7 and 8. The completed well site is secured by fencing and a gate with lock that is integrated with the reservoir fencing.

12. SUMMARY

The Waihee Deep Monitor Well will complement the network of the CWRM deep monitor wells that provide long-term data on the movement of freshwater/saltwater transition zone in Hawaii's principal basal aquifers. These deep monitor wells penetrate the freshwater zone, transition zone and part of the saltwater zone in order to monitor the position of the transition zone. The transition zone is constantly moving up and down in response to both natural (i.e., recharge by rain) and manmade (i.e., pumping) perturbations.

The Waihee Deep Monitor Well was drilled in the Maui Wailuku Sector, Waihee Basal Unconfined Flank Aquifer System according to Mink and Lau (1990). The status code for the aquifer system indicates that it is currently used for drinking water with a freshwater chloride concentration of less than 250 mg/l. The groundwater resources of this aquifer are irreplaceable with a high vulnerability to contamination (Mink and Lau, 1990).
Temperature (°C)

Specific Conductivity (μS/cm)

TTZ (1,000 μS/cm) ≈ -169.37 ft msl; 20.34°C
MPTZ (25,000 μS/cm) ≈ -359.24 ft msl; 20.64°C
WL Elev = 3.12 ft msl
NORTH WAIHEE 1.0 M.G. RESERVOIR

ALTERNATE ENTRY GATE

PROPOSED WELL SITE

CRUSHED ROCK PILE

MAIN ENTRY GATE

AC ACCESS ROAD

PHOTO OF PROPOSED WELL SITE

PREPARED FOR:
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

Shimabukuro, Endo & Yoshizaki, Inc.
Civil & Structural Engineers

WAIHEE DEEP MONITOR WELL
WAHEE, MAUI, HAWAII

FIGURE 7
PHOTO OF COMPLETED WELL SITE

FIGURE 8
Conductivity and temperature were measured with depth by the CWRM on November 8, 2011. The measurements showed that the top of the transition zone is located at elevation –169.37 feet msl, the fresh water layer is 172 feet thick, and the midpoint of the transition zone is located at elevation –359.24 feet msl.

The Waihee Deep Monitor will be a vital additional to the CWRM’s statewide network of deep monitoring wells. The conductivity, temperature, water level and depth measurements collected from this well over time will provide valuable data that will assist in understanding and managing the aquifer systems in Maui.

13.0 REFERENCES


APPENDIX A

PROJECT DATA

Well Completion Report
Plumbness Drift Record
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

WELL COMPLETION REPORT - PART I

Well Construction

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 821, Honolulu, Hawaii 96809. The Commission may not accept incomplete reports. This form shall be submitted within 60 days of the completion of work. For assistance, please consult the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at 808-586-8366. For updates to this form or additional information, please visit our website at http://www.state.hi.us/ldnr/owm/

1. State Well No.: 5431-04 Well Name: Waihee Deep Monitor Well Island: Maui
2. Address: Tax Map Key: 2 2 1 3
4. Drilling method used during construction: ☑ Rotary ☐ Percussion ☐ Other (describe)
5. Date Well Construction (drilled, cased, grouted) completed: 9/25/21
6. Was the subject well cored? ☑ Yes ☐ No
7. Step-Drawdown Test completed? ☑ Yes ☐ No
8. Constant Rate Aquifer Test completed? ☑ Yes ☐ No
9. Water Level Data:
   | Reference point | Depth to | Water Level | Date/time of |
   | elevation       | water (ft)| ft. above | measurement  |
   |                 | (feet, m)| mean sea | (see note below) |
   |                 |          | level | below)             |
9. Initial encountered during drilling (this should also be filled in on the driller's log) 394.5 ft, 120 m | 394.5 ft, 120 m | 89.1 ft, 27.1 m | 8.27.07 |
10. Just prior to casing installation 394.5 ft, 120 m | 394.5 ft, 120 m | 89.1 ft, 27.1 m | 9.10.07 |
11. After casing installation (this information should be filled in before any pump tests are performed with casing installed) If this reference point is not the benchmark, the difference between the benchmark and this point is: 392.33 ft, 119.6 m | 392.33 ft, 119.6 m | 89.1 ft, 27.1 m | 9.25.11 |
12. As-built section filled in completely ☑
13. Photograph of well and concrete pad showing benchmark on concrete pad attached ☑
14. GPS coordinates provided in degrees, minutes, seconds ☐
15. If a pump is not planned to be installed, please describe (below in the remarks section) how well is secured to prevent unauthorized access (example: lockable cover, threaded coupling, etc.)
16. Remarks: This well is monitor tube are secured in a 4" thread cap with a lock bar. A locked junction box. Both looks are keyed alike. This well will be used for monitoring purposes. It will be attached as built with a sleeve installed.

Licensed Driller (print) Michael Robertson C-57 Lic. No. 20115
Signature
Date 9/25/11
12. AS-BUILT WELL SECTION (Please attach as-built if different from diagram provided below)

Elevation at top of casing 237.13 ft., msl* (to nearest 0.01 ft.)

Grouting:
- Cement Grout: 0.01 ft. (min. 70% of distance from ground elevation to top of water surface or 500 ft., whichever is less.)
- Annular space between hole and casing (1.5" for positive displacement, 3" for other methods):
- Rock or Gravel Packing:
  - Material: Crushed Basalt or Rounded Gravel
- Water Level Elevation:
  - 4.8 ft., msl* (item 11 from page 1)

Grouting method:
- Positive displacement (if annular space is less than two inches, attach photo of trimmer)
- Other

Total Depth 903 ft.

*msl = mean sea level

Solid Casing Material:
- Carbon Steel: compliant with (check one or more):
  - ANSI/AWWA C200
  - API Spec. 5L
  - ASTM A53
  - ASTM A139
  - Other
- Stainless Steel: (check one):
  - ASTM A409 (production wells)
  - ASTM A53 (monitor wells)
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one)
  - Schedule 40
  - Schedule 80
- PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one)
  - Schedule 40
  - Schedule 80
  - Schedule 120
- Thermoset Plastic: (check one)
  - Fiberglass Pressure Pipe conforming to ASTM D2696
  - Centrifugally Cast Resin Pipe conforming to ASTM D2697
  - Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3617
  - Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
  - PTFE Fluorocarbon Tubing conforming to ASTM D3296
  - FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:
- Carbon Steel: compliant with (check one or more):
  - ANSI/AWWA C200
  - API Spec. 5L
  - ASTM A53
  - ASTM A139
  - Other
- Stainless Steel: (check one):
  - ASTM A409 (production wells)
  - ASTM A53 (monitor wells)
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one)
  - Schedule 40
  - Schedule 80
- PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one)
  - Schedule 40
  - Schedule 80
  - Schedule 120
- Thermoset Plastic: (check one)
  - Fiberglass Pressure Pipe conforming to ASTM D2696
  - Centrifugally Cast Resin Pipe conforming to ASTM D2697
  - Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3617
  - Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
  - PTFE Fluorocarbon Tubing conforming to ASTM D3296
  - FEP Fluorocarbon Tubing conforming to ASTM D3296

Please refer to the HAWAII WELL CONSTRUCTION AND PUMP INSTALLATION STANDARDS to ensure that your as-built is in compliance with applicable standards.

WCR1 Form 9/12/07 Page 2 of 5
# 2007

**DRILLER'S LOG**

**WELL NUMBER:** 5183-09

In addition to the driller's log, if a geologic log was prepared, please submit with this form.

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description</th>
<th>Water Level</th>
<th>Ch</th>
<th>Dates</th>
<th>Depths (ft.)</th>
<th>Rock Description</th>
<th>Water Level</th>
<th>Ch</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 200</td>
<td>tan ash</td>
<td></td>
<td></td>
<td></td>
<td>620 to 690</td>
<td>large chips of rock</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>260 to 260</td>
<td>grey powder</td>
<td></td>
<td></td>
<td></td>
<td>690 to 700</td>
<td>soft, med. dark gray, chip</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>290 to 310</td>
<td>dark gray</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>240 to 310</td>
<td>large gray</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>290 to 310</td>
<td>gravel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>340 to 399</td>
<td>dark gray chip</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>310 to 330</td>
<td>large gray</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>330 to 340</td>
<td>hard blue rock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>340 to 370</td>
<td>red porous rock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>370 to 380</td>
<td>brown clay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>399 to 400</td>
<td>fine gray powder</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400 to 447</td>
<td>brown clay &amp; tan ash, broke</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>403 to 447</td>
<td>through and at 399, in the water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>447 to 447</td>
<td>large porosity, red &amp; black cuttings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>447 to 447</td>
<td>casing cement back to 403</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>447 to 447</td>
<td>drilling through cement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>447 to 447</td>
<td>porous water bearing red &amp; black rock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>447 to 447</td>
<td>porous water bearing red &amp; black rock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>680 to 700</td>
<td>hard rock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>700 to 800</td>
<td>med. to soft red &amp; black</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>820 to 820</td>
<td>hard blue rock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

8/1/07: 11am: sounding from ground level to static water is 391.7 ft.

chlorides: 70

temperature: 60°
Well Elevation

Benchmark Elevation 397.13

Attach photos of completed well and concrete pad showing benchmark location.

I certify that the elevation shown above:

1) Was done in accordance with acceptable surveying practices
2) Is accurate to the nearest 0.01 ft.
3) Is referenced to mean sea level

Surveyor License No. 75824
Date 7/10/08
Waihee Deep Monitor Well

Existing 14.5" Bore hole w. 3" grout around 8" casing to 400'

4" - 304 Stainless Sched 40

Mill slotted casing
16 Row 2 slotts per row
32 Slots per ft
Slot size .25" x 2.5" long
Open area = 20 sq in. per foot.

4" + 8"
Solid gale to 403'

500 4" S.S.
Slotted from 400 - 903'

Suspend 4" from welded plate on top

May 19, 2011
Hand drawing (not to scale)

Michael Roberts
<table>
<thead>
<tr>
<th>Depth</th>
<th>Inclination</th>
<th>Remarks</th>
<th>Driller</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>Miss Run #</td>
<td></td>
<td>S. Quade</td>
<td></td>
</tr>
<tr>
<td>683</td>
<td>28 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>273</td>
<td>13 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>13 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Miss Run #</td>
<td></td>
<td>S. Quade</td>
<td></td>
</tr>
<tr>
<td>683</td>
<td>28 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>273</td>
<td>13 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>13 m</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
OLD REPUBLIC Title & Escrow of Hawaii, Ltd.
PACIFIC GUARDIAN CENTER - MAKAI TOWER
733 Bishop Street, Suite 2600 Honolulu, Hawaii 96813
Phone: (808)  [redacted]  Fax: (808)  [redacted]

February 13, 2007

Gavin Chun
Department of Land & Natural Resources
Land Division
P. O. Box 621
Honolulu, Hawaii 96809

Re: Reference No. 6807006708
TMK: (2) 3-2-01-03

Invoice #6807006708INV

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>CHARGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary Report</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>State Tax (4.166%)</td>
<td>+208.30</td>
</tr>
<tr>
<td>Total</td>
<td>$5,208.30</td>
</tr>
<tr>
<td>(Purchase Order C32117)</td>
<td>$5,208.30</td>
</tr>
<tr>
<td>Final Balance Due</td>
<td>$5,208.30</td>
</tr>
</tbody>
</table>

Please return a copy of this invoice along with your payment.

Thank you for doing business with Old Republic Title and Escrow of Hawaii, Ltd.
October 27, 2006

Guy K. Bishaw
T/C-Historical Research Department
Old Republic Title & Escrow of Hawaii Ltd.
Pacific Guardian Center – Makai Tower
733 Bishop Street, Suite 2600
Honolulu, Hawaii 96813

Dear Sirs:

SUBJECT: NOTICE TO PROCEED
Preliminary Title Report Covering Privately-Owned Property
Located at Waihee, Maui, TMK (2) 3-2-01:03

Based on your submitted quote of $5,208.30, including 4.166% GET, a copy of which is enclosed, you have been selected and are hereby authorized to proceed with the above referenced assignment. Pursuant to your quote the time needed to complete this assignment is three to five months.

Also enclosed is a fully executed copy of Purchase Order C32117 for this assignment. Your fee will be paid after the title report and your invoice has been received. Please refer to the Purchase Order number on all invoices and certify your invoice(s) as follows:

"I certify that this is an original invoice and payment has not been received as of the date of this invoice"

Your Signature

Should you have any questions regarding this assignment or are unable to complete this assignment within the time permitted, please contact Mr. Gavin Chun at

Attachments:
Copy of bid dated September 29, 2006
Vendor copy of purchase order

Sincerely,

Russell Y. Tsuji
Administrator

cc: District Files
Central Files
September 29, 2006

Gavin Chun
Department of Land & Natural Resources
Land Division
P. O. Box 621
Honolulu, HI. 96809

Re: Time and Cost Estimates

TMs: (3) 5-6-01-por. 75, (2) 3-2-01-3, (1) 3-9-11-06, (1) 9-1-31-01,
(3) 6-1-03-15, (1) 6-9-01 16 and 29

Dear Mr. Chun,

Based on a preliminary search the Total estimated cost for a title report per parcel is as follows:

<table>
<thead>
<tr>
<th>Tax Key:</th>
<th>Description</th>
<th>Cost</th>
<th>Estimated Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(3) 5-6-01-75 por.</td>
<td>LCA 11216:29</td>
<td>$2,500</td>
<td>2-3 months</td>
</tr>
<tr>
<td>(2) 3-2-01-03</td>
<td>LCA 7713:24</td>
<td>$5,000</td>
<td>3-5 months</td>
</tr>
<tr>
<td></td>
<td>LCA 4405-BB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) 3-9-11-06</td>
<td>LCA 7713:30</td>
<td>$2,500</td>
<td>2-3 months</td>
</tr>
<tr>
<td>(1) 9-1-31-01</td>
<td>LCApp 1069</td>
<td>$2,000</td>
<td>1-3 months</td>
</tr>
<tr>
<td>(3) 6-1-03-15</td>
<td>LP Grant 5455</td>
<td>$2,000</td>
<td>1-3 months</td>
</tr>
<tr>
<td>(1) 6-9-01-16</td>
<td>LCApp 588</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) 6-9-01-29</td>
<td>Executive Order 1530</td>
<td>$4,000</td>
<td>1-3 months</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$18,000 + 4.166% Tax</td>
<td></td>
</tr>
</tbody>
</table>
Total Estimate Cost for all parcels is EIGHTEEN THOUSAND SEVEN
HUNDRED FIFTY DOLLARS ($18,000.00 plus a 4.166% State Tax). The
Estimated Time of Completion for all parcels combined will be EIGHT to
TEN (8-10) MONTHS commencing from the time of confirmation.

Please note; this estimate does not guarantee that the preliminary report (s)
will be free and clear of any encumbrances and/or breaks in the chain of
title. Due to the possibility of unforeseen circumstances in the course of this
search, there may be additional time and costs involved. We will inform you
if this matter should arise and will proceed with your acknowledgement and
consent.

If you decide to confirm the above estimate, please sign and submit this
letter to us, at your earliest convenience.

If you have any questions and/or concerns regarding the above, please feel
free to contact me.

Sincerely,

Guy K. Bishaw
T/C-Historical Research Department
Ext 116 (Office)
(808) Cell

Dated: ____________________________
Signed: __________________________
STATE OF HAWAII
REQUISITION & PURCHASE ORDER

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

NOTICE TO VENDORS
Conditions of purchase are listed on the back side of this purchase order. Please read carefully. Payments may be delayed if all steps are not followed.

OLD REPUBLIC TITLE & ESCROW OF HAWAII LTD.
PACIFIC GUARDIAN CENTER – MAKAI TOWER
733 BISHOP STREET, SUITE 2600
HONOLULU HI 96813

The State of Hawaii is an EQUAL EMPLOYMENT OPPORTUNITY and AFFIRMATIVE ACTION employer. We encourage the participation of women and minorities in all phases of employment.

<table>
<thead>
<tr>
<th>QUAN.</th>
<th>UNIT</th>
<th>DESCRIPTION</th>
<th>UNIT PRICE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ENCUMBRANCE TO PREPARE TITLE REPORT FOR WAIHEE DEEP MONITOR WELL, MAUI JOB NO. G55CM18B</td>
<td>5,208.30</td>
<td>5,208.30</td>
</tr>
</tbody>
</table>

GOODS/SERVICES RECEIVED IN GOOD ORDER AND CONDITION BY J. KAZANJIAN

REQUISITION NO. FOR DEPARTMENT USE ONLY

00290253

STATE ACCOUNTING FORM C-03
JULY 1, 1983 (REVISED)
February 13, 2007

Gavin Chun
Department of Land & Natural Resources
Land Division
P. O. Box 621
Honolulu, Hawaii 96809

Re: Reference No. 6807006708
  TMK: (2) 3-2-01-03

Invoice #6807006708INV

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>CHARGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary Report</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>State Tax (4.166%)</td>
<td>+208.30</td>
</tr>
<tr>
<td>Total</td>
<td>$5,208.30</td>
</tr>
<tr>
<td>(Purchase Order C32117)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$5,208.30</td>
</tr>
</tbody>
</table>

Final Balance Due             $5,208.30

Please return a copy of this invoice along with your payment.

Thank you for doing business with Old Republic Title and Escrow of Hawaii, Ltd.
This might be a refresher course for some, & news for others. In a nutshell, the Department goes before the Legislature every year to get their operating (including payroll) budget approved, before it can spend a cent. Prior to receiving legislative concurrence however, the Department’s budget must “pass muster” with B&F & the Governor. Once the budget is approved by the Legislature, it’s pretty much left in the hands of the Department to spend. unless the Governor opts to impose a spending restriction or moratorium.

In simplistic terms, the operating budget is cut into two pieces, Personal Services (payroll) & Other Current Expenses (nonpayroll). Some Divisions will also receive Capitol Improvement Project (CIP) funding from the Legislature. Each Division of the Department must then determine how they plan to spend their (budget) allotment in increments of quarters: 1st Quarter-July/Aug/Sept; 2nd Quarter-Oct/Nov/Dec; 3rd Quarter-Jan/Feb/Mar; 4th Quarter-Apr/May/June. These 4 quarters make up what is commonly referred to as the fiscal year, which always begins on July 1 & ends on June 30 of the following year.

The rule of thumb when dealing with general funds is that whatever is not spent in a particular quarter, becomes “frozen”, & cannot be spent later, unless ample justification is provided to B&F. At the end of the fiscal year, these unspent monies then “lapse” into the State’s General Fund (reserve). You’ll often hear people say “Spend it or lose it.” Unfortunately, the Administration does not reward you, if you are prudent with your spending, & end up “returning” money back to the General Fund. On the contrary, Departments have had their budgets reduced because B&F interpreted the returning of monies as the Department not needing the same monies in future years as well. Go figure.

With regard to Other Current Expenses, in prior years, the Purchase Order or PO as it is commonly known, was the primary means to encumber funding for a particular purchase. Other vehicles for purchasing are done through formal contracts, petty cash, & now P-Cards (charge cards). In order for a PO purchase to be charged to the same quarter in which the purchase is made, the PO must submitted to the Fiscal Office prior to the middle of the third (last month) of the quarter. The rules of the games have changed since, with the advent of the P-Cards. Divisions have now been asked to use P-Cards for all purchases under $2,500, unless the vendor does not accept them, whereby a PO would then suffice. Here comes the confusing part. In order for a P-Card purchase to be charged to the same quarter in which the purchase is made, the P-Card must be used prior to the middle of the second month of the quarter.

Back to budget allotment. At the beginning of each fiscal year, Divisions are asked to project their spending for the whole year, by quarters, as explained earlier. To a degree, the Division is “locked in” to spend only up to what it has projected for each quarter. Again, monies that are not spent in a quarter, are deemed “frozen”, & can only be “unfrozen” to be spend anew, with permission from B&F. This is not always a sure thing. B&F will generally withhold the monies, unless a good reason is given for the use of the monies. In lean years, it is almost impossible to get the monies back. The Division can also request that monies “be moved backwards”, once the initial allotment has been set. In other words, let’s say that the Division originally projected to spend $1,000,000 on a service in the 3rd Quarter. However, subsequently the Division has learned that it need the services to be performed in the 2nd quarter instead of the 3rd Quarter. The Division can request that the $1,000,000 be “moved” from the 3rd Quarter to the 2nd Quarter.

Given the above, it is imperative that the Division try to project its spending as accurately as possible. When Susan Danbara asks at the beginning of each quarter, what your needs are, it’s because we are
trying to get a handle on whether we have enough monies in the quarter to accommodate the needs. Travel in particular is troublesome. Because travel expenses are handled via the P-Card, & P-Card purchases again, must be made prior to the middle of the second month of each quarter in order for the purchase to be charged to the same quarter as when the purchase was made, the sooner we know when travel will take place, the better. I know that travel is oftentimes hard to gauge, since things that trigger travel, may just come up. But in other instances, such as Survey Branches' quarterly monitoring on the Neighbor Islands, or conferences, travel arrangements can be made well ahead of time.

Bottom line, we try to accommodate everyone's needs. But it would help a great deal if requests, even tentative ones, are made brought to Susan & Kathy's attention early on. So much time & effort is wasted when requests come in last minute. What it amounts to is that "others" get dragged in the process. & I don't only mean me, but people like Dennis, Roy, Joseph & Juliet from the Fiscal Office, & to a degree, Myra over at B&F. Next time it won't be me talking to them, it will be the perpetrator.
Thanks...Still gotta get the SPO forms, etc. approved. Once I get that I'll send it over.

Kevin L Gooding/DLNR/StateHiUS

----- Forwarded by Kevin L Gooding/DLNR/StateHiUS on 10/17/2006 10:42 AM -----

Thanks Gavin,

The money will come from the "land" portion of the project. Engineering is conducting the project for CWRM. Dennis will help get the PO so you can send the notice to proceed.

Kevin

----- Forwarded by Kevin L Gooding/DLNR/StateHiUS on 10/17/2006 10:32 AM -----

Kevin,

fyi--Finally was able to get bids for the required title report for the Waihee project.

Unfortunately the winning bid was $5,208.30. Although a lower bid did come in, it was late. Pursuant to Section 3-122-16.08 HAR I can't consider the late bid. I checked with SPO guys to see if there was a way I can accept the late bid because of the lower price...however, they confirmed I won't be able to.

I'll start the paper work (form SPO-10) and get that to you so that you can request a PO from Fiscal. Once you get the PO I think you'll have to get that paper work to me so I can send out a notice to proceed. Not real sure of the procedure but I'll be checking with our appraiser because he does this on a regular basis.

Gav
9/14/06

I spoke with Gary. He said he got verbal assurance that the two title companies would give an estimate. He will know by the end of the month.

KZ

9/14/06 - Dennis said that Mike Robertson is back in Hawaii. Will have the contract signed in the next week or two.

KZ
Kevin,

Sorry for the delay in responding. I was ill with the flu last week from July 26, 2006 to July 28, 2006.

This is in response to the following questions raised in your July 28, 2006 e-mail:

1. Is the drilling contract awarding going OK?

   Yes, the drilling contract is currently being executed by the low bidder, Wailani Drilling Inc., with Notice to Proceed expected to be issued in October 2006.

2. Is the contract contingent on land acquisition?

   No. the contract is not contingent upon land acquisition. Contract is contingent upon availability of funds.

   Please note that according to p. P-5 of the Specifications, the Notice to Proceed may be delayed up to one (1) year after bid opening (May 18, 2006).

Dennis

Kevin L Gooding/DLNR/StateHiUS

Kevin L Gooding/DLNR/StateHiUS

I don’t think we have a strict deadline. We cannot begin construction without land acquisition. There is plenty of time before construction, kind of plenty. I would like to start drilling in October or November. Dennis, is the drilling contract awarding going OK? Is the contract contingent on land acquisition?

Kevin

Gavin G Chun/DLNR/StateHiUS
yup! Still working on getting the title report (PTR)

once I get the PTR I'll send it along with the survey map to DAGS to get their approval and a CSF

Then we can send everything over to Linda for AG approval, then send everything to Betsill before we get Peter to sign and record.

Do you have a deadline to get on the site?

Kevin L Gooding/DLNR/StateHiUS

Hi Gavin.

I want to be sure that I am not supposed to be doing something. I think the procedure right now is:

1. Wait for title search results. This is where we are now.
2. Continue processing easement documents.
3. Talk to Linda Chow about MOA for site access (MOA is already drafted).
4. Get AG approval and signature on MOA.
5. Get Betsill MOA signature.
6. DLNR signature.

Does this sound right?

Kevin.
Hi Gavin,

Please get the bids for the title search. Next week is fine. Dennis Imada at Engineering will arrange for paying the bill.

Kevin

Gavin G Chun/DLNR/StateHiUS

06/26/2006 09:26 AM

To Kevin L Gooding/DLNR/StateHiUS

cc

Subject Re: Fw: Waihee deep monitor well easement

---

No prob, I'm hardly ever invited either. Based on Russell's notes of the meeting there wasn't any questions or problems, just a quick approval. Later today I be sending over the survey you gave me to DAGS so they can prepare what they need.

We also need a title report done. Do you have one yet or is that something you can get through one of your contractors easily. If not, I can go out at get bids for you maybe later this week, early next week.

As far as the easement doc, I recall Linda Chow had previously something and that Betsill/Koolau Cattle was okay with the draft. Also a little later we might want to meet with Linda (I think she'll take this since she previously drafted the easement doc) on the MOA.

I kinda slammed this week but if I get some time I'll try get this set up to see where we are...I think we are in pretty good shape.

Gav

Kevin L Gooding/DLNR/StateHiUS

06/26/2006 09:14 AM

To Gavin G Chun/DLNR/StateHiUS

cc

Subject Re: Fw: Waihee deep monitor well easement

---

Thanks Gavin,

I was sick on Friday so I could not come to the Board meeting.

Kevin
fyi--Board approved as submitted. I’ll be sending out the official notice today and start getting everything ready. I’ll try to keep everyone updated as things progress and will contact appropriate parties as needed. During the interim, if anyone has any questions, please feel free to call me at [redacted]

Thanks,
Gav
FROM: DEAN
DATE: JUN 26 2006
SUSPENSE DATE: __________________________

TO: ANAKALEA, P.  INIT: KIMURA, J.
TO: CHING, F.  INIT: KUNIMURA, I.
TO: DANBARA, S.  INIT: NAKAMA, L.
TO: FUJII, N.  INIT: NAKANO, D.
TO: GOODING, K.  INIT: OHYE, M.
TO: HARDY, R.  INIT: SAKODA, E.
TO: HEKEKIA, J.  INIT: SWANSON, S.
TO: HOAGBIN, S.  INIT: UYENO, D.
TO: ICE, C.  INIT: YODA, K.
TO: IMATA, R.  INIT: YOSHINAGA, M.

FOR: Approval
FOR: Signature
FOR: Information
FOR: See Me
FOR: Review & Comment
FOR: Take Action
FOR: Type Draft
FOR: Type Final
FOR: File
FOR: Xerox ___ copies

PLEASE:
See Me
Review & Comment
Take Action
Type Draft
Type Final
File
Xerox ___ copies

Kevin - please follow up on the Title Report such that we can complete the easement/cesspools.

Also, what is the status of the access to the site and the meter? Please keep me posted. Thanks, Dean.
MEMORANDUM

TO:       Dean A Nakano, Acting Deputy Director  
          Commission on Water Resource Management  
FROM:    Russell Y. Tsuji  
         Administrator  
SUBJECT: Acquisition of Non-Exclusive Easement Over Private Lands and Set Aside to Department of Land and Natural Resources, Commission of Water and Resource Management for Deep Monitor Well Purposes, Waihee, Maui, Tax Map Key: (2) 3-2-01:03 por.

We are pleased to inform you that at its meeting of June 23, 2006, under agenda item D-8 (copy enclosed), the Board of Land and Natural Resources approved the above referenced request.

Whereas, we have previously received the metes and bounds description and map of the proposed easement prepared by ControlPoint Surveying, Inc., CWRM remains responsible for the costs of a title report covering the privately-owned land being encumbered, as required by the Board.

Upon our receipt of the title report, we will continue processing the aforementioned easement. As approved by the Board, construction of the well improvements may not begin until acquisition of the proposed easement is completed.

If you have any questions, please feel free to contact Gavin Chun at [redacted].

Thank you.

Enclosure

cc:       Central Files  
          District Files
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Land Division
Honolulu, Hawaii 96813

June 23, 2006

Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

PSF No.: 06MD-063

Maui

Acquisition of Non-Exclusive Easement Over Private Lands and Set Aside to Department of Land and Natural Resources, Commission of Water Resource Management for Deep Monitor Well Purposes, Waihee, Maui, Tax Map Key: (2) 3-2-01:03 por.

APPLICANT AGENCY:
Department of Land and Natural Resources, Commission of Water Resource Management.

PRIVATE LANDOWNER:
Koolau Cattle Company LLC, a domestic limited liability company whose business and mailing address is 635 Kenolio Road, Kihei, Hawaii 96753.

LEGAL REFERENCE:
Sections 107-10, 171-11 and 171-30, Hawaii Revised Statutes, as amended.

LOCATION:
Privately-owned lands situated at Waihee, Maui, identified by tax map key: (2) 3-2-01:03, as shown on the attached map labeled Exhibit A. General location of the proposed easement is further identified on the attached location map labeled Exhibit B.

AREA:
80 square feet, more or less.

ZONING:
State Land Use District: Agricultural
County of Maui CZO: Agricultural
CURRENT USE:

Vacant and unencumbered.

CONSIDERATION:

None. Private landowner is dedicating the subject easement at no cost to the State.

PURPOSE:

The proposed non-exclusive easement will be for deep monitor well purposes pursuant to §174C-14, HRS.

CHAPTER 343 - ENVIRONMENTAL ASSESSMENT:

This action before the Board involves a dedication of land that does not require the use of State funds to acquire land. Therefore, this action is exempt from the provisions of Chapter 343, HRS, relating to environmental impact statements.

Inasmuch as the Chapter 343 environmental requirements apply to Applicant's use of the lands, the proposed deep monitor well is exempt pursuant to Exemption Class #5, Item No. 2 of the Comprehensive Exemption List for the Department of Land and Natural Resources, Division of Water and Land Development, as approved by the Environmental Quality Commission, September 19, 1984, which reads:

"Construction of test wells not more than 8 inches in diameter to provide ground truth for water resources investigations, the suggested size will enable the aquifer to be tested for its physical, chemical, biological qualities, as well as providing a pumping test to determine the specific capacity of the aquifer. Test wells shall not be developed to serve water unless an EIS or negative declaration is prepared."

APPLICANT REQUIREMENTS:

Applicant shall be required to:

1) Provide survey maps and descriptions for the privately-owned property according to State DARGS standards and at Applicant's own cost;
2) Obtain a title report for the privately-owned property at Applicant's own cost and subject to review and approval by the Department;

REMARKS:

The Department of Land and Natural Resources, Commission on Water Resource Management (CWRM) is requesting the Board of Land and
Natural Resources (BLNR) to approve the acquisition of a non-exclusive easement for deep monitor well purposes and a memorandum of agreement for well construction, maintenance and monitoring access purposes.

Whereas planned development in Waihee is believed to exceed the sustainable yield of the neighboring Iao Aquifer System (IAS), the County of Maui has developed additional wells in Waihee to alleviate the demands on the IAS. These county wells only penetrate into the freshwater portion of the basal aquifer and do not provide a complete profile of the Waihee Aquifer System (WAS).

Considering the continuing development in central Maui, water demand is expected to eventually exceed the sustainable yield of the Waihee aquifer as well. Consequently, CWRM has determined that data on the basal aquifer, transition zone and saline zone beneath the WAS is needed to help substantiate its sustainable yield and determine if a ground-water management designation is appropriate. Moreover, this data will allow the County of Maui, Department of Water Supply to more effectively operate their potable wells in the area.

Accordingly, CWRM has identified an appropriate site for a proposed deep monitor well situated on a ±370-acre privately-owned vacant parcel identified as TMK (2) 3-2-01:03 (Exhibit A). It is anticipated that the proposed deep monitor well will provide the required data for analysis.

Subject to BLNR approval, the landowner has agreed to dedicate gratis to the State an approximate 80 square foot nonexclusive perpetual easement, as identified by CWRM and generally depicted on Exhibit B, attached. However, should CWRM subsequently determine that the proposed easement is no longer necessary, said easement shall revert to the private land owner, its heirs or its assigns, provided that CWRM reasonably restores the area back to its original condition, or to a condition as mutually agreed to between CWRM and the owner.

Moreover, the landowner has agreed to provide access to the easement area for well construction, maintenance and monitoring purposes, at no cost to the State. Access terms will be mutually agreed upon and documented by a memorandum of agreement (MOA), subject to review and approval by the Department of the Attorney General (DAG), and recorded in the Bureau of Conveyance as an additional encumbrance on the privately-owned property.

CWRM has secured $431,000 (CIP LNR 404, Project G55E Waihee Deep Monitor Well, Maui) for planning, design, construction, land and equipment. Although planning and design of the proposed deep monitor well are underway, construction will not commence prior to the acquisition of the proposed nonexclusive easement.
Although a Phase I Environmental Site Assessment (ESA) is typically required when the State acquires an interest in land, staff notes that a Phase I ESA should not be required for this proposed acquisition. Whereas historical use of the parcel has reportedly been limited to cattle grazing due to its steep and rocky terrain, it appears unlikely that any recognized environmental concerns would be identified on the proposed 80-square foot nonexclusive easement area. Based on the foregoing, requiring CWRM to procure a Phase I Environmental Site Assessment does not appear to represent a prudent use of public funds.

Consequently, should any environmental concerns be identified within the proposed 80-square foot easement area while or immediately following CWRM's use, CWRM shall be responsible for any required remediation within the proposed easement.

Comments were solicited from the Department of Hawaiian Home Lands, Department of Land and Natural Resources, Engineering Division, Office of Hawaiian Affairs and County of Maui's Department of Public Works and Environmental Management, and Department of Water Supply.

DLNR, Engineering Division provided that "the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone C. The National Flood Insurance Program does not have any regulations for developments within Zone C." No other comments or objections were received.

RECOMMENDATION: That the Board:

1. Authorize the acquisition of a the subject nonexclusive easement over private lands under the terms and conditions cited above which are by this reference incorporated herein and further subject to the following:
   
   A. The terms and conditions of a memorandum of agreement document providing access for well construction, maintenance and monitoring purposes;
   
   B. The standard terms and conditions of the most current perpetual non-exclusive easement document form, as may be amended from time to time;
   
   C. Review and approval by the Department of the Attorney General;
   
   D. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.

2. Approve of and recommend to the Governor the issuance of an executive order setting aside the subject lands to Department of Land and Natural Resources, Commission of
Water Resource Management, under the terms and conditions cited above, which are by this reference incorporated herein and subject further to the following:

A. The standard terms and conditions of the most current executive order form, as may be amended from time to time;

B. Disapproval by the Legislature by two-thirds vote of either the House of Representatives or the Senate or by a majority vote by both in any regular or special session next following the date of the setting aside;

C. Review and approval by the Department of the Attorney General; and

D. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.

Respectfully Submitted,

[Signature]

Gavin Chun
Project Development Specialist

APPROVED FOR SUBMITTAL:

[Signature]

Peter T. Young, Chairperson
General location of proposed Waihee Deep Monitor Well

EXHIBIT "B"
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Qty</th>
<th>Unit</th>
<th>Description</th>
<th>State's Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>1</td>
<td>LS</td>
<td>Mobilization (not to exceed $20,000).</td>
<td>$ 20,000</td>
</tr>
<tr>
<td>2.</td>
<td>1</td>
<td>LS</td>
<td>Demobilization (not to exceed $20,000).</td>
<td>$ 20,000</td>
</tr>
<tr>
<td>3.</td>
<td>406</td>
<td>LF</td>
<td>Drilling 14-inch diameter hole from the ground surface to the bottom of the</td>
<td>$ 270 $ 109,620</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>cased section of well.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>500</td>
<td>LF</td>
<td>Drilling 7.5-inch diameter open hole below cased section of well.</td>
<td>$ 150 $ 75,000</td>
</tr>
<tr>
<td>5.</td>
<td>406</td>
<td>LF</td>
<td>Furnishing and installing 8-inch I.D., 5/16-inch wall thickness,</td>
<td>$ 65 $ 26,390</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>steel well casing.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>406</td>
<td>LF</td>
<td>Furnishing and installing 2.375-inch O.D. steel monitor tube with flush joint</td>
<td>$ 10 $ 4,060</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>thread.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>1</td>
<td>LS</td>
<td>Furnishing, installing, and painting above-ground 8-inch I.D.,</td>
<td>$ 1,050</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5/16-inch wall thickness, steel casing with lockable steel plate cap, in</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>place complete.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>1</td>
<td>LS</td>
<td>Furnishing, installing, and painting 18-inch I.D., 5/16-inch wall</td>
<td>$ 1,250</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>thickness, steel casing junction box with lockable steel plate cap, in</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>place complete.</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>30</td>
<td>LF</td>
<td>Rock packing the annular space, including concrete plug.</td>
<td>$ 80 $ 2,400</td>
</tr>
<tr>
<td>10.</td>
<td>376</td>
<td>LF</td>
<td>Cement-grouting the annular space, including grout seal.</td>
<td>$ 120 $ 45,120</td>
</tr>
<tr>
<td>11.</td>
<td>1</td>
<td>LS</td>
<td>6' x 8' x 4&quot; reinforced concrete slab.</td>
<td>$ 3,000</td>
</tr>
<tr>
<td>12.</td>
<td>50</td>
<td>LF</td>
<td>Placement of 6-foot high chain link fence with 3 strands of barbed wire, in</td>
<td>$ 40 $ 2,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>place complete.</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>1</td>
<td>EA</td>
<td>12' wide drive gate.</td>
<td>$ 1,300 $ 1,300</td>
</tr>
<tr>
<td>14.</td>
<td>1</td>
<td>LS</td>
<td>Project sign, in place complete.</td>
<td>$ 500</td>
</tr>
<tr>
<td>15.</td>
<td>1</td>
<td>Allow</td>
<td>Field office</td>
<td>$ 5,000</td>
</tr>
<tr>
<td>16.</td>
<td>1</td>
<td>LS</td>
<td>Clearing and grubbing.</td>
<td>$ 2,000</td>
</tr>
<tr>
<td>17.</td>
<td>1</td>
<td>LS</td>
<td>Grading, as needed, and placement of polyethylene sheet and 4&quot; ASTM No. 67</td>
<td>$ 15,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>rock at site and access road with concrete header.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total Sum Base Bid</td>
<td>$ 333,690</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------</td>
<td>---------------------------</td>
<td>------------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Unit Price</td>
<td>Total</td>
<td>Unit Price</td>
<td>Total</td>
<td>Unit Price</td>
</tr>
<tr>
<td>$20,000</td>
<td>20,000</td>
<td>$20,000</td>
<td>$20,000</td>
<td></td>
</tr>
<tr>
<td>$2,000</td>
<td>20,000</td>
<td>$20,000</td>
<td>$20,000</td>
<td></td>
</tr>
<tr>
<td>$500</td>
<td>203,000</td>
<td>$275</td>
<td>111,650</td>
<td></td>
</tr>
<tr>
<td>$85</td>
<td>42,500</td>
<td>$175</td>
<td>87,500</td>
<td></td>
</tr>
<tr>
<td>$65</td>
<td>26,390</td>
<td>$125</td>
<td>50,750</td>
<td></td>
</tr>
<tr>
<td>$20</td>
<td>8,120</td>
<td>$80</td>
<td>32,480</td>
<td></td>
</tr>
<tr>
<td>$2,000</td>
<td>1,750</td>
<td>$1,000</td>
<td>$2,000</td>
<td></td>
</tr>
<tr>
<td>$1,000</td>
<td>2,500</td>
<td>$2,500</td>
<td>$3,000</td>
<td></td>
</tr>
<tr>
<td>$50</td>
<td>1,500</td>
<td>$125</td>
<td>3,750</td>
<td></td>
</tr>
<tr>
<td>$25</td>
<td>9,400</td>
<td>$75</td>
<td>28,200</td>
<td></td>
</tr>
<tr>
<td>$1,000</td>
<td>3,500</td>
<td>$1,000</td>
<td>$4,000</td>
<td></td>
</tr>
<tr>
<td>$40</td>
<td>2,000</td>
<td>$150</td>
<td>7,500</td>
<td></td>
</tr>
<tr>
<td>$1,200</td>
<td>2,000</td>
<td>$150</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>$500</td>
<td>2,000</td>
<td>$750</td>
<td>$1,000</td>
<td></td>
</tr>
<tr>
<td>$5,000</td>
<td>5,000</td>
<td>$5,000</td>
<td>$5,000</td>
<td></td>
</tr>
<tr>
<td>$6,800</td>
<td>5,000</td>
<td>$26,375</td>
<td>$45,000</td>
<td></td>
</tr>
<tr>
<td>$1,500</td>
<td>12,000</td>
<td>$31,800</td>
<td>$80,000</td>
<td></td>
</tr>
<tr>
<td>$333,910</td>
<td>395,580</td>
<td>$426,925</td>
<td>$592,190</td>
<td></td>
</tr>
<tr>
<td>TO: ANAKALEA, P.</td>
<td>INIT:</td>
<td>TO: KIMURA, J.</td>
<td>INIT:</td>
<td>FOR: Approval</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>CHING, F.</td>
<td></td>
<td>KUNIMURA, I.</td>
<td></td>
<td>Signature</td>
</tr>
<tr>
<td>DANBARA, S.</td>
<td></td>
<td>NAKAMA, L.</td>
<td></td>
<td>Information</td>
</tr>
<tr>
<td>FUJI, N.</td>
<td></td>
<td>NAKANO, D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOODING, K.</td>
<td></td>
<td>OHYE, M.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HARDY, R.</td>
<td></td>
<td>SAKODA, E.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEKEKIA, J.</td>
<td></td>
<td>SWANSON, S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOAGBIN, S.</td>
<td></td>
<td>UYENO, D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICE, C.</td>
<td></td>
<td>YODA, K.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMATA, R.</td>
<td></td>
<td>YOSHINAGA, M.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kevin - for our current files. If you can make it, I would appreciate you attending the 6/13 meeting. Thank you for being such a great colleague.

Sincerely, Dean
MEMORANDUM

TO: Dean A Nakano, Acting Deputy Director
Commission on Water Resource Management

FROM: Russell Y. Tsuji
Administrator

SUBJECT: Acquisition of Non-Exclusive Easement Over Private Lands and Set Aside to Department of Land and Natural Resources, Commission of Water and Resource Management for Deep Monitor Well Purposes, Waihee, Maui, Tax Map Key: (2) 3-2-01:03 por.

The Board of Land and Natural Resources will consider the above referenced request at its meeting on June 23, 2006. Enclosed is a copy of the subject Board submittal, agenda item D-8, relating to this request. The meeting commences at 9:00 a.m. in the DLNR Boardroom located in the makai wing, first floor (Room 132), Kalanimoku Building, 1151 Punchbowl Street, Honolulu, Hawaii.

Although your presence is not required, applicants are encouraged to attend the meeting to provide any comments you may have and to answer questions the Land Board members may ask. Should you decide to attend, please sign in on the "move-up agenda" list to let the Board secretary know of your presence.

If you have any questions, please feel free to contact Gavin Chun at [Redacted].

Thank you.

Enclosure

cc: Central Files
    District Files
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Acquisition of Non-Exclusive Easement Over Private Lands and Set Aside to Department of Land and Natural Resources, Commission of Water Resource Management for Deep Monitor Well Purposes, Waihee, Maui, Tax Map Key: (2) 3-2-01:03 por.

APPLICANT AGENCY:

Department of Land and Natural Resources, Commission of Water Resource Management.

PRIVATE LANDOWNER:

Koolau Cattle Company LLC, a domestic limited liability company whose business and mailing address is 635 Kenolio Road, Kihei, Hawaii 96753.

LEGAL REFERENCE:

Sections 107-10, 171-11 and 171-30, Hawaii Revised Statutes, as amended.

LOCATION:

Privately-owned lands situated at Waihee, Maui, identified by tax map key: (2) 3-2-01:03, as shown on the attached map labeled Exhibit A. General location of the proposed easement is further identified on the attached location map labeled Exhibit B.

AREA:

80 square feet, more or less.

ZONING:

State Land Use District: Agricultural
County of Maui CZO: Agricultural
CURRENT USE:

Vacant and unencumbered.

CONSIDERATION:

None. Private landowner is dedicating the subject easement at no cost to the State.

PURPOSE:

The proposed non-exclusive easement will be for deep monitor well purposes pursuant to §174C-14, HRS.

CHAPTER 343 - ENVIRONMENTAL ASSESSMENT:

This action before the Board involves a dedication of land that does not require the use of State funds to acquire land. Therefore, this action is exempt from the provisions of Chapter 343, HRS, relating to environmental impact statements.

Inasmuch as the Chapter 343 environmental requirements apply to Applicant's use of the lands, the proposed deep monitor well is exempt pursuant to Exemption Class #5, Item No. 2 of the Comprehensive Exemption List for the Department of Land and Natural Resources, Division of Water and Land Development, as approved by the Environmental Quality Commission, September 19, 1984, which reads:

"Construction of test wells not more than 8 inches in diameter to provide ground truth for water resources investigations, the suggested size will enable the aquifer to be tested for its physical, chemical, biological qualities, as well as providing a pumping test to determine the specific capacity of the aquifer. Test wells shall not be developed to serve water unless an EIS or negative declaration is prepared."

APPLICANT REQUIREMENTS:

Applicant shall be required to:

1) Provide survey maps and descriptions for the privately-owned property according to State DAGS standards and at Applicant's own cost;

2) Obtain a title report for the privately-owned property at Applicant's own cost and subject to review and approval by the Department;

REMARKS:

The Department of Land and Natural Resources, Commission on Water Resource Management (CWRM) is requesting the Board of Land and
Natural Resources (BLNR) to approve the acquisition of a non-exclusive easement for deep monitor well purposes and a memorandum of agreement for well construction, maintenance and monitoring access purposes.

Whereas planned development in Waihee is believed to exceed the sustainable yield of the neighboring Iao Aquifer System (IAS), the County of Maui has developed additional wells in Waihee to alleviate the demands on the IAS. These county wells only penetrate into the freshwater portion of the basal aquifer and do not provide a complete profile of the Waihee Aquifer System (WAS).

Considering the continuing development in central Maui, water demand is expected to eventually exceed the sustainable yield of the Waihee aquifer as well. Consequently, CWRM has determined that data on the basal aquifer, transition zone and saline zone beneath the WAS is needed to help substantiate its sustainable yield and determine if a ground-water management designation is appropriate. Moreover, this data will allow the County of Maui, Department of Water Supply to more effectively operate their potable wells in the area.

Accordingly, CWRM has identified an appropriate site for a proposed deep monitor well situated on a 370-acre privately-owned vacant parcel identified as TMK (2) 3-2-01:03 (Exhibit A). It is anticipated that the proposed deep monitor well will provide the required data for analysis.

Subject to BLNR approval, the landowner has agreed to dedicate gratis to the State an approximate 80 square foot nonexclusive perpetual easement, as identified by CWRM and generally depicted on Exhibit B, attached. However, should CWRM subsequently determine that the proposed easement is no longer necessary, said easement shall revert to the private land owner, its heirs or its assigns, provided that CWRM reasonably restores the area back to its original condition, or to a condition as mutually agreed to between CWRM and the owner.

Moreover, the landowner has agreed to provide access to the easement area for well construction, maintenance and monitoring purposes, at no cost to the State. Access terms will be mutually agreed upon and documented by a memorandum of agreement (MOA), subject to review and approval by the Department of the Attorney General (DAG), and recorded in the Bureau of Conveyance as an additional encumbrance on the privately-owned property.

CWRM has secured $431,000 (CIP LNR 404, Project G55E Waihee Deep Monitor Well, Maui) for planning, design, construction, land and equipment. Although planning and design of the proposed deep monitor well are underway, construction will not commence prior to the acquisition of the proposed nonexclusive easement.
Although a Phase I Environmental Site Assessment (ESA) is typically required when the State acquires an interest in land, staff notes that a Phase I ESA should not be required for this proposed acquisition. Whereas historical use of the parcel has reportedly been limited to cattle grazing due to its steep and rocky terrain, it appears unlikely that any recognized environmental concerns would be identified on the proposed 80-square foot nonexclusive easement area. Based on the foregoing, requiring CWRM to procure a Phase I Environmental Site Assessment does not appear to represent a prudent use of public funds.

Consequently, should any environmental concerns be identified within the proposed 80-square foot easement area while or immediately following CWRM’s use, CWRM shall be responsible for any required remediation within the proposed easement.

Comments were solicited from the Department of Hawaiian Home Lands, Department of Land and Natural Resources, Engineering Division, Office of Hawaiian Affairs and County of Maui’s Department of Public Works and Environmental Management, and Department of Water Supply.

DLNR, Engineering Division provided that “the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone C. The National Flood Insurance Program does not have any regulations for developments within Zone C.” No other comments or objections were received.

RECOMMENDATION: That the Board:

1. Authorize the acquisition of a the subject nonexclusive easement over private lands under the terms and conditions cited above which are by this reference incorporated herein and further subject to the following:

   A. The terms and conditions of a memorandum of agreement document providing access for well construction, maintenance and monitoring purposes;

   B. The standard terms and conditions of the most current perpetual non-exclusive easement document form, as may be amended from time to time;

   C. Review and approval by the Department of the Attorney General;

   D. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.

2. Approve of and recommend to the Governor the issuance of an executive order setting aside the subject lands to Department of Land and Natural Resources, Commission of
Water Resource Management, under the terms and conditions cited above, which are by this reference incorporated herein and subject further to the following:

A. The standard terms and conditions of the most current executive order form, as may be amended from time to time;

B. Disapproval by the Legislature by two-thirds vote of either the House of Representatives or the Senate or by a majority vote by both in any regular or special session next following the date of the setting aside;

C. Review and approval by the Department of the Attorney General; and

D. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.

Respectfully Submitted,

Gavin Chun
Project Development Specialist

APPROVED FOR SUBMITTAL:

Peter T. Young, Chairperson
AGENDA
FOR THE MEETING OF THE BOARD OF LAND AND NATURAL RESOURCES

DATE: FRIDAY, JUNE 23 2006
TIME: 9:00 A.M.
PLACE: KALANIMOKU BUILDING
LAND BOARD CONFERENCE ROOM 132
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

A. MINUTES
1. May 26, 2006
2. June 9, 2006

B. CONSERVATION AND RESOURCES ENFORCEMENT
1. Request Board Approval to Enter into a Joint Enforcement Agreement between the Department of Land and Natural Resources, Division of Conservation and Resources Enforcement, and the National marine Fisheries Service, Office of Law Enforcement.

C. FORESTRY AND WILDLIFE
1. Amend Prior Board Action of May 26, 2006 (Item C-1), Approval of a Continuing Contractual Relationship for Operation of the Captive Propagation Program with the Zoological Society of San Diego.

D. LAND
1. Amend General Lease No. S-5619, Natural Energy Laboratory of Hawaii Authority, Covering Portions of Government Lands at Hamanamana, Kalaoa 1st - 4th, and Ooma 1st & 2nd, North Kona, Hawaii, TMK: (3) 7-3-09: and 7-3-43:
2. Authorize Sale of Road Right-of-Ways and Related Improvements to the County of Hawaii and Issuance of Management Right-of-Entry; Authorize Bill of Sale and Grant of Perpetual, Non-Exclusive Easement and Issuance of Management
Right-of-Entry to the Water Board of the County of Hawaii for Water System Infrastructure and Related Appurtenances, Kikala and Keokea, Puna, Hawaii, TMK: (3) 1-2-43.

3. Amend Prior Board Action of July 22, 2005, Item D-5, as amended-Cancellation of a Resolution Designating an Industrial Park; Cancellation of Governor's Executive Order No. 3892 to the Department of Land and Natural Resources for Industrial Park and Business Purposes; Set Aside to the Department of Transportation, Harbors Division for Maritime Purposes; and Issuance of a Management Right-of-Entry; Sand Island, Honolulu, Oahu, TMK: (1) 1-5-41:22 and 334.

4. Amend Prior Board Action of January 28, 2005 under Agenda Item D-8, for Grant of a 55-year Non-Exclusive Easement for Seawall Purposes to Kaulilani LLC, Honolulu, Oahu, TMK: 3-6-02:02 seaward.

5. Amend Prior Board Action of February 23, 2001 (Item D-11) and August 24, 2001 (Item D-20), Issuance of Revocable Permits to Various Private Parties; Issuance of Immediate Rights of Entry; and Set Asides to DLNR Division of Aquatic Resources, Freshwater Fisheries Development, County of Kauai, DLNR Division of Forestry and Wildlife, and DLNR Division of State Parks, Wailua, Lihue, Kauai, TMK: (4) 3-9-01: 02; 3-9-02:01, 09, 20 and 4-2-01:03.


8. Acquisition of Non-Exclusive Easement Over Private Lands and Set Aside to Department of Land and Natural Resources, Commission of Water Resource Management for Deep Monitor Well Purposes, Waihee, Maui, TMK: (2) 3-2-01:03 por.

9. Amend Prior Board Action of February 10, 2006, Item D-9; Issuance of Direct Lease for Private Noncommercial Pier Purposes, Honolulu, Oahu, TMK: (1) 3-6-01:30 seaward.

10. Consent to the Merger between Sunrise Capital, Inc. and Kona Bay Marine Resources, Inc., as it relates to: (1) General Lease Nos. S-4946 and S-5367, and Revocable Permit Nos. S-7256 and S-7252, issued by the Board of Land and Natural Resources to Sunrise Capital, Inc.; and (2) Sublease K-20 issued by the Natural Energy Laboratory of Hawaii Authority to Kona Bay Marine Resources, Inc.
E. STATE PARKS

1. Briefing to the Board on the Diamond Head Crater Celebration at Diamond Head State Monument.

2. Request to Use Diamond Head State Monument Once a Year for Two Years for the Diamond Head Crater Celebration.

3. Subject: Kokee State Park, Waimea, Kauai – Concession Lease SP-0039, The Lodge at Kokee, LLC – Proposal to increase cabin rental rate.

K. CONSERVATION AND COASTAL LANDS

1. Time Extension Request for Conservation District Use Permit HA-3137 for Saddle Road Improvements Section III - Located at Saddle Road, Milepost 19-27, island of Hawaii, TMKs: (3) 3-8-001:7, 8, 19; (3) 2-4-008:1, 4, 8; (3) 2-6-018: 4 & 10

L. ENGINEERING


M. OTHERS

1. Consent to Assignment of Harbor Lease No. H-87-29, as Amended, at Nawiliwili Harbor, Kauai.


ALL MATERIALS LISTED ON THIS AGENDA ARE AVAILABLE FOR REVIEW IN THE DLNR CHAIRPERSON'S OFFICE. ANY INDIVIDUAL REQUIRING SPECIAL ASSISTANCE OR ACCOMMODATIONS IS ASKED TO CONTACT THE CHAIRPERSON'S OFFICE AT [REDACTED] AT LEAST THREE DAYS IN ADVANCE OF THE MEETING.
Gavin,

We will not be present. However, if necessary we will be available by telephone.

MAHALO,

GARY ZAKIAN
General Counsel

Direct:

From: Gavin.G.Chun@hawaii.gov [mailto:Gavin.G.Chun@hawaii.gov]
Sent: Friday, June 16, 2006 11:00 AM
To: Gary Zakian; Kevin.L.Gooding@hawaii.gov
Cc: Michelle Cockett
Subject: Waihee deep monitor well–board meeting

All,

 Acquisition of the perpetual nonexclusive easement for deep monitor well purposes is Item D-8 on the June 23, 2006 BLNR meeting agenda. As always your presence is not recommended but not required. I'll be sending out the formal notices this afternoon along with the approved submittal.

Give me a call if there are any questions.

Gary/Michelle--please call me if Betsill Brothers decides to send a representative to the meeting.

Thanks,

Gav
No problem. I kinda figured that's what was needed.

fyi--I wrote it up as a perpetual easement that would revert back to the landowner if/when CWRM decides the well is no longer needed. If ever abandoned, CWRM would reasonably restore to original condition or to a condition mutually agreeable between CWRM/landowner.

I left a message with Gary (he had left for the day) indicating the same. I'll try touch bases with him again to verify no objections.

Also, although Linda had indicated she didn't think an EO was necessary, my recommendation is still to EO the easement to CWRM so in the unlikely event something ever happens on the 80 sf, CWRM would be the POC and handle.

I'll let you know if this gets placed on the agenda.

Kevin L Gooding/DLNR/StateHiUS

Hi Gavin,

Sorry, I was in Kona Wednesday and Thursday.

I would like it to be a perpetual easement.

Thanks,

Kevin

Gavin G Chun/DLNR/StateHiUS

Kevin--Got a simple question from Russell.. will this be a term easement (if so how long) or a perpetual
Linda--I know when we acquire fee title our policy has been to get the EO approved at the same time. But because this is just an easement, Russell is also asking if there needs to be an EO for this or can we circumvent the EO and paper work and have an easement in favor of DLNR for deep well monitor purposes?

Please advise.

Thanks,
Gav

----- Forwarded by Gavin G Chun/DLNR/StateHiUS on 06/14/2006 09:42 AM -----

Gavin G Chun/DLNR/StateHiUS To Kevin L Gooding/DLNR/StateHiUS
06/07/2006 02:48 PM cc
Subject Waihee Well submittal

Kevin,

just an fyi--per internal review, so far I've been asked to explain why no Phase I is being required. So I've included the following explanation. Also included that CWRM would be responsible to remediate if any hazardous stuff on the 80 sf easement if any haz waste is found during and immediately after. Any initial comments/objections?

Here's the insertion:

"Although a Phase I Environmental Site Assessment (ESA) is typically required when the State acquires an interest in land, staff notes that a Phase I ESA is not required for this proposed acquisition. Whereas historical use of the parcel has reportedly been limited to cattle grazing due to its steep and rocky terrain, it appears unlikely that any recognized environmental concerns would be identified on the proposed 80-square foot nonexclusive easement area. Based on the foregoing, requiring CWRM to procure a Phase I Environmental Site Assessment does not appear to represent a prudent use of public funds.

Consequently, CWRM shall be responsible for any required remediation to the 80-square foot easement area should any environmental concerns be identified while or immediately following CWRM's use of the proposed easement site."

Gav

----- Forwarded by Gavin G Chun/DLNR/StateHiUS on 06/14/2006 09:50 AM -----

Linda L Chow/AG/StateHiUS To Gavin.G.Chun@hawaii.gov@StateHiUS
06/02/2006 11:34 AM cc
Subject Re: Waihee Deep monitor well
Sounds good. When it gets approved (optimistic), you can send it to my attention so we don't have to re-invent the wheel.

Linda L.W. Chow
Deputy Attorney General
Land Transportation Division

Hi Linda,

I was contacted by Kevin Gooding (CWRM) while you were on vacation regarding the acquisition of a deep monitor well in Waihee, Maui. He had indicated that you were informally helping him out with this in the past (before Yvonne quit) and had drafted some easement docs for the acquisition.

Don't know if you will be catching this one when it comes in but wanted to let you know just in case.

fyi--I'll be taking the acquisition of the well easement to the board probably June 23rd. The situation is State gets a 80 s.f. nonexclusive easement for the well with access to be provided in a MOA which shall be recorded as an encumbrance on the surrounding property. Everything is free.

Although Kevin has drafts of an easement doc and a MOA for the access, I didn't want to attach the board submittal but just described the general purpose of both docs.

Gav
fyi--got a call from Gary a little while ago. He confirmed that the easement will be gratis and access will be provided. He had no additional comments to the submittal that was circulated and said we can go ahead with the submittal as is. I'll be sending it up the chain for internal review tomorrow unless you want anything else added in.

As I mentioned to you this AM and to Gary, I'll send the submittal out for the June 23 board meeting.

Seems as though the email address we originally used was correct.
Authorization to Award the Construction Contract for Job No. G55CM18B, Waihee Deep Monitor Well, Waihee, Maui

BACKGROUND:

Capital Improvement Program (CIP) funding for the subject project in the amount of $431,000 was appropriated to the department under Act 41, SLH 2004. Funding was provided for planning ($25,000), land ($10,000), design ($25,000), construction ($321,000), and equipment ($50,000) to construct a deep monitor well to collect hydrologic and geologic data from the Waihee ground water aquifer system on the island of Maui.

The proposed justification for the monitor well is as follows:

a. The Iao Aquifer, the major drinking water aquifer on Maui, was seriously threatened by over pumping resulting in the Commission on Water Resource Management (CWRM) officially designating the Iao Aquifer System area as a ground water management area on July 21, 2003. Planned authorized uses and source development outside the Iao Aquifer System has raised similar concerns of over pumping in the adjacent Waihee Aquifer System. On November 20, 2002, CWRM deferred designation of the Waihee Aquifer System area as a groundwater management area, and instead instituted various triggers that, if exceeded, would automatically designate Waihee as a groundwater management area.

b. The proposed deep monitor well will be used to confirm and substantiate the aquifer’s sustainable yield and performance to determine whether the aquifer is indeed over pumped or being severely threatened.

c. Also, the proposed deep monitor well will be used to provide CWRM with information that will provide them with a better understanding of the basal aquifer, transition zone, and saline zone beneath the Waihee Aquifer System. No well in this aquifer system currently provides this information.
Approval by the Governor was received on August 2, 2004, authorizing the release of planning, land, design, construction, and equipment funds totaling $431,000 to complete subject monitor well, and on March 6, 2006, authorizing the transfer of $40,000 in previously released equipment funds to construction.

Approval by the Chairperson of the Commission on Water Resource Management was received on July 28, 2004, selecting Shimabukuro, Endo & Yoshizaki, Inc., dba SEY Engineers, to provide consultant services associated with the planning and design of the subject deep monitor well.

PROJECT DESCRIPTION:

The project consists of constructing an 8-inch diameter deep monitor well, approximately 900 feet deep, in Waihee, Maui, located at the County of Maui, Department of Water Supply’s North Waihee Reservoir Site, and identified as Tax Map Key: (2) 3-2-01: Portion of 3.

Bids for the subject project were received and opened on May 18, 2006, and the results are as follows:

<table>
<thead>
<tr>
<th>Bidder</th>
<th>Total Sum Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wailani Drilling Inc.</td>
<td>$333,910.00</td>
</tr>
<tr>
<td>Valley Well Drilling, LLC</td>
<td>$395,580.00</td>
</tr>
<tr>
<td>Beylik Drilling &amp; Pump Service, Inc.</td>
<td>$426,925.00</td>
</tr>
<tr>
<td>Water Resources International, Inc.</td>
<td>$592,190.00</td>
</tr>
</tbody>
</table>

The low bid was submitted by Wailani Drilling. We have reviewed the bid and found it to be fair.

RECOMMENDATION:

That the Commission authorizes the Chairperson to proceed with awarding the contract for Job No. G55CM18B, Waihee Deep Monitor Well, Waihee, Maui, to Wailani Drilling, for their low bid of $333,910.00, and sign the necessary documents to implement the project.

Respectfully submitted,

DEAN NAKANO
Acting Deputy Director

Attachments
   Location of Proposed Deep Monitor Well
   Proposed Well Section
LOCATION MAP
SCALE: 1"=600'
NOTE:
DEPTHS AND ELEVATIONS SHOWN ARE APPROXIMATE. ACTUAL DEPTH TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

SECTION THRU WELL
NOT TO SCALE
Hi Gary,

Called earlier and left a message on your voice mail but thought I'd email too.

f.y.i.--to get this on the June 9th board meeting I'll have to start sending this up-stream today. Whereas I assume this isn't too high up on your priority list, we can take this to the board at a later date after you do have time to review the draft.

My boss just won't let Kevin's contractors hit the ground until the easement is conveyed.

If you have any questions let me know.

Thanks,
Gavin

----- Forwarded by Gavin G Chun/DLNR/StateHiUS on 05/26/2006 10:50 AM -----

Hi Gary,

Thanks for discussing the proposed conveyance of an easement for the deep monitor well last week with Kevin and I. Based on our discussion I've drafted the attached board submittal, which makes the assumption that the 80 s.f. easement would be conveyed gratis. Also I have left the private owner as Koolau Cattle Company, LLC because thus far all my research indicate this. If there has been a change in the ownership of TMK (2) 3-2-01:03 please let me know.

f.y.i--I did find a QCD dated 10/28/05 from Koolau Cattle to Aaron LLC and covering TMK (2) 3-2-01:03, but not the subject.

Please feel free to make any amendments and comments you want. The June 9th date is tentative and is just the soonest we can get this to the Land Board, we can reschedule to meet your schedule.

If there is something you would like to discuss further, please give me a call (1)...

Thanks,
Gavin
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Acquisition of Non-Exclusive Easement Over Private Lands and
Set Aside to Department of Land and Natural Resources,
Commission of Water Resource Management for Deep Monitor
Well Purposes, Waihee, Maui, Tax Map Key: (2) 3-2-01:03 por.

APPLICANT AGENCY:
Department of Land and Natural Resources, Commission of Water
Resource Management.

PRIVATE LANDOWNER:
Koolau Cattle Company LLC., a domestic limited liability company
whose business and mailing address is 635 Kenolio Road, Kihei,
Hawaii 96753.

LEGAL REFERENCE:
Sections 107-10, 171-11 and 171-30, Hawaii Revised Statutes, as
amended.

LOCATION:
Privately-owned lands situated at Waihee, Maui, identified by Tax
Map Key: (2) 3-2-01:03 por., as shown on the attached map labeled
Exhibit A.

AREA:
80 square feet, more or less.

ZONING:
State Land Use District: Agricultural
County of Maui CZO: Agricultural

CURRENT USE:
Vacant and unencumbered.
CONSIDERATION:

None. Private landowner is donating the subject lands at no cost to the State.

PURPOSE:

Deep monitor well and access easement pursuant to §174C-14, HRS

CHAPTER 343 - ENVIRONMENTAL ASSESSMENT:

This action before the Board involves a dedication of land that does not require the use of State funds to acquire land. Therefore, this action is exempt from the provisions of Chapter 343, HRS, relating to environmental impact statements.

Inasmuch as the Chapter 343 environmental requirements apply to Applicant's use of the lands, the proposed deep monitor well is exempt pursuant to Exemption Class #5, Item No. 2 of the Comprehensive Exemption List for the Department of Land and Natural Resources Division of Water and Land Development as approved by the Environmental Quality Commission, September 19, 1984, which reads:

"Construction of test wells not more than 8 inches in diameter to provide ground truth for water resources investigations, the suggested size will enable the aquifer to be tested for its physical, chemical, biological qualities, as well as providing a pumping test to determine the specific capacity of the aquifer. Test wells shall not be developed to serve water unless an EIS or negative declaration is prepared."

APPLICANT REQUIREMENTS:

Applicant shall be required to:

1) Provide survey maps and descriptions for the privately-owned property according to State DAGS standards and at Applicant's own cost;

2) Obtain a title report for the privately-owned property at Applicant's own cost and subject to review and approval by the Department;

REMARKS:

The Department of Land and Natural Resources, Commission on Water Resource Management (CWRM) is requesting the Board of Land and Natural Resources (BLNR) to approve the acquisition of a non-exclusive easement for deep monitor well purposes and a memorandum of agreement for well construction, maintenance and
monitoring access purposes.

Planned development in Waihee is believed to exceed the sustainable yield of the neighboring Iao Aquifer System (IAS). In its attempt to alleviate the demands on the IAS, the County of Maui has developed additional wells in Waihee. However, continuing development in central Maui is expected to eventually result in water demand exceeding the sustainable yield of the Waihee aquifer as well.

Whereas the existing county wells in the Waihee Aquifer System (WAS) only penetrate into the freshwater portion of the basal aquifer, these wells do not provide the complete profile of the WAS, which is needed to substantiate its sustainable yield and determine if a ground-water management designation is appropriate.

Consequently, CWRM has identified an appropriate location for a deep monitor well. Data from the proposed deep monitor well is expected to provide CWRM with a better understanding of the basal aquifer, transition zone and saline zone beneath the WAS. Moreover, data provided will allow the County of Maui, Department of Water Supply to more effectively operate their potable wells in the area.

However, the identified well site is situated on a ±370-acre privately owned vacant site identified as TMK (2) 3-2-01:03 (Exhibit A). It has been reported that historical use of this site has been limited primarily to cattle grazing due to the site’s steep and rocky terrain.

Subject to BLNR approval, the landowner has agreed to provide the State an approximate 80 square foot nonexclusive easement for the proposed deep monitor well. Location of the proposed easement is generally shown on Exhibit B, attached. Moreover, landowner has agreed to dedicate the proposed easement gratis.

Access to the easement area will be allowed for well construction, maintenance and monitoring purposes under a memorandum of agreement (MOA), terms of which shall be mutually agreed upon by the Department and the landowner, and subject to review and approval by the Department of the Attorney General (DAG). Moreover, this MOA shall be recorded in the Bureau of Conveyance as an additional encumbrance on the privately-owned property.

CWRM has secured $431,000 (CIP LNR 404, Project G55E Waihee Deep Monitor Well, Maui) for planning, design, construction, land and equipment. Although planning and design of the proposed deep monitor well are underway, construction will not commence prior to the acquisition of the proposed nonexclusive easement.

Comments were solicited from the Department of Hawaiian Home
Lands, Department of Land and Natural Resources, Engineering Division, office of Hawaiian Affairs and County of Maui Department of Public Works and Environmental Management and Department of Water Supply. No comments or objections were received.

RECOMMENDATION: That the Board:

1. Authorize the acquisition of a the subject nonexclusive easement over private lands under the terms and conditions cited above which are by this reference incorporated herein and further subject to the following:

   A. The terms and conditions of a memorandum of agreement document providing access for well construction, maintenance and monitoring purposes;

   B. The standard terms and conditions of the most current grant of non-exclusive easement document form, as may be amended from time to time;

   C. Review and approval by the Department of the Attorney General;

   D. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.

2. Approve of and recommend to the Governor the issuance of an executive order setting aside the subject lands to Department of Land and Natural Resources, Commission of Water Resource Management under the terms and conditions cited above, which are by this reference incorporated herein and subject further to the following:

   A. The standard terms and conditions of the most current executive order form, as may be amended from time to time;

   B. Disapproval by the Legislature by two-thirds vote of either the House of Representatives or the Senate or by a majority vote by both in any regular or special session next following the date of the setting aside;

   C. Review and approval by the Department of the Attorney General; and

   D. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.
Respectfully Submitted,

Gavin Chun
Project Development Specialist

APPROVED FOR SUBMITTAL:

Peter T. Young, Chairperson
TABULATION OF BIDS
State of Hawaii, Department of Land and Natural Resources
Engineering Division

DLNR Project No.: G55CM18B
Project: Waihee Deep Monitor Well
         Waihee, Maui
Bid Opening: May 18, 2006

<table>
<thead>
<tr>
<th>BIDDER / OFFEROR</th>
<th>BID</th>
<th>TOTAL SUM BID</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAILANI DRILLING</td>
<td>X</td>
<td>$333,910.00</td>
</tr>
<tr>
<td>VALLEY WELL DRILLING</td>
<td>X</td>
<td>$395,580.00</td>
</tr>
<tr>
<td>BEYLIK DRILLING INC</td>
<td>X</td>
<td>$426,925.00</td>
</tr>
<tr>
<td>WATER RESOURCES INT'L INC</td>
<td>X</td>
<td>$592,190.00</td>
</tr>
</tbody>
</table>

Bids Opened by: Edwin Matsuda    Eric Yuasa
Recorder: Lisa Koishigawa        Van Ness Dacanay

Bids opened and read publicly at the following address(s):
1151 Punchbowl Street, Room 221, Honolulu, HI 96813
130 Mahalani Street, Wailuku, Maui 96793

Listed Sub-Contractor for Wailani Drilling:
Norrie Excavation
Acquisition of Non-Exclusive Easement Over Private Lands and Set Aside to Department of Land and Natural Resources, Commission of Water Resource Management for Deep Monitor Well Purposes, Waihee, Maui, Tax Map Key: (2) 3-2-01:03 por.

APPLICANT AGENCY:

Department of Land and Natural Resources, Commission of Water Resource Management.

PRIVATE LANDOWNER:

Koolau Cattle Company LLC., a domestic limited liability company whose business and mailing address is 635 Kenolio Road, Kihei, Hawaii 96753.

LEGAL REFERENCE:

Sections 107-10, 171-11 and 171-30, Hawaii Revised Statutes, as amended.

LOCATION:

Privately-owned lands situated at Waihee, Maui, identified by Tax Map Key: (2) 3-2-01:03 por., as shown on the attached map labeled Exhibit A.

AREA:

80 square feet, more or less.

ZONING:

State Land Use District: Agricultural
County of Maui CZO: Agricultural

CURRENT USE:

Vacant and unencumbered.
CONSIDERATION:

None. Private landowner is donating the subject lands at no cost to the State.

PURPOSE:

Deep monitor well and access easement pursuant to §174C-14, HRS

CHAPTER 343 - ENVIRONMENTAL ASSESSMENT:

This action before the Board involves a dedication of land that does not require the use of State funds to acquire land. Therefore, this action is exempt from the provisions of Chapter 343, HRS, relating to environmental impact statements.

Inasmuch as the Chapter 343 environmental requirements apply to Applicant’s use of the lands, the proposed deep monitor well is exempt pursuant to Exemption Class #5, Item No. 2 of the Comprehensive Exemption List for the Department of Land and Natural Resources Division of Water and Land Development as approved by the Environmental Quality Commission, September 19, 1984, which reads:

"Construction of test wells not more than 8 inches in diameter to provide ground truth for water resources investigations, the suggested size will enable the aquifer to be tested for its physical, chemical, biological qualities, as well as providing a pumping test to determine the specific capacity of the aquifer. Test wells shall not be developed to serve water unless an EIS or negative declaration is prepared."

APPLICANT REQUIREMENTS:

Applicant shall be required to:

1) Provide survey maps and descriptions for the privately-owned property according to State DGS standards and at Applicant's own cost;

2) Obtain a title report for the privately-owned property at Applicant's own cost and subject to review and approval by the Department;

REMARKS:

The Department of Land and Natural Resources, Commission on Water Resource Management (CWRM) is requesting the Board of Land and Natural Resources (BLNR) to approve the acquisition of a non-exclusive easement for deep monitor well purposes and a memorandum of agreement for well construction, maintenance and
monitoring access purposes.

Planned development in Waihe'e is believed to exceed the sustainable yield of the neighboring Iao Aquifer System (IAS). In its attempt to alleviate the demands on the IAS, the County of Maui has developed additional wells in Waihe'e. However, continuing development in central Maui is expected to eventually result in water demand exceeding the sustainable yield of the Waihe'e aquifer as well.

Whereas the existing county wells in the Waihe'e Aquifer System (WAS) only penetrate into the freshwater portion of the basal aquifer, these wells do not provide the complete profile of the WAS, which is needed to substantiate its sustainable yield and determine if a ground-water management designation is appropriate.

Consequently, CWRM has identified an appropriate location for a deep monitor well. Data from the proposed deep monitor well is expected to provide CWRM with a better understanding of the basal aquifer, transition zone and saline zone beneath the WAS. Moreover, data provided will allow the County of Maui, Department of Water Supply to more effectively operate their potable wells in the area.

However, the identified well site is situated on a ±370-acre privately owned vacant site identified as TMK (2) 3-2-01:03 (Exhibit A). It has been reported that historical use of this site has been limited primarily to cattle grazing due to the site's rocky terrain.

Subject to BLNR approval, the landowner has agreed to provide the State an approximate 80 square foot nonexclusive easement for the proposed deep monitor well. Location of the proposed easement is generally shown on Exhibit B, attached. Moreover, landowner has agreed to dedicate the proposed easement gratis.

Access to the easement area will be allowed for well construction, maintenance and monitoring purposes under a memorandum of agreement (MOA), terms of which shall be mutually agreed upon by the Department and the landowner, and subject to review and approval by the Department of the Attorney General (DAG). Moreover, this MOA shall be recorded in the Bureau of Conveyance as an additional encumbrance on the privately-owned property.

CWRM has secured $431,000 (CIP LNR 404, Project G55E Waihe'e Deep Monitor Well, Maui) for planning, design, construction, land and equipment. Although planning and design of the proposed deep monitor well are underway, construction will not commence prior to the acquisition of the proposed nonexclusive easement.

Comments were solicited from the Department of Hawaiian Home
Lands, Department of Land and Natural Resources, Engineering Division, office of Hawaiian Affairs and County of Maui Department of Public Works and Environmental Management and Department of Water Supply. No comments or objections were received.

RECOMMENDATION: That the Board:

1. Authorize the acquisition of a the subject nonexclusive easement over private lands under the terms and conditions cited above which are by this reference incorporated herein and further subject to the following:
   A. The terms and conditions of a memorandum of agreement document providing access for well construction, maintenance and monitoring purposes;
   B. The standard terms and conditions of the most current grant of non-exclusive easement document form, as may be amended from time to time;
   C. Review and approval by the Department of the Attorney General;
   D. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.

2. Approve of and recommend to the Governor the issuance of An executive order setting aside the subject lands to Department of Land and Natural Resources, Commission of Water Resource Management under the terms and conditions cited above, which are by this reference incorporated herein and subject further to the following:
   A. The standard terms and conditions of the most current executive order form, as may be amended from time to time;
   B. Disapproval by the Legislature by two-thirds vote of either the House of Representatives or the Senate or by a majority vote by both in any regular or special session next following the date of the setting aside;
   C. Review and approval by the Department of the Attorney General; and
   D. Such other terms and conditions as may be proscribed by the Chairperson to best serve the interests of the State.
Respectfully Submitted,

Gavin Chun
Project Development Specialist

APPROVED FOR SUBMITTAL:

Peter T. Young, Chairperson
Kevin,

Attached is a revised draft of the submittal. Still using Koolau Cattle as owners because that is how still shows up on public records. I did find a quitclaim of the property from Koolau to Aaron LLC (Same guys). The only concern that raises right now (worst case scenario) is the title report indicates a clouded title that might prevent us from acquiring the easement. Might be unlikely because looks like Koolau got clean title when they bought from Wailuku Agribusiness back in 2003. Just don't know why they decided to quitclaim to themselves under the Aaron LLC name.

fyi--this draft assumes the no charge for the easement. Also I decided not to bring up waiving of the Phase I as I have not listed it as a requirement. Also since I don't have an environmental background I'm not qualified to make that call. However, I did very briefly bring up the size of the lot and past use and terrain to illustrate that the small easement site probably is a low risk for hazardous releases.

Let me know if you want to make any changes/amendments to clarify the situation.

Once we hear from Gary confirming the donation, I can put in your recommendations and forward to Gary for review.

Gav
5/16/06
Telephne conf with Gary

Gary Zakian  879-5375

Michelle Scockett  874-6617

879-5375 is also the hand office
and submitted to Gary Zakian

Graties - may have to verify

array for money - title report - couple hundred $
Survey - SEP Engineers
Appraiser - Land part of contract

1. start survey - survey has to go to OAGS
   4 weeks OAGS needs
   June 9 meeting

Survey meets and bounds (POF form from OAGS)
GRANT OF NON-EXCLUSIVE EASEMENT

THIS INDENTURE, made and entered into this ______ day of ________, 20____, by and between RDD, LLC, a Hawaii Corporation, hereinafter referred to as the "Grantor," and the STATE OF HAWAII, by its Commission on Water Resource Management, whose address is 1151 Punchbowl Street, Room 227, Honolulu, Hawaii 96813, hereinafter referred to as the "Grantee."

WITNESSETH THAT:

The Grantor, for good and valuable consideration, the receipt of which is hereby acknowledged, and of the terms, conditions, and covenants herein contained, and on the part of the Grantee to be observed and performed, does hereby grant unto the Grantee, the following non-exclusive and perpetual easement rights:

Right, privilege and authority to construct and monitor the proposed Waihee Deep Monitor Well, in, over, under and across that certain parcel(s) of land ("easement area") situate at TMK (2) 3-2-01:003, Waihee, Maui, being identified as "Easement for
Waihee Deep Monitor Well," containing an area of 80 square feet, more particularly described in Exhibit "A" and delineated on Exhibit "B", both of which are attached hereto and made parts hereof, said exhibits being respectively, a survey description and survey map prepared by a licensed surveyor, TOGETHER WITH the rights of ingress and egress to and from the easement area for all purposes in connection with the rights hereby granted.

TO HAVE AND TO HOLD the easement rights unto the Grantee, its successors and assigns, in perpetuity, SUBJECT, HOWEVER, to the following terms, conditions and covenants:

1. The Grantee shall be responsible for injury caused by the Grantee's officers and employees in the course and scope of their employment to the extent that the Grantee's liability for such damage or injury has been determined by a court or otherwise agreed to by the Grantee. The Grantee shall pay for such damage and injury to the extent permitted by law provided that an appropriation is enacted for that purpose.

2. The Grantor reserves unto itself, its successors and assigns, the full use and enjoyment of the easement area and to grant to others rights and privileges for any and all purposes affecting the easement area, provided, however, that the rights herein reserved shall not be exercised by the Grantor in a manner which interferes unreasonably with the Grantee in the use of the easement area for the purposes for which this easement is granted.

3. All improvements placed in or upon the easement area by the Grantee shall be done without cost or expense to the Grantor and shall remain the property of the Grantee and may be removed or otherwise disposed of by the Grantee at any time; provided, that the removal shall be accomplished with minimum disturbance to the easement area which shall be restored to its original condition, or as close thereto as possible, within a reasonable time after removal.

4. Upon completion of any work performed in or upon the easement area, the Grantee shall remove therefrom all equipment and unused or surplus materials, if any, and shall leave the easement area in a clean and sanitary condition satisfactory to the Grantor.

5. The Grantee shall keep the easement area and the improvements thereon in a safe, clean, sanitary, and orderly condition, and shall not make, permit or suffer, any waste, strip, spoil, nuisance or unlawful, improper, or offensive use of
6. Should future development necessitate (a) relocation of the easement(s) granted herein, or any portion thereof, the relocation shall be accomplished at the Grantee's own cost and expense; provided, however, that if other lands of the Grantor are available, the Grantor shall grant to the Grantee without payment of any monetary consideration, (a) substitute easement(s) of similar width within the reasonable vicinity of the original alignment(s), which substitute easement(s) shall be subject to the same terms and conditions as that herein granted and as required by law.

7. Upon termination of the use, the easement area shall be restored to its original state, or as close thereto as possible, within a reasonable time and at the expense of the Grantee.

8. Grantee shall not maintain the easement area in such manner as to constitute an attractive nuisance.

IN WITNESS WHEREOF, RDD LLC, a Hawaii corporation, and the STATE OF HAWAII, by its Board of Land and Natural Resources, has caused the seal of the Department of Land and Natural Resources to be hereunto affixed and the parties hereto have caused this Indenture to be executed as of the day, month, and year first above written.

RDD LLC, a Hawaii corporation

By__________________________
Its__________________________

GRANTOR

APPROVED AS TO FORM:

By__________________________
Chairperson
Board of Land and Natural Resources

GRANTEE

Deputy Attorney General
Dated:

STATE OF HAWAII

3
COUNTY OF

} SS.

} 

On this ______ day of ____________________, 20____, before me appeared ______________________, to me personally known, who, being by me duly sworn, did say that they are the ______________________ and ______________________, respectively of ______________________, a Hawaii corporation, and that said instrument was signed in behalf of said corporation by authority of its Board of Directors, and the said ______________________ and ______________________ acknowledged said instrument to be the free act and deed of said corporation.

Notary Public, State of Hawaii

My commission expires:___________
DRAFT
MEMORANDUM OF AGREEMENT
FOR THE
RIGHT OF ENTRY TO THE
WAIHEE DEEP MONITOR WELL SITE
ISLAND OF MAUI

The __________________________ corporation owned by __________________________, hereinafter referred to as the “LANDOWNER,” and the STATE OF HAWAII, COMMISSION ON WATER RESOURCE MANAGEMENT, hereinafter referred to as the “OPERATOR,” enter this “Memorandum of Agreement” (“MOA”) on the terms and conditions set forth below and agree to fulfill the undertakings specified herein.

TERMS AND CONDITIONS:

A. The LANDOWNER grants to the OPERATOR the right of entry, and ingress to and egress from the existing road, located on a parcel of land identified as Tax Map Key (TMK): (2) 3-2-01: Portion of 3, to access the Waihee Deep Monitor Well site.

B. The OPERATOR plans to install the Waihee Deep Monitor Well and appurtenant equipment to monitor the Waihee Aquifer System.

C. The OPERATOR designated that the Department of Land and Natural Resources, Engineering Division (“ED”), administer the preparation of contract plans and specifications, prepare and process applicable permits and approvals, advertise the project for bids, and perform the contract and construction administration for the Waihee Deep Monitor Well construction.

D. The LANDOWNER also grants to the ED the right of entry, and ingress to and egress from the existing road when inspecting the drilling of the deep monitor well and for no other purposes.

E. A separate right of entry, and ingress to and egress from the existing road shall be executed by the LANDOWNER and the OPERATOR’S contactor for the drilling of the deep monitor well, installation of well casing and all other equipment necessary or desirable for operation and maintenance of a well, and the storage of all machinery, materials and equipment.

F. The OPERATOR and ED shall provide the LANDOWNER with 48-hour notification prior to use of the existing road.

G. The OPERATOR shall be responsible, to the extent permitted by law, for damage or injury caused by the OPERATOR’S officers and employees in the scope of their employment provided that the OPERATOR’S liability for such damage or injury has been determined by a court or agreed to by the OPERATOR. The
OPERATOR shall pay for such damage and injury provided that funds are appropriated and allotted for that purpose.

H. This MOA shall be effective upon signature by both parties and shall remain in force, unless earlier terminated by the OPERATOR, provided that notification of such termination is made in writing to the LANDOWNER not less than 90 days in advance of termination.

I. Either party to this MOA may request amendments by letter to signatories of this agreement and such amendments shall take effect upon the written consent of all parties.

LANDOWNER: __________________________________________

By ________________________________

Its ________________________________

Date: ______________________________

OPERATOR: STATE OF HAWAII, COMMISSION ON WATER RESOURCE MANAGEMENT

By: ________________________________

Title: ______________________________

Date: ______________________________

Approved as to form:

________________________________________
Deputy Attorney General

Date: ______________________________
5/11/06
Michelle
Betsill Bros. Planning Department
New contact for Waterer
874-6617
Hi Kevin,

Attached is a real rough draft based on the excellent project description you provided. I hope I didn't screw it up too bad. Please suggest as many edits/changes as you like so this board submittal accurately describes why we are acquiring. I've also included some notes in this draft for you to take a look at. Once you get a chance to go over and we discuss what we need to with the landowner (If you can find out who we should be talking to on the acquisition of the easement, we can figure out the best way to contact that party, i.e. telephone or meeting) I can whittle this thing down.

Also was wondering on the survey/(staking?) of the easement. Once we get BLNR approval did you want me to request DAGS to do this or is this going to be contracted out?

Thanks
Gav
7-0385

[File attachment: 06MD-063 Board Submittal draft 5-8-06.doc]
<table>
<thead>
<tr>
<th>FROM:</th>
<th>DATE:</th>
<th>SUSPENSE DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANAKALEA, P.</td>
<td>MAY 4 2003</td>
<td></td>
</tr>
<tr>
<td>CHING, F.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DANBARA, S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUJII, N.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOODING, K.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HARDY, R.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOAGBIN, S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICE, C.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMATA, R.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KUNIMURA, I.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAKAMA, L.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAKANO, D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHYE, M.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAKODA, E.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWANSON, S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UYENO, D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YODA, K.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YOSHINAGA, M.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TO:</th>
<th>INIT.</th>
<th>TO:</th>
<th>INIT.</th>
<th>FOR:</th>
<th>PLEASE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANAKALEA, P.</td>
<td></td>
<td>KUNIMURA, I.</td>
<td></td>
<td>Approval</td>
<td>See Me</td>
</tr>
<tr>
<td>CHING, F.</td>
<td></td>
<td>NAKAMA, L.</td>
<td></td>
<td>Signature</td>
<td>Review &amp; Comment</td>
</tr>
<tr>
<td>DANBARA, S.</td>
<td></td>
<td>NAKANO, D.</td>
<td></td>
<td>Information</td>
<td>Take Action</td>
</tr>
<tr>
<td>FUJII, N.</td>
<td></td>
<td>OHYE, M.</td>
<td></td>
<td></td>
<td>Type Draft</td>
</tr>
<tr>
<td>GOODING, K.</td>
<td></td>
<td>SAKODA, E.</td>
<td></td>
<td></td>
<td>Type Final</td>
</tr>
<tr>
<td>HARDY, R.</td>
<td></td>
<td>SWANSON, S.</td>
<td></td>
<td></td>
<td>File</td>
</tr>
<tr>
<td>HOAGBIN, S.</td>
<td></td>
<td>UYENO, D.</td>
<td></td>
<td></td>
<td>Xerox copies</td>
</tr>
<tr>
<td>ICE, C.</td>
<td></td>
<td>YODA, K.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMATA, R.</td>
<td></td>
<td>YOSHINAGA, M.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MEMORANDUM

TO: Dean A Nakano, Acting Deputy Director
    Commission on Water Resource Management

FROM: Russell Y. Tsuji
       Administrator

SUBJECT: Request for Assistance in the Acquisition of an Easement for a Deep Monitor Well; Waihee, Maui, TMK (2) 3-2-01:03 por.

We have received your request for assistance with the above referenced acquisition.

We have assigned the reference number noted at the top righthand corner of this letter. Use of this number will allow for more efficient processing of your request. Therefore, please use this number in all correspondence on this matter.

We will be in contact with you regarding this request after our internal review of your request is conducted.

Gavin Chun has been assigned to process this request. Please feel free to contact him at [REDACTED] with any questions you may have. Thank you.

cc: Central Files
    District Files
April 25, 2006

Waihee Deep Monitor Well Land Acquisition
Background Information

Description

The site is located in Waihee, Maui, TMK 3-2-01:003. Figure 1 and Figure 2 are location maps. We hope to acquire a non-exclusive easement to the well site and the access road.

The project would require a non-exclusive easement to the access road and well site. The length of the access road is 1415 feet. The well site is 80 square feet.

<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Road</td>
<td>1415 feet x 10 feet</td>
<td>14,150 square feet</td>
</tr>
<tr>
<td>Well Site</td>
<td>10 feet x 8 feet</td>
<td>80 square feet</td>
</tr>
<tr>
<td>Total easement</td>
<td></td>
<td>14,230 square feet</td>
</tr>
</tbody>
</table>

Estimated Cost:

The 369,956 acre property was purchased on September 12, 2003 for $6,700,000. This yields an approximate value per square foot of $0.42. If we assume a disutility factor of 50% then a suggested value of the easement is:

\[
\text{Value per square foot} \times \frac{50}{100} = \text{Suggested value of easement}
\]

\[
0.42 \times 14,230 = 5976.60 \times 0.50 = 2988.30
\]

Public purpose of acquisition:

The purpose of the land acquisition is to provide a site and access to for a deep monitor well.

The Waihee Deep Monitor Well will be used to confirm and substantiate the Waihee aquifer's sustainable yield and to gather more data on the hydrologic behavior of the aquifer to determine whether the resource is being severely degraded. Currently planned authorized use exceeds the sustainable yield of the neighboring lao Aquifer System. The county of Maui has developed wells in Waihee to help make up for the deficiency in lao. Water development in Waihee eventually may exceed the sustainable yield of this aquifer.

Information obtained from aquifer monitoring will provide the Commission on Water Resource Management (CWRM) with a better understanding of the basal aquifer, transition zone, and saline zone beneath the Waihee Aquifer System. There are no wells in this area that can be used for this purpose. All of the wells in Waihee Aquifer System only penetrate into the freshwater portion of the basal aquifer and thus would not provide a complete profile of the aquifer system. A deep monitor well, on the other hand, is a specialized tool and not only provides water level data but also measures the salinity throughout the entire water column. In addition, a new deep monitor well in the Waihee Aquifer System will form a network with the existing Waiehu Deep Monitor Well and the new lao Deep Monitor Well (under construction).
The State has the responsibility under the State Constitution and the State Water Code (Chapter 174C, HRS) to assess the resource and protect it from degradation. In addition, the proposed well will provide the County of Maui and its Department of Water Supply better knowledge in which to effectively operate their potable wells. Also, on November 20, 2002 CWRM deferred designation of the Waihee Aquifer System as a ground-water management area. The designation proceedings are still open and the information gathered from this deep monitor well will help resolve the issue. Lastly, the public interest in this issue, as evidenced by the petition and lawsuit filed by the Maui Meadows Homeowners Association and the more than 50 pieces of testimony received at public hearings from individuals and national non-profit groups, will be addressed.

Source of funds:

CIP LNR404, Project G55E Waihee Deep Monitor Well, Maui. There is a total of $431,000 for planning, design, construction, land, and equipment. Currently $10,000 is budgeted for land acquisition.

Landowner Contact: Mr. Jay Carpio
Director of Agriculture Development
Kapuna Ranch, LLC
1615 Kahekili Highway
Wailuku, Hawaii 96793
jcarpio@verizon.net

Permits required:

Deep monitor wells are exempt from Chapter 343, HRS requirements so an Environmental Assessment is not required. The well will be in the Agricultural Land Use District so a COUP is not required. The public supports this project because there is concern about the sustainability of the aquifers that support the Central Maui Water System. We will need a well construction permit from the Commission on Water Resource Management.

Use of the Well

CWRM staff will monitor will install a device to continuously measure water levels in the well and visit the site about four times per year to log the well, download the water level datalogger and conduct site maintenance. Logging the well consists of lowering a device down the well that measures conductivity, temperature and depth. The information collected is used to assess changes in the freshwater lens.

Site Security

The well will be locked and a chain link fence will surround the site.
Hi Daniel,

I don't have CWRM or BLNR approval. I can get CWRM approval May 24. Also, I have not done the metes and bounds survey.

I have tried to put things in order so we cover everything. Does this seem correct? Also, I have put who is responsible for each step.

1. Get CWRM approval. CWRM-Kevin
2. CWRM request assistance in land acquisition. I did this one, see attached.
3. Get BLNR approval. Land?
4. Get a surveyor to do metes and bounds. CWRM can coordinate the payment with Engineering. Who hires the surveyor?
5. Ask Cyrus to estimate a price. Land Div
6. Agree with owner for the fee. Last email I got from them they probably want a little money but they did not agree or disagree to the $3000 I suggested. I wish it would be gratis but it looks like there will be some fee. CWRM -Kevin
7. We have already agreed on an exact location for the well site. The access easement follows the Maui DWS easement to their water tank. CWRM -Kevin
8. Give documents to AG to make conveyance documents. Land?

The project only has $10,000 for land acquisition. Does this seem like enough for the surveyor and maybe $3000 acquisition fee?

Thanks

Kevin
Did you get COWRM approval?

I assume yes. Did you get BLNR approval to acquire? I assume No.

If this is correct, then the first step should be to submit a request to the BLNR to approve acquisition of land for monitoring well site. We have acquisitions staff on Oahu who can help with this. The write up you attached and sent to me is a good start for our staff to put together a submittal to the BLNR. Again, please confirm with me what approvals have been gotten so far. Need dates of the approval and copy of the submittal and meeting minutes.

Once we get COWRM and BLNR approval, then your ready to get a surveyor out there to identify the metes and bounds for the access easement and well site.
If the survey map is done already, then you should start to work with our appraiser in land division on Oahu, Cyrus Chen, to develop a value for the easement acquisition from the landowner. Doesn't the land owner want to give this to us gratis?? The water info will benefit the landowner in the long run.

After survey and appraisal is done, and the land owner agrees to the location and fee, then can submit all docs to the Attorney General to form conveyance documents for signatures. Once all signed, then need to record at the Bureau of Conveyance.

DanO

Hi Daniel,

I have not had much time for this project but I better get started.

The landowner has given us verbal permission to drill and to says we can get a easement. Is the next step is to get a easement template and fill in the blanks?
Then send the easement to the landowner.

I am not sure about what to do now so I would appreciate any advise.

thanks,

Kevin Gooding

[attachment "Waihee writeup.doc" deleted by Daniel L Ornellas/DLNR/StateHiUS]
January 30, 2006

To: Russell Y. Tsuji, Land Administrator
From: Dean A. Nakano, Acting Deputy Director

Subject: Request for Assistance in Land Easement Acquisition for a Deep Monitor Well in Maui

We request assistance in easement acquisition in Waihee, Maui. CWRM is going to drill a deep monitor well and we need to acquire a non-exclusive easement for the well site and well site access.

a) TMK: 3-2-01:003
b) Interest to be acquired: non-exclusive easement
c) Public purpose of acquisition: Deep monitor well site and access. Deep monitor wells are used to collect data on changes in basal freshwater aquifers. The data will be used to manage water resources. This is consistent with the provisions of the Water Code (Chapter 174C, HRS).
d) Source of funds: CIP LNR404, Project G55E Waihee Deep Monitor Well, Maui. There is a total of $431,000 for planning, design, construction, land, and equipment. Currently $10,000 is budgeted for land acquisition.
e) The applicant will be responsible for paying for applicable acquisition requirements. The easement surveying and mapping is already included in the planning and design consultant contract. We can have the easement mapped when the consultant contract is executed.

f) The grantor is: Mr. Eric Pilotin
   Project Manager
   Betsill Brothers Construction, Inc.
   635 Kenolio Road
   Kihei, Hawaii 96753
   eric@betsillbuilder.com

   g) staff contact: Kevin L. Gooding

h) Other pertinent information: We have negotiated a preliminary agreement with the grantor (Betsill Brothers). They have verbally agreed to grant CWRM a non-exclusive easement to the well site and access. We have also agreed by email on a well site. We recently learned that we couldn't execute a construction contract without an easement. We hope that this process can be completed by July 2006.

Deep monitor wells are exempt from Chapter 343, HRS requirements. The well will be in the Agricultural Land Use District so a CDUP is not required. The public supports this project because there is concern about the sustainability of the aquifers that support the Central Maui Water System.

Thank you for your help in this matter. If you have any questions please contact Kevin L. Gooding at
NOTICE TO BIDDERS

(Chapter 103D, HRS)

SEALED BIDS for Job No. G55CM18B, Waihee Deep Monitor Well, Waihee, Maui, Hawaii will be received at the Engineering Division office, 2nd floor, Kalanimoku Building, Room 221, 1151 Punchbowl Street, Honolulu, and at the Maui Engineering Division Office, Department of Land and Natural Resources, 130 Mahalani Street., Wailuku, Maui, up to 2:00 p.m., May 18, 2006, at which time and place(s) they will be opened and read publicly. The bidder shall be responsible for the prompt delivery of the proposal.

The Department of Land and Natural Resources Interim General Conditions dated October 1994, as amended, shall be made a part of the specifications.

Plans and specifications may be examined and obtained at the aforesaid place(s).

The project is located at Waihee, Maui, Hawaii.

The work shall generally consist of drilling of monitor well and all necessary appurtenances

The estimated cost of construction is $334,000.

All interested parties are invited to attend a State conducted site visit. The site visit will be held at the project site on Wednesday, May 10, 2006 at 9:30 a.m.

Due to the nature of work contemplated, bidders must possess a valid State Contractor's license, classification C-57.

The job is subject to preference for Hawaii Products established by Section 103D, Hawaii Revised Statutes. The Hawaii Product List may be examined at the State Procurement Office.

The award of the contract, if it be awarded, will be subject to the availability of funds.

Should there be any questions, please call [Redacted]

/s/ PETER T. YOUNG, Chairperson
Department of Land and Natural Resources

PNS: April 25, 2006
If Cyrus concurs with the valuation, if CWRM will pay for it and we get BLNR approval, its a go. We will also need to have the easement area surveyed and a map and description developed to DAGS survey division standards so conveyance documents can be made.

Daniel

Kevin L Gooding/DLNR/StateHiUS

Hi Daniel,

I had a meeting with the landowner yesterday on Maui. We decided on a site for the well. Also they asked for us to pay for the easement. I had done some calculations based on a draft valuation done by Cyrus Chen.

This valuation came out to be $2971.50. This is what I suggested to the landowners representative. They may be agreeable to this because all they want is some money to landscape the area to hide the well.

Is this a nominal fee? The project has funds of about $10,000 to cover land acquisition.

Thanks for your help,

Kevin Gooding

Description

The site is located in Waihee, Maui, TMK 3-2-01:003. Figure 1 and Figure 2 are location maps. We hope to acquire a non-exclusive easement to the well site and the access road.

The project would require a non-exclusive easement to the access road and well site. The length of the access road is 1415 feet. The well site is 100 square feet.

<table>
<thead>
<tr>
<th>Access Road</th>
<th>1415 feet</th>
<th>10 feet</th>
<th>14,150 square feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Site</td>
<td>10 feet</td>
<td>10 feet</td>
<td>100 square feet</td>
</tr>
<tr>
<td>Total easement</td>
<td></td>
<td></td>
<td>14,250 square feet</td>
</tr>
</tbody>
</table>
Estimated Cost:

The 369.956 acre property was purchased on September 12, 2003 for $6,700,000. This yields an approximate value per square foot of $0.42. If we assume a disutility factor of 50% then a suggested value of the easement is:

$0.42 per square foot 
\* 14,150 square feet 
$5943.00 
\* 50% 
$2971.50

Daniel,

I estimated the cost from the 2003 sale price at about $3000. I don’t know what the landowner might want to charge. I would not want to get an independent appraiser. It seems like it would cost more than the easement.

At the moment the landowner has not decided whether to charge or not. They are mainly worried about the aesthetic values of the project. The area will be developed for expensive home lots soon.

Kevin

This is the last email from Betsill Bros.

Eric

Ask Jay to accompany you on the site visit to discuss landscape issues. Wailuku Ag made the agreement with the Water Department before we owned the property and I would never have agreed to their current configuration. I know that the improvement Kevin is talking about is much smaller in scope than the Maui County tanks and do not want to place an undue burden on Kevin, but I want us to think through the aesthetics in all future improvements to the land. Jay and I have not gone over a landscape plan but we will be landscaping both Maui County tanks in the future.

My thinking was that rather than charging for an easement we would ask the state to fence and landscape. Maybe it would be easier to charge a fair price for the easement and use the money for landscaping. A chain link fence is acceptable only if it has a hedge planted around it. I understand Kevin’s reservations regarding landscape maintenance and we should agree to maintain the landscape. This is another reason for Jay to attend as he would end up with the responsibility to maintain the landscape.

My concern is to accommodate Kevin’s goals in an aesthetic manner.
Will the cost to the State be nominal? or Will you have an estimate from an independent appraiser to judge if the fee is fair? Who is going to pay for the fee? CWRM?

Daniel

Hi,

I will be meeting with Betsill Bros on Tuesday March 14 on Maui at 2:00 pm. We will be discussing the design of the fencing and maybe landscaping. Also, we will decide on the cost of the easement. Do you want to be there?

Kevin

----- Forwarded by Kevin L Gooding/DLNR/StateHiUS on 03/08/2006 10:38 AM -----

Hi,

Thanks for helping me in the land acquisition of this well. I have written up some information on the land acquisition for Waihee Deep Monitor Well. I also have attached two maps. Tell me if you want any
changes or additions.

The only part that I do not know yet is how much the landowner will ask for the easement. Betsill Bros is looking at that now. I put in an estimated cost based on the property sale value in 2003.

Recently the consultant said that the well site is going to be partially on County land. The well will be next to a Maui DWS water tank. We put it outside the fence but it turns out that county property extends outside the fence. DLNR Engineering will be working on an MOA with the county for that part.

Thanks,

Kevin Gooding
Acting State Geologist
Commission on Water Resource Management
Eric

Ask Jay to accompany you on the site visit to discuss landscape issues. Wailuku Ag made the agreement with the Water Department before we owned the property and I would never have agreed to their current configuration. I know that the improvement Kevin is talking about is much smaller in scope than the Maui County tanks and do not want to place an undue burden on Kevin, but I want us to think through the aesthetics in all future improvements to the land. Jay and I have not gone over a landscape plan but we will be landscaping both Maui County tanks in the future.

My thinking was that rather than charging for an easement we would ask the state to fence and landscape. Maybe it would be easier to charge a fair price for the easement and use the money for landscaping. A chain link fence is acceptable only if it has a hedge planted around it. I understand Kevin’s reservations regarding landscape maintenance and we should agree to maintain the landscape. This is another reason for Jay to attend as he would end up with the responsibility to maintain the landscape.

My concern is to accommodate Kevin’s goals in an aesthetic manner.

DOYLE BETSILL
CE.O.

From: Kevin.L.Gooding@hawaii.gov [mailto:Kevin.L.Gooding@hawaii.gov]
Sent: Monday, March 06, 2006 2:28 PM
To: Eric Pilotin
Cc: Doyle Betsill; Ray Martin
Subject: RE: FW: Waihee Deep Monitor Well

Eric,

OK, 2:00 PM on the 14th.

Kevin
Kevin,

Can you meet me at my office at 2:00 pm on the 14th? We can drive out from here if we need to.

Eric

From: Kevin.L.Gooding@hawaii.gov [mailto:Kevin.L.Gooding@hawaii.gov]
Sent: Monday, March 06, 2006 2:09 PM
To: Eric Pilotin
Cc: Dennis.T.Imada@hawaii.gov
Subject: Re: FW: Waihee Deep Monitor Well

Eric,

Thanks for the quick response.

The site is near the Maui DWS 300' water tank. I can show the exact site and discuss the aesthetic aspects of the well. I will be on Maui on March 14. I have a meeting at 0930 but I can meet in the afternoon. I will also be on Maui on March 22. Or we can arrange another day.

Right now we are going for a chain link fence but we can change that. I don't know if we can put much landscaping. We would not be able to take care of it. Chain link fence might be OK because it is next to the water tank chain link fence.

Kevin

"Eric Pilotin" <epilotin@betsillbuilder.com>
Kevin, can you locate the well prior to drilling for BBC approval and provide details requested.

Eric

From: Ray Martin  
Sent: Friday, March 03, 2006 9:59 AM  
To: Eric Pilotin  
Cc: Dennis Boehlke; Doyle Betsill  
Subject: FW: Waihee Deep Monitor Well

Eric,

I met with Doyle and he is willing to give them the easement for the well at no charge but we would need to see the exact location of the well prior to installation as well as details on the fence they plan on using and landscaping details for around the well site! As this is going to be an up-scaled subdivision, aesthetics are important! If you have any questions give me a call!

MAHALO,  
RAY MARTIN  
Civil Engineer

From: Doyle Betsill  
Sent: Wednesday, March 01, 2006 6:40 PM  
To: Ray Martin  
Subject: FW: Waihee Deep Monitor Well

Can you go over the location of this well with me?
Hi Doyle,

This in response to your phone message regarding the subject project. Site 3 is where they are looking for the easement.

Eric

---

Hi Eric,

Sorry for getting back to you so late but I was waiting to go over this with Dennis! Site 1 is on an area that is cleared and most likely the area where someone would build so this location does not work for us! Site 2 requires the clearing of trees and a road cut and filled which is not quite desireable, Site 3 would be the site we would prefer them to put the well as there is already existing structures there and easy access!

If this works for them then I guess it's a go!
Any questions, feel free to give me a call!

MAHALO,
RAY MARTIN
Civil Engineer
Direct: 808.874.6611
From: Dennis Boehlje  
Sent: Thursday, December 22, 2005 11:50 AM  
To: Ray Martin  
Subject: FW: Waihee Deep Monitor Well

Ray, Can you respond to Eric?
Dennis

From: Eric Pilotin  
Sent: Thursday, December 22, 2005 10:28 AM  
To: dennis@betsillbuilder.com  
Cc: doyle@betsillbuilder.com  
Subject: FW: Waihee Deep Monitor Well

Hi Dennis,

Have you given this matter any thought? Please let me know.

Eric

From: Kevin.L.Gooding@hawaii.gov  
Sent: Thursday, December 22, 2005 8:31 AM  
To: Eric Pilotin  
Subject: Waihee Deep Monitor Well

Hi Eric,

I was wondering about the status of our request to drill a deep monitor well on your property in Waihee. Our engineers would like to know because they need to get a cost estimate from the engineering
consultant. We had three sites in mind:

Site 1: This site is located about 500 feet west of Kanoa Well 2 (attachment 3). It is near an existing dirt road. This site is in an area that you propose to subdivide. We would work with you to minimize the impact on the subdivided parcels.

Site 2: The site is located approximately 350 feet mauka of the Maui DWS Kanoa Well 1 (attachment 3). According to your development plans, this site is on common land and will not infringe on saleable parcels. We would construct a one lane road around Kanoa Well 1 to the well site. The first part of the road would have to be cut into the slope above Kanoa 1 and the remainder of the road would be on an existing bench or old road cut.

Site 3: The site is located adjacent to the Maui Department of Water Supply water tank on the ridge above Waihee Valley (attachment 3). It is near an existing road. The site appears to be on land that you intend to subdivide but it is near a DWS tank so impacts on adjacent parcels should be minimal. This site is less desirable from a scientific viewpoint because it is at the edge of the aquifer (Waihee Stream is the boundary).

I attached a map with the sites labeled in the letter I sent earlier this month.

Thanks for your help. If you have any questions please call or email. My phone number is

Kevin L. Gooding, CPG
Acting State Geologist
Commission on Water Resource Management
Department of Land and Natural Resources
Kevin,

Can you meet me at my office at 2:00 pm on the 14th? We can drive out from here if we need to.

Eric

From: Kevin.L.Gooding@hawaii.gov [mailto:Kevin.L.Gooding@hawaii.gov]
Sent: Monday, March 05, 2005 2:09 PM
To: Eric Pilotin
Cc: Dennis.T.Imada@hawaii.gov
Subject: Re: FW: Waihee Deep Monitor Well

Eric,

Thanks for the quick response.

The site is near the Maui DWS 300' water tank. I can show the exact site and discuss the aesthetic aspects of the well. I will be on Maui on March 14. I have a meeting at 0930 but I can meet in the afternoon. I will also be on Maui on March 22. Or we can arrange another day.

Right now we are going for a chain link fence but we can change that. I don't know if we can put much landscaping. We would not be able to take care of it. Chain link fence might be OK because it is next to the water tank chain link fence.

Kevin
Kevin, can you locate the well prior to drilling for BBC approval and provide details requested.

Eric

From: Ray Martin
Sent: Friday, March 03, 2006 9:59 AM
To: Eric Pilotin
Cc: Dennis Boehlje; Doyle Betsill
Subject: FW: Waihee Deep Monitor Well

Eric,

I met with Doyle and he is willing to give them the easement for the well at no charge but we would need to see the exact location of the well prior to installation as well as details on the fence they plan on using and landscaping details for around the well site! As this is going to be an up-scaled subdivision, aesthetics are important! If you have any questions give me a call!

MAHALO,
RAY MARTIN
Civil Engineer
Direct: 

From: Doyle Betsill
Sent: Wednesday, March 01, 2006 6:40 PM
To: Ray Martin
Subject: FW: Waihee Deep Monitor Well

Can you go over the location of this well with me?

DOYLE BETSILL
CEO
Direct: 808.874.6604

From: Eric Pilotin
Sent: Wednesday, March 01, 2006 1:56 PM
To: Doyle Betsill
Subject: FW: Waihee Deep Monitor Well

Hi Doyle,

This in response to your phone message regarding the subject project.
Site 3 is where they are looking for the easement.

Eric

**From:** Ray Martin  
**Sent:** Thursday, December 22, 2005 2:27 PM  
**To:** Eric Pilotin  
**Subject:** FW: Waihee Deep Monitor Well

Hi Eric,

Sorry for getting back to you so late but I was waiting to go over this with Dennis! Site 1 is on an area that is cleared and most likely the area where someone would build so this location does not work for us!

Site 2 requires the clearing of trees and a road cut and filled which is not quite desireable.

Site 3 would be the site we would prefer them to put the well as there is already existing structures there and easy access!

If this works for them then I guess it's a go!

Any questions, feel free to give me a call!

MAHALO,

RAY MARTIN

Civil Engineer

Direct: [redacted]

---

**From:** Dennis Boehlje  
**Sent:** Thursday, December 22, 2005 11:50 AM  
**To:** Ray Martin  
**Subject:** FW: Waihee Deep Monitor Well

Ray, Can you respond to Eric?  
Dennis

---

**From:** Eric Pilotin  
**Sent:** Thursday, December 22, 2005 10:28 AM
Hi Dennis,

Have you given this matter any thought? Please let me know.

Eric

---

From: Kevin.L.Gooding@hawaii.gov [mailto:Kevin.L.Gooding@hawaii.gov]
Sent: Thursday, December 22, 2005 8:31 AM
To: Eric Pilotin
Subject: Waihee Deep Monitor Well

Hi Eric,

I was wondering about the status of our request to drill a deep monitor well on your property in Waihee. Our engineers would like to know because they need to get a cost estimate from the engineering consultant. We had three sites in mind:

**Site 1:** This site is located about 500 feet west of Kanoa Well 2 (attachment 3). It is near an existing dirt road. This site is in an area that you propose to subdivide. We would work with you to minimize the impact on the subdivided parcels.

**Site 2:** The site is located approximately 350 feet mauka of the Maui DWS Kanoa Well 1 (attachment 3). According to your development plans, this site is on common land and will not infringe on saleable parcels. We would construct a one lane road around Kanoa Well 1 to the well site. The first part of the road would have to be cut into the slope above Kanoa 1 and the remainder of the road would be on an existing bench or old road cut.

**Site 3:** The site is located adjacent to the Maui Department of Water Supply water tank on the ridge above Waihee Valley (attachment 3). It is near an existing road. The site appears to be on land that you intend to subdivide but it is near a DWS tank so impacts on adjacent parcels should be minimal. This site is less desirable from a scientific viewpoint because it is at the edge of the aquifer (Waihee Stream is the boundary).

I attached a map with the sites labeled in the letter I sent earlier this month.

Thanks for your help. If you have any questions please call or email. My phone number is [redacted]

Kevin L. Gooding, CPG
Acting State Geologist
Commission on Water Resource Management
Department of Land and Natural Resources
Kevin, can you locate the well prior to drilling for BBC approval and provide details requested.

Eric

From: Ray Martin
Sent: Friday, March 03, 2006 9:59 AM
To: Eric Pilotin
Cc: Dennis Boehlje; Doyle Betsill
Subject: FW: Waihee Deep Monitor Well

Eric,

I met with Doyle and he is willing to give them the easement for the well at no charge but we would need to see the exact location of the well prior to installation as well as details on the fence they plan on using and landscaping details for around the well site! As this is going to be an up-scaled subdivision, aesthetics are important! If you have any questions give me a call!

MAHALO,
RAY MARTIN
Civil Engineer
Direct: 808.874.6611

From: Doyle Betsill
Sent: Wednesday, March 01, 2006 6:40 PM
To: Ray Martin
Subject: FW: Waihee Deep Monitor Well

Can you go over the location of this well with me?

DOYLE BETSILL
C.E.O.
Direct: 808.874.6604

From: Eric Pilotin
Sent: Wednesday, March 01, 2006 1:56 PM
To: Doyle Betsill
Subject: FW: Waihee Deep Monitor Well

Hi Doyle,

This in response to your phone message regarding the subject project.
Site 3 is where they are looking for the easement.

Eric

From: Ray Martin  
Sent: Thursday, December 22, 2005 2:27 PM  
To: Eric Pilotin  
Subject: FW: Waihee Deep Monitor Well

Hi Eric,

Sorry for getting back to you so late but I was waiting to go over this with Dennis! Site 1 is on an area that is cleared and most likely the area where someone would build so this location does not work for us! Site 2 requires the clearing of trees and a road cut and filled which is not quite desireable. Site 3 would be the site we would prefer them to put the well as there is already existing structures there and easy access!

If this works for them then I guess it's a go! Any questions, feel free to give me a call!

MAHALO,
RAY MARTIN
Civil Engineer
Direct: 

From: Dennis Boehlje  
Sent: Thursday, December 22, 2005 11:50 AM  
To: Ray Martin  
Subject: FW: Waihee Deep Monitor Well

Ray, Can you respond to Eric?
Dennis

From: Eric Pilotin  
Sent: Thursday, December 22, 2005 10:28 AM  
To: dennis@betsillbuilder.com  
Cc: doyle@betsillbuilder.com  
Subject: FW: Waihee Deep Monitor Well

Hi Dennis,

Have you given this matter any thought? Please let me know.

Eric

From: Kevin.L.Gooding@hawaii.gov
Hi Eric,

I was wondering about the status of our request to drill a deep monitor well on your property in Waihee. Our engineers would like to know because they need to get a cost estimate from the engineering consultant. We had three sites in mind:

**Site 1:** This site is located about 500 feet west of Kanoa Well 2 (attachment 3). It is near an existing dirt road. This site is in an area that you propose to subdivide. We would work with you to minimize the impact on the subdivided parcels.

**Site 2:** The site is located approximately 350 feet mauka of the Maui DWS Kanoa Well 1 (attachment 3). According to your development plans, this site is on common land and will not infringe on saleable parcels. We would construct a one lane road around Kanoa Well 1 to the well site. The first part of the road would have to be cut into the slope above Kanoa 1 and the remainder of the road would be on an existing bench or old road cut.

**Site 3:** The site is located adjacent to the Maui Department of Water Supply water tank on the ridge above Waihee Valley (attachment 3). It is near an existing road. The site appears to be on land that you intend to subdivide but it is near a DWS tank so impacts on adjacent parcels should be minimal. This site is less desirable from a scientific viewpoint because it is at the edge of the aquifer (Waihee Stream is the boundary).

I attached a map with the sites labeled in the letter I sent earlier this month.

Thanks for your help. If you have any questions please call or email. My phone number is [redacted].

Kevin L. Gooding, CPG  
Acting State Geologist  
Commission on Water Resource Management  
Department of Land and Natural Resources
**Commission on Water Resource Management**

**FROM:** ROY  
**DATE:** MAR 17 2006  
**SUSPENSE DATE:**

<table>
<thead>
<tr>
<th>TO:</th>
<th>INIT:</th>
<th>TO:</th>
<th>INIT:</th>
<th>FOR:</th>
<th>PLEASE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANAKALEA, P.</td>
<td></td>
<td>KUNIMURA, I.</td>
<td></td>
<td>Approval</td>
<td>See Me</td>
</tr>
<tr>
<td>CHING, F.</td>
<td></td>
<td>NAKAMA, L.</td>
<td></td>
<td>Signature</td>
<td>Review &amp; Comment</td>
</tr>
<tr>
<td>DANBARA, S.</td>
<td></td>
<td>NAKANO, D.</td>
<td></td>
<td>Information</td>
<td>Take Action</td>
</tr>
<tr>
<td>FUJII, N.</td>
<td></td>
<td>OHYE, M.</td>
<td></td>
<td></td>
<td>Type Draft</td>
</tr>
<tr>
<td>GOODING, K.</td>
<td></td>
<td>SAKODA, E.</td>
<td></td>
<td></td>
<td>Type Final</td>
</tr>
<tr>
<td>HARDY, R.</td>
<td></td>
<td>SWANSON, S.</td>
<td></td>
<td></td>
<td>File</td>
</tr>
<tr>
<td>HOAGBIN, S.</td>
<td></td>
<td>UYENO, D.</td>
<td></td>
<td></td>
<td>Xerox ___ copies</td>
</tr>
<tr>
<td>ICE, C.</td>
<td></td>
<td>YODA, K.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMATA, R.</td>
<td></td>
<td>YOSHINAGA, M.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TO: 
The Honorable Linda Lingle  
Governor of Hawaii

THROUGH: 
Honorable Georgina Kawamura, Director of Finance  
Department of Budget and Finance

FROM: 
Peter T. Young, Chairperson  
Board of Land and Natural Resources

SUBJECT: 
Reversion, Transfer and Allotment of Supplemental Construction Funds for Waihee Deep Monitor Well, Maui, Job No. G55CM18B, as Authorized by Act 200, SLH 2003, as Amended by Act 41, SLH 2004, Item D-2.01

We respectfully request the reversion, transfer and allotment of supplemental construction funds for the subject project.

This project involves construction of a deep monitor well to collect hydrologic and geologic information and to observe performance of the Waihee aquifer system. The information will be used to confirm and substantiate the aquifer’s sustainable yield and performance in the Waihee area to determine whether the resource is indeed over pumped or being severely threatened. Information obtained from aquifer monitoring will provide Commission on Water Resource Management (CWRM) with a better understanding of the basal aquifer, transition zone, and saline zone beneath the Waihee Aquifer System.

This request is to revert, transfer and allot $40,000 previously released for the equipment cost element via Allotment Advice No. 05-0029 dated July 28, 2004, as additional construction funds to account for construction cost estimates adjusted for the current bidding climate. CWRM staff will adjust to the reduction in equipment funds by modifying their monitoring techniques.

The State has the responsibility under the State Constitution and the State Water Code to assess the resource and protect it from degradation. In addition, the proposed well will provide the County of Maui and its Department of Water Supply better knowledge in which to effectively operate their potable wells.
Section 111 of Act 200, SLH 2003, as amended by Act 41, SLH 2004, allows the transfer of funds between cost elements, with your approval, provided the total expenditure from all cost elements does not exceed the total appropriations for the project.

If the low bid is within the revised basic bid estimate and available appropriation, permission is requested to award the construction contracts. If the lowest bid is higher than the basic bid estimate and available appropriation, we will not award the contract and notify you immediately to recommend suitable funding alternatives.

The Chief Engineer of the Engineering Division ensures that there are adequate funds currently appropriated and these projects will comply with applicable county building codes and applicable land use designations.

If there are any questions, please call Alyson Yim at extension 70259.

c: DLNR, Fiscal Office
DLNR, CWRM

RECOMMEND:

☐ APPROVAL ☐ DISAPPROVAL

[Signature]
Director of Finance

3/24/06
Date

☐ APPROVED ☐ DISAPPROVED

[Signature]
LINDA LINGLE
Governor, State of Hawaii

3/6/06
Date
Table K (502)

CAPITAL PROJECT INFORMATION AND JUSTIFICATION SHEET

EXPENDING AGENCY:
USER PROGRAM ID  CAPITAL PROJECT
DEPT NUMBER  NUMBER
LNR  404  G55E

PROJECT TITLE: WAIHEE DEEP MONITOR WELL, MAUI

PROJECT DESCRIPTION: PLANS, LAND ACQUISITION, DESIGN, CONSTRUCTION, AND EQUIPMENT FOR A DEEP MONITOR WELL TO COLLECT HYDROLOGIC AND GEOLOGIC INFORMATION AND TO OBSERVE AQUIFER PERFORMANCE.

TOTAL ESTIMATED PROJECT COST (In Thousands of Dollars)

<table>
<thead>
<tr>
<th>COST ELEMENT</th>
<th>ACT 04</th>
<th>Item 04</th>
<th>ACT 04</th>
<th>Item 04</th>
<th>ACT 04</th>
<th>Item 04</th>
<th>ACT 04</th>
<th>Item 04</th>
<th>ACT 04</th>
<th>Item 04</th>
<th>ACT 04</th>
<th>Item 04</th>
<th>FY 2004</th>
<th>FY 2006</th>
<th>FUTURE YEARS</th>
<th>TOTAL PROJECT COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLANS</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>LAND</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>DESIGN</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>CONSTRUCT</td>
<td>321</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>321</td>
</tr>
<tr>
<td>EQUIPMENT</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>TOTALS</td>
<td>431</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>431</td>
</tr>
</tbody>
</table>

PROJECT INFORMATION AND JUSTIFICATION (use back if necessary):

a. Total Scope of Project.
   A monitor well will have been drilled to allow periodic observations to be made of aquifer performance and allow associated data to be collected. Also, geologic samples collected during the drilling work will provide valuable geologic information to assess aquifer characteristics.

b. Identification of Need and Evaluation of Existing Situation.
   Information obtained from aquifer monitoring will enable the Commission on Water Resource Management to better regulate and manage current and future water withdrawals and provide a better understanding of aquifer potential to supply water needs of current and future land developments.

c. Alternatives Considered and Impact if Project is Deferred.
   There are no alternatives. The data is essential to the Commission's regulation and management of the state's water resources.

d. Discuss What Improvements Will Take Place When Project Completed (including benefits to be derived and/or deficiencies this project intends to correct).
   Data collected from monitor wells would be valuable to the U.H. Water Resources Research Center, U.S. Geological Survey, and County Boards of Water Supply and major developers. Private well drilling contractors may cite unfair competition if wells are drilled by governmental agencies.

e. Impact Upon Future Operating Requirements (show initial and ongoing funding requirements by cost element, including position count, means of financing, fiscal year).
   None.

f. Additional Information:
   Siting and design of small 8-inch diameter monitor well that goes deep enough to penetrate the basal aquifer, transition zone, and saline zone beneath. The well will be used to collect hydrologic and geologic information, including the long-term reaction of the basal aquifer to pumpage. The well will be sited where information is needed, in one of the most highly pumped areas on Maui. Currently, there are only two deep monitor wells on the entire island of Maui.
<table>
<thead>
<tr>
<th>COST ELEMENTS</th>
<th>SOURCE OF FUNDS (ACT/ITEM, ACCOUNT NUMBER, FEDERAL, COUNTY, PRIVATE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAND ACQUISITION</td>
<td>4104 D-2:01 B 04 407 C 4104 D-2:01 B 04 408 C 4104 D-2:01 B 04 409 C 4104 D-2:01 B 04 410 C 4104 D-2:01 B 04 411 C</td>
</tr>
<tr>
<td>Land</td>
<td>7,000</td>
</tr>
<tr>
<td>Consultant Services</td>
<td>2,000</td>
</tr>
<tr>
<td>Staff Support</td>
<td>1,000</td>
</tr>
<tr>
<td>PLANS</td>
<td>(25,000)</td>
</tr>
<tr>
<td>Consultant Services</td>
<td>22,000</td>
</tr>
<tr>
<td>Staff Support</td>
<td>3,000</td>
</tr>
<tr>
<td>DESIGN</td>
<td>(25,000)</td>
</tr>
<tr>
<td>Consultant Services</td>
<td>22,000</td>
</tr>
<tr>
<td>Staff Support</td>
<td>3,000</td>
</tr>
<tr>
<td>CONSTRUCTION</td>
<td>(321,000)</td>
</tr>
<tr>
<td>Basic Bid</td>
<td>301,000</td>
</tr>
<tr>
<td>Alternates</td>
<td>0</td>
</tr>
<tr>
<td>Contingency</td>
<td>15,000</td>
</tr>
<tr>
<td>Consultant Services</td>
<td>1,000</td>
</tr>
<tr>
<td>Staff Support</td>
<td>5,000</td>
</tr>
<tr>
<td>Other Costs</td>
<td>0</td>
</tr>
<tr>
<td>EQUIPMENT</td>
<td>(10,000)</td>
</tr>
<tr>
<td>Basic Bid</td>
<td>9,000</td>
</tr>
<tr>
<td>Consultant Services</td>
<td>0</td>
</tr>
<tr>
<td>Staff Support</td>
<td>1,000</td>
</tr>
<tr>
<td>WORKS OF ART</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL PROJECT COST</td>
<td>25,000</td>
</tr>
<tr>
<td>ALLOTTED TO DATE*</td>
<td>25,000</td>
</tr>
<tr>
<td>REVERSION REQUESTED</td>
<td>0</td>
</tr>
<tr>
<td>ALLOTMENT REQUEST</td>
<td>0</td>
</tr>
<tr>
<td>BALANCE</td>
<td>0</td>
</tr>
<tr>
<td>FUNDS APPROPRIATED</td>
<td>25,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*AA#</th>
<th>Date</th>
<th>Completion Date</th>
<th>COMMENTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLANS</td>
<td>05-0029</td>
<td>7/28/04</td>
<td>3/06</td>
</tr>
<tr>
<td>LAND</td>
<td>05-0029</td>
<td>7/28/04</td>
<td>6/06</td>
</tr>
<tr>
<td>DESIGN</td>
<td>05-0029</td>
<td>7/28/04</td>
<td>3/06</td>
</tr>
<tr>
<td>CONSTRUCTION</td>
<td>05-0029</td>
<td>7/28/04</td>
<td>3/07</td>
</tr>
<tr>
<td>EQUIPMENT</td>
<td>05-0029</td>
<td>7/28/04</td>
<td>3/07</td>
</tr>
</tbody>
</table>
STATE OF HAWAII

ALLOTMENT ADVICE

TO: The Honorable Peter T. Young, Chairperson

ADVICE NO. 06-0346

I have this day approved the following allotment from general obligation fund appropriation authorized by Sections 77 and 111, Act 200, SLH 2003, as amended by Act 41, SLH 2004, for the purpose indicated:

<table>
<thead>
<tr>
<th>TC</th>
<th>F</th>
<th>YR</th>
<th>APP</th>
<th>D</th>
<th>ALLOT CAT</th>
<th>ITEM</th>
<th>TITLE AND PURPOSE OF ALLOTMENT</th>
<th>M</th>
<th>OF</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXX</td>
<td>x</td>
<td>xx</td>
<td>xxx</td>
<td>xx</td>
<td>xxx</td>
<td>x</td>
<td>xxxxxxxx</td>
<td>(20 x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>532</td>
<td>B</td>
<td>04</td>
<td>411</td>
<td>C</td>
<td>20</td>
<td>D-2.01</td>
<td>REVERSION OF PREVIOUSLY ALLOTTED FUNDS</td>
<td>C</td>
<td>40,000</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Waihee Deep Monitor Well, Maui</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plans, land acquisition, design, construction and equipment for a deep monitor well to collect hydrologic and geologic information and to observe aquifer performance (equipment).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Purpose: To revert equipment funds for Waihee Deep Monitor Well, Maui.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Note: To revert funds previously allotted per Allotment Advice No. 05-0029 dated 7/28/04.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Reversion - $40,000.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>473</td>
<td>B</td>
<td>04</td>
<td>411</td>
<td>C</td>
<td></td>
<td>D-2.01</td>
<td>TRANSFER AND ALLOTMENT</td>
<td>C</td>
<td>40,000</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Waihee Deep Monitor Well, Maui (equipment)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>474</td>
<td>B</td>
<td>04</td>
<td>410</td>
<td>C</td>
<td></td>
<td>D-2.01</td>
<td>Waihee Deep Monitor Well, Maui (construction)</td>
<td>C</td>
<td>40,000</td>
<td>00</td>
</tr>
<tr>
<td>531</td>
<td>B</td>
<td>04</td>
<td>410</td>
<td>C</td>
<td>20</td>
<td>D-2.01</td>
<td>Waihee Deep Monitor Well, Maui (construction)</td>
<td>C</td>
<td>40,000</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Purpose: To finance additional construction costs for Waihee Deep Monitor Well, Maui.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total Allotment - $40,000.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Statewide Project No. G55CM18B</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GOVERNOR, STATE OF HAWAII

DATE: March 1, 2006

DIRECTOR OF BUDGET AND FINANCE
FROM: Dean

DATE: JAN 31 2006

TO: ANAKALEA, P. CHING, F. DANBABA, S. FUJII, N. GOODING, K. HARDY, R. HIGA, D. HOGGIN, S. ICE, C. IMATA, R.

INIT: KUNIMURA, I. NAKAMA, L. NAKANO, D. OHYE, M. SAKODA, E. SWANSON, S. UYENO, D. YODA, K. YOSHINAGA, M.

INIT: ________

FOR: Approval Signature Information

PLEASE: See Me Review & Comment Take Action Type Draft Type Final File Xerox copies

[Handwritten note: "Form file with the other project-related information, etc." Signed: Dean]
TO: Governor Linda Lingle

THROUGH: Bob Awana, Chief of Staff

THROUGH: Georgina K. Kawamura, Director of Finance

THROUGH: Peter T. Young, Chairperson

THROUGH: Eric T. Hirano, Chief Engineer

FROM: Alyson Yim, Engineer

SUBJECT: Request for Reversion, Transfer and Allotment of CIP Funds

Requested Action
Reversion, transfer and allotment of $40,000 previously released for the equipment cost element via Allotment Advice No. 05-0029 dated July 28, 2004, as additional construction funds for Waihee Deep Monitor Well, Maui, Job No. G55CM18B, as Authorized by Act 41, SLH 2004, Item D-2.01

Justification for Action
- Additional construction funds are needed due to construction cost estimates adjusted for the current bidding climate.
- This project will be used to confirm and substantiate the aquifer’s sustainable yield and performance in the Waihee area to determine whether the resource is indeed over pumped or being severely threatened.
- Information obtained from aquifer monitoring will provide the Commission on Water Resource Management with a better understanding of the basal aquifer, transition zone, and saline zone beneath the Waihee Aquifer System.
- There are no wells in this area that can be used for this purpose.
- This project will also provide the County of Maui and its Department of Water Supply better knowledge in which to effectively operate their potable wells.
TO: The Honorable Linda Lingle
Governor of Hawaii

THROUGH: Honorable Georgina Kawamura, Director of Finance
Department of Budget and Finance

FROM: Peter T. Young, Chairperson
Board of Land and Natural Resources

SUBJECT: Reversion, Transfer and Allotment of Supplemental Construction Funds for Waihee Deep Monitor Well, Maui, Job No. G55CM18B, as Authorized by Act 200, SLH 2003, as Amended by Act 41, SLH 2004, Item D-2.01

We respectfully request the reversion, transfer and allotment of supplemental construction funds for the subject project.

This project involves construction of a deep monitor well to collect hydrologic and geologic information and to observe performance of the Waihee aquifer system. The information will be used to confirm and substantiate the aquifer's sustainable yield and performance in the Waihee area to determine whether the resource is indeed over pumped or being severely threatened. Information obtained from aquifer monitoring will provide Commission on Water Resource Management (CWRM) with a better understanding of the basal aquifer, transition zone, and saline zone beneath the Waihee Aquifer System.

This request is to revert, transfer and allot $40,000 previously released for the equipment cost element via Allotment Advice No. 05-0029 dated July 28, 2004, as additional construction funds to account for construction cost estimates adjusted for the current bidding climate. CWRM staff will adjust to the reduction in equipment funds by modifying their monitoring techniques.

The State has the responsibility under the State Constitution and the State Water Code to assess the resource and protect it from degradation. In addition, the proposed well will provide the County of Maui and its Department of Water Supply better knowledge in which to effectively operate their potable wells.
Section 111 of Act 200, SLH 2003, as amended by Act 41, SLH 2004, allows the transfer of funds between cost elements, with your approval, provided the total expenditure from all cost elements does not exceed the total appropriations for the project.

If the low bid is within the revised basic bid estimate and available appropriation, permission is requested to award the construction contracts. If the lowest bid is higher than the basic bid estimate and available appropriation, we will not award the contract and notify you immediately to recommend suitable funding alternatives.

The Chief Engineer of the Engineering Division ensures that there are adequate funds currently appropriated and these projects will comply with applicable county building codes and applicable land use designations.

If there are any questions, please call Alyson Yim at extension 70259.

c: DLNR, Fiscal Office
    DLNR, CWRM

be: Proj. Planning

RECOMMEND:

☐ APPROVAL   ☐ DISAPPROVAL

______________________________
Director of Finance

______________________________
Date

☐ APPROVED   ☐ DISAPPROVED

______________________________
LINDA LINGLE
Governor, State of Hawaii

______________________________
Date
**CAPITAL PROJECT INFORMATION AND JUSTIFICATION SHEET**

**EXPENDING AGENCY:**

<table>
<thead>
<tr>
<th>USER PROGRAM ID</th>
<th>CAPITAL PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPT NUMBER</td>
<td>NUMBER</td>
</tr>
<tr>
<td>LNR 404</td>
<td>G55E</td>
</tr>
</tbody>
</table>

**PROJECT TITLE:** WAIHEE DEEP MONITOR WELL, MAUI

**PROJECT DESCRIPTION:** PLANS, LAND ACQUISITION, DESIGN, CONSTRUCTION, AND EQUIPMENT FOR A DEEP MONITOR WELL TO COLLECT HYDROLOGIC AND GEOLOGIC INFORMATION AND TO OBSERVE AQUIFER PERFORMANCE.

**TOTAL ESTIMATED PROJECT COST** (in Thousands of Dollars)

<table>
<thead>
<tr>
<th>COST ELEMENT</th>
<th>ACT 04</th>
<th>ACT 02</th>
<th>ACT 01</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLANS</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAND</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DESIGN</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONSTRUCT</td>
<td>321</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EQUIPMENT</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>431</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PROJECT INFORMATION AND JUSTIFICATION (use back if necessary):**

a. **Total Scope of Project.**
   A monitor well will have been drilled to allow periodic observations to be made of aquifer performance and allow associated data to be collected. Also, geologic samples collected during the drilling work will provide valuable geologic information to assess aquifer characteristics.

b. **Identification of Need and Evaluation of Existing Situation.**
   Information obtained from aquifer monitoring will enable the Commission on Water Resource Management to better regulate and manage current and future water withdrawals and provide a better understanding of aquifer potential to supply water needs of current and future land developments.

c. **Alternatives Considered and Impact if Project is Deferred.**
   There are no alternatives. The data is essential to the Commission's regulation and management of the state's water resources.

d. **Discuss What Improvements Will Take Place When Project Completed (including benefits to be derived and/or deficiencies this project intends to correct).**
   Data collected from monitor wells would be valuable to the U.H. Water Resources Research Center, U.S. Geological Survey, and County Boards of Water Supply and major developers. Private well drilling contractors may cite unfair competition if wells are drilled by governmental agencies.

e. **Impact Upon Future Operating Requirements (show initial and ongoing funding requirements by cost element, including position count, means of financing, fiscal year).**
   None.

f. **Additional Information:**
   Siting and design of small 8-inch diameter monitor well that goes deep enough to penetrate the basal aquifer, transition zone, and saline zone beneath. The well will be used to collect hydrologic and geologic information, including the long-term reaction of the basal aquifer to pumpage. The well will be sited where information is needed, in one of the most highly pumped areas on Maui. Currently, there are only two deep monitor wells on the entire island of Maui.
## Project Title: Waihee Deep Monitor Well, Maui

### Source of Funds (Act, Item, Account Number, Federal, County, Private)

<table>
<thead>
<tr>
<th>Cost Elements</th>
<th>41/04 D-2-01</th>
<th>41/04 D-2-01</th>
<th>41/04 D-2-01</th>
<th>41/04 D-2-01</th>
<th>41/04 D-2-01</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Acquisition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(10,000)</td>
</tr>
<tr>
<td>Land</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7,000</td>
</tr>
<tr>
<td>Consultant Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,000</td>
</tr>
<tr>
<td>Staff Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>Plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(25,000)</td>
</tr>
<tr>
<td>Consultant Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22,000</td>
</tr>
<tr>
<td>Staff Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,000</td>
</tr>
<tr>
<td>Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(25,000)</td>
</tr>
<tr>
<td>Consultant Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22,000</td>
</tr>
<tr>
<td>Staff Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,000</td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(321,000)</td>
</tr>
<tr>
<td>Basic Bid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>301,000</td>
</tr>
<tr>
<td>Alternates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>39,000</td>
</tr>
<tr>
<td>Contingency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>16,000</td>
</tr>
<tr>
<td>Consultant Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Staff Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5,000</td>
</tr>
<tr>
<td>Other Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(10,000)</td>
</tr>
<tr>
<td>Basic Bid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10,000</td>
</tr>
<tr>
<td>Consultant Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Staff Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>Works of Art</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>25,000</td>
<td>10,000</td>
<td>25,000</td>
<td>321,000</td>
<td>50,000</td>
<td>431,000</td>
</tr>
</tbody>
</table>

### Comments:
- DLNR Job No. G55CM18B
- 1/ Request reversion, transfer & allotment, EQUIPMENT to CONSTRUCTION

**Notes:**
- AA# Date: Completion Date
- Plans: 05-0029 7/28/04 3/06
- Land: 05-0029 7/28/04 6/06
- Design: 05-0029 7/28/04 3/06
- Construction: 05-0029 7/28/04 3/07
- Equipment: 05-0029 7/28/04 3/07

CIP FORM 2 (Revised 5/97)
I have this day approved the following allotment from general obligation fund appropriation authorized by Sections 77 and 111, Act 200, SLH 2003, as amended by Act 41, SLH 2004, for the purpose indicated:

<table>
<thead>
<tr>
<th>TC</th>
<th>F</th>
<th>YR</th>
<th>APP</th>
<th>D</th>
<th>ALLOT</th>
<th>ITEM</th>
<th>TITLE AND PURPOSE OF ALLOTMENT</th>
<th>M</th>
<th>O</th>
<th>F</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXX</td>
<td>x</td>
<td>xx</td>
<td>xxx</td>
<td>xx</td>
<td>xxxxx</td>
<td>REVERSION OF PREVIOUSLY ALLOTED FUNDS</td>
<td>C</td>
<td>40,000</td>
<td>00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>532</td>
<td>B</td>
<td>04</td>
<td>411</td>
<td>C</td>
<td>20</td>
<td>Waihee Deep Monitor Well, Maui</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plans, land acquisition, design, construction and equipment for a deep monitor well to collect hydrologic and geologic information and to observe aquifer performance (equipment).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Purpose: To revert equipment funds for Waihee Deep Monitor Well, Maui.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Note: To revert funds previously allotted per Allotment Advice No. 05-0029 dated 7/28/04.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Reversion - $40,000.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>473</td>
<td>B</td>
<td>04</td>
<td>411</td>
<td>C</td>
<td>D-2.01</td>
<td>TRANSFER AND ALLOTMENT</td>
<td>C</td>
<td>40,000</td>
<td>00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>474</td>
<td>B</td>
<td>04</td>
<td>410</td>
<td>C</td>
<td>D-2.01</td>
<td>Waihee Deep Monitor Well, Maui (construction)</td>
<td>C</td>
<td>40,000</td>
<td>00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>531</td>
<td>B</td>
<td>04</td>
<td>410</td>
<td>C</td>
<td>D-2.01</td>
<td>Waihee Deep Monitor Well, Maui (construction)</td>
<td>C</td>
<td>40,000</td>
<td>00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Purpose: To finance additional construction costs for Waihee Deep Monitor Well, Maui.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total Allotment - $40,000.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Statewide Project No. G55CM18B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GOVERNOR, STATE OF HAWAII

DIRECTOR OF BUDGET AND FINANCE

DATE:
January 30, 2006

To: Russell Y. Tsuji, Land Administrator

From: Dean A. Nakano, Acting Deputy Director

Subject: Request for Assistance in Land Easement Acquisition for a Deep Monitor Well in Maui

We request assistance in easement acquisition in Waihee, Maui. CWRM is going to drill a deep monitor well and we need to acquire a non-exclusive easement for the well site and well site access.

a) TMK: 3-2-01:003
b) Interest to be acquired: non-exclusive easement
c) Public purpose of acquisition: Deep monitor well site and access. Deep monitor wells are used to collect data on changes in basal freshwater aquifers. The data will be used to manage water resources. This is consistent with the provisions of the Water Code (Chapter 174C, HRS).
d) Source of funds: CIP LNR404, Project G55E Waihee Deep Monitor Well, Maui. There is a total of $431,000 for planning, design, construction, land, and equipment. Currently $10,000 is budgeted for land acquisition.

e) The applicant will be responsible for paying for applicable acquisition requirements. The easement surveying and mapping is already included in the planning and design consultant contract. We can have the easement mapped when the consultant contract is executed.

f) The grantor is: Mr. Eric Pilotin
   Project Manager
   Betsill Brothers Construction, Inc.
   635 Kenolio Road
   Kihei, Hawaii 96753
   eric@betsillbuilder.com

   g) staff contact: Kevin L. Gooding

h) Other pertinent information: We have negotiated a preliminary agreement with the grantor (Betsill Brothers). They have verbally agreed to grant CWRM a non-exclusive easement to the well site and access. We have also agreed by email on a well site. We recently learned that we couldn’t execute a construction contract without an easement. We hope that this process can be completed by July 2006.

Deep monitor wells are exempt from Chapter 343, HRS requirements. The well will be in the Agricultural Land Use District so a CDUP is not required. The public supports this project because there is concern about the sustainability of the aquifers that support the Central Maui Water System.

Thank you for your help in this matter. If you have any questions please contact Kevin L. Gooding at

[Redacted]
TO: Chairperson
Deputy to the Chairperson
Deputy to the Water Commission
Board Members
Deputy Attorney General
ADA Coordinator
Aquatic Resources
Boating & Ocean Recreation
Commission on Water Resource Management
Conveyances
Enforcement
Engineering
Forestry & Wildlife
Historic Preservation
Land Division
Natural Area Reserves
Na Ala Hele
State Parks
Fiscal
Personnel

REMARKS: Peter will bring this up at staff meeting. Ed will make 440,000 firm equipment to construction. Leave Li I on in equipment.

FOR: Signature
Approval
Approval as to Form
Approval & Transmittal to Governor
Comment
Recommendation
Investigation & Report
Appropriate Action
Retention
Return
Information

Here is that we should get Land Div. involved early on in any land "dispositions." I'll send e-mail to Dennis and Kevin to update me on what's happening with Waiehu Deep Well.

Date 11/19/96

Ed
Standard DLNR Acquisition Procedures

1) General Tasks (Lead Division)
   a) Site/Interest Identification (Applicant)
   b) Funding sources (Applicant)
      i) State appropriations
      ii) Federal grants
      iii) Private donations
      iv) etc
   c) Acquisition (Land Division)
      i) BLNR approval(s) of the acquisition
      ii) Negotiations
      iii) Due diligence review
      iv) Coordination

2) Process Initiation: Memo from Applicant requesting Land Division assistance. Please include:
   a) TMK
   b) Interest to be acquired (fee simple/easement)
   c) Public purpose of the acquisition
   d) Sources of funds and amount
   e) Who is responsible for paying for applicable acquisition requirements (Applicant or Grantor)
   f) Contact information of Grantor
   g) Staff contact information
   h) Any other pertinent information on file including but not limited to property history, public
      support/opposition, significance of the property, Chapter 343 exemption, etc.

3) Standard Requirements (as applicable): Unless otherwise stated, all associated costs are to be paid by
   either the applicant division or the grantor.
   a) Chapter 343 compliance (prior to BLNR approval)
   b) Legally subdivided lot
   c) Title report, subject to review and approval of DLNR and Department of the Attorney General
      (need clear title and acceptable encumbrances)
   d) Private survey pursuant to the Standards for Property Surveys available on the Hawaii
      Association of Land Surveyors (HALS) website www.eng.hawaii.edu/~hals
   e) Independent appraisal (contracted for by the State through DLNR-Land Division) to determine
      the fair market value of the interest to be acquired. (Note: If federal funds are used, the applicant
      agency is responsible for providing to Land Division all appraisal requirements resulting from the
      use of those funds. In the acquisition of an easement, a mutually agreed upon easement document
      must be provided to Land Division prior to the RFP process for an appraisal)
   f) Pay for and conduct a Phase I environmental site assessment and, if this Phase I identifies the
      potential for hazardous materials release or the presence of hazardous materials, conduct a Phase
      II environmental sampling and analysis plan and perform any and all remediation, abatement and
      disposal as may be warranted and as satisfactory to the standards required by the Federal
      Environmental Protection Agency and/or the State Department of Health, all at no cost to the
      State and to the satisfaction of the Department.
   g) Approval of all necessary entitlements to the satisfaction of the Department
   h) Proper removal of any improvements as required by the Department and at no cost to the State
   i) Such other terms and conditions as may be prescribed to best serve the interests of the State (i.e.
      geological surveys to determine potential rock fall hazards, etc.)

4) Conveyance Documents: Any conveyance of fee simple interest in land to the State should be via the
   State's standard warranty deed, which has been approved by the Department of the Attorney General.
   Any deviation from the State's standard template must be submitted to the BLNR for approval and is
   subject to review and approval by the Department of the Attorney General.
To <Kevin.L.Gooding@hawaii.gov>

Subject FW: Waihee Deep Monitor Well

Kevin,

Site 3 would work best for us.

Eric

From: Ray Martin
Sent: Thursday, December 22, 2005 2:27 PM
To: Eric Pilotin
Subject: FW: Waihee Deep Monitor Well

HI Eric,

Sorry for getting back to you so late but I was waiting to go over this with Dennis! Site 1 is on an area that is cleared and most likely the area where someone would build so this location does not work for us!
Site 2 requires the clearing of trees and a road cut and filled which is not quite desireable,
Site 3 would be the site we would prefer them to put the well as there is already existing structures there and easy access!

If this works for them then I guess it's a go!
Any questions, feel free to give me a call!

MAHALO,
RAY MARTIN
Civil Engineer
Direct: 808.874.6611

From: Dennis Boehije
Sent: Thursday, December 22, 2005 11:50 AM
To: Ray Martin
Subject: FW: Waihee Deep Monitor Well

Ray, Can you respond to Eric?
Dennis

From: Eric Pilotin
Sent: Thursday, December 22, 2005 10:28 AM
To: dennis@betsillbuilder.com
Cc: doyle@betsillbuilder.com
Hi Eric,

I was wondering about the status of our request to drill a deep monitor well on your property in Waihee. Our engineers would like to know because they need to get a cost estimate from the engineering consultant. We had three sites in mind:

Site 1: This site is located about 500 feet west of Kanoa Well 2 (attachment 3). It is near an existing dirt road. This site is in an area that you propose to subdivide. We would work with you to minimize the impact on the subdivided parcels.

Site 2: The site is located approximately 350 feet mauka of the Maui DWS Kanoa Well 1 (attachment 3). According to your development plans, this site is on common land and will not infringe on saleable parcels. We would construct a one lane road around Kanoa Well 1 to the well site. The first part of the road would have to be cut into the slope above Kanoa 1 and the remainder of the road would be on an existing bench or old road cut.

Site 3: The site is located adjacent to the Maui Department of Water Supply water tank on the ridge above Waihee Valley (attachment 3). It is near an existing road. The site appears to be on land that you intend to subdivide but it is near a DWS tank so impacts on adjacent parcels should be minimal. This site is less desirable from a scientific viewpoint because it is at the edge of the aquifer (Waihee Stream is the boundary).

I attached a map with the sites labeled in the letter I sent earlier this month.

Thanks for your help. If you have any questions please call or email. My phone number is [redacted]

Kevin L. Gooding, CPG
Acting State Geologist
Commission on Water Resource Management
Department of Land and Natural Resources
Kevin,

Site 3 would work best for us.

Eric

From: Ray Martin  
Sent: Thursday, December 22, 2005 2:27 PM  
To: Eric Pilotin  
Subject: FW: Waihee Deep Monitor Well

Hi Eric,

Sorry for getting back to you so late but I was waiting to go over this with Dennis! Site 1 is on an area that is cleared and most likely the area where someone would build so this location does not work for us! Site 2 requires the clearing of trees and a road cut and filled which is not quite desireable, Site 3 would be the site we would prefer them to put the well as there is already existing structures there and easy access!

If this works for them then I guess it's a go! Any questions, feel free to give me a call!

MAHALO,  
RAY MARTIN  
Civil Engineer  
Direct: 808.874.6611

From: Dennis Boehlje  
Sent: Thursday, December 22, 2005 11:50 AM  
To: Ray Martin  
Subject: FW: Waihee Deep Monitor Well

Ray, Can you respond to Eric?  
Dennis

From: Eric Pilotin  
Sent: Thursday, December 22, 2005 10:28 AM  
To: dennis@betsillbuilder.com
Hi Dennis,

Have you given this matter any thought? Please let me know.

Eric

From: Kevin.L.Gooding@hawaii.gov [mailto:Kevin.L.Gooding@hawaii.gov]
Sent: Thursday, December 22, 2005 8:31 AM
To: Eric Pilotin
Subject: Waihee Deep Monitor Well

Hi Eric,

I was wondering about the status of our request to drill a deep monitor well on your property in Waihee. Our engineers would like to know because they need to get a cost estimate from the engineering consultant. We had three sites in mind:

Site 1: This site is located about 500 feet west of Kanoa Well 2 (attachment 3). It is near an existing dirt road. This site is in an area that you propose to subdivide. We would work with you to minimize the impact on the subdivided parcels.

Site 2: The site is located approximately 350 feet mauka of the Maui DWS Kanoa Well 1 (attachment 3). According to your development plans, this site is on common land and will not infringe on saleable parcels. We would construct a one lane road around Kanoa Well 1 to the well site. The first part of the road would have to be cut into the slope above Kanoa 1 and the remainder of the road would be on an existing bench or old road cut.

Site 3: The site is located adjacent to the Maui Department of Water Supply water tank on the ridge above Waihee Valley (attachment 3). It is near an existing road. The site appears to be on land that you intend to subdivide but it is near a DWS tank so impacts on adjacent parcels should be minimal. This site is less desirable from a scientific viewpoint because it is at the edge of the aquifer (Waihee Stream is the boundary).

I attached a map with the sites labeled in the letter I sent earlier this month.

Thanks for your help. If you have any questions please call or email. My phone number is.

Kevin L. Gooding, CPG
Acting State Geologist
Commission on Water Resource Management
Department of Land and Natural Resources
Mr. Eric Pilotin  
Project Manager  
Betsill Brothers Construction, Inc.  
635 Kenolio Road  
Kihei, Hawaii 96753  

Dear Mr. Pilotin,  

Subject: Proposed sites for the Waihee Deep Monitor Well  

The Commission on Water Resource Management (CWRM) requests permission to drill a deep monitor well on your property. A deep monitor well is a partially cased well that penetrates the freshwater portion of the aquifer and extends into the saltwater (attachment 1). A photograph of a standard surface completion is shown on attachment 2. CWRM staff will monitor the well about four times per year.  

Thank you for your help in locating possible sites for the proposed well. We put forward three possible well sites. The sites are on Koolau Cattle Company, LLC property, TMK 3-2-01·003, in Waihee, Maui. We request that you consider these proposed sites. If these sites are not suitable to your development plans we would certainly be open to alternate sites. Site 1 is our first choice.  

Site 1: This site is located about 500 feet west of Kanoa Well 2 (attachment 3). It is near an existing dirt road. This site is in an area that you propose to subdivide. We would work with you to minimize the impact on the subdivided parcels.  

Site 2: The site is located approximately 350 feet mauka of the Maui DWS Kanoa Well 1 (attachment 3). According to your development plans, this site is on common land and will not infringe on saleable parcels. We would construct a one lane road around Kanoa Well 1 to the well site. The first part of the road would have to be cut into the slope above Kanoa 1 and the remainder of the road would be on an existing bench or old road cut.  

Site 3: The site is located adjacent to the Maui Department of Water Supply water tank on the ridge above Waihee Valley (attachment 3). It is near an existing road. The site appears to be on land that you intend to subdivide but it is near a DWS tank so impacts on adjacent parcels should be minimal. This site is less desirable from a scientific viewpoint because it is at the edge of the aquifer (Waihee Stream is the boundary).  

We will work closely with you to insure that impact to your property is minimized. When we have agreed upon an appropriate site our engineering consultant will draw up plans for the well and any required roadwork. A drilling contractor will be selected by competitive bid.  

We look forward to your reply. If you have any questions, please contact Kevin Gooding at [redacted].  

Sincerely,  

[Signature]  
DEAN A. NAKANO  
Acting Deputy Director  

KLG:ss  
Attachments  
c: Dennis Imada, Engineering Branch
Sept 16, 2004
Telephone call with Tony Zabin / Yvonne / 613

1. Client directs - non-exclusive
   15' x 15'
   Common area
   Ground compensation

2. Dryer vent soil, top soil goes out on roof
   green plastic inserts - doesn't look clean
   link

3. Install well - not an attractive solution

4. 2 separate -
   15' x 15' separate document

Sign construction agreement
Both of the easements can be put in one easement document, however, each portion of the easement has to have a separate "name" or title, i.e. Easement A and Easement B. You would reference Easement A as being described in Exhibit A and delineated in Exhibit B and Easement B is as described in Exhibit C and delineated in Exhibit D, etc.

You do not have to use the DAGS surveyor's maps and descriptions, but you do have to have them check the maps and descriptions for mathematical correctness.

In the attached form, I have indicated what should be deleted from the form. In particular, the reference to the DAGS map and survey description do not need to be included if you are providing other maps and surveys.

Linda

Hi Linda,

Thanks again for the easement template.

I am not sure how to fill it out.

In the first section under "Witnesseth that": We want to have a small easement for a deep monitor well, about 15 x 15 feet. We also want an easement across the private land to access the well easement. Can both of these be put on the form. The access easement is about 900 feet long and 15 feet wide. There will be no utilities.

Also in the "Witnesseth that" section: Do we have to use the DAGS surveyors or can we put another surveyor?

I will attach how I think the form should be filled out.

Thanks,

Kevin
GRANT OF NON-EXCLUSIVE EASEMENT

THIS INDENTURE, made and entered into this ____ day of __________, 20____, by and between RDD, LLC, a Hawaii Corporation, hereinafter referred to as the "Grantor," and the STATE OF HAWAII, by its Board of Land and Natural Resources, whose address is 1151 Punchbowl Street, Honolulu, Hawaii 96813, hereinafter referred to as the "Grantee."

WITNESSETH THAT:

The Grantor, [for good and valuable consideration] /or/[for and in consideration of the sum of __________________ ($_______),] the receipt of which is hereby acknowledged, and of the terms, conditions, and covenants herein contained, and on the part of the Grantee to be observed and performed, does hereby grant unto the Grantee, the following non-exclusive and perpetual easement rights:

Right, privilege and authority to construct and monitor the proposed Waihee Deep Monitor Well, in, over, under and across that/those certain parcel(s) of land ("easement area") situate at
TMK (2) 3-2-01:003, Waihee, Maui, being identified as "Easement for Waihee Deep Monitor Well," containing an area of 13500 square feet, more particularly described in Exhibit "A" and delineated on Exhibit "B", both of which are attached hereto and made parts hereof, said exhibits being respectively, a survey description and survey map prepared by a licensed surveyor, designated C.S.F. No. and dated , TOGETHER WITH the rights of ingress and egress to and from the easement area for all purposes in connection with the rights hereby granted.

TO HAVE AND TO HOLD the easement rights unto the Grantee, its successors and assigns, in perpetuity, SUBJECT, HOWEVER, to the following terms, conditions and covenants:

1. The State shall be responsible for injury caused by the State's officers and employees in the course and scope of their employment to the extent that the State's liability for such damage or injury has been determined by a court or otherwise agreed to by the State. The State shall pay for such damage and injury to the extent permitted by law provided that an appropriation is enacted for that purpose.

2. The Grantor reserves unto itself, its successors and assigns, the full use and enjoyment of the easement area and to grant to others rights and privileges for any and all purposes affecting the easement area, provided, however, that the rights herein reserved shall not be exercised by the Grantor in a manner which interferes unreasonably with the Grantee in the use of the easement area for the purposes for which this easement is granted.

3. All improvements placed in or upon the easement area by the Grantee shall be done without cost or expense to the Grantor and shall remain the property of the Grantee and may be removed or otherwise disposed of by the Grantee at any time; provided, that the removal shall be accomplished with minimum disturbance to the easement area which shall be restored to its original condition, or as close thereto as possible, within a reasonable time after removal.

4. Upon completion of any work performed in or upon the easement area, the Grantee shall remove therefrom all equipment and unused or surplus materials, if any, and shall leave the easement area in a clean and sanitary condition satisfactory to the Grantor. The Grantor shall help keep the easement open by removing vegetation from the access.
5. The Grantee shall keep the easement area and the improvements thereon in a safe, clean, sanitary, and orderly condition, and shall not make, permit or suffer, any waste, strip, spoil, nuisance or unlawful, improper, or offensive use of the easement area.

6. Should future development necessitate (a) relocation of the easement(s) granted herein, or any portion thereof, the relocation shall be accomplished at the Grantee's own cost and expense; provided, however, that if other lands of the Grantor are available, the Grantor shall grant to the Grantee without payment of any monetary consideration, (a) substitute easement(s) of similar width within the reasonable vicinity of the original alignment(s), which substitute easement(s) shall be subject to the same terms and conditions as that herein granted and as required by law.

7. Upon termination of the use, the easement area shall be restored to its original state, or as close thereto as possible, within a reasonable time and at the expense of the Grantee.

IN WITNESS WHEREOF, and the STATE OF HAWAII, by its Board of Land and Natural Resources, has caused the seal of the Department of Land and Natural Resources to be hereunto affixed and the parties hereto have caused this Indenture to be executed as of the day, month, and year first above written.
STATE OF HAWAII  
)  
) SS.  
)  
COUNTY OF  
)  

On this _____ day of ____________________, 20____, before me personally appeared ___________________________ to me known to be the person described in and who executed the foregoing instrument and acknowledged that _____ executed the same as _____ free act and deed.

Notary Public, State of Hawaii

_________________________

My commission expires:__________

---

STATE OF HAWAII  
)  
) SS.  
)  
COUNTY OF  
)  

On this _____ day of ____________________, 20____, before me appeared ___________________________ and ___________________________, to me personally known, who, being by me duly sworn, did say that they are the ___________________________ and ___________________________, respectively of _________________, a Hawaii corporation, and that said instrument was signed in behalf of said corporation by authority of its Board of Directors, and the said ___________________________ and ___________________________ acknowledged said instrument to be the free act and deed of said corporation.

Notary Public, State of Hawaii

_________________________

My commission expires:__________
On this _______ day of __________________, 20____, before me personally appeared __________________, and __________________, to me personally known, who, being by me duly sworn or affirmed, did say that such person(s) executed the foregoing instrument as the free act and deed of such person(s), and if applicable in the capacity shown, having been duly authorized to execute such instrument in such capacity.

Notary Public, State of Hawaii

My commission expires: ______________
Yvonne,
I spoke with Gary after meeting with you this morning. I sent him Linda’s amended easement document. The question of compensation came up again and it appears that they are not out to make a lot of money on the "taking" of their property. I mentioned the MOU we signed with Campbell Estate about the Ewa-Mauka well that we are now drilling and the provision that we are responsible for sealing the well if abandoned (during construction), or that after a 100 years it will need sealing due to age. I suppose at that point, the property would revert back to Betsill (or the landowners). I suggested that we have a conference call between us (you and me) and Gary (maybe a Betsill or two) to discuss what they want. He also mentioned plantings around the 15’x15’ fence that we construct around the well. Maybe they want some compensation for maintaining the site over a number of years. Anyway, what time is good for you for me to set up a conf. call with Gary?

Glenn
Gary,

Attached is the amended easement document reviewed by our AG, Linda Chow. Please call me if you have any questions.

I will email Yvonne this morning re our conversation, and try to set up a conference call with you.

Aloha,

Glenn R Bauer/DLNR/StateHiUS
09/13/2004 08:15 AM

To gary@betsillbuilder.com
cc
bcc

Subject Waihee Deep Monitor Well Easement

Glenn Waihee Well Easement.doc
Gary,

Thanks for considering this project.

For now we are looking at two sites.

Our first choice is on the dirt road up to the Equestrian well at about 500 ft elevation.

Our second choice is near the DWS water tank on the ridge about the Kanoa wells.

The funding for the well limits us to about 500 ft elevation.

Thanks,

Kevin Gooding
Both of the easements can be put in one easement document, however, each portion of the easement has to have a separate "name" or title, i.e. Easement A and Easement B. You would reference Easement A as being described in Exhibit A and delineated in Exhibit B and Easement B is as described in Exhibit C and delineated in Exhibit D, etc.

You do not have to use the DAGS surveyor's maps and descriptions, but you do have to have them check the maps and descriptions for mathematical correctness.

In the attached form, I have indicated what should be deleted from the form. In particular, the reference to the DAGS map and survey description do not need to be included if you are providing other maps and surveys.

Linda

Hi Linda,

Thanks again for the easement template.

I am not sure how to fill it out.

In the first section under "Witnesseth that": We want to have a small easement for a deep monitor well, about 15 x 15 feet. We also want an easement across the private land to access the well easement. Can both of these be put on the form. The access easement is about 900 feet long and 15 feet wide. There will be no utilities.
Also in the "Witnesseth that" section: Do we have to use the DAGS surveyors or can we put another surveyor?

I will attach how I think the form should be filled out.

Thanks,

Kevin

[attachment "4049 Grant of Easement (2).doc" deleted by Linda L Chow/AG/StateHiUS]
Gary,

I was not thinking of purchasing the 15 x 15 well site. I was hoping to get a well site easement. I think this would be better for CWRM and RDD LLC. We do not want to own a little parcel in the middle of your land. An easement would provide more flexibility when you want to develop the valley. The only thing that you would have to go around is the concrete pad around the well. We usually ask for 15 x 15 area around the well because in practice we need to access the well from all directions to get our instruments in and out of the hole.

Kevin

"Gary Zakian" <gary@betsillbuilder.com>

Kevin,  

Thank you for the map and the attached valuation for the 900' long x 15 wide non-exclusive access easement.

The one remaining question I have is what is the valuation for the property for the fee interest in the 15' x 15' well site? Please advise on this item. I will pass the valuation for the non-exclusive easement on to Doyle Betsill.

Thanks,

Gary

----- Original Message ----- 
From: Kevin.L.Gooding@hawaii.gov 
To: Gary Zakian 
Cc: Glenn_R_Bauer/exec.state.hi.us 
Sent: Thursday, September 02, 2004 10:59 AM 
Subject: Re: Waihee Deep Monitor Well easement
Hi Gary,

I made a map showing the proposed easement. I estimate the total length of the access easement at 900 feet X 15 feet. The well site easement will only require about 15 X 15 feet. The total square footage is about 13,500 feet. According to the estimated easement value of $0.155 per square foot, the total price would be $2092.50.

I increased the length of the easement to extend from the highway to the well site. Earlier I thought that an easement from the end of the road to the DWS Kanoa Well would be OK.

Please tell me what you think of this easement valuation.

Kevin

“Gary Zakian” <gary@betsillbuilder.com>

08/24/2004 03:35 PM

Kevin,  

I took a quick look at the easement and have the following initial observations.

It appears that this is intended to be an access easement only. Will there be a separate easement for the well site itself? I would prefer that the well site and access easements be included in a single easement document.

If the well site is going to be included will you need any utilities located there (e.g., telephone, solar panel, electric, etc...) for data gathering and transmission? If so, how will you get the utilities there? We would want any utilities undergrounded.

We need to have a map that specifically shows where the access is located and the well site is located. A M/B description can be done in the future as we develop the plans for the property.

I understand from this e-mail that the value of the easement is for access only. I assume there will be a separate appraisal for the well site. Please provide that to me once you receive it. I will talk with Doyle about the access easement dollar amount in the mean time.
Hi Gary,

I have attached an easement document. Please make any changes that you feel are necessary. Remember to look at provision 5. I added a sentence saying that you would help clear vegetation. I will also send this off to our deputy attorney general to ask if this a up-to-date format.

I can’t send off our valuation until Peter Young, our chairperson signs the document (it is still a draft). More importantly, I just found an error in the arithmetic on the easement valuation. You are right. It is less than $1000. The valuation for a 4000 square foot easement (400' long x 10' wide) is $620.

Thanks for your help,

Kevin
sounds good. begin to coordinate directly with Eric Pilotin (cell - but keep me in the loop as either I or Doyle will also want to meet with you when you come over.

Gary

----- Original Message ----- 
From: Kevin.L.Gooding@hawaii.gov 
To: Gary Zakian 
Sent: Thursday, July 15, 2004 8:51 AM 
Subject: Re: visit date for maui site inspection for Waihee monitor well

Gary,

July 21, Wednesday sounds good. I will fly from Honolulu on the 6:30 or 7:30 flight, so I can be there between 8 or 9 AM.

Should I start arranging with Eric directly?

Kevin

Kevin,

either Wednesday, July 21, or Thursday, July 22, are good days for you to come and visit the site.

please let me know which day and approximate time you will be here. I will have Eric Pilotin and others who may go with you set the time aside.
Kevin,

I spoke with Doyle Betsill about your map this morning. The CWRM first choice appears to be in an appropriate location. You may use your first choice for planning and discussion purposes.

However, before anything is finalized someone from CWRM needs to come to Maui to actually walk the property with someone from RDD LLC (the property owner) and agree on the location of the well before final consent is given.

Let me know how you wish to proceed.

Thanks,

Gary

----- Original Message -----  
From: Kevin.L.Gooding@hawaii.gov  
To: Gary Zakian  
Sent: Wednesday, July 07, 2004 8:06 AM  
Subject: Re: proposed Waihee Deep Monitor Well  

Thanks Gary,

I look forward to hearing from you next week.

Kevin
I spoke about the well request with Doyle Betsill. Conceptually I do not see an issue. The only concern on our part is that the well be located within a common area we are developing as part of the overall development of the property. We will be having a number of agricultural lots on the 368 acres, and one or two larger common areas where people could keep horses, ride trails, etc.... We do not want the well to be located within the lots that will be sold to individuals.

I will get back to you shortly (early next week) to indicate whether your proposed location(s) are consistent with our development plan.

Thanks,

Gary

----- Original Message ----- 
From: Kevin.L.Gooding@hawaii.gov 
To: Gary@betsillbuilder.com 
Sent: Wednesday, July 07, 2004 7:28 AM 
Subject: proposed Waihee Deep Monitor Well 

Hi Gary, 

I am attaching a color map of the proposed well sites.

For now we are looking at two sites.

Our first choice is on the dirt road up to the Equestrian well at about 500 ft elevation.

Our second choice is near the DWS water tank on the ridge about the Kanoa wells.

The funding for the well limits us to about 500 ft elevation.

Thanks,

Kevin Gooding
Assistant State Geologist
Kevin,

I spoke about the well request with Doyle Betsill. Conceptually I do not see an issue. The only concern on our part is that the well be located within a common area we are developing as part of the overall development of the property. We will be having a number of agricultural lots on the 368 acres, and one or two larger common areas where people could keep horses, ride trails, etc... . We do not want the well to be located within the lots that will be sold to individuals.

I will get back to you shortly (early next week) to indicate whether your proposed location(s) are consistent with our development plan.

Thanks,

Gary

----- Original Message ----- 
From: Kevin.L.Gooding@hawaii.gov 
To: Gary@betsillbuilder.com 
Sent: Wednesday, July 07, 2004 7:28 AM 
Subject: proposed Waihee Deep Monitor Well

Hi Gary,

I am attaching a color map of the proposed well sites.

For now we are looking at two sites.

Our first choice is on the dirt road up to the Equestrian well at about 500 ft elevation.

Our second choice is near the DWS water tank on the ridge about the Kanoa wells.

The funding for the well limits us to about 500 ft elevation.

Thanks,

Kevin Gooding
Assistant State Geologist
Yvonne-

Glenn & Kevin have been trying to get a hold of Randy Betsill. Kevin has left 3 messages (since 6/18). They would like your advise on how to approach this.

They are trying to get a night of entry on his property to do some research.

Can you stop by their office @ 10:00 after you meet w/ Decl? 

P.S. I went to the doctor. KS.
Can you let Terry know she'll call them.
Kevin:

Sorry it took me a while to get back to you. The revised ROE permit looks fine to me.

Linda

Kevin L Gooding/DLNR/StateHiUS

Linda,

I sent a modified version of the ROE that you gave me to the landowner. They made some changes and sent them back.

Could you review the ROE? Please tell me if I am not following proper procedure.

thanks,

Kevin

I am attaching the ROE and the ROE with the landowner changes for comparison.

[attachment "CWRM Right of Entry - rev.doc" deleted by Linda L Chow/AG/StateHiUS] [attachment "CWRM Right of Entry for comparison.doc" deleted by Linda L Chow/AG/StateHiUS]
Zakian, Gary  
Full Name: Gary Zakian  
Company: Betsill Brothers Construction, Inc.  
635 Kenolio Rd  
Kihei, HI 96753  
Bus: (808) [redacted]  
Bus Fax: (808) [redacted]  
E-mail: Gary@betsillbuilder.com  
lawyer for Betsill Bros.  

Betsill, Randy  
Full Name: Randy Betsill  
Company: Betsill Bros. Construction  
Bus: (808) [redacted]  
Web Page: http://www.betsillbuilder.com/  
also associated with Koolau Cattle Company. Koolau owns the parcel north of Waihee Stream on Maui. Includes Kanoa I and II and Kupaa Well. Main office no. [redacted]  

Pilotin, Eric  
Full Name: Eric Pilotin  
Company: Betsill Bros  
Mobile: (808) [redacted]  
Field Engineer at the Waihee Baseyard.
COMMISSION ON WATER RESOURCE MANAGEMENT

FROM: RONNIE

DATE: MAR 20, 2009

TO: CHENG, C.

INIT: 

TO: KUNIMURA, I.

INIT: 

FOR: Approval

SUSPENSE DATE: 

PLEASE: See Me

IN IT:

INFORMATION

FYI: RBR Sensor guard diameter = 2 7/8"
Wai'alea Drilling Services, Inc.
110 West Uahi Way
P.O. Box 523
Pu'uloa, HI 96784

<table>
<thead>
<tr>
<th>Name / Address</th>
<th>State of Hawaii, DLNR</th>
<th>Waimea Monitor Well</th>
<th>Diane England</th>
</tr>
</thead>
</table>

**Estimate**

<table>
<thead>
<tr>
<th>Date</th>
<th>Estimate #</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/17/2009</td>
<td>481-3</td>
</tr>
</tbody>
</table>

### Description

- **Proposal to install 4" PVC Slotted Liner in open hole, suspended with 4" galv. pipe to surface in Waimea Monitor Well due to the loose formation in existing open hole.**

| Rig Mobilization | Prep hole to install liner, Run 6" Hammer bit, repeatedly to bottom of well to clear hole of loose boulder next, rocks and cinders from open hole caving in. | 24 | 70.00 | 1,680.00 |
| Rig Mobilization | Prep hole to install liner, Run 6" Hammer bit, repeatedly to bottom of well to clear hole of loose boulder next, rocks and cinders from open hole caving in. | 5 | 3,750.00 | 18,750.00 |
| Stand-by Time 2 Days | | 2 | 0.00 | 0.00 |
| Camera & Video Well Inspection - Pre-installation of Liner | | 16 | 70.00 | 1,120.00 |
| Slotted 4" Extended Bell'd. Sch. 40 PVC | | 520 | 8.52 | 4,430.40 |
| 4" Galvanized Pipe | | 400 | 23.81 | 9,525.60 |
| Installation of liner | | 60 | 120.00 | 7,200.00 |
| Final Camera & Video Well Inspection after Liner Installation | | 16 | 70.00 | 1,120.00 |
| Freight and Delivery | | 1 | 2,500.00 | 2,500.00 |
| Subtotal | | | | 46,326.40 |
| Hawaii Gross Excise Tax | | | | 4,167.40 |

**Total**

$48,256.40
Wailani Drilling Services, Inc.
110 West Uahi Way
P.O. Box 523
Punene, HI 96784

Name / Address
State of Hawaii, DLNR
Waihee Monitor Well
Diane Inglad

<table>
<thead>
<tr>
<th>Description</th>
<th>Qty</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rig Mobilization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prep hole to install liner, Run 6&quot; Hammer bit repeatedly to bottom of well to clear hole of loose boulder nest, rocks and cinders from open hole casing in.</td>
<td>24</td>
<td>70.00</td>
<td>1,680.00</td>
</tr>
<tr>
<td>Stand-by Time 2 Days</td>
<td>2</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Camera &amp; Video Well Inspection - Pre-installation of Liner</td>
<td>16</td>
<td>70.00</td>
<td>1,120.00</td>
</tr>
<tr>
<td>Slotted 4&quot; Extended Beaded sch 40 PVC</td>
<td>520</td>
<td>8.52</td>
<td>4,430.40</td>
</tr>
<tr>
<td>Solid 4&quot; Extended Beaded sch 40 PVC</td>
<td>400</td>
<td>5.60</td>
<td>2,240.00</td>
</tr>
<tr>
<td>Installation of liner</td>
<td>48</td>
<td>120.00</td>
<td>5,760.00</td>
</tr>
<tr>
<td>Final Camera &amp; Video Well Inspection after Liner Installation</td>
<td>16</td>
<td>70.00</td>
<td>1,120.00</td>
</tr>
<tr>
<td>Freight and Delivery</td>
<td>1</td>
<td>2,500.00</td>
<td>2,500.00</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td></td>
<td>37,600.40</td>
</tr>
<tr>
<td>Hawaii Gross Excise Tax</td>
<td></td>
<td></td>
<td>2,240.00</td>
</tr>
</tbody>
</table>

| Total | | | $39,840.40 |

<table>
<thead>
<tr>
<th>Date</th>
<th>Estimate #</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/25/2009</td>
<td>154</td>
</tr>
</tbody>
</table>

808-244-4781
### Estimate

#### Waihee Deep Monitor

<table>
<thead>
<tr>
<th>Date</th>
<th>Estimate #</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/26/2009</td>
<td>456</td>
</tr>
</tbody>
</table>

**Name / Address**

State of Hawaii, DLNR  
Waihee Monitor Well  
Dane England

---

#### Description

Proposal to install 4" 316 SS Slotted liner in Waihee Monitor Well due to the loose formation in existing open hole.

<table>
<thead>
<tr>
<th>Rig Mobilization</th>
<th>24</th>
<th>70.00</th>
<th>1,680.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prep hole to install liner, Run 6&quot; Hammer bit repeatedly to bottom of well to clear hole of loose boulder, rock, sand and cinders from open hole casing.</td>
<td>5</td>
<td>3,750.00</td>
<td>18,750.00</td>
</tr>
<tr>
<td>Stand-by Time 2 Days</td>
<td>2</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Camera &amp; Video Well Inspection - Pre-installation of Liner</td>
<td>16</td>
<td>70.00</td>
<td>1,120.00</td>
</tr>
<tr>
<td>Slotted 4&quot; Flush Thread sch. 40 316 SS</td>
<td>520</td>
<td>120.00</td>
<td>62,400.00</td>
</tr>
<tr>
<td>Slotted 4&quot; Flush Thread sch. 40 216 SS</td>
<td>400</td>
<td>97.50</td>
<td>39,000.00</td>
</tr>
<tr>
<td>Installation of Liner</td>
<td>48</td>
<td>120.00</td>
<td>5,760.00</td>
</tr>
<tr>
<td>Final Camera &amp; Video Well Inspection after Liner Installation</td>
<td>16</td>
<td>70.00</td>
<td>1,120.00</td>
</tr>
<tr>
<td>Freight and Delivery</td>
<td>1</td>
<td>2,500.00</td>
<td>2,500.00</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td></td>
<td>132,330.00</td>
</tr>
<tr>
<td>Hawaii Gross Excise Tax</td>
<td>1</td>
<td>4.167%</td>
<td>5,514.19</td>
</tr>
</tbody>
</table>

**Total**  
$137,844.19
To: Commission on Water Resource Management
1151 Punchbowl Building
Honolulu, HI 96813 UNITED STATES

Attention: Diane R England

Tel: [Redacted]  Customer Ref. # [Redacted]

<table>
<thead>
<tr>
<th>Quote Validity</th>
<th>Duty &amp; Brokerage</th>
<th>HST</th>
<th>GST</th>
<th>PST / State Tax</th>
<th>Terms</th>
<th>Qty</th>
<th>Part #</th>
<th>Description</th>
<th>Unit Price</th>
<th>Discount</th>
<th>Ext Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 Days</td>
<td>Included</td>
<td>N/A</td>
<td>N/A</td>
<td>Customer to Remit</td>
<td>To Be Approved</td>
<td>1</td>
<td>s104139</td>
<td>Model 103 Tagline Reel Assembly</td>
<td>199.00</td>
<td>0</td>
<td>199.00</td>
</tr>
</tbody>
</table>

Orders Discount
Total (Excluding Freight) $199.00
Estimated Freight $0
Shipped By

All Prices are Subject to Product Availability at Time of Order

Order Discount

E&OE

Delivery:
Shipping Terms: Georgetown, Ontario
Freight extra unless otherwise indicated.
Please allow additional time for transit.

Sales Person: Jason Nagasawa

Signature: [Redacted]

Bill to Waihee CIP

Object - 7700
CC - G55E
Proj# - G55CM1
PH - 8B
ACT - C75
<table>
<thead>
<tr>
<th>Account Title</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriation</td>
<td>7,536.25</td>
</tr>
<tr>
<td>Transfer</td>
<td>0.00</td>
</tr>
<tr>
<td>Allotment</td>
<td>7,536.25</td>
</tr>
<tr>
<td>Appropriation Balance</td>
<td>0.00</td>
</tr>
<tr>
<td>Allotment 1B Balance</td>
<td>0.00</td>
</tr>
<tr>
<td>Allotment 2B Balance</td>
<td>0.00</td>
</tr>
<tr>
<td>Encumbrance</td>
<td></td>
</tr>
<tr>
<td>Contract Balance</td>
<td>0.00</td>
</tr>
<tr>
<td>Claims (POs) Balance</td>
<td>4,526.25</td>
</tr>
</tbody>
</table>

User: Alyson Yim  
Data is Balanced  
FAMIS as of: 03/17/2009  
BUDGET as of: 10/12/2004  

http://10.4.1.67/datamart/famis/accountSummary.jsp  
3/18/2009
FAMIS - Account Summary

Account Title: WAIHEE DEEP MONITOR WELL, MAUI-CON

Appropriation: 47,988.75
  Beginning Cash: 0.00
  + Revenues: 0.00
  + Cash Transfer: 0.00
  - Expenditures: 66.20
  = Ending Cash: 0.00

Allocation: 47,988.75

Appropriation Balance: 0.00
Allocation 1C Balance: 0.00
Allocation 2D Balance: 0.00

Encumbrance

Contracts Balance: 38,615.50
Claims (POs) Balance: 9,307.05

User: Alyson Yim

Data is Balanced

FAMIS as of: 03/17/2009
BUDGET as of: 10/12/2004

http://10.4.1.67/datamart/famis/accountSummary.jsp

3/18/2009
Authorization to Award the Construction Contract for
Job No. G55CM18B, Waihee Deep Monitor Well, Waihee, Maui

BACKGROUND:

Capital Improvement Program (CIP) funding for the subject project in the amount of $431,000 was appropriated to the Department of Land and Natural Resources under Act 41, SLH 2004. Funding was provided for planning ($25,000), land ($10,000), design ($25,000), construction ($321,000), and equipment ($50,000) to construct a deep monitor well to collect hydrologic and geologic data from the Waihee Aquifer System on the island of Maui.

The proposed justification for the monitor well is as follows:

a. Long-term ground water monitoring is necessary for the Waihee Aquifer System. The proposed deep monitor well will be used to observe long-term changes in water levels and in the thickness of the basal lens and transition zone.

b. Proceedings to designate Waihee as a ground water management area have been deferred. However, the adjacent Iao Aquifer System was designated as a ground water management area on July 21, 2003.

c. CWRM has two deep monitor wells in the Iao Aquifer System. An additional well in Waihee will provide better monitoring coverage for the region.

Approval by the Governor was received on August 2, 2004, authorizing the release of planning, land, design, construction, and equipment funds totaling $431,000 to complete the Waihee deep monitor well. The Commission authorized the Chairperson to enter into an agreement for consultant services for planning and design of the Waihee Deep Monitor Well on July 28, 2004 and the firm of Shimabukuro, Endo & Yoshizaki, Inc. (SEY Engineers) was selected to provide consultant services. Subsequently, approval by the Governor was received on March 6, 2006, authorizing the transfer of $40,000 in previously released equipment funds to construction. This transfer was necessary in the event that the cost of drilling exceeded the available construction funds.

Item D1
PROJECT DESCRIPTION:

The project consists of constructing an 8-inch diameter deep monitor well, approximately 900 feet deep, in Waihee, Maui, located near the County of Maui, Department of Water Supply's North Waihee Reservoir Site, and identified as Tax Map Key: (2) 3-2-01: Portion of 3.

Bids for the subject project were received and opened on May 18, 2006, and the results are as follows:

<table>
<thead>
<tr>
<th>Bidder</th>
<th>Total Sum Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wailani Drilling Inc.</td>
<td>$333,910.00</td>
</tr>
<tr>
<td>Valley Well Drilling, LLC</td>
<td>$395,580.00</td>
</tr>
<tr>
<td>Beylik Drilling &amp; Pump Service, Inc.</td>
<td>$426,925.00</td>
</tr>
<tr>
<td>Water Resources International, Inc.</td>
<td>$592,190.00</td>
</tr>
</tbody>
</table>

Wailani Drilling submitted the low bid. We have reviewed the bid and found it to be fair.

The construction contract with Wailani Drilling is subject to approval by the Deputy Attorney General.

RECOMMENDATION:

That the Commission authorize the Chairperson to proceed with awarding the contract for Job number G55CM18B, Waihee Deep Monitor Well, Waihee, Maui, to Wailani Drilling, for their low bid of $333,910.00, and execute necessary documents to implement the project subject to the approval by the Deputy Attorney General.

Respectfully submitted,

DEAN A. NAKANO
Acting Deputy Director

Exhibit(s)  1  Location of Proposed Deep Monitor Well
            2  Proposed Well Section

APPROVED FOR SUBMITTAL:

PETER T. YOUNG
Chairperson
FAMIS - Account Summary

Account Title: WAIHEE DEEP MONITOR WELL, MAUl-CON

Appropnatlon 47,988.75
Transfer 0.00
Allotment 47,988.75

Appropnatlon Balance 0.00
- Expenditures 0.00
Allotment Balance 0.00
- Ending Cash 0.00

Encumbrance
Contracts Balance 38,615.50
Claims (POs) Balance 9,373.25

Beginning Cash 0.00
+ Revenues 0.00
+ Cash Transfer 0.00

Details List Contracts
Details List Claims (POs)

User: Alyson Yim
Data is balanced
FAMIS as of: 02/23/2009
BUDGET as of: 10/12/2004
V 3.0.0.17

Act 41 Sinh 2004 Item D-2.01

Use 2/4 travel
$9k
amend to contract
Sched 80

will be have integrity of pipe

lab test results for sorted pipe

* load tests

\[ P_c = \frac{2E}{1-\mu^2} \times \frac{1}{SDR(SDR-1)^2} \]

\[ P_c = \frac{2(402,000)}{1-0.38^2} \times \frac{1}{13.5(13.5-1)^2} \]

\[ P_c = \frac{800,000}{1-0.1444} \times \frac{1}{13.5(156.25)} \]

\[ P_c = 935,016.36 \times \frac{1}{2109.375} = 443 \text{ psi} \]
SCM ED 40

\[ 0.1636 \times \frac{1}{18.9(18.9 - 1)^2} \times \frac{1}{6055.749} = 154 \text{ psi} \]
I

\

\

'


Diane - Pls. prepare doc to obtain Curran's approval for add'l $9,000. We are req'd to obtain either Curran or Landmark's approval before we can do a supplemental contract.
February 24, 2009

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
Honolulu, Hawaii 96813

Approval for Additional Funds to Construction Contract – Job No. G55CM18B,
Waihee Deep Monitor Well, Waihee, Maui, Hawaii

The Land Board approved the construction contract on July 21, 2008 for the sum of $468,910.00 to Wailani Drilling, Inc. Additional funding is required to install a perforated pipe in the open hole portion of the well due to unforeseen geological conditions. The required work is not included in the scope of this project, Job No. G55CM18B, which consist of drilling of a monitor well and all necessary appurtenances.

Addressing the unforeseen field conditions on a timely basis during the course of construction is essential to the continuity and completion of this project. Utilizing the same contractor will eliminate additional mobilization and demobilization costs and potential logistical problems from having two contractors on site. In essence, utilizing Wailani Drilling, Inc. to address the required work provides the most cost effective and time efficient method in completing this project.

This additional work totaling $9,000.00 is available through Act 41, SLH 2004, Item D-2.01.

RECOMMENDATION:
Recommend that the Board award the additional funds to DLNR Job No. G55CM18B, Waihee Deep Monitor Well, Waihee, Maui, Hawaii for the amount of $9,000.00. Also recommend that the Board authorize the Chairperson, subject to review and approval by the Attorney General, to enter into a supplemental contract and sign the necessary documents to implement the additional work with the Contractor, Wailani Drilling, Inc.

Respectfully submitted,

ERIC T. HIRANO
Chief Engineer

Requested by:

Ken C. Kawahara, Deputy Director
Commission of Water Resource Management

Approved For Submittal:

LAURA H. THIELEN, Chairperson
Hi Diane - I'll be off island from tomorrow until next week... just away from BWS for today.

We had considered pvc for the wells that have been problematic for us, though none of our wells are currently fitted with slotted casing. I would go with the most economical slotted casing. I don't see the slot width or spacing as being significant for a profile monitoring well. It was a consideration when we designed the JABSON production and injection wells, since capacity was important. There would be sufficient time between logs to get stabilization with even the smallest slot size.

The pvc joint connections should be mechanical - either screw in or with the splines. Don't go with cemented joints. Hope this all helps.

Glenn

-----Original Message-----
From: Diane.R.England@hawaii.gov [mailto:Diane.R.England@hawaii.gov]
Sent: Thu 2/26/2009 11:41 AM
To: dwong@hwbs.org
Cc: GLENN OYAMA
Subject: Well Screen Slot Size in Deep Monitor Wells

Aloha Darrel,

I'm forwarding you a question I sent to Glenn since he's out of the office till March 4. Let me know if it's something you can answer or if I need to wait for Glenn.

Thanks,
Diane :)

---------------------------------------------------------------------

Aloha Glenn,

Our newly constructed deep monitor well on Maui is prone to cave ins. We are going to have to screen the well to depth to make it useable. I was wondering if the Board has had to screen any of their monitor wells and, if so, how the screen was designed.

Our preference is to use PVC but I'm wrestling with how large a slot size to use and how far apart to space the slots, to maximize groundwater flow and get the most representative salinity profile.
The screen will be installed in the bottom 500ft of the well.

Any recommendations on your end?

Diane

**********************************************
Diane R. England
Geologist

Hawaii Department of Land and Natural Resources -
Commission on Water Resource Management
1151 Punchbowl Street, Room 227
Honolulu, Hawaii 96813
Phone: (808) [redacted]  Fax: (808) [redacted]
Diane.R.England@hawaii.gov
Hi Diane,

I discussed your casing question with a few people here and don't have much to offer in terms of specific recommendations. You might want to:

1. Check with the driller or casing manufacturer to get a specific recommendation for your well, given the well diameter, depth, and depth to water.
2. We generally chose to case our deep monitor wells with steel casing. You can take a look at USGS Open-File Report 96-430 (see citation below) to see how we cased our Kawaiola deep monitor well. This might provide some insight.

Delwyn


Aloha Delwyn,

I have a question for you. Our newly constructed deep monitor well on Maui is prone to cave ins. We are going to have to screen the well to depth to make it useable. Our preference is to use PVC and I'm wrestling with how large a slot size to use and how far apart to space the slots, to maximize groundwater flow and get the most representative salinity profile. The screen will be installed in the bottom 500ft of the well.

Any recommendations on your end?
Diane R. England
Geologist

Hawaii Department of Land and Natural Resources -
Commission on Water Resource Management
1151 Punchbowl Street, Room 227
Honolulu, Hawaii 96813
Phone: (808) XXX-XXXX  Fax: (808) XXX-XXXX
Diane.R.England@hawaii.gov
Drill on position 7.81

Vulcanite (Vulc.) - Laminated (Volc.)

- geologic log
- samples
- collected then rotary

6" near after rotary

- given to Bryan Tomala

from Mark Maxwell
Wailea Bridge
Ray Millett (2) 808.661.04245
Curtis Power 3139 Wailea Ae'o Rd
Dennis Vail (2) 808.879.9482

Cayuse (0-211-3201) - 3161 Nani Ln.
Roy Miller (2) 808.879.9482

Steve Quale (Driller) 314-4827
hawaiibridge@yahoo.com

Curtis Power 8 Pahinui Rd
219-5187
maui1.47
State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
for
COMMISSION ON WATER RESOURCE MANAGEMENT
Honolulu, Hawaii

BOARD OF LAND AND NATURAL RESOURCES

Peter T. Young
Chairperson

CONTRACT SPECIFICATIONS AND PLANS

Job No. G55CM18B
Waihee Deep Monitor Well
Waihee, Maui, Hawaii

Civil Engineer: SEY Engineers

April 2006
State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
for
COMMISSION ON WATER RESOURCE MANAGEMENT
Honolulu, Hawaii

CONTRACT SPECIFICATIONS AND PLANS

Job No. G55CM18B
Waihee Deep Monitor Well
Waihee, Maui, Hawaii

Approved:

Dean A. Nakano
Acting Deputy Director
Commission on Water Resource Management

Approved:

ERIC T. HIRANO, P.E.
Chief Engineer
Engineering Division

April 2006
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOTICE TO BIDDERS</td>
<td>iii</td>
</tr>
<tr>
<td>INFORMATION AND INSTRUCTIONS TO BIDDERS</td>
<td>I-1</td>
</tr>
<tr>
<td>PROPOSAL</td>
<td>P-1</td>
</tr>
<tr>
<td>SPECIAL PROVISIONS</td>
<td>SP-1</td>
</tr>
<tr>
<td>DETAILED SPECIFICATIONS</td>
<td>S-1</td>
</tr>
<tr>
<td>PLANS (Bound Separately)</td>
<td></td>
</tr>
</tbody>
</table>

DEPARTMENT OF LAND AND NATURAL RESOURCES
INTERIM GENERAL CONDITIONS, DATED OCTOBER 1994
(Included on project CD, or bound separately)
NOTICE TO BIDDERS
(Chapter 103D, HRS)

SEALED BIDS for Job No. G55CM18B, Waihee Deep Monitor Well, Waihee, Maui, Hawaii will be received at the Engineering Division office, 2nd floor, Kalanimoku Building, Room 221, 1151 Punchbowl Street, Honolulu, and at the Maui Engineering Division office, 130 Mahalani St., Wailuku, Maui up to 2:00 pm, May 18, 2006, at which time & place(s) they will be opened and read publicly. The bidder shall be responsible for the prompt delivery of the proposal.

The Department of Land and Natural Resources Interim General Conditions dated October 1994, as amended, shall be made a part of the specifications.

Plans and specifications may be examined and obtained at the aforesaid place(s).

The project is located at Waihee, Maui, Hawaii.

The work shall generally consist of drilling of monitor well and all necessary appurtenances

The estimated cost of construction is $334,000.

All interested parties are invited to attend a State conducted site visit. The site visit will be held at the project site on May 10, 2006 at 9:30 a.m.

Due to the nature of work contemplated, bidders must possess a valid State Contractor's license, classification C-57.

The job is subject to preference for Hawaii Products established by Section 103D, Hawaii Revised Statutes. The Hawaii Product List may be examined at the State Procurement Office.

The award of the contract, if it be awarded, will be subject to the availability of funds.

Should there be any questions, please call (808) 587-0230.

[Signature]
PETER T. YOUNG, Chairperson
Department of Land and Natural Resources

PNS: APR 25 2006
## INFORMATION AND INSTRUCTIONS TO BIDDERS

### CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Project Location and Scope of Work</td>
<td>1-2</td>
</tr>
<tr>
<td>B</td>
<td>Sealed Proposals</td>
<td>1-2</td>
</tr>
<tr>
<td>C</td>
<td>General Conditions</td>
<td>1-2</td>
</tr>
<tr>
<td>D</td>
<td>Proposal Form</td>
<td>1-2</td>
</tr>
<tr>
<td>E</td>
<td>Omissions or Erasures</td>
<td>1-2</td>
</tr>
<tr>
<td>F</td>
<td>Notice Of Intent To Bid And Questionnaire</td>
<td>1-2</td>
</tr>
<tr>
<td>G</td>
<td>Bid Security</td>
<td>1-2</td>
</tr>
<tr>
<td>H</td>
<td>Contractor's License Required</td>
<td>1-3</td>
</tr>
<tr>
<td>I</td>
<td>Irregular Bids</td>
<td>1-3</td>
</tr>
<tr>
<td>J</td>
<td>Withdrawal of Bids</td>
<td>1-3</td>
</tr>
<tr>
<td>K</td>
<td>Successful Bidder to File Performance and Payment Bonds</td>
<td>1-3</td>
</tr>
<tr>
<td>L</td>
<td>Number of Executed Original Counterparts of Contract Documents</td>
<td>1-3</td>
</tr>
<tr>
<td>M</td>
<td>Change Orders</td>
<td>1-3</td>
</tr>
<tr>
<td>N</td>
<td>Wages and Hours</td>
<td>1-3</td>
</tr>
<tr>
<td>O</td>
<td>Permits</td>
<td>1-4</td>
</tr>
<tr>
<td>P</td>
<td>Property Damage</td>
<td>1-4</td>
</tr>
<tr>
<td>Q</td>
<td>Time</td>
<td>1-4</td>
</tr>
<tr>
<td>R</td>
<td>Bidder's Responsibility to Provide Proper Superintendence</td>
<td>1-4</td>
</tr>
<tr>
<td>S</td>
<td>Liquidated Damages</td>
<td>1-5</td>
</tr>
<tr>
<td>T</td>
<td>Hiring of Local Labor</td>
<td>1-5</td>
</tr>
<tr>
<td>U</td>
<td>Water and Electricity</td>
<td>1-5</td>
</tr>
<tr>
<td>V</td>
<td>Public Convenience and Safety</td>
<td>1-5</td>
</tr>
<tr>
<td>W</td>
<td>Work to be Done Without Direct Payment</td>
<td>1-5</td>
</tr>
<tr>
<td>X</td>
<td>As-Built Drawings</td>
<td>1-5</td>
</tr>
<tr>
<td>Y</td>
<td>Asbestos Containing Materials</td>
<td>1-5</td>
</tr>
<tr>
<td>Z</td>
<td>Worker Safety</td>
<td>1-5</td>
</tr>
<tr>
<td>AA</td>
<td>Toilet Facilities</td>
<td>1-5</td>
</tr>
<tr>
<td>BB</td>
<td>Signs</td>
<td>1-6</td>
</tr>
<tr>
<td>CC</td>
<td>Field Office for Department</td>
<td>1-6</td>
</tr>
<tr>
<td>DD</td>
<td>Quantities</td>
<td>1-6</td>
</tr>
<tr>
<td>EE</td>
<td>Other Health Measures</td>
<td>1-6</td>
</tr>
<tr>
<td>FF</td>
<td>Successful Bidder to Enter into Rights-of-Entry Permits</td>
<td>1-6</td>
</tr>
<tr>
<td>GG</td>
<td>Hawaii Business Requirement</td>
<td>1-6</td>
</tr>
<tr>
<td>HH</td>
<td>Compliance With §3-122-112 HAR</td>
<td>1-7</td>
</tr>
</tbody>
</table>
INFORMATION AND INSTRUCTIONS TO BIDDERS

A. PROJECT LOCATION AND SCOPE OF WORK: The project is located at the County of Maui, Department of Water Supply North Waihee 1 Million Gallon Reservoir, which is off Kahekili Highway approximately 0.6 miles west of the Highway. The work shall generally consist of drilling and installing a deep monitor well in Waihee. The upper portion of the well shall consist of a 14-inch drill hole and shall be cased with 8-inch casing to a depth of approximately 10 feet below mean sea level. Groundwater is estimated at approximately 390 feet below ground surface (bgs). The uncased portion of the well shall be a 7.5-inch open hole and shall extend approximately 500 feet below the casing. Total well depth is estimated at 906 feet bgs. The actual depth of well shall be determined in the field by the Engineer.

B. SEALED PROPOSALS: Bidders shall submit their “Sealed Bid”, including the completed proposal form, bid bond, and any other documents required by the solicitation as part of their bid in a sealed 9” x 12” envelope, labeled with the name of the bidder and marked “Proposal for” followed by the DLNR Job No. and Project Title, as their bid offer.

C. GENERAL CONDITIONS: The Department of Land and Natural Resources Interim General Conditions dated October 1994, as amended, shall be made a part of these contract specifications and is referred to hereafter as the General Conditions.

D. PROPOSAL FORM: The Bidders shall print a hard copy of the proposal form from the electronic file on the project bid package compact disk, unless a hard copy proposal form is included.

E. OMISSIONS OR ERASURES: Any proposal which contains any omission or erasure or alteration not properly initialed, or conditional bid, or other irregularity may be rejected by the Board of Land and Natural Resources (Board).

F. NOTICE OF INTENT TO BID AND QUESTIONNAIRE: A Notice of Intent to Bid is not required for this project. In compliance with HRS Section 103D-310, the lowest responsive and responsible bidder may be required to complete a standard questionnaire. When required, the completed questionnaire shall be submitted to the Chief Engineer for evaluation. Failure to furnish the requested information within the time allowed may be grounds for a determination of non-responsibility, in accordance with HRS Section 103D-310 and HAR Section 3-122-108.

G. BID SECURITY: A bid security will be furnished by each bidder as provided in sub-section 2.7 of the General Conditions. The successful bidder’s bid security will be retained until Contract execution and furnished a performance and payment bond in an amount equal to one hundred percent (100%) of the total Contract price, including an amount estimated to be required for extra work, is furnished.

The Board reserves the right to hold the bid securities of the two lowest bidders until the successful bidder has entered into a contract and has furnished the required performance bond. All bid securities will be returned after bid opening and checking of the proposals are checked in accordance with sub-section 3.5 of the General Conditions.
Should the successful bidder fail to enter into a contract and furnish a satisfactory performance bond within the time stated in the proposal, the bid security shall be forfeited as required by law.

H. **CONTRACTOR'S LICENSE REQUIRED**: The Board will reject all bids received from contractors who have not been licensed by the State Contractors License Board in accordance with Chapter 444, HRS; Title 16, Chapter 77, Hawaii Administrative Rules; and statutes amendatory thereto.

I. **IRREGULAR BIDS**: No irregular bids or propositions for doing the work will be considered by the Board.

J. **WITHDRAWAL OF BIDS**: No bidder may withdraw his bid between the time of the opening thereof and the award of contract.

K. **SUCCESSFUL BIDDER TO FILE PERFORMANCE AND PAYMENT BONDS**: The successful bidder will be required to file performance and payment bonds each; in the amount equal to the total contract price, including amounts estimated to be required for extra work, as provided in sub-section 3.6 of the General Conditions.

L. **NUMBER OF EXECUTED ORIGINAL COUNTERPARTS OF CONTRACT DOCUMENTS**: If requested by the Board, six copies of the Contract, performance and payment bonds shall be executed.

M. **CHANGE ORDERS**: No work of any kind in connection with the work covered by the plans and specifications shall be considered as change order work, or entitle the Contractor to extra compensation, except when the work has been ordered in writing by the Chief Engineer (Engineer) and in accordance with sub-section 4.2 of the General Conditions.

The Contractor shall clearly identify and inform the Engineer in writing of any deviations from the contract documents at the time of submission and shall obtain the Engineer's written approval to the specified deviation prior to proceeding with any work.

N. **WAGES AND HOURS**: In accordance with sub-sections 7.3 to 7.9 of the General Conditions relative to hours of labor, minimum wages and overtime pay, the current minimum wage rates promulgated by the Department of Labor and Industrial Relations (DLIR) shall be paid to the various classes of laborers and mechanics engaged in the performance of this contract on the job site. The minimum wages shall be increased during the performance of the contract in an amount equal to the increase in the prevailing wages for those kinds of work as periodically determined by the DLIR.

The Department of Land and Natural Resources will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the said minimum wage rates. The possibility of wage increase is one of the elements to be considered by the Contractor in determining his bid, and will not, under any circumstances, be considered as the basis of a claim against the Department under this Contract.
No work shall be done on Saturdays, Sundays, legal State holidays, and/or in excess of eight (8) hours each day without the written consent of the Engineer. Should permission be granted to work at such times, the Contractor shall pay for all inspection administrative costs thereof. No work shall be done at night unless authorized by the Engineer.

O. **PERMITS:** The State will process permit applications whenever possible, and the Contractor shall procure the pre-processed permits and pay the required fees. If permit applications are not processed by the State, the Contractor shall process the permit applications, permits and licenses, and pay all charges and fees. In all cases, the Contractor shall give all notices necessary and incident to the due and lawful prosecution of the work.

P. **PROPERTY DAMAGE:** It shall be the responsibility of the Contractor to respect State property and to prevent damage to existing improvements. The Contractor will be responsible for damages resulting from construction operations. Immediately upon discovery, the Contractor shall repair such damage to the satisfaction of the Engineer.

All trees and shrubbery outside the excavation, embankment or construction limits shall be fully protected from injury.

Q. **TIME:** The time of completion is specified in the Proposal. It is the Board's intention to insist the Contractor diligently prosecute the work to completion within the specified time.

Prospective bidders are reminded that the State has the option to proceed with or abandon a project depending on whether the project can be completed for occupancy in the specified time.

It is the bidder's responsibility to check the availability of all materials before bidding. The bidder shall select sub-contractors and suppliers who can warrant availability and delivery of all specified or qualified materials to assure project completion within the specified time.

The successful bidder must assume all risks for completing the project by the specified date. There shall be no extension of time for any reason except for delays caused by acts of God, labor disputes involving unions, or actions of the State. If for any reason the project falls behind schedule, the Contractor shall at its own cost, take necessary remedial measures to get the project back on schedule, i.e., working overtime, air freighting all materials, etc. In addition, if the Contractor fails to fully complete the project by the completion date, Contractor will be required to make the facility usable at its own cost.

R. **BIDDER'S RESPONSIBILITY TO PROVIDE PROPER SUPERINTENDENCE:** The successful low bidder shall designate in writing to the Engineer the name of its authorized superintendent (Superintendent), who will be present at the job site whenever any work is in progress. The Superintendent shall be responsible for all work, receiving and implementing instructions from the Engineer in a timely manner. The cost for superintendence shall be considered incidental to the project.

If the Superintendent is not present at the site of work, the Engineer shall have the right to suspend the work as described under sub-section 5.5 c. and 7.20 - Suspension of Work of the General Conditions.
S. LIQUIDATED DAMAGES: Liquidated damages in the amount specified in the Proposal will be assessed for each and every calendar day from and after the expiration of the time period stated in the Contract for the completion of the project.

T. HIRING OF LOCAL LABOR: The Contractor shall hire local labor whenever practicable.

U. WATER AND ELECTRICITY: The Contractor shall make all necessary arrangements and pay all expenses for water and electricity used in the construction of this project.

V. PUBLIC CONVENIENCE AND SAFETY: The Contractor shall conduct construction operations with due regard to the convenience and safety of the public at all times. No materials or equipment shall be stored where it will interfere with the safe passage of public traffic. The Contractor shall provide, install, and maintain in satisfactory condition, all necessary signs, flares and other protective facilities and shall take all necessary precautions for the protection of the work and the convenience and safety of the public. The Engineer shall have the right to suspend the performance of the work in accordance with sub-section 7.20 - Suspension of Work of the General Conditions.

W. WORK TO BE DONE WITHOUT DIRECT PAYMENT: Whenever the contract indicates that the Contractor is to perform work or furnish materials of any kind for which no price is fixed in the contract, it shall be understood that the Contractor shall perform such work or furnish said materials without extra charge or allowance or direct payment of any sort. The cost of performing such work or furnishing said material is to be included by the Contractor in a unit price for the appropriate item unless it is expressly specified that such work or material is to be paid for as extra work.

X. AS-BUILT DRAWINGS: As-built drawings, the intent of which is to record the actual in-place construction so that any future renovations or tie-ins can be anticipated accurately, shall be required. All authorizations given by the Engineer to deviate from the plans shall be drawn on the job site plans. All deviations from alignments, elevations, well sections, and dimensions which are stipulated on the plans shall be recorded on the as-built drawings.

Y. ASBESTOS CONTAINING MATERIALS: The use of asbestos containing materials or equipment is prohibited. The Contractor shall insure that all materials and equipment incorporated in the project are asbestos-free.

Z. WORKER SAFETY: The Contractor shall provide, install and maintain in satisfactory condition all necessary protective facilities and shall take all necessary precautions for the protection and safety of its workers in accordance with the Occupational Safety and Health Standards for the State of Hawaii. The Engineer shall have the right to suspend the performance of the work in accordance with sub-section 7.20 - Suspension of Work of the General Conditions.

AA. TOILET FACILITIES: All toilet facilities constructed at the project site shall be in accordance with the Public Health Regulations of the State Department of Health (DOH). All necessary precautions shall be observed at the project site. The use of sanitary facilities shall be strictly enforced and workers violating these provisions shall be promptly discharged.
BB. **SIGNS:** Whenever the project involves closing or obstructing any public thoroughfare, the Contractor shall provide traffic signs conforming to the applicable provisions of the current edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", published by the Federal Highway Administration as directed by the Engineer for the purpose of diverting or warning traffic prior to the construction area. All traffic signs shall bear proper wording stating thereon the necessary information as to diverting or warning traffic.

The Contractor shall also provide a project sign, size 4'-0" x 7'-0" to be placed as directed by the Engineer. The sign shall be constructed in accordance with Section 01581 - Project Sign of these specifications and approved by the Engineer. All wording, type and size of lettering and color selection shall be as specified in these specifications or as approved by the Engineer.

All signs shall be kept neat and clean, and properly erected at all times.

CC. **FIELD OFFICE AREA FOR DEPARTMENT:** The Contractor shall provide a housed working area of at least 100 square feet adjacent to the Contractor's office for the Department's use. This area will be used by the Engineer to perform tests and to store equipment. As a minimum, the field office shall include the following: standard sized office desk and chair, lighting, ventilation, window-type air conditioning rated at 5,000 BTU, door and window with locking hardware, electrical outlets, and working communications facilities (a cellular telephone is acceptable). The Department will pay for all long distance toll charges made by the Engineer.

DD. **QUANTITIES:** All bids will be compared on the basis of quantities of work to be done as shown in the Proposal; the quantities shown in the Unit Price items are estimated; being given as a basis for comparison of bids. The Board reserves the right to increase or decrease the quantities given under the items or delete items entirely as may be required during the progress of the work.

EE. **OTHER HEALTH MEASURES:** Forms of work site exposure or conditions which may be detrimental to the health or welfare of workers or of the general public shall be eliminated or reduced to safe levels as required by the DOH codes, standards, and regulations. Suitable first aid kits and a person qualified to render first aid, as specified in the DOH regulations, shall be provided at all times when work is scheduled.

FF. **SUCCESSFUL BIDDER TO ENTER INTO RIGHTS-OF-ENTRY PERMITS:** The successful bidder will be required to enter into Rights-of-Entry Permits with the affected owners whose properties the proposed well site will be located 14 days prior to notice to proceed issuance.

GG. **HAWAII BUSINESS OR COMPLIANT NON-HAWAIIAN BUSINESS REQUIREMENT:** Bidders (Contractors) shall be incorporated or organized under the laws of the State or be registered to do business in the State as a separate branch or division that is capable of fully performing under the contract, as stipulated in §3-122-112 HAR.
HH. COMPLIANCE WITH §3-122-112 HAR:

As a condition for award of the contract and as proof of compliance with the requirements of 103D-310(c) HRS, the apparent low bidder shall furnish the required documents to the Department. If the valid required certificates are not submitted on a timely basis for award of a contract, a bidder otherwise responsive and responsible may not receive the award. Bidder is responsible to apply for and submit the following documents to the Department.

1. TAX CLEARANCE REQUIREMENTS (HRS Chapter 237): Bidder shall obtain a tax clearance certificate from the Hawaii State Department of Taxation (DOTAX) and the Internal Revenue Service (IRS). The certificate is valid for six months from the most recently approved stamp date on the certificate; the certificate must be valid on the date received by the Department.

2. Department of Labor (DLIR) “Certificate Of Compliance”. (HRS Chapter 383 - Unemployment Insurance, Chapter 386 - Workers’ Compensation, Chapter 392 - Temporary Disability Insurance, and 393 - Prepaid Health Care): Bidder shall obtain a certificate of compliance from the Hawaii State Department of Labor and Industrial relations (DLIR). The certificate is valid for six months from the date of issue; certificates must be valid on the date received by the Department.

3. Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG) “Certificate Of Good Standing”. Bidder shall obtain a certificate of good standing issued by the Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG). The certificate of good standing is valid for six months from the date of issue; certificates must be valid on the date received by the Department.
PROPOSAL

FOR

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

for

COMMISSION ON WATER RESOURCE MANAGEMENT
State of Hawaii

JOB NO. G55CM18B
WAIHEE DEEP MONITOR WELL
Waiee, Maui, Hawaii

____________________, 20

Dear Sir:

The undersigned, having carefully examined the local conditions and all available records and information covering conditions which may affect the cost of the work to be performed, and having carefully examined the Plans and Specifications, and other contract documents, hereby proposes to furnish and pay for all materials, tools, equipment, labor and other incidental work necessary to construct and install in place complete a deep monitor well and all appurtenances, as required or called for in this Proposal, all according to the true intent and meaning of the Notice to Bidders, Information and Instructions to Bidders, Proposal, Detailed Specifications, Interim General Conditions, Plans, and any and all addenda for:

JOB NO. G55CM18B
WAIHEE DEEP MONITOR WELL
Waiee, Maui, Hawaii

on file in the office of the Engineering Division for the TOTAL SUM BID (Items 1 to 17) of:

$____________________

and will fully complete all work under this contract within 180 consecutive calendar days from the date of written notice to proceed, including date of said order, said total sum being itemized on the following pages.
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Quantity</th>
<th>Unit</th>
<th>Description</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1</td>
<td>LS</td>
<td>Mobilization (not to exceed $20,000)</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>1</td>
<td>LS</td>
<td>Demobilization (not to exceed $20,000)</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>406</td>
<td>LF</td>
<td>Drilling 14-inch diameter hole from the ground surface to the bottom of the cased section of well</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>500</td>
<td>LF</td>
<td>Drilling 7.5-inch diameter open hole below cased section of well</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>406</td>
<td>LF</td>
<td>Furnishing and installing 8-inch I.D., 5/16-inch wall thickness, steel well casing</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>406</td>
<td>LF</td>
<td>Furnishing and installing 2.375-inch O.D. steel monitor tube with flush joint head</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>1</td>
<td>LS</td>
<td>Furnishing, installing, and painting above-ground 8-inch I.D., 5/16-inch wall thickness, steel casing with lockable steel plate cap, in place complete</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>1</td>
<td>LS</td>
<td>Furnishing, installing and painting 18-inch I.D., 5/16-inch wall thickness, steel casing junction box with lockable steel plate cap, in place complete</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>30</td>
<td>LF</td>
<td>Rock packing the annular space, including concrete plug</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>376</td>
<td>LF</td>
<td>Cement-grouting the annular space, including grout seal</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>1</td>
<td>LS</td>
<td>6' x 8' x 4” reinforced concrete slab</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>50</td>
<td>LF</td>
<td>Placement of 6-foot high chain link fence with 3 strands barbed wire, in place complete</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>1</td>
<td>EA</td>
<td>12' wide drive gate</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>1</td>
<td>LS</td>
<td>Project Sign, in place compete</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>1</td>
<td>Allw</td>
<td>Field Office</td>
<td>$ 5,000.00</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>1</td>
<td>LS</td>
<td>Clearing and grubbing</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>1</td>
<td>LS</td>
<td>Grading as needed, and placement of polyethylene sheet and 4” ASTM No. 67 rock at site and access driveway with concrete header</td>
<td>$</td>
<td></td>
</tr>
</tbody>
</table>

Total Sum Base Bid (Items 1-17) $
HAWAII PRODUCTS PREFERENCE AND/OR USE OF HAWAII PRODUCTS

It is understood that certain Hawaii products as described in the schedule below are acceptable to be used in this work and that, pursuant to Sections 103D-1002, Hawaii Revised Statutes, which provides preference for Hawaii Products, the bidder proposing to use such Hawaii products must fill in the schedule below.

However, where there are a number of qualifying classes of Hawaii products of a given description, the bidder must indicate on the schedule which class will be furnished by circling the class of the particular Hawaii product that will be used. Otherwise, preference will be given based on the class with the lower percentage.

If the bidder proposes to use Hawaii products, the bidder must so designate in said schedule by entering the cost of such product in the appropriate space provided. Failure on the part of the bidder to designate the use of a Hawaii product will void any preference for that product.

**SCHEDULE OF ACCEPTABLE HAWAII PRODUCTS AND DESIGNATION OF HAWAII PRODUCTS TO BE USED**

<table>
<thead>
<tr>
<th>ACCEPTABLE HAWAII PRODUCTS</th>
<th>HAWAII PRODUCTS TO BE USED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Class</td>
</tr>
</tbody>
</table>

The bidder agrees that preference for Hawaii products shall be taken into consideration to determine the low bidder in accordance to said Sections and rules promulgated; however, the award of contract will be in the amount of the bid offered exclusive of any preferences.

The bidder will be given the Hawaii Products Preference for bid evaluation purposes provided that the bidder has completed the required information in the Schedule of Acceptable Hawaii Products and Designation of Hawaii Products to be used. If a bidder has designated use of a Hawaii Product and fails to provide the product, the contract will become void and no payments will be made.
RECYCLED PRODUCTS PREFERENCE
This project allows a 10% price preference for recycled products in accordance with HRS 103D-1005. Bidders are required to complete this section. FAILURE TO COMPLETE THIS SECTION MAY BE SUFFICIENT CAUSE FOR REJECTION OF THE BID.

Only the following products are being considered for the recycled product preference. Please indicate your selection of recycled or non-recycled product by indicating its cost FOB jobsite unloaded in the schedule below, including applicable General Excise & Use Taxes.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>RECYCLED PRODUCT COST</th>
<th>NONRECYCLED PRODUCT COST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ ___________</td>
<td>$ ___________</td>
</tr>
<tr>
<td></td>
<td>$ ___________</td>
<td>$ ___________</td>
</tr>
<tr>
<td></td>
<td>$ ___________</td>
<td>$ ___________</td>
</tr>
</tbody>
</table>

The bidder requesting a recycled product preference by his selection above, shall also complete and submit the form “CERTIFICATION OF RECYCLED CONTENT” as shown in the Interim General Conditions and provide all supporting information with this proposal. Additional information may be requested to qualify a product.

The following definitions are applicable to the CERTIFICATION OF RECYCLED CONTENT form:

"Post-consumer recovered material" means any product used by a consumer, including a business that purchases the material, that has served its intended end use, and that has been separated or diverted from the solid waste stream for the purpose of use, reuse, or recycling.

"Product" includes materials, manufactures, supplies, merchandise, goods, wares, and foodstuffs.

"Recovered material" means waste material and by-products that have been separated, diverted, or removed from the solid waste stream after a manufacturing process for the purpose of use, reuse, or recycling. Recovered material does not include those materials and by-products that are generated and normally reused on-site or within original manufacturing processes (such as mill broke, in the case of paper products).

"Recycled content" means the percentage of a product composed of recovered material, or post-consumer recovered material, or both.

"Recycled product" means a product containing recovered material, or post-consumer recovered material, or both.

The bidder agrees that preference for recycled products shall be taken into consideration to determine the low bidder in accordance with said Section and the rules promulgated, however, the award of contract will be in the amount of the bid offered exclusive any preference.
CONDITION OF AWARD

It is understood that the award of the contract will be made on the basis of the lowest responsible Total Bid (Items 1 to 17) selected by the Board of Land and Natural Resources.

It is understood and agreed that the Board of Land and Natural Resources reserves the right to reject any and/or all bids and waive any defects when, in the Board's opinion, such rejection or waiver will be for the best interest of the State of Hawaii.

In the event all bids exceed available funds certified by the appropriate fiscal officer, the head of the purchasing agency responsible for the procurement in question is authorized in situations where time or economic considerations preclude resolicitation of work of a reduced scope to negotiate an adjustment of the bid price, including changes in the bid requirements, with the low responsible and responsive bidder, in order to bring the bid within the amount of available funds.

It is understood and agreed upon that the head of the purchasing agency may delete a portion or all of any item(s) in the proposal at the stated unit or lump sum price as necessary to stay within the available funding. The bidder is responsible to make an earnest effort to represent the actual cost of each item, including all materials, labor, equipment, overhead and profit in their bid proposal to preclude claims of anticipated profit or loss of profit because of an unbalanced bid proposal.

It is also understood that if a mutually agreeable cost for the reduced scope of work necessitated by a lack of available funds cannot be agreed upon between the bidder and the head of the purchasing agency within 14 calendar days after the bid opening, then the bid may be rejected in the best interest of the purchasing agency, and the head of the purchasing agency may negotiate in progressive order (lowest to highest) with the next lowest responsible and responsive bidder.

It is also understood and agreed that the award of the contract shall be conditioned upon funds being made available for this project and further upon the right of the Board of Land and Natural Resources to hold all bids received for a period of sixty (60) days from the date of the opening thereof, unless otherwise required by law, during which time no bid may be withdrawn.

It is also understood that Notice to Proceed may be delayed up to one (1) year after the bid opening date, and that no additional compensation will be provided for any claim for escalation or delay for issuance of Notice to Proceed on or before that date.

It is also understood and agreed that the quantities given herewith are approximate only and are subject to increase or decrease, and that the undersigned will perform all quantities of work as either increased or decreased, in accordance with the provisions of the Contract Specifications.

It is also understood and agreed that the estimated quantities shown for the items for which a UNIT PRICE is asked in this Proposal are only for the purpose of comparing on a uniform basis, bids offered for the work under this contract, and the undersigned agrees that he is satisfied with and will at no time dispute said estimated quantities as a means of claims for anticipated profit or loss of profit, because of a difference between the quantities of the various classes of work done or the materials and equipment installed, and the said estimated quantities. On UNIT PRICE bids, payment will be made only for the actual number of units incorporated into the finished project at the contract UNIT PRICE.
After the proposals are opened and read, the figures will be extended and/or totaled in accordance with
the bid prices of the acceptable proposals and the totals will be compared. In the comparison of bids,
words written in the proposal shall govern over figures and unit prices will govern over totals. Until the
award of the contract, however, the right will be reserved to reject any and all proposals and to waive
any defects or technicalities as may be deemed best for the interest of the State.

It is also understood and agreed that liquidated damages in the amount **One Hundred Fifty and No/100
Dollars ($150.00)** for each and every calendar day in excess thereof prior to completion of the contract
shall be withheld from payments due to the Contractor.

It is also understood and agreed that if this bid is accepted, the successful bidder must enter into and
execute a contract with the Board of Land and Natural Resources and furnish a Performance and
Payment Bond, as required by law. These bonds shall conform to provisions of Section 103D-324 and
325, Hawaii Revised Statutes and any law applicable hereto.

It is also understood and agreed that the successful bidder will provide all necessary labor, materials,
tools, equipment, and other incidentals necessary to do all the work and furnish all the materials
specified in the contract in the manner and time herein prescribed, and according to the requirements of
the Engineer as therein set forth.

It is understood that by submitting this proposal, the undersigned is declaring that his firm has not been
assisted or represented on this matter by an individual who has, in a State capacity, been involved in the
subject matter of this contract in the past two years.

It is understood that by submitting this proposal in accordance with HAR 3-122-192, the undersigned is
declaring that the price submitted is independently arrived without collusion.

It is also understood that by submitting this proposal, a **Certification for Safety and Health Programs for
bids in excess of $100,000** (in accordance with HRS 396-18), the undersigned certifies that his
organization will have a written safety and health plan for this project that will be available and
implemented by the Notice to Proceed date of this project. Details of the requirements of this plan may
be obtained from the Department of Labor and Industrial Relations, Occupational, Safety and Health
Division (HIOSH).

It is further understood and agreed that the successful bidder shall comply with paragraph 3.1.a
"SUBCONTRACTING" of the General Provisions which requires that the contractor shall perform with
his own organization and with the assistance of workmen under his immediate superintendence, work
of a value not less than twenty percent (20%) of the value of all work embraced in the Contract, except
that certain contract items of work, if specifically referred to in the special provisions, will be exempted
from said twenty percent requirement.

Compliance with §103-310 HRS. As a condition of award all bidders shall comply with all laws
governing entities doing business in the State, including Chapter 237 HRS (general excise tax); Chapter
383 HRS (employment security – unemployment insurance); Chapter 386 HRS (workers
compensation); Chapter 392 HRS (temporary disability insurance); and Chapter 393 HRS (pre-paid
health care), and shall produce all documents to the State (DLNR, Engineering Division) required to
demonstrate compliance with these subsections. Any bidder making a false affirmation or certification
under this subsection shall be suspended and may be debarred from further offerings or awards pursuant
to §103D-702 HRS.
**RECEIPT OF ADDENDA**

The bidder also acknowledges receipt of any and all addenda issued by the Engineering Division, by recording the date of receipt of the respective addenda in the space provided below:

<table>
<thead>
<tr>
<th>Addendum</th>
<th>Date Received</th>
<th>Addendum</th>
<th>Date Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1</td>
<td></td>
<td>No. 5</td>
<td></td>
</tr>
<tr>
<td>No. 2</td>
<td></td>
<td>No. 6</td>
<td></td>
</tr>
<tr>
<td>No. 3</td>
<td></td>
<td>No. 7</td>
<td></td>
</tr>
<tr>
<td>No. 4</td>
<td></td>
<td>No. 8</td>
<td></td>
</tr>
</tbody>
</table>

It is understood that failure to receive any such addendum shall not relieve the Contractor from any obligation under this Proposal as submitted.

It is also understood and agreed that if this Proposal is accepted and the undersigned should fail or neglect to contract as aforesaid, the Board may determine that the bidder has abandoned the Contract, and thereupon, forfeiture of the security accompanying his proposal shall operate and the same shall become the property of the Board.
JOINT CONTRACTORS OR SUBCONTRACTORS TO BE ENGAGED ON THIS PROJECT

The Bidder agrees that the following is a complete listing of all joint contractors or subcontractors covered under Chapter 444, Hawaii Revised Statutes (HRS), who will be engaged by the Bidder on this project to perform the required work indicated pursuant to Section 103D-302, HRS. The Bidder certifies that it and its listed subcontractors or joint contractors together hold all licenses necessary to complete the Work, and understands that failure to comply with this requirement may be just cause for rejection of the bid.

“A” General Engineering Contractors and “B” General Building Contractors are reminded that due to the Hawaii Supreme Court’s January 28, 2002 decision in Okada Trucking Co., Ltd. v. Board of Water Supply, et al., 97 Haw. 450 (2002), they are prohibited from undertaking any work, solely or as part of a larger project, which would require the general contractor to act as a specialty contractor in any area in which the general contractor has no license. Although the “A” and “B” contractor may still bid on and act as the “prime” contractor on an “A” or “B” project (See, HRS § 444-7 for the definitions of an “A” and “B” project), respectively, the “A” and “B” contractor may only perform work in the areas in which they have the appropriate contractor’s license (An “A” or “B” contractor obtains “C” specialty contractor’s licenses either on its own, or automatically under HAR § 16-77-32). The remaining work must be performed by appropriately licensed entities. It is the sole responsibility of the contractor to review the requirements of this Project and determine the appropriate licenses that are required to complete the Project.

The Bidder shall include the complete firm name, license number and nature and classification description of each Joint Contractor or Subcontractor listed below. For projects with Alternate(s), Bidders shall fill out the supplemental schedule and list the Joint Contractor or Subcontractor who will be engaged for the respective Alternate Work. Do not include any Joint Contractor or Subcontractor previously listed.

Bidders shall list only one Joint Contractor or Subcontractor per required specialty contractor’s license.

<table>
<thead>
<tr>
<th>Class</th>
<th>Classification Description</th>
<th>License No.</th>
<th>Complete Firm Name Joint Contractor or Subcontractor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P-8
Enclosed herewith is a:

1. Surety Bond (*1) 
2. Legal Tender (*2) 
3. Cashier's Check (*3) 
4. Certificate of Deposit (*3) in the amount of 
5. Certified Check (*3) 
6. Official Check (*3) 
7. Share Certificate (*3) 
8. Teller's Check (*3) 
9. Treasurer's Check (*3) 

(Cross Out Those Not Applicable)

______________________ Dollars ($_______)

as required by law.

Respectfully submitted,

Name of Company, Joint Venture or Partnership

Contractor's License No.

By __________________________
Signature (*4)

Title __________________________
Date __________________________
Address _________________________

Telephone No. ___________________
NOTES:

1. Surety bond underwritten by a company licensed to issue bonds in this State;

2. Legal tender; or

3. A certificate of deposit; share certificate; or cashier's, treasurer's, teller's, or official check drawn by, or a certified check accepted by, and payable on demand to the State by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration.

   A. These instruments may be utilized only to a maximum of $100,000.

   B. If the required security or bond amount totals over $100,000, more than one instrument not exceeding $100,000 each and issued by different financial institutions shall be accepted.

4. Please attach to this page evidence of the authority of this officer to submit bids on behalf of the Company and also the names and residence addresses of all officers of the Company.

5. Fill in all blank spaces with information asked for or bid may be invalidated. PROPOSAL MUST BE INTACT, MISSING PAGES MAY INVALIDATE YOUR BID.

End of Proposal
SPECIAL PROVISIONS

Amend INTERIM GENERAL CONDITIONS, dated October 1994, as follows:

Section 2 – Proposal Requirements and Conditions

1. **AMEND** Section 2.1 Qualification of Bidder with the following:

Written Notice of Intent to Bid or Offer: A written Notice of Intent to Bid is not required for the Solicitation.

Standard Qualification Questionnaire: Bidders may be required to complete a standard qualifications questionnaire. When requested, the information shall be furnished within two working days or longer at the discretion of the Engineer. Failure to furnish the requested information within the time allowed may be grounds for a determination of non-responsibility, in accordance with HRS Section 103D-310 and HAR Section 3-122-108.

Hawaii Business or Compliant Non-Hawaii Business Requirement: Bidders shall be incorporated or organized under the laws of the State or be registered to do business in the State as a separate branch or division that is capable of fully performing under the contract, as stipulated in §3-122-112 HAR. A certified letter is not required prior to bid opening.

Compliance with §3-122-112 HAR: As a condition for award of the contract and as proof of compliance with the requirements of 103D-310(c) HRS, the apparent low bidder shall furnish the required documents to the Department. If the valid required certificates are not submitted on a timely basis for award of a contract, a bidder otherwise responsive and responsible may not receive the award. Bidder is responsible to apply for and submit the following documents to the Department.

A. Tax Clearance (HRS Chapter 237): Bidder shall obtain a tax clearance certificate from the Hawaii State Department of Taxation (DOTAX) and the Internal Revenue Service (IRS). The certificate is valid for six months from the most recently approved stamp date on the certificate; the certificate must be valid on the date received by the Department.

B. Department of Labor (DLIR) “Certificate Of Compliance”. (HRS Chapter 383 - Unemployment Insurance, Chapter 386 - Workers’ Compensation, Chapter 392 - Temporary Disability Insurance, and 393 - Prepaid Health Care): Bidder shall obtain a certificate of compliance from the Hawaii State Department of Labor and Industrial relations (DLIR). The certificate is valid for six months from the date of issue; certificates must be valid on the date received by the Department.

C. Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG) “Certificate Of Good Standing”. Bidder shall obtain a certificate of good standing issued by the Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG). The certificate of good standing is valid for six months from the date of issue; certificates must be valid on the date received by the Department.
2. **ADD** Section 2.4a, Pre-Bid Conferences

Required Pre-bid Conferences: For construction and design-build projects with an estimated value of $500,000 or more and solicited under the competitive sealed bid method (103D-302 HRS); and for construction and design-build projects with an estimated value of $100,000 or more and solicited under the competitive sealed proposal method (103D-303 HRS); a pre-bid conference is required.

Other Pre-Bid Conferences: The Department may require a pre-bid conference for construction or design-build projects that are below the dollar threshold listed in above or when projects have special or unusual requirements.

Other Conditions: The Department may require the prospective Bidders to make a physical inspection of the project site and make attendance at the pre-bid conference a condition for submitting an offer.

Nothing stated at the pre-bid conference shall change the solicitation unless a change is made by written addendum.

3. **DELETE** Section 2.5, Addenda and Interpretations, in its entirety and replace with the following:

“Discrepancies, omissions, or doubts as to the meaning of drawings and specifications should be communicated in writing to CHIEF ENGINEER, ENGINEERING DIVISION, P.O. BOX 373, HONOLULU, HAWAII, 96809 for interpretation and must be received by the Engineering Division no later than fourteen (14) calendar days prior to the date fixed for bid opening. Any interpretation, if made, and any supplemental instructions will be in the form of written addenda to the plans and specifications and made available prior to the opening of bids. It shall be the prospective bidder’s sole responsibility to verify and obtain any said addenda from the office of the Engineering Division. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents.”

**Section 5 – Control of Work**

**AMEND** Section 5.8 Value Engineering Incentive by deleting “$100,000” and replacing with “$250,000” in the first paragraph.

**Section 6 – Substitution of Materials and Equipment**

**ADD** the following to Section 6.3 Sub-paragraph b:

4. If the substitution meets all the requirements of the specifications and plans.
Section 7 – Prosecution and Progress

1. **DELETE** Section 7.2d in its entirety and replace with the following:

   "d. Insurance Requirements

   1. Obligation of Contractor

   The Contractor shall not commence any work until it obtains, at its own expense, all required insurance. Such insurance must have the approval of the Department as to limit, form and amount and must be maintained with a company authorized by law to issue such insurance in the State of Hawaii.

   All insurance described herein will be maintained by the Contractor for the full period of the contract and in no event will be terminated or otherwise allowed to lapse prior to written certification of final acceptance of the work by the Department.

   Certificate(s) of Insurance acceptable to the Department shall be filed with the Engineer prior to commencement of the work. These certificates shall contain a provision that coverages afforded under the policies will not be canceled or changed until at least thirty days written notice has been given to the Engineer by registered mail. The insurance policies shall name the State of Hawaii, its officers and employees as an additional insured and such coverage shall be noted on the Certificate. Should any policy be canceled before final acceptance of the work by the Department, and the Contractor fails to immediately procure replacement insurance as specified, the Department, in addition to all other remedies it may have for such breach, reserves the right to procure such insurance and deduct the cost thereof from any money due to the Contractor.

   Nothing contained in these insurance requirements is to be construed as limiting the extent of Contractor’s responsibility for payment of damages resulting from its operations under this contract, including the Contractor’s obligation to pay liquidated damages, nor shall it affect the Contractor’s separate and independent duty to defend, indemnify and hold the Department harmless pursuant to other provisions of this contract. In no instance will the Department’s exercise of an option to occupy and use completed portions of the work relieve the Contractor of its obligation to maintain the required insurance until the date of final acceptance of the work.

   All insurance described herein shall cover the insured for all work to be performed under the contract, all work performed incidental thereto or directly or indirectly connected therewith, including traffic detour work or other work performed outside the work area, and all change order work.

   The Contractor shall, from time to time, furnish the Engineer, when requested, satisfactory proof of coverage of each type of insurance required or a copy of the actual policies covering the work. Failure to comply with the Engineer’s request may result in suspension of the work, and shall be sufficient grounds to withhold future payments due the Contractor and to terminate the contract for Contractor’s default.

SP-3
2. Types of Insurance

The Contractor shall purchase and maintain insurance described below which shall provide coverage against claims arising out of the Contractor's operations under the contract, whether such operations be by the Contractor itself or by the subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

(a) Worker's Compensation. The Contractor and all subcontractors shall obtain full worker's compensation insurance coverage for all persons whom they employ or may employ in carrying out the work under this contract. This insurance shall be in strict conformity with the requirements of the most current and applicable State of Hawaii Worker's Compensation Insurance laws in effect on the date of the execution of this contract and as modified during the duration of the contract.

(b) Commercial General Liability Insurance and Automobile Insurance. Contractor's commercial general liability insurance and automobile liability insurance shall both be obtained in a combined, single limit of not less than $1,000,000 per occurrence that shall include coverage for bodily injury, sickness, disease or death of any person, arising directly or indirectly out of, or in connection with, the performance of work under this contract.

The Contractor's property damage liability insurance shall provide for a single combined limit of not less than $1,000,000 for all damages arising out of injury to or destruction of property of others including the Department's, arising directly or indirectly out of or in connection with the performance of the work under this contract including explosion or collapse.

The Contractor shall either:

i. Require each of its subcontractors to procure and to maintain during the life of its subcontract, subcontractors' comprehensive general liability, automobile liability and property damage liability insurance of the type and in the same amounts specified herein; or

ii. Insure the activities of its subcontractors in its own policy.

The Contractor will be permitted, in cooperation with insurers, to maintain a self insured retention for up to 25% of the per occurrence combined single limits of the commercial general liability and the automobile liability policies. The existence of the self insured retention must be noted on the certificate of insurance coverage submitted to the Department or else it will be understood that the insurer is providing first dollar coverage for all claims. For all claims within the self-insured retention amount, the rights, duties and obligations between the Contractor and the Department shall be identical to that between a liability insurer and the Department, as an additional insured, as if there was no self-insured retention.

(c) Builder's Risk Insurance. The Contractor is not required to provide Builder's Risk Insurance for this project.
2. **DELETE** Section 7.16 in its entirety and replace with the following:

“RESPONSIBILITY FOR DAMAGE CLAIMS; INDEMNITY – The Contractor shall indemnify the State and the Department against all loss of or damage to the State’s or the Department’s existing property and facilities arising out of any act or omission committed in the performance of the work by the Contractor, any subcontractor or their employees and agents. Contractor shall defend, hold harmless and indemnify the Department and the State, their employees, officers and agents against all losses, claims, suits, liability and expense, including but not limited to attorneys’ fees, arising out of injury to or death of persons (including employees of the State and the Department, the Contractor or any subcontractor) or damage to property resulting from or in connection with performance of the work and not caused solely by the negligence of the State or the Department, their agents, officers and employees. The State or the Department may participate in the defense of any claim or suit without relieving the Contractor of any obligation hereunder. The purchase of liability insurance shall not relieve the Contractor of the obligations described herein.

The Contractor agrees that it will not attempt to hold the State and its Departments and Agencies and their officers, representatives, employees or agents, liable or responsible for any losses or damages to third parties from the action of the elements, the nature of the work to be done under these specifications or from any unforeseen obstructions, acts of God, vandalism, fires or encumbrances which may be encountered in the prosecution of the work.

The Contractor shall pay all just claims for materials, supplies, tools, labor and other just claims against the Contractor or any subcontractor in connection with this contract and the surety bond will not be released by final acceptance and payment by the Department unless all such claims are paid or released. The Department may, but is not obligated to, withhold or retain as much of the monies due or to become due the Contractor under this contract considered necessary by the Engineer to cover such just claims until satisfactory proof of payment or the establishment of a payment plan is presented.

The Contractor shall defend, indemnify and hold harmless the State and its Departments and Agencies and their officers, representatives, employees or agents from all suits, actions or claims of any character brought on account of any claims or amounts arising or recovered under the Worker’s Compensation Laws or any other law, by-law, ordinance, order or decree.

**Section 8 – Measurement and Payment**

1. **DELETE** Section 8.7a in its entirety and replace with the following:

a. Tax Clearances from the Department of Taxation and Internal Revenue Service to the affect that all delinquent taxes levied or accrued under State Statutes against the contractor have been paid.

1. Tax Clearance Certificates from the director of taxation and the Internal Revenue Service, subject to section 103D-328, HRS, current within two months of issuance date;

2. Clearance Certificate (Income Assessment and Audit Division)
2. **ADD Section 8.7d, Certificate of Compliance:**

d. A Certification from the Contractor affirming that the Contractor has, as applicable, remained in compliance with all laws as required by Section 103D-310, HRS, and Section 3-122-112, HAR. A contractor making a false affirmation shall be suspended and may be debarred pursuant to section 103D-702, HRS.

# DETAILED SPECIFICATIONS

## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>No. of Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Division 1 - GENERAL REQUIREMENTS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01019</td>
<td>General Specifications</td>
<td>4</td>
</tr>
<tr>
<td>01300</td>
<td>Submittals</td>
<td>3</td>
</tr>
<tr>
<td>01567</td>
<td>Pollution Control</td>
<td>4</td>
</tr>
<tr>
<td>01581</td>
<td>Project Sign</td>
<td>4</td>
</tr>
<tr>
<td><strong>Division 2 - SITE WORK</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02100</td>
<td>Site Preparation</td>
<td>2</td>
</tr>
<tr>
<td>02122</td>
<td>Mobilization and Demobilization</td>
<td>3</td>
</tr>
<tr>
<td>02362</td>
<td>Soil Treatment for Vegetation Control</td>
<td>1</td>
</tr>
<tr>
<td>02505</td>
<td>Rock Fill</td>
<td>2</td>
</tr>
<tr>
<td>02733</td>
<td>Drilling the Well</td>
<td>5</td>
</tr>
<tr>
<td>02734</td>
<td>Furnishing and Installing the Well Casing &amp; Monitor Tube</td>
<td>4</td>
</tr>
<tr>
<td>02735</td>
<td>Filling the Annular Space</td>
<td>2</td>
</tr>
<tr>
<td>02737</td>
<td>Construction Water Disposal</td>
<td>1</td>
</tr>
<tr>
<td>02831</td>
<td>Galvanized Chain Link Fences and Gates</td>
<td>3</td>
</tr>
<tr>
<td><strong>Division 3 - CONCRETE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03210</td>
<td>Reinforcing Steel</td>
<td>2</td>
</tr>
<tr>
<td>03300</td>
<td>Concrete</td>
<td>6</td>
</tr>
<tr>
<td><strong>Division 5 - METALS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05500</td>
<td>Metal Fabrications</td>
<td>8</td>
</tr>
<tr>
<td><strong>Division 9 - FINISHES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09900</td>
<td>Painting</td>
<td>6</td>
</tr>
</tbody>
</table>
PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

Work shall consist of furnishing all labor, tools, materials and equipment necessary and required to construct in place complete all work as indicated on the drawings and as specified herein.

1.2 GENERAL

A. Construction Lines, Levels and Grades: The Contractor shall verify all lines, levels and elevations indicated on the drawings before any clearing, excavation or construction begins. Any discrepancy shall be immediately brought to the attention of the Engineer, and any change shall be made in accordance with his instruction. The Contractor shall not be entitled to extra payment if he fails to report the discrepancies before proceeding with any work whether within the area affected or not.

B. Examination of Premises: The Contractor shall contact the Engineer and obtain permission before visiting the site.

C. Notices: The Contractor shall call the Engineer (as indicated in the DETAILED SPECIFICATIONS) and give at least three (3) working days notice before starting any work.

D. Conditions at Site: Every person bidding on this project is expected to visit the site and examine the conditions and satisfy himself as to the character and amount of the work to be performed as indicated on the drawings and called for by the specifications. No additional allowance will be granted because of the lack of knowledge of such conditions.

E. Disruption of Utility Services: All work related to the temporary disconnection of electrical system shall be pre-arranged with the Engineer (as indicated in the DETAILED SPECIFICATIONS) so that any disruption of such services will be kept to a minimum. In the event temporary power hook-up is required, the Contractor shall provide the necessary services.

F. Contractor's Operations: The Contractor must employ, insofar as possible, such methods and means of carrying out his work so as not to cause any interruption or interference to the facility's operations. Where the Contractor's operations would result in interruptions which would hamper the operations of the facilities, the Contractor shall rearrange his schedule of work accordingly.
G. **Protection of Property:** The Contractor shall continually maintain adequate protection of all his work from damage and shall protect all property, including but not limited to buildings, equipment, furniture, grounds, vegetation, material, utility systems located at and adjoining the job site. The Contractor shall repair, replace or pay the expense of repair of damages resulting from his operations.

H. **Safety**

1. The Hawaii Occupational Safety and Health Law, Chapter 396, Hawaii Revised Statutes, as amended, is applicable and made a part of the Contract.

2. The Contractor shall carefully read and strictly comply with its requirements.

I. **Clean Up Premises:** The Contractor shall clean up and remove from premises all debris accumulated from operations from time to time and as directed. See also Section 7.25 of the GENERAL CONDITIONS.

J. **Responsibility**

1. The State of Hawaii will hold the Contractor liable for all the acts of Subcontractors and shall deal only with him (the prime Contractor) in matters pertaining to other trades employed on the job. The Contractor shall be responsible for coordinating the work of all trades on the job.

2. Should he discover any discrepancy in the plans or specifications, the Contractor shall immediately notify the Engineer before proceeding any further with the work, otherwise, he will be held responsible for any cost involved in correction of work placed due to such discrepancy.

K. **Cooperation With Other Contractors:** The State reserves the right at any time to contract for or otherwise perform other or additional work within the contract zone limits of this Contract. The Contractor of this project shall to the extent ordered by the State, conduct his work so as not to interfere with or hinder the progress or completion of the work performed by other contractors.

L. **Division of the Work:** The Divisions and Sections into which these Specifications are divided shall not be considered an accurate or complete segregation of work by trades. This also applies to all work specified within each Section.

M. **Drawings and Specifications**

1. The Contractor shall not make alterations to the plans and specifications. In the event he discovers any errors or discrepancies, the Contractor shall immediately notify the Engineer in accordance with the GENERAL CONDITIONS.
2. Where devices, or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many such devices, items or parts as are required to properly complete the work.

3. Specifications and plans are prepared in abbreviated form and include incomplete sentences. Omission of words or phrases such as "the Contractor shall", "as shown on the drawings", "a", "an", and "the" are intentional. Omitted words and phrases shall be provided by inference to form complete sentences.

N. Required Submittals

1. Required submittals as specified in the Technical Sections of these specifications include one or more of the following: Shop drawings; color samples; material samples; technical data; schedules of materials; schedules of operations; guarantees; operating and maintenance manuals; and as-built drawings.

2. Contractor shall make a comprehensive list of the required submittals, by Specification Section, and submit this list to the Engineer within 15 days after notice to proceed.

3. As-Built Drawings: When as-built drawings are required for submittal, the following shall apply:

   a. As-built drawings, the intent of which is to record the actual in-place construction so that any future renovations or tie-ins can be anticipated accurately, shall be required.

   b. All deviations from alignments, elevations and dimensions which are stipulated on the plans shall be recorded in red on the as-built drawings.

   c. The following procedure shall be followed:

      1) Immediately after these changes are constructed in place, the Contractor shall record them on the field office plans. This is to assure that changes are recorded before they are forgotten.

      2) Within two weeks after final inspection of the project, the Contractor shall transfer the changes marked on the field office plans onto a clean copy of plans using a red pencil. Any deletions shall be so noted and redrawn as necessary. The Contractor shall stamp or mark the tracings "AS-BUILT", and also sign and date each drawing so marked.

      3) The Contractor shall submit the as-built drawings together with the marked-up field office plans to the Engineer.
4) Any as-built drawing which the Engineer determines does not accurately record the deviation shall be corrected by the State and the Contractor shall be charged for the services.

END OF SECTION
SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.1 SUBMITTALS

Required submittals shall include:

1. Piping Layout including plan and profile for _________________.
2. Manufacturer's Data.
3. Certificates of Warranty.
4. Any others as called for in the plans, specifications, or by the Engineer.

1.2 BIDDER'S SPECIAL RESPONSIBILITY FOR COORDINATING CONTRACTUAL WORK AND SUBMITTALS:

A. The Contractor is responsible for the coordination of all contractual work and submittals.

B. The Contractor shall have a rubber stamp made up in the following format:

**CONTRACTOR NAME**

PROJECT: ________________________________

JOB NO: ________________________________

THIS SUBMITTAL HAS BEEN CHECKED BY THIS GENERAL CONTRACTOR. IT IS CERTIFIED CORRECT, COMPLETE, AND IN COMPLIANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS. ALL AFFECTED CONTRACTORS AND SUPPLIERS ARE AWARE OF, AND WILL INTEGRATE THIS SUBMITTAL INTO THEIR OWN WORK.

DATE RECEIVED ________________________________

SPECIFICATION SECTION ________________________________

SPECIFICATION PARAGRAPH ________________________________

DRAWING NUMBER ________________________________

SUBCONTRACTOR NAME ________________________________

SUPPLIER NAME ________________________________

MANUFACTURER NAME ________________________________

CERTIFIED BY: ________________________________

Submittals

01300-1
C. This stamp, "filled in", should appear on the title sheet of each shop drawing, on a cover sheet of submittals in an 8-1/2" x 11" format, or on one face of a cardstock tag (min. 3" x 6") tied to each sample. The tag on the samples should state what the sample is so that, if the tag is accidentally separated from the sample, it can be matched up again. The back of this tag will be used by the Engineer for his receipt, review, and log stamp and for any comments that relate to the sample.

D. All submittals for material, equipment, and shop drawings listed in the contract documents, including dimensioned plumbing shop drawings, shall be required and shall be reviewed by the Engineer, prior to any ordering of materials and equipment.

E. Unless otherwise noted, the Contractor shall submit to the Engineer for his review eight copies of all shop drawings, piping layout, and/or catalog cuts for fabricated items and manufactured items (including mechanical and electrical equipment) required for the construction. Drawings shall be submitted in sufficient time to allow the Engineer not less than twenty regular working days for examining the drawings.

F. The drawing shall be accurate, distinct, and complete and shall contain all required information, including satisfactory identification of items, units and assemblies in relation to the contract drawings and specifications.

G. Unless otherwise approved by the Engineer, shop drawings shall be submitted only by the Contractor, who shall indicate by a signed stamp on the drawings or other approved means that the Contractor has checked the shop drawings and that the work or equipment shown is in accordance with contract requirements and has been checked for dimensions and relationship with work of all other trades involved. All deviations from the plans and specifications shall be listed. The practice of submitting incomplete or unchecked shop drawings for the Engineer to correct or finish will not be acceptable, and shop drawings which, in the opinion of the Engineer, clearly indicate that they have not been checked by the Contractor will be considered as not complying with the intent of the contract documents and will be returned to the Contractor for resubmission in the proper form.

H. When the shop drawings have been reviewed by the Engineer, two sets of submittals will be returned to the Contractor appropriately stamped. If major changes or corrections are necessary, the drawing may be rejected and one set will be returned to the Contractor with such changes or corrections indicated, and the Contractor shall correct and resubmit eight copies of the drawings, unless otherwise directed by the Engineer. No changes shall be made by the Contractor to the resubmitted shop drawings other than those changes indicated by the Engineer. The resubmittal shall be so indicated on the shop drawing.

I. The review of such drawings and catalog cuts by the Engineer shall not relieve the Contractor from responsibility for correctness of the dimensions, fabrication details, and space requirements or for deviations from the contract drawings and specifications, unless the Contractor has called attention to such deviations, in writing, by a letter accompanying the drawings and the Engineer approved the change or deviations, in writing, at the time of submission; nor shall review by the Engineer relieve the Contractor from the responsibility for errors in the shop drawings. When the Contractor does call such deviations to the attention of the Engineer, he shall state in his letter whether or not such deviations involve any deduction or extra cost adjustment.
J. The approval of the above drawings, lists, prints, specifications, or other data shall in no way release the Contractor from his responsibility for the proper fulfillment of the requirements of this contract nor for fulfilling the purpose of the installation nor from his liability to replace the same should it prove defective or fail to meet the specified requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION
SECTION 01567

POLLUTION CONTROL

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Rubbish Disposal

1. No burning of debris and/or waste materials shall be permitted on the project site.

2. No burying of debris and/or waste material except for materials which are specifically indicated elsewhere in these specifications as suitable for backfill shall be permitted on the project site.

3. All unusable debris and waste material shall be hauled away to an appropriate off-site dump area. During loading operations, debris and waste materials shall be watered down to allay dust.

4. No dry sweeping shall be permitted in cleaning rubbish and fines which can become airborne from floors or other paved areas. Vacuuming, wet mopping or wet or damp sweeping is permissible.

5. Enclosed chutes and/or containers shall be used for conveying debris from above to ground floor level.

6. Clean-up shall include the collection of all waste paper and wrapping materials, cans, bottles, construction waste materials and other objectionable materials, and removal as required. Frequency of clean-up shall coincide with rubbish producing events.

B. Dust

1. The Contractor shall prevent dust from becoming airborne at all times including non-working hours, weekends and holidays in conformance with the State Department of Health, Administrative Rules, Title 11, Chapter 60 - Air Pollution Control.

2. The method of dust control and costs shall be the responsibility of the Contractor. Methods of dust control shall include the use of water, chemicals or asphalt over surfaces which may create airborne dust.

3. The Contractor shall be responsible for all damage claims in accordance with Section 7.16 - "Responsibility for Damage Claims" of the GENERAL CONDITIONS.
C. Noise

1. Noise shall be kept within acceptable levels at all times in conformance with the State Department of Health, Administrative Rules, Title 11, Chapter 43 - Community Noise Control for Oahu. The Contractor shall obtain and pay for the Community Noise Permit from the State Department of Health when the construction equipment or other devices emit noise at levels exceeding the allowable limits.

2. All internal combustion engine-powered equipment shall have mufflers to minimize noise and shall be properly maintained to reduce noise to acceptable levels.

3. Pile driving and cable tool operations shall be confined to the period between 9:00 a.m. and 5:30 p.m., Monday through Friday. Pile driving and cable tool operation will not be permitted on weekends and legal State and Federal holidays.

4. Starting-up of construction equipment meeting allowable noise limits shall not be done prior to 6:45 a.m. without prior approval of the Engineer. Equipment exceeding allowable noise levels shall not be started-up prior to 7:00 a.m.

D. Erosion

1. During interim grading operations, the grade shall be maintained so as to preclude any damage to adjoining property from water and eroding soil.

2. Temporary berms, cut-off ditches and other provisions which may be required because of the Contractor's method of operations shall be installed at no cost to the State.

3. Drainage outlets and silting basing shall be constructed and maintained as shown on the plans to minimize erosion and pollution of waterways during construction.

E. Construction Dewatering

1. The Contractor shall be familiar with and meet the latest requirements of all applicable National Pollution Discharge and Elimination System (NPDES) and Hawaii State Department of Health's Water Quality Standards. The Contractor shall be responsible to obtain all necessary permits to reflect his method of construction dewatering.

2. Discharge activities shall include trench dewatering; pipeline and reservoir hydrotesting/chlorination operations; and drilling operations.
3. No construction dewatering will be allowed to discharge into State receiving waters without an approved NPDES permit. Drilling fluids and drill cuttings shall be contained onsite using sumps and/or mud tanks.

4. No compensation will be paid for any reason related to the disposal of waste water created by construction and testing.

F. Others

1. Wherever trucks and/or vehicles leave the site and enter surrounding paved streets, the Contractor shall prevent any material from being carried onto the pavement. Waste water shall not be discharged into existing streams, waterways, or drainage systems such as gutters and catch basins unless treated to comply with the State Department of Health water pollution regulations.

2. Trucks hauling debris shall be covered as required by PUC Regulation. Trucks hauling fine materials shall be covered.

3. No dumping of waste concrete will be permitted at the job-site.

4. Except for rinsing of the hopper and delivery chute, and for wheel washing where required, concrete trucks shall not be cleaned on the job-site.

5. Except in an emergency, such as a mechanical breakdown, all vehicle fueling and maintenance shall be done in a designated area. A temporary berm shall be constructed around the area when runoff can cause a problem.

6. When spray painting is allowed such spray painting shall be done by the "airless spray" process. Other types of spray painting will not be allowed.

G. Suspension of Work

1. Violations of any of the above requirements or any other pollution control requirements which may be specified in the Technical Specifications herein shall be cause for suspension of the work creating such violation. No additional compensation shall be due the Contractor for remedial measures to correct the offense. Also, no extension of time will be granted for delays caused by such suspensions.

2. If no corrective action is taken by the Contractor within 72 hours after a suspension is ordered by the Engineer, the State reserves the right to take whatever action is necessary to correct the situation and to deduct all costs incurred by the State in taking such action from monies due the Contractor.
3. The Engineer may also suspend any operations which he feels are creating pollution problems although they may not be in violation of the above-mentioned requirements. In this instance, the work shall be done by force account as described in Subsection 4.2b -"Additional Work" of the GENERAL CONDITIONS and paid for in accordance with Subsection 8.4b -"Force - Account Work" therein. The count of elapsed working days to be charged against the contract in this situation shall be computed in accordance with Subsection 7.18 - "Contract Time" of the GENERAL CONDITIONS.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION
PART I - GENERAL

1.1 GENERAL REQUIREMENTS

Furnish all labor, materials and equipment necessary to construct and install all project sign as specified hereinafter.

1.2 SUBMITTAL

The contractor shall provide the Engineer with six (6) shop drawings of the project sign for review and approval by the Engineer prior to ordering the sign.

1.3 LETTER STYLE

Copy is centered and set in Adobe Type Futura Heavy. If this specific type is not available, Futura Demi Bold may be substituted. Copy should be set and spaced by a professional typesetter and enlarged photographically for photo stencil screen process.

1.4 ART WORK

Constant elements of the sign layout - frame, outline, stripe, and official state information - may be duplicated following drawing measurements, or be reproduced and enlarged photographically using a layout template if provided. The "STATE OF HAWAI\" masthead should be reproduced and enlarged as specified, using the artwork provided.

1.5 TITLES

The specific major work of the project under construction is emphasized by using 3-3/4\" type, all capitals. Secondary information such as location or buildings uses 2-1/4\" type, all capitals. Other related information of lesser importance uses letter heights as indicated on 01581-3, upper / lower case letters.

Design should follow the example on page 01581-3.
PART 2 - PRODUCTS

2.1 MATERIALS

A. LUMBER

1. Panel is 3/4" exterior grade high density overlaid plywood, with resin-bonded surfaces on both sides.
2. 4"x 4" sign posts shall be Douglas Fir No. 1 or better.

B. PAINTS & INKS

Screen print inks are matte finish. Paints are satin finish, exterior grade. References to Ameritone Color Key Paint are for color match only.

COLOR:

1. 1BL10A Bohemian Blue
2. 2H16P Softly (White)
3. 2VR2A Hot Tango (Red)
4. 1M52E Tokay (Gray)

C. CONCRETE

Concrete shall be class B with a 2,500 psi 28-day compressive strength.

PART 3 - EXECUTION

3.1 GENERAL

A. The Project Sign shall be constructed with new materials as specified above.

B. The Project sign shall be installed at the location indicated on the drawings or as designated by the Engineer.

PART 4 - MEASUREMENT AND PAYMENT

The construction of the project sign, including all equipment, labor and material necessary to furnish and install the project sign will be paid for under the "Project Sign" proposal item.

END OF SECTION
SAMPLE TEXT
SAMPLE TEXT (CONT'D.)

Consultant: (Name)
Contractor: (Name)

DEPARTMENT OF LAND & NATURAL RESOURCES
Peter T. Young, Chairperson
Governor Linda Lingle

NOTE: Number of signs required 1
FILL EXCAVATION (8" MIN.) W/C. I. 2500 CONCRETE

EXCAVATION LINE

4' x 4' POSTS

ATTACH SIGN TO 4'x4' POSTS W/WOOD SCREWS @ 12" O.C. FROM FRONT

3/4" PLYWOOD SIGN PANEL

PLAN
NOT TO SCALE
SECTION 02100
SITE PREPARATION

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

The work to be performed under this section shall include clearing the premises of all obstacles and obstructions, the removal of which will be necessary for the proper reception, construction, execution and completion of the other work included in this contract.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 GENERAL

A. Maintenance of Traffic: The Contractor shall conduct operations with minimum interference to streets, driveways, sidewalks, passageways, etc.

When necessary, the Contractor shall provide and erect barriers, etc., with special attention to protection of personnel.

B. Protection: Throughout the progress of the work protection shall be provided for all property and equipment, and temporary barricades shall be provided as necessary. Work shall be done in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America and the State of Hawaii's Occupational Safety and Health Standards, Rules and Regulations.

C. Fires: No burning of fires of any kind will be allowed.

D. Reference Points: Bench marks, etc., shall be carefully maintained, but if disturbed or destroyed, shall be replaced as directed, at the Contractor's expense.

E. Disposal: All materials resultant from operations under this Section shall become the property of the Contractor and shall be removed from the site. Loads of materials shall be trimmed to prevent droppings.
3.2 EXISTING UTILITY LINES

The locations and depths of existing surface and underground utilities whether or not shown on the Plans shall be verified by the Contractor. The Contractor shall not assume that where no utilities are shown that none exist. Exercise proper care when excavating in the area and protect existing utilities at all times during construction. Any damage to any utility shall be repaired and paid for by the Contractor.

3.3 CLEARING AND GRUBBING

A. The Contractor shall clear the premises of all obstacles and obstructions, the removal of which will be necessary for the proper reception, construction, execution and completion of other work included in this contract.

B. Remove trees and roots to a minimum of 3 feet below existing ground level. Remove all large roots in excess of 2 inches in diameter, and backfill and compact the resulting depression. All debris accumulated from this operation shall be completely removed from the premises by the Contractor.

C. The Contractor shall protect from injury and damage all surrounding trees, plants, etc., and shall leave all in as good as condition as at present. Any damage to existing improvements shall be repaired or replaced by the Contractor to the satisfaction of the Engineer.

3.4 CLEAN UP OF PREMISES

A. Clean up and remove all debris accumulated from building operations from time-to-time as directed. Upon completion of the construction work and before final acceptance of the contract work, remove all surplus materials, equipment, scaffoldings, etc., and leave entire job site raked clean and neat to the satisfaction of the Engineer.

END OF SECTION
SECTION 02122

MOBILIZATION AND DEMOBILIZATION
(Well Drilling)

PART 1 - GENERAL

This section covers the requirements for mobilization and demobilization of a well drilling rig at the project site.

PART 2 - PRODUCTS

2.1 MOBILIZATION

Mobilization shall consist of the transporting, assembling, constructing, installing and making ready for use at the well site all equipment, machinery, structures, utilities and incidentals necessary to do the work covered by this contract.

2.2 DEMOBILIZATION

Demobilization shall consist of the dismantling and removal from the project site all of the above-mentioned equipment, machinery, structures, utilities and incidentals not incorporated in or made a necessary part of the completed well.

PART 3 - EXECUTION

Prior to mobilization on site and drilling the well, the Contractor shall have a survey performed by a surveyor registered in the State of Hawaii to verify the location of the well in relationship to the access road and the boundaries of the County of Maui Department of Water Supply North Waihee 1 Million Gallon Reservoir property. The required survey will not be paid for directly, but shall be considered incidental to mobilization.

3.1 GUIDELINES

The Contractor shall clear and grade the site prior to moving and setting up the drilling rig at the site.

The Contractor shall be completely mobilized at the project site and begin drilling operations within 30 calendar days after he has been notified, in writing, to proceed under this contract. Any provision in the Standard Specifications to the contrary is hereby deleted.
If the Contractor utilizes private lands other than the well site and access road for mobilization purposes, the provisions of this section shall still apply, and the mobilization and demobilization work on said private lands shall also be in accordance with the agreement between the Contractor and the land owners.

When the project is completed the Contractor shall clean up the well site and shall be responsible for all grading work required to leave the site in a neat and orderly condition to the satisfaction of the Engineer. Payment for the clean-up work will not be paid for separately but shall be included in the contract unit price for Demobilization subject, however, to all provisions specified hereinabove.

The maximum total amount that will be paid for Mobilization, and for Demobilization shall be as shown in the Proposal. All additional mobilization or demobilization costs in excess of the maximum amounts specified above shall be included in the appropriate unit prices bid in the Proposal. The Contractor shall not be entitled to receive any compensation for mobilization or for demobilization in addition to those specified herein and in the Proposal.

3.2 MEASUREMENT

Measurement for payment of the work under this section of the specifications will be made as follows:

1. The contract lump sum price for Mobilization will be paid when 50 feet of the well has been acceptably drilled and in the Engineer's opinion the Contractor has fully mobilized.

2. The contract lump sum price for Demobilization will be paid after the well has been completed and accepted by the Board and the project site cleaned to the satisfaction of the Engineer.

Should the Board terminate the contract before 50 feet of the well has been acceptably drilled for reasons other than those specified in the Standard Specifications and in the Engineer's opinion the Contractor has fully mobilized at the well site, the full amount of the contract unit price for Mobilization shall become due and payable subject, however, to all the provisions specified hereinabove. The full amount of the contract unit price for Demobilization shall also become due and payable after the above-mentioned termination of the contract, subject however, to all the provisions specified hereinabove.

3.3 PAYMENT

Mobilization and demobilization will be paid for at the applicable contract unit prices for:

Mobilization (not to exceed $20,000.00),
Demobilization (not to exceed $20,000.00), as the case may be, which prices shall be full compensation for all the work specified in this section.

END OF SECTION
SECTION 02362

SOIL TREATMENT FOR VEGETATION CONTROL

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This work shall consist of spraying weed killer on the prepared rock fill subgrade prior to the installation of the rock fill and where called for on plans.

1.2 SUBMITTALS

Prior to the start of work, the contractor shall submit to the Engineer the material product data and Material Safety Data Sheets for the material proposed for use.

PART 2 - PRODUCTS

2.1 MATERIALS

Weed Killer shall be “Casoron 4G,” “Norosac 4G,” or an approved equal.

PART 3 - EXECUTION

3.1 APPLICATION

The under asphalt weed killer shall be mixed and uniformly spread using calibrated application equipment at the maximum rates permitted for “under asphalt” use and in strict accordance with the manufacturer’s label. Rock fill shall be installed as soon as possible after applying the weed killer to preclude loss of germination inhibiting action.

In treatment of cleared and grubbed areas shown on the plans, the weed killer shall be mixed and uniformly sprayed in strict accordance with the manufacturer’s label.

Nut grass shall be retreated two (2) days after initial application and again if growth still exists.

The Contractor shall notify the Engineer 24 hours before application of weed killer.

END OF SECTION
SECTION 02505

ROCK FILL

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This shall consist of furnishing and installing the rock fill at the well site and driveway as indicated in the Plans and as specified herein.

PART 2 - PRODUCTS

2.1 MATERIALS

Materials for rock fill including concrete header shall be constructed in accordance with the below-listed sections of the counties' STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION dated September 1986, and STANDARD DETAILS FOR PUBLIC WORKS dated September 1984, as revised except as amended in the plans and/or specifications herewith. (Paragraphs concerning Measurement and Payments in the Sections are not applicable to this project.)

Subgrade - Section 29
Rock Fill - Section 15 for ASTM No. 67 Rock
Concrete Header - Section 41 for Concrete Curb and Gutter

PART 3 - EXECUTION

3.1 Stake out the area to receive rock fill using wooden stakes on which the final finish elevations are clearly marked. All such stakes and elevations shall be approved by the Engineer before any work is done.

3.2 The subgrade for the well site and driveway shall be prepared and graded as specified in the Plans. All rough and irregular surfaces shall be removed to leave a smooth surface for receiving the rock fill.

3.3 Spray an approved weed killer conforming to Section 02362 of the specifications on the prepared subgrade at a uniform rate as recommended by the manufacturer. Notify the Engineer at least 24 hours before application of the weed killer.
3.4 Six (6) mils thick continuous polyethylene sheet barrier shall be placed on the prepared and treated subgrade. Punctured or torn polyethylene sheet shall be covered with new polyethylene sheet extending at least 12 inches in all directions from the torn area. Polyethylene shall not be visible in the finished work.

3.5 Concrete header shall be installed and rock fill shall be placed on the polyethylene sheet and raked smooth.

END OF SECTION
SECTION 02733

DRILLING THE WELL

PART 1 - GENERAL

This section covers the requirement for drilling a well at the approximate location shown on the plan. The exact location of the well shall be designated by the Engineer. The Contractor shall comply with all requirements of the Well Construction Permit for the well, the Hawaii Well Construction and Pump Installation Standards, and the State Water Code (Chapter 174, HRS).

PART 2 - PRODUCTS

A deep monitor well drilled 14 inches in diameter and cased with 8-inch casing to a depth of approximately 406 feet, and drilled with a 7.5-inch diameter open hole below the casing an approximate additional depth of approximately 500 feet, for a total well depth of 906 feet.

PART 3 - EXECUTION

3.1 DRILLING

The cased section of the well shall be drilled plumb and straight as specified herein and shall be large enough to install the well casing specified in Section 02734 Furnishing and Installing the Well Casing and Monitor Tube of the specifications and to provide an annular space of at least 3 inches all around the casing. No deviation from this allowance will be made. All drilling and testing equipment including pipes and tools to be put into the well or open hole shall be first carefully washed and disinfected by chlorination. Only air, clear water, or a mixture of air, water and foam may be used in drilling the cased section of the well.

The exact depth of the well to be drilled shall be determined by the Engineer in the field during the course of the work. Casing shall not be installed until ordered by the Engineer. The drilling of the open hole below the installed casing shall have a minimum diameter of 7.5 inches. The Contractor shall protect the installed casing while drilling the open hole and any damages to the casing shall be repaired at no cost to the State.

The well will cave-in when drilling through loose or fractured rock formations and sandy or cinder layer formations. The well will also cave-in due to earthquake or other causes. The Contractor shall concrete-grout the caved-in portion of the well, re-drill the well or use other methods approved by the Engineer to keep the caved-in well open until the project is completed and accepted by the Engineer at no cost to the State.
3.2 WELL DRILLING BELOW CASING

After the permanent casing has been installed and the annular space filled, the open hole section of the well shall be drilled without the use of bentonite or similar drilling muds. Only water, air, and foam will be allowed in drilling the open hole below the cased section of the well. Reverse air circulation rotary and cable tool are the preferred methods of drilling.

The well shall be cleansed of cuttings by circulation of the formation water or by bailing until the well is clear of cuttings. If circulation of formation water is used to cleanse the well, the water shall be circulated up the drill pipe and allowed to run down the annular space between the drill pipe and the sides of the borehole. Cleansing will also aid in removing dirt, pipe dope, and rust.

3.3 DISPOSAL OF WATER

In order to avoid NPDES requirements, water from drilling shall be properly disposed of on site. Seepage pits are acceptable. If the seepage rate is insufficient, solids-free fluid may be run into the well. Use of a centrifuge, geofabric filters, temporary berms, barriers, and above-ground detention ponds to confine and rid water of solids may be required. No water, foam, or drill cuttings shall be allowed to leave the site for the duration of this job.

The Contractor understands that no compensation will be paid due to any difficulty encountered incidental to the disposal of waste water and all damages resulting therefrom shall be the responsibility of the Contractor.

3.4 ORDER OF WORK

The Contractor shall not conduct drilling operations in excess of eight hours a day except with the written consent of the Engineer. Not less than 72 hours prior to the commencement of any such overtime work, the Contractor shall submit to the Engineer a written notice of his intention and schedule. Deviation from the vertical for the cased and uncased portion of the well shall be no more than 6 inches per any 100 feet of depth. A cage will not be accepted in the open hole. The general order of major work shall be as follows:

1. Drill the cased portion of the well using only air, clear water, or a combination of air, clear water, and foam as the circulating medium.

2. Install 8-inch well casing as shown on the plans and as specified in Section 02734, Furnishing and Installing Well Casing and Monitor Tube.

3. Fill and grout the annular space as specified in Section 02735, Filling the Annular Space.
4. Run plumbness test and video log of the cased well. The Contractor shall provide a report of the plumbness and a video log within ten (10) days following the test. To assure all small particles are settled at the bottom of the well, the well shall be idled for at least five (5) days prior to performing video logging. Acceptance of the cased portion of the hole shall be contingent on passing the plumbness test.

5. Drill open hole below bottom of installed casing as shown on the plans or as modified by the Engineer, using only water and air.

6. Run plumbness test every 20 feet. If a magnetic device is used, the survey tool shall be extended ahead of the drill bit according to the manufacturer’s recommended distance in a non-magnetic extension rod. A magnetic survey tool may also be used in a non-magnetic section of drill pipe. The Contractor shall provide a report of plumbness within ten (10) days following the test in terms of deviation in inches per 100 feet.

7. Cleanse well. The well shall be cleansed of cuttings by circulation of the drilling medium or by bailing the well, until clear of cuttings.

8. Verify well is free of obstructions. The Engineer and/or Department’s representatives will check the well for obstructions to logging tools before demobilization of the drill rig. If obstructions are found in the borehole, the Contractor will ream out the obstructed zone(s) at no cost.

9. Complete well head, concrete slab, and other appurtenances.

10. Demobilize and clean-up. Upon completion of the job, the site shall be cleared of all materials used in or produced by drilling operations. The site shall be restored to a condition equal to or better than original.

3.5 MEASUREMENT, DRILLER’S LOGS, AND SAMPLES

The Contractor shall keep a daily driller’s log of all well construction activities on forms acceptable to the Engineer, recording the characteristics of the geologic materials encountered, including (1) depth, (2) thickness, (3) color, (4) hardness, and (5) all other data which may be helpful in the interpretation of the subsurface geology and hydrology. The log shall indicate the depths where water is encountered and the pertinent facts connected with its occurrence. All other information such as the location of lava tubes and cave-ins shall also be noted in the log. The daily driller’s logs shall be kept current and available at the well site for inspection by the Engineer. A copy of the daily driller’s log shall be submitted to the Engineer at the end of each day.

Samples of drill cuttings shall be taken at successive intervals of 10 feet of depth and at every change in formation. Samples of drill cuttings shall be obtained by bailing the hole, by screening the circulating medium or by any other method acceptable to the Engineer. These samples shall be collected in 4 1/2" x 6" HUBCO brand Protexo sand sample bags provided by the Contractor and shall be properly labeled and delivered to the Engineer periodically as requested.
Water level measurements shall be taken immediately when water is encountered in the well during the drilling work and after the casing has been installed. An electrical sounding probe with cable calibrated and marked to the nearest one-hundredth of a foot shall be used to make all water level measurements. When ordered and in the manner directed by the Engineer, the Contractor shall obtain water samples.

3.6 PROTECTION

During the progress of the work, the Contractor shall secure the well for safety and to prevent contamination from surface runoff, debris, etc., when the crew is not at the well site. The Contractor shall preserve the well in good condition until the Engineer has accepted the work.

3.7 ABANDONED WELL

A well will be considered abandoned if the Contractor does not complete the well to the depth ordered by the Engineer or if the Contractor should abandon the well due to loss of tools or for any other cause or if the Board does not accept the well due to faulty plumbness and alignment. Such an abandoned well shall be sealed by the Contractor, in compliance with the provisions and requirements of Chapter 174, C-87, HRS, the State Water Code. If casing has been installed, the Contractor, at his own expense, may remove the casing prior to backfilling the abandoned well.

No payment will be made for any work done on an abandoned well. All partial payments received by the Contractor for work done on a well that has been abandoned shall be refunded to the Board and the Contractor shall drill another well in the vicinity of the abandoned well as directed by the Engineer. The cost of moving from the location of the abandoned well to the above-mentioned new site will be at the Contractor’s expense and will not be paid for by the Board.

Upon completion of the work the Contractor shall leave the site of the abandoned well in a neat and presentable condition free of all debris and in a state comparable to its original condition.

3.8 VIDEO LOGGING

The Contractor shall run a color video log of the well after the casing is installed and grouted. The video logging system shall be a color VHS or digital system capable of recording the video camera’s depth in feet in the image. The original and one copy of the VHS tape or DVD disc record shall be delivered to the Engineer upon completion of logging and shall become the property of the State. The well shall not be disturbed for 2 weeks prior to performing the video logging.
3.9 MEASUREMENT

The depth of the cased section of the well to be paid for shall be the actual depth in lineal feet measured vertically from the prepared ground surface to the bottom of the cased section of the well as ordered by the Engineer.

The depth of the open hole section of the well to be paid for shall be the actual depth in lineal feet measured vertically from the bottom of the cased section of the well to the bottom of the open hole section as ordered by the Engineer.

The Contractor shall not receive specific compensation for making the plumbness and alignment tests, video log, and all corrections for plumbness and well diameter, but shall include such costs in the appropriate contract prices for drilling the well.

Prior to final payment, the Engineer and/or Department’s representatives will check the well for obstructions to logging tools before demobilization of the drill rig. If obstructions are found in the borehole, the Contractor will ream out the obstructed zone(s) at no cost.

3.10 PAYMENT

The depth of well acceptably drilled and measured, as provided above, will be paid for at the applicable contract unit price per lineal foot for:

1. Drilling 14-inch diameter hole from the ground surface to the bottom of the cased section of well,

2. Drilling 7.5-inch diameter open hole below cased section of well, as the case may be, which price shall be full compensation for drilling; preparing the driller’s logs; measuring and recording water levels; obtaining samples of drill cuttings and water; protecting and maintaining the well; measuring the depth of well as required; making all tests and necessary corrections of defects; video logging; all fishing operations; all costs of delays in work due to inclement weather, to lack of equipment and to equipment breakdowns; and for all equipment, tools, labor and incidentals necessary to complete the work. No payment will be made for abandoned wells.

END OF SECTION

Drilling the Well
02733-5
SECTION 02734

FURNISHING AND INSTALLING WELL CASING AND MONITOR TUBE

PART 1 - GENERAL

This section covers the requirement for furnishing and installing the steel casing and monitor tube in the well.

The casing and monitor tube shall be new and shall be installed in the well only when ordered in writing by the Engineer and as specified herein. The Engineer will specify the total lengths of the casing and monitor tube to be installed. Installation shall be made only during normal daylight working hours.

PART 2 - PRODUCTS

2.1 WELL CASING

The casing to be furnished and installed in the well shall be steel, conforming to ASTM Designation A-139 or approved equal. The casing shall have a minimum inside diameter and a minimum wall thickness as called for in the proposal and shall be new, clean, straight and round. The individual lengths of solid casing shall be provided with beveled ends suitable for butt welding. The bottom of the casing shall be supplied with a steel shoe as shown on the Plans.

The top of the casing shall be capped as shown on the Plans.

2.2 WELL CASING MARKINGS

Each length of casing shall be marked by the casing manufacturer with the following information:

1. Manufacturer’s identification
2. Nominal thickness of casing wall
3. ASTM Designation and trade name of the steel used for the manufacture of the casing

All markings shall be clear and legible and shall be within three (3) feet from one end of the casing.
2.3 WELL CASING CERTIFICATION

Prior to the delivery of any casing to the project site, the Contractor shall submit for approval the casing manufacturer's certification to the Engineer. The certificate shall clearly indicate the total footage and number of casing shipped; the name of the customer; and the physical and chemical properties of the casing material. (ASTM Designation and trade name of steel may be used to designate the physical and chemical properties respectively.)

2.4 MATERIALS

A. Steel Tubing: The water-level monitor tube to be furnished and installed on the outside of the well casing shall consist of new 2.375-inch O.D. flush joint tubing, or approved equal.

B. Joints: The steel tubing shall have flush joint threads.

PART 3 - EXECUTION

3.1 ALIGNMENT MARKINGS

Prior to the installation of the well casing, the Contractor shall establish alignment marks on the outside ends of each length of well casing to provide a reference for aligning and installing the water-level monitor tube in a straight line on the outside of the well casing. The alignment marks shall be established by using two fabricated cross-hair sighting devices which can be placed on the ends of a casing length and rotated so that alignment is achieved by sighting through the inside of the casing.

3.2 INSTALLATION OF WELL CASING

The well casing shall be installed in the presence of and as directed by the Engineer. The casing shall be properly aligned and welded by qualified welders and shall also be continuous for its entire length. Every precaution shall be taken to prevent the casing from dropping into the hole. Driving of the casing which is likely to damage the pipe or cause a change in the circular cross section of the pipe will not be permitted.

The Contractor shall cleanse the drilled hole of drill cuttings by bailing or reverse rotary circulation and then carefully lower the casing, with monitor tube attached, into the drilled hole and temporarily secure the casing string three feet above the bottom of the hole. Thereupon, a 3-foot concrete plug shall be tremied in place at the bottom of the hole and the casing lowered to its final depth and secured. After the concrete plug has been allowed to set for 24 hours, the rock packing, grout seal, and cement grouting of the well as called for in Section 02735 - Filling the Annular Space shall then be completed. At no time during the installation of the casing shall the total weight of the casing rest on the bottom of the drilled hole.
The casing shall extend 18 inches above the concrete slab level and shall be capped with a lockable steel cap as shown on the Plans. The Contractor shall supply two keyed alike padlocks with three sets of keys. Padlock shall consist of Abloy 342 steel padlock with raised shoulders or approved equivalent. Padlocks shall be compatible for use with the casing and junction box locking mechanisms.

Upon completion of the well, in the presence of the Engineer, the casing walls shall be swabbed to remove drilling byproducts such as grease or pipe dope.

3.3 INSTALLATION OF WATER-LEVEL MONITOR TUBE

During the installation of the well casing, the Contractor shall furnish and install a water-level monitor tube consisting of 2.375-inch O.D. steel tubing with flush-joint threads. The monitor tube shall be welded to the well casing. Trapezoidal-shaped steel guides fabricated from 3/8-inch minimum thickness stock with a 3-inch radial dimension shall be welded vertically onto the well casing adjacent to the monitor tube at 20 foot intervals to ensure that the monitor tube will be imbedded in the annular grout.

The bottom 20 feet of the monitor tube shall be perforated with two diametrically opposed 1/4-inch diameter holes per lineal foot drilled tangentially to the circumference of the well casing. The bottom of the monitor tube shall be capped and set at -10 feet mean sea level. The cap shall have two 1/4-inch diameter drilled holes protected against possible plugging during installation in the well. During welding of the monitor tube onto the well casing, the Contractor shall carefully align the tube so that it follows the aligned markings established on the well casing and so that it does not spiral around the casing. The top of the monitor tube shall be terminated 2 inches above the concrete slab level inside of the 18-inch diameter steel casing junction box. After drilling is completed, the monitor tube shall be pressurized with air to clear any clogged perforations.

3.4 JUNCTION BOX

The 18-inch steel casing junction box shall be installed after the well has been drilled to its final depth, but before the 6' x 8' concrete slab is poured. The bottom of the junction box shall not be cemented.

3.5 MEASUREMENT

The lengths of well casing and monitor tube installed below the prepared ground surface shall be measured vertically to the nearest foot from the ground surface.

3.6 PAYMENT

The total footage, measured as provided above, of well casing and monitor tube acceptably installed below the prepared ground surface will be paid for at the contract unit price per lineal foot for:

Furnishing and Installing the Well Casing and Monitor Tube

02734-3
Furnishing and installing 8-inch I.D., 5/16-inch wall thickness, steel well casing conforming to ASTM A-139,

Furnishing and installing 2.375-inch O.D. steel monitor tube with flush joint threads and the above-ground well casing and junction box will be paid for at the applicable contract unit price for,

Furnishing, installing, and painting above-ground 8-inch I.D., 5/16-inch wall thickness, steel casing with lockable steel plate cap, in place complete,

Furnishing, installing, and painting 18-inch I.D., 5/16-inch wall thickness, steel casing junction box with lockable steel plate cap, in place complete, as the case may be, which price shall be full compensation for furnishing and hauling the well casing and monitor tube to the well site; for bailing; for cleaning the well; for unloading, handling, cutting, aligning, perforating, welding and setting the well casing and monitor tube; for capping the top of the well casing and monitor tube; and for all other labor, equipment, tools, materials, and incidentals necessary to complete the work.

END OF SECTION
SECTION 02735

FILLING THE ANNULAR SPACE

PART 1 - GENERAL

This section covers the cement-grouting of the annular space between the drilled hole and the casing. All work required in this section shall be done during normal daylight working hours. The Contractor shall notify the Engineer not less than 48 hours prior to cement-grouting.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Portland cement shall conform to the requirements of ASTM C150, Type I for grout mix.

B. Rock packing shall consist of 3/8 to 1/2-inch size washed rounded gravel meeting the grading requirements of size no. 67 (ASTM C33).

C. Coarse aggregate shall be crushed fine-grained lava rock meeting the grading requirements of size nos. 67 and 8 (ASTM C33).

D. Fine aggregate shall consist of basaltic sand, meeting the grading requirements of ASTM C33.

E. Water used in mixing cement grout shall be potable.

PART 3 - EXECUTION

3.1 ROCK-PACKING THE ANNULAR SPACE

The Contractor shall rock-pack the annular space between the wall of the drilled hole and the casing from the bottom of the casing to a height above the top of the perforated casing as shown on the plans. The Engineer shall approve all materials to be placed in the annular space and the Contractor shall tremie materials in the annular space in a manner that will avoid bridging of materials and permit even distribution around the casing.

3.2 GROUT SEAL

An effective grout seal shall be tremied on top of the rock packing before cement grouting the annular space. The grout seal shall consist of a 2-foot bottom layer of No. 8 coarse aggregate, followed by a 2-foot layer of sand, and a 10-foot layer of cement-sand grout. Each layer shall be carefully tremied and probed with a rigid rod or sounding line.
for effectiveness. The grout seal shall be topped with a 2-foot layer of neat cement and
allowed 24 hours to set. The integrity of the seal shall be tested by probing and approved
by the Engineer.

3.3 CEMENT-GROUTING THE ANNULAR SPACE

The first 10 feet of the cement grout shall be poured and cured overnight. The remaining
annular space shall then be grouted in a manner that will avoid segregation of materials,
inclusion of foreign material, bridging of grout materials, collapsing of casing, and
contamination of the rock-packed section of the well.

Grout shall consist of Portland cement, or if losses become excessive as determined by
the Engineer, a mix of 1 part Portland cement and 1 part rock sand with not more than 6
gallons of water per 94 lb. sack of cement. Further, if the Engineer determines that an
interval of annular space cannot be filled with 1:1 cement-sand grout without excessive
losses in lava tubes or similar openings, the Contractor may be permitted to fill such
intervals, and only such intervals, with fine or No. 8 aggregate. The amount of water to
be added shall be subject to the Engineer's approval.

The grout shall be placed in the annular space under pressure by pumping through 1 inch
or larger diameter steel flush joint tubing. Grouting shall be placed and allowed to
properly set in stages to avoid collapse or deformation of the casing and monitor tube.
During placement of the grout, the grout pipe shall extend below the fresh grout level so
as to avoid free falling of the grout. It is essential that the annular space be completely
filled with grout to prevent contamination of the well and to protect the casing and water
level monitor tube from corrosion.

3.4 MEASUREMENT AND PAYMENT

Acceptable filling of the annular space will be measured and paid for separately at the
respective contract unit price for:

"Rock packing the annular space, including concrete plug;"

"Cement-grouting the annular space, including grout seal," as the case may be, which
prices shall include full compensation for furnishing and placing the rock pack; for
cement grouting the annular space; for furnishing and placing the grout seal; for
furnishing, mixing, placing and curing the cement grout; and for furnishing all labor,
materials, tools, equipment, and incidentals necessary to complete the work as specified
herein and as shown on the Plans.

END OF SECTION
SECTION 02737
CONSTRUCTION WATER DISPOSAL

PART 1 - GENERAL

A. GENERAL DESCRIPTION

This item of work shall include the furnishing of all labor, materials, tools and equipment necessary for construction water disposal.

B. REGULATIONS

The Contractor shall be familiar with and meet the latest requirements of all applicable National Pollutant Discharge Elimination System (NPDES) and all water discharge requirements of the State Department of Health, City and County of Honolulu, and State Department of Transportation. Effluent discharge into State receiving waters shall not be allowed. Discharge activities shall include well water discharge.

C. PROCEDURES

The Contractor shall review his/her water discharge operations to prevent effluent from reaching State receiving waters. The Contractor shall submit for review and approval his/her intended discharge operations including emergency procedures to address failure of operations. The Contractor shall be responsible for any fines should his/her operations fail and result in any violation of the NPDES requirements.

D. NON-COMPLIANCE

Violation citations for non-compliance shall be the responsibility of the Contractor. The Contractor shall pay all fines and hold harmless the State of Hawaii.

PART 2 - PAYMENT

Payment for the work described herein shall not be made directly but shall be considered incidental and shall be included in the various items in the Bid.

END OF SECTION
SECTION 02831

GALVANIZED CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This section covers the requirements for furnishing and installing galvanized chain link fences and gates.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Chain Link Fence Fabric: Shall be of mesh size shown on plan, be galvanized and conform to ASTM A392, Class I. The hot-dipped galvanized fabric shall contain not less than 1.2 ounces per square foot of uncoated wire surface as determined by stripping test ASTM A90 and under the PREECE Test (ASTM A239), shall withstand 6 or more one-minute dips before reaching the end point. All fabric shall be free from barbs, icicles or other hazardous projections resulting from galvanizing.

B. Tie Wire: Shall be 12-gauge soft annealed galvanized steel wire.

C. Tension Bar: Shall be 1/4" thick by 3/4" wide mild steel bar for attachment of a fabric to a terminal post.

D. Tension Band and Brace Band: Shall be formed from steel bands at least 12 gauge thick by 3/4" wide.

E. Tension Rod: Shall be a 3/8" dia. mild steel rod threaded at one end and hooked 180° at the other.

F. Fittings: (Note: Pressed steel fittings shall not be allowed)

1. Post cap and eye top shall be of one-piece cast iron or malleable iron construction and shall attach securely onto their respective posts.

2. Coupling for top rails shall be outside sleeve type, at least 6" long and crimped at center.

3. Rail ends shall be snug, one-piece cast iron or malleable iron fittings for top and brace rails with holes to receive 5/16" bolts for securing to rail end bands.

4. Two-hole rail end shall be similar to rail end except for an additional ½" hole to receive the hooked end of a tension rod.

Galvanized Chain Link Fences and Gates
02831-1
G. Composition and Finish of Metal Parts: All metal parts and fittings, frames and bolts shall be galvanized by the hot-dip process, after fabrication, in conformance with ASTM A153. The coating on all parts shall be continuous and smooth; that is, free from barbs, icicles or other projections.

H. Posts, Rails and Braces: Shall be the standard weight, hot-dipped galvanized, welded and seamless steel pipes conforming to ASTM A120.

I. Selvage Wire: Shall be of 8-gauge galvanized coil spring steel wire of good commercial quality.

J. Barbed Wire: Shall be three lines of 4-point pattern, each composed of two strands of no. 12-1/2 gauge galvanized wire.

K. Extension Arms: Shall be hot-dipped galvanized. Line post arms of pressed steel are to be of one solid piece construction: gate and terminal posts to have ball caps. Each arm to carry 3 barbed wires at an angle of 45 degrees.

L. Concrete for post footings shall be Class "B".

PART 3 - EXECUTION

3.1 INSTALLATION AND WORKMANSHIP

A. General

1. Chain link fencing shall be erected in strict conformance with the plans and these specifications. Posts shall be plumb and in line. Welding shall be done in accordance with latest AWS standards. However, no splicing of posts, rails or braces shall be accepted. Where changes in line occur with an angle of deflection of 30 degrees or more, the change point will be considered a corner and a corner post shall be installed thereat. End and corner posts for fences with 5-foot and wider fabric shall be braced to the nearest line post with horizontal braces and tension rods. The horizontal braces shall be spaced midway between top rail and ground and securely fastened to posts as shown on plans. Where fencing is placed along a curve with radius of 50 feet, or less, horizontal braces (and tension rods) shall be installed between all posts in like manner. Pull posts, at maximum intervals of 300 feet, shall be braced and trussed in both directions as specified above.

2. Field Touch-Ups: Field welds shall be cleaned of flux and spatter and all damaged galvanizing removed, all hazardous projections ground off, properly prepared, and then heavily coated with self-curing inorganic zinc coating. Manufactured coatings shall be applied in strict accordance with manufacturer's printed specifications. Damage to existing painted surfaces shall be touched up.

Galvanized Chain Link Fences and Gates
02831-2
B. Fence posts, except as otherwise indicated or specified, shall be spaced not more than 10 feet apart. In curved fence sections having a radius of 50 feet or less, the posts shall be spaced as shown on the plans. Line posts shall be set so that the eye top will receive the top rail and fence fabric at the proper height as shown on the plan.

C. Top rails shall pass through and bear firmly on base of eye tops, form a continuous brace from end to end of each stretch of fence, and be securely fastened to terminal posts with rail ends and brace bands. Couplings for top rails shall be installed at intervals of 21 feet maximum.

D. Chain link fabric shall be fastened on the side of the posts as designated and shall be mounted on the posts so that the bottom of the fabric will be no more above the finished grade than called for on the plans. High points of the ground shall be excavated as necessary. The fabric shall be stretched taut and securely fastened to the posts. Ends of wire ties shall be bent back so as not to be a hazard. Between posts the top edge of the fabric shall be fastened to the top rail and the lower edge to the tension wire with tie wire of size and at spacing as called for on the plans. Tension wire shall be stretched tight and shall be installed in a straight line between posts. Tension bars extending the full height of the fence and tension bar bands shall be used for fastening fabric to end, corner, pull and gate posts. Bolted tension bar bands shall be placed at top and bottom of tension bars and spaced at 12" intervals. Fastenings to line posts shall be made with tie wire of size and at spacing as called for on the plans.

3.2 FINAL CLEANUP

A. All exposed metal surfaces shall be clean and free of cement. All surplus earth resulting from fencing work that is not used in the grading work shall be cleaned up and disposed of off site.

END OF SECTION
SECTION 03210

REINFORCING STEEL

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This section covers the requirements for furnishing and placing of deformed steel bars or welded wire fabric as reinforcement in concrete. The quality, type, size, and dimensions shall be as called for in these specifications and as shown on the plans.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Bar reinforcement shall be of grade 40, billet steel deformed type bars made by the open hearth process and shall conform to the requirements of ASTM Designation A615.

B. Welded wire mesh reinforcement shall be galvanized steel, electric welded type and shall conform to the requirements of ASTM Designation A185. The gauge of the wire and dimensions of the mesh shall be given in these specifications or as shown on the plans.

2.2 EPOXY COATING

Epoxy coating for the reinforcing steel shall be applied by the electrostatic spray method conforming to ASTM A-775.

PART 3 - EXECUTION

3.1 CONSTRUCTION

Unless otherwise specified, the installation of reinforcing steel shall conform to the requirements of "ACI Standard Building Code Requirements for Reinforced Concrete" and "Concrete Reinforcing Steel Institute."

A. Protection of Material: Steel reinforcement shall be protected at all times from damage. When placed in the work, all reinforcing steel shall be new, free from dirt, detrimental scale, paint, oil, or other foreign substances. No material cleaned by sandblasting will be allowed. In the absence of manufacturer's quality mark, the Engineer may require standard ASTM tests be made on representative samples before acceptance. All costs incurred in connection with these tests shall be borne by the Contractor.

B. Bending Diagrams and Order Lists: Two copies of all reinforcing steel order lists and bending diagrams shall be furnished directly to the Engineer and at the site for his use in administering the contract.
Furnishing such lists and diagrams to the Engineer shall not be construed to mean that the lists and diagrams will be reviewed for accuracy. The Contractor shall be wholly and completely responsible for the accuracy of the lists and diagrams and for furnishing and placing all bar reinforcing steel in accordance with the details shown on the plans as specified.

C. Bending: Bends for stirrups and ties shall be made around a pin having a diameter not less than two times the minimum dimensions of the bar. Bends for other bars shall be made around a pin having a diameter not less than six times the minimum dimension of the bar, except that for bars larger than one inch, the pin shall be not less than eight times the bar thickness. All bars shall be bent cold before placing in forms.

D. Placing: Reinforcement shall be accurately placed, supported, aligned, and secured against movement. Bars shall be tied at all intersections except where the spacing is less than one foot in each direction, in which case alternate intersections shall be tied.

Distance from forms and between layers of reinforcing shall be maintained by means of approved commercial chairs, stays, blocks, ties, hangers, or other approved supports. The use of pebbles, pieces of broken stone or brick, metal pipe, or wooden blocks shall not be permitted.

No concrete shall be placed prior to the inspection and approval of the size and placement of all reinforcement by the Engineer.

E. Splicing: End laps of bars at splices shall be a minimum of 30 bar diameters and shall be staggered unless otherwise shown. Bars shall be installed in as long lengths as practicable and splices reduced to a minimum unless otherwise shown on the plans.

F. Wire Mesh: Wire mesh shall be rolled out flat and firmly held in place to the lines and grade as shown on the plans before placing concrete. Splices shall be made by lapping not less than one mesh and securely tied.

G. Coverage: Unless otherwise specified on the plans, the minimum clear thickness of concrete covering reinforcement shall be 2 inches when concrete is placed against form, 3 inches when concrete is placed against ground, and 1-1/2 inches from tops of slabs or unformed surfaces.

END OF SECTION
SECTION 03300
CONCRETE

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This specification covers the requirements for furnishing, hauling, mixing, placing, and curing of concrete.

1.2 SUBMITTALS

The Contractor shall submit concrete mix design for approval.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Portland cement shall conform to the requirements of ASTM C150, Type I, for all concrete work.

B. Concrete Aggregates

1. Fine aggregates shall be calcareous or basalt sands, or a combination thereof. They shall meet the grading requirements of ASTM C33 unless the concrete producer can provide past data that show that a proposed non-conforming gradation will produce concrete with the required strength and suitable workability.

If manufactured sands are used in the concrete mix, the Contractor may select and use a water-reducing and/or an air-entraining admixture as specified hereinafter to provide satisfactory workability in the concrete. The cement content of a mix shall be as specified hereinafter, and the use of an admixture shall in no way result in the reduction of the cement factor.

2. Coarse aggregates shall be crushed close-grained, blue lava rock meeting the grading requirements of sizes 57 or 67 (ASTM D448) or both. The maximum size of aggregate shall not be larger than 1/5 of the narrowest dimensions between sides of the forms of the member for which the concrete is to be used not larger than 3/4 of the minimum clear spacing between individual reinforcing bars or bundles of bars.
C. Concrete Reinforcement

1. Reinforcing steel shall be deformed bars conforming to ASTM A615, grade as shown on plans.

2. Welded wire fabric for concrete reinforcement shall conform to ASTM A185 and shall be galvanized.

3. Metal accessories such as spaces, chairs, ties, and other devices necessary for properly placing, supporting and fastening reinforcement in place shall be provided. Chairs shall be galvanized. Annealed steel wire or not less than 16-gauge shall be used to secure reinforcement.

D. Water used in mixing concrete shall be potable.

E. Non-slip grit shall be an abrasive aggregate of silicon carbide or aluminum oxide.

F. Admixture, if used, shall conform to ASTM C494 or ASTM C260 and shall be mixed in proper amount in accordance with directions of manufacturer.

G. Curing compound shall conform to ASTM C309.

PART 3 - EXECUTION

3.1 DESIGN OF CONCRETE MIXES

A. All concrete throughout shall be either job or plant mixture in an approved type of power operated mixer that will insure uniformity and homogeneity of the concrete produced.

B. Mixing at jobsite shall be done in accordance with ACI 614.

C. Ready-mixed and mixed-in-transit concrete shall be mixed to conform to the provisions of ASTM C94.

D. Concrete shall be mixed only in such quantity as is required for immediate use. No retempering will be permitted and concrete that has started to harden shall be discarded and promptly removed from the job.

E. Admixtures conforming to paragraph 2.1 may be used in the concrete as recommended by the supplier and approved by the Engineer.

3.3 PLACING CONCRETE

A. No concrete shall be placed in the absence of the Engineer or his representative who shall be given one day advance notice of starting time of concrete pour.
B. Preparation

1. Concrete shall be placed upon clean, damp surfaces with no free water, or upon properly compacted fills but never upon soft mud or dry, porous earth.

2. Before depositing new concrete on or against concrete which has set, all accumulation or mortar splashed upon reinforcing steel and the surfaces of forms shall be removed and the forms shall be retightened. The surfaces of previously set concrete shall be thoroughly roughened and cleaned of all foreign matter and laitance, saturated with water and slushed with a coat of cement grout. New concrete shall be placed before the grout has attained its initial set.

C. Conveying

1. Concrete shall be conveyed from mixer to forms as rapidly as practicable by methods that will prevent segregation.

2. Concrete shall be deposited as nearly as practicable in its final position. Extensive spading as a means of transportation shall be avoided and in no case shall vibrators be used to transport concrete inside forms.

3. Open troughs and chutes shall have a slope not to exceed 1 vertical to 2 horizontal and not less than 1 vertical to 3 horizontal. Chutes more than 20 feet long and chutes not meeting the slope requirements may be used provided they discharge into a hopper before distribution.

4. The concrete shall not be allowed to drop freely more than six feet except where specifically authorized by the Engineer. When placing operations would involve the dropping of concrete from a height of more than six feet it shall be conveyed through pipes or flexible drop chutes.

5. If any appreciable segregation occurs through the conveying methods employed, their use shall be ordered discontinued by the Engineer and some other satisfactory method of placing concrete shall be used.

6. All chutes, troughs, pipes and other means of conveyance shall kept clean and free from coatings of hardened cement or concrete by thoroughly cleaning with water and chipping after each pour. Water used for flushing shall be discharged away from the vicinity of the concrete or forms already in place.

D. Depositing

1. Unless adequate protection is provided, concrete shall not be placed during rain. Rainwater shall not be allowed to increase the mixing water nor to damage the surface finish. Fresh concrete that has been deposited but has not attained its initial set shall be protected in the event of rain.
2. Placing of the concrete shall be started at the far end of work so that each batch will be dumped against previously placed concrete, not away from it.

E. Compaction

1. All concrete shall be consolidated by vibration so that the concrete is thoroughly worked around the reinforcement, around embedded items, and into corners of forms, eliminating all air or stone pockets which may cause honey-combing, pitting, or planes of weakness. All compaction shall be done by use of high frequency internal vibrators. Where the vibrator cannot be inserted into the concrete, compaction shall be done by spading, rodding, or forking.

2. Frequency of vibrator shall be not less than 7,000 impulses per minute. The Contractor shall provide a sufficient number of vibrators to properly consolidate all concrete immediately after placing. At least one standby vibrator shall be on hand at all times during placement of the concrete.

3.4 REINFORCEMENT

A. Reinforcing steel bars, wire and wire fabric shall be provided in the sizes, length and configurations as indicated on plans and shall be thoroughly cleaned, before placing, of loose mill scale, loose flaky rust, oil, and all coatings that will destroy or reduce bond. If necessary, they shall be cleaned again before placing of concrete. All items shall be fabricated, positioned and secured in place as indicated in the plans and as herein specified. Annealed steel wire of not less than 16-gauge shall be used to secure reinforcement. Unless otherwise noted, cleaning, bending and placing of reinforcement shall be done in accordance with the standard practice of the Concrete Reinforcing Steel Institute.

B. Concrete or metal support and spacers shall be used to secure the proper spacing of reinforcement over formwork. Stirrups shall be accurately and securely wired to the bars at both top and bottom. At slabs, footings and beams in contact with earth, pre-cast concrete blocks (not bricks or hollow tile) shall be used to hold reinforcement at a proper distance above earth.

C. Bars shall be tied at all intersections, and distances from forms shall be maintained by means of pre-cast concrete blocks, ties, hangers or other approved supports.

D. Bars shall be bent cold to the shapes shown on the plans. Bends shall be made around a pin having a diameter not less than 6 times the bar diameter except that for bars of larger than 1-inch diameter the pin diameter shall be 8 times the bar diameter. If required, bars may be bent in the field using a "hickey" bar.

E. All reinforcing steel bars shall be furnished in the lengths indicated on the plans. Splicing of bars, except where shown, will not be permitted without the approval of the Engineer.

3.5 CONCRETE SLABS ON GRADE

A. Concrete slabs on earth shall be placed over a structural fill as specified in another section.
B. All slabs shall be reinforced with 6 x 8 - W1.4 by W1.4 welded wire fabric unless otherwise shown or called for on the plans.

C. Care shall be taken in handling and placing the reinforcement as follows:

1. Reinforcing fabric shall not be rolled over by trucks, buggies or wheelbarrows, nor trampled to the extent that it is bent out of the plans of the fabric. Material which has been so bent that it cannot be laid out flat shall be rejected.

2. Reinforcing fabric shall be positively set, either prior to or during the placement of concrete, to the levels required within the slabs as indicated on the plans or as otherwise called for herein.

D. A bond-break filler shall be provided where edge of slab abuts any vertical surface and where indicated on plans. Width of filler strips shall equal depth of floor slab.

3.6 FINISHING OF SLABS

A. Broom Finish for Slabs: The concrete slabs shall be given a coarse transverse scored texture by drawing a broom across the surface. The operation shall follow immediately after steel trowelling.

B. A brass survey plate/marker shall be embedded in the relatively level well head concrete slab.

3.7 REPAIR OF DEFECTS

A. After forms have been removed, any concrete which is not constructed as shown on the plans or is out of alignment or level beyond required tolerances or which shows a defective surface which in the opinion of the Engineer cannot be properly repaired or patched shall be removed.

B. Where concrete which is exposed to view requires repairing or patching, the texture of the surface of such repair or patch shall closely match that of the surrounding surface.

3.8 CURING AND PROTECTION

A. All concrete shall be cured for a period of not less than seven (7) days by one of the methods listed below. During this curing period, the concrete shall be maintained with minimal moisture loss at a relatively constant temperature. Fresh concrete shall be protected from heavy rains, flowing water, mechanical injury, and injurious action of the sun. Curing method selected must be compatible with the finish to be applied to the concrete.

Curing shall immediately follow the finishing operation.

B. Water Curing: If cured with water, concrete shall be kept wet by mechanical sprinklers, by ponding, or by any other method which will keep the surfaces continuously wet.
C. **Saturated Sand Curing:** Surfaces cured with sand shall be covered with a minimum of one inch thickness of sand which shall be kept uniformly distributed and continuously saturated during the entire curing period.

D. **Curing Compounds:** Curing compounds shall not be used on concrete surfaces that are to receive paint finish, acid stain or resilient flooring, except those that are recommended by the manufacturer to be compatible with the applied finish. The Contractor shall submit to the Engineer a letter certifying that the curing compound is compatible with the applied finish. Application shall be in accordance with the manufacturer's recommendations. If curing, sealing or other compounds are used which are incompatible with applied finish, such compound shall be thoroughly removed by grinding with a terrazzo grinder.

E. **Waterproof Paper:** Waterproof paper or opaque polyethylene film conforming to ASTM C171 may be used. The paper or film shall be anchored securely and all edges sealed or applied in such a manner as to prevent moisture escaping from the concrete.

**3.9 SAMPLING AND TESTING**

A. **Sampling - ASTM C 172:** Collect samples of fresh concrete to perform tests specified. ASTM C 31 for making test specimens.

B. **Slump Tests - ASTM C 143:** Take concrete samples during concrete placement. The maximum slump may be increased as specified with the addition of an approved admixture provided that the water-cement ratio is not exceeded. Perform tests at commencement of concrete placement, when test cylinders are made, and for each batch (minimum) or every 10 cubic yards (maximum) of concrete.

C. **Compressive Strength Tests - ASTM C 39:** Make four test cylinders for each set of tests in accordance with ASTM C 31. Test one cylinder at 7 days, two cylinders at 28 days, and hold one cylinder in reserve. Provide concrete cylinders for compression tests not less than once a day, nor less than once for each 100 cubic yards of concrete, nor less than once for each 5,000 square feet of surface for slabs or walls. If the average strength of the 28-day test cylinders is less than f'c and a maximum of one single cylinder is less than f'c minus 300 psi, take three ASTM C 42 core samples and test. If the average strength of the 28-day test cylinders is less than f'c and two or more cylinders are less than f'c minus 300 psi, take six core samples and test. Concrete represented by core tests shall be considered structurally adequate if the average of the three cores is equal to at least 85 percent of f'c and if no single core is less than 80 percent of f'c. Locations represented by erratic core strengths shall be retested. Remove concrete not meeting strength criteria and provide new, acceptable concrete at no additional cost to the State. Repair core holes with nonshrink grout. Match color and finish of adjacent concrete.

D. **Testing:** All sampling and testing shall be performed by an independent testing agency and all test results submitted to the Engineer for approval. All cost of sampling and testing shall be borne by the contractor.

END OF SECTION

Concrete
03300-6
PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This section covers the requirements for furnishing and installing metal fabrications which are not part of structural steel or other metal systems.

1.2 RELATED SECTION

A. Section 09900 - Painting: Shop priming, field touch-up and finishing.

1.3 REFERENCES

A. American Institute of Steel Construction (AISC):


B. American National Standards Institute (ANSI):

B18.2.1-81 Square and Hex Bolts and Screws Inch Series Including Hex Cap Screws and Lag Screws.

B18.2.2-72 Square and Hex Nuts.

B18.5-78 Round Headed Bolts.

C. American Society for Testing and Materials (ASTM):

A 36-84a Structural Steel.

A 53-84a Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.

A 120-82 Pipe, Steel, Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless, for Ordinary Uses.
A 123-84  Zinc (Hot-Galvanized) Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars, and Strip.

A 143-74 (84)  Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement.

A 153-82  Zinc Coating (Hot Dip) on Iron and Steel Hardware.


A 325-86a  High-Strength Bolts for Structural Steel Joints.

A 500-84  Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

A 501-84  Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.

A 687-84  Steel Bolts and Studs.

A 780-80  Repair of Damaged Hot-Dip Galvanized Coatings.

D. American Welding Society (AWS):

B 3.0-77  Welding Procedure and Performance Qualification.

D 1.1-86  Structural Welding Code, Steel.

E. Federal Specification (FS):

FF-S-85C & AM-1  Screws, Cap, Slotted and Hexagon Head.

F. Occupational Safety and Health Standards, State of Hawaii (OSHS):

Chapter 126  Welding, Cutting and Brazing.

1.4 QUALITY ASSURANCE

A. Qualification of Welding Work: AWS B 3.0, for welding processes and welding operations.
B. Codes and Standards: Comply with codes, specifications, and standards, referred to in this specification, except where provisions in this specification or drawings exceed such requirements.

1.5 SUBMITTALS

A. Shop Drawings: Shop drawings for each fabricated item showing fabrication, assembly and erection details, sizes of members, fastening, supports, anchors, clearances, and necessary connections to work of other trades.

B. Product Data: Manufacturer's product data showing references to industry standards for expansion anchor bolts.

1.6 PRODUCT HANDLING

A. Transport and store material with adequate protection against damage. Store items in an enclosed area free from contact with soil and weather.

B. Remove and replace damaged items with new items.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Rolled Steel Shapes, Plates and Bars: ASTM A 36, unless otherwise indicated.

B. Structural Tubing: ASTM A 500, Grade B or ASTM A 501, unless otherwise indicated.

C. Steel Pipes: ASTM A 53, Type E or S, Grade B. Minimum standard weight class, or ASTM A 120 Schedule 40 (standard weight), unless otherwise indicated.

D. Fittings for Steel Pipe: Standard malleable iron fittings, unless otherwise indicated.

E. Steel Rods and Anchor Bolts: ASTM A 36 or ASTM A 307 Grade A, unless otherwise indicated.

F. Bolts and Nuts: ASTM A 325, unless otherwise indicated.

G. Welding Electrodes: AWS D1.1, E 70 Series Electrodes, unless otherwise indicated.

H. Galvanizing Repair Material: ASTM A 780, zinc based alloys, zinc rich paint or zinc for spraying.

I. Steel and Iron: AISC "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings"; if not specified otherwise, use standard mill finished structural steel shapes or bar iron.
J. Anchors and Fasteners: Where exposed, shall be of same material, color, and finish as metal to which applied. Provide zinc-coated or stainless steel fasteners for exterior use and where built into exterior walls. Select fasteners for type, grade, and class best suited for purpose.

2. Toggle Bolts: ANSI B18.2.1 and ANSI B18.5.

K. Metal Surface, General: For fabrication of work of this Section which will be exposed to view, use only those materials which are smooth and free from surface blemishes including pitting, seam marks, roller marks, rolled trade names, and roughness.

2.2 FABRICATION

A. Shop Fabrication: Fabricate and assemble items in shop to greatest extent possible by mechanics skilled in trade and in accordance with manufacturer's directions. Form metalwork to shape and size, with sharp lines, angles, and true curves. Fabricate work to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean.

B. Metal Surfaces: Shall be clean and free from mill scale, flake rust and rust pitting; well formed and finished to shape and size, with sharp lines, angles, and smooth surfaces. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Use welds and flush rivets and finish flush and smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

C. Construction: Thickness of metal and details of assembly and supports shall give strength and stiffness for minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

D. Fastening: Provide necessary rabbets, lugs, and brackets so that work can be assembled in a neat and substantial manner. Drill holes for bolts and screws. Form joints exposed to weather to exclude water. Conceal fastening where possible.

E. Welding: AWS D1.1 for welding of steel. Weld to prevent permanent distortion of connected parts. Weld continuously along entire area of contact (except where tack welding is permitted. Do not tack weld exposed connections). Grind smooth visible welds in finished installation and clean welds immediately by chipping or wire brushing. Comply with OSHS, Chapter 126.
2.3 TREATMENT

A. Ferrous Metal Surfaces:

1. General: Metal fabrications made of ferrous metals shall be galvanized except items embedded in concrete and unless otherwise indicated.

B. Galvanizing:

1. Surface Preparation:
   a. Prepare surfaces as required by initial surface condition.
   b. Pre-clean steelwork utilizing an alkaline cleaner, acid pickle and flux.

2. Coating Application:
   a. ASTM A 123, galvanize steel members, fabrications, and assemblies after fabrication where practicable by the hot dip process.
   b. ASTM A 153, galvanize bolts, nuts and washers and iron and steel hardware components.
   c. ASTM A 143, safeguard products against steel embrittlement.

3. Coating Weight:
   a. ASTM A 123, paragraph 5.1 of ASTM A 123 or ASTM A 153, Table 1 as appropriate.

4. Surface Finish: Continuous, adherent, as smooth and evenly distributed as possible and free from any defect detrimental to stated end use of coated article.

5. Adhesion: Withstand normal handling consistent with nature and thickness of coating and normal use of article.

6. Treatment: Do not treat freshly galvanized or passivated surfaces with oils, grease, or chemicals which might interfere with adhesion of subsequent paint primers and coatings.

7. Galvanizing Repair: ASTM A 780, whenever damage exceeds 3/16 inch in width, repair galvanized items damaged by welding cutting or by excessively rough handling during shipping or installation. Do not heat surfaces that repair paint has been applied to.
2.4 ANCHORAGE, FASTENINGS, AND CONNECTIONS

A. Anchorage: Provide anchorage for fastening work securely in place. Set anchors in concrete as the work progresses and space maximum 2 feet on centers, unless indicated otherwise. Sizes, kinds, and spacings of anchors not indicated or specified shall be as necessary for purpose, as approved. Anchorage not otherwise specified or indicated includes slotted inserts, expansion shields, and powder-driven fasteners, when approved for concrete; toggle bolts and through bolts for masonry; machine and carriage bolts for steel; through bolts, lag bolts, and screws for wood. Provide inserts of suitable and approved types where required for support or anchorage of equipment and finish construction. Inserts shall be gray or malleable iron castings or galvanized steel unless indicated or specified otherwise. Slotted inserts shall be of types required to engage with anchors, except where specified otherwise, anchors and anchor bolts in exterior walls shall be zinc-coated and all other anchors and anchor bolts shall be as a minimum heavily coated with bituminous paint.

B. Fastenings: Do not use wood plugs in any material. Use non-ferrous attachments for non-ferrous metal. Make exposed fastenings of compatible materials, generally matching in color and finish, and harmonizing with material to which fastenings are applied. Conceal fastenings where practicable. Drill and punch to produce clean true lines and surfaces. Countersink metalwork to receive hardware.

C. Threaded Connections: Make threaded connections up tight so that threads are entirely concealed. Make bolted work up tight and nick threads or bush stem to prevent loosening. Shoulder and head, dowel and pin abutting bars. Pass small bars through larger bars and pin. Rivet, bolt, and screw heads shall be flat and countersunk in exposed work and elsewhere as required. Machine removable members and fit and secure by screws or bolts of proper size and approved spacing.

D. Anchors and Connecting Members: Provide in concrete or masonry as work progresses, to avoid unnecessary cutting and drilling. Cut, fit, and drill as necessary so materials are properly set in place and to permit engaging work to be properly installed.

E. Design Connections: Where not shown or indicated, connection details shall be in accordance with AISC M011 and connections shall be provided using common steel bolts. Provide necessary holes for securing work to building. Use lock washers under nuts.

F. Built-In Work: Metal work built-in with concrete or masonry shall be formed for anchorage, or be provided with suitable anchoring devices as shown or as required. Furnish metal work in ample time for securing in place as work progresses.

G. Grouting: Grout metal fabrications and anchors to assure filling of spaces and intimate contact of grouting materials with surface to be grouted. Place grout rapidly and continuously so as to avoid cold joints and voids.
2.5 TEMPLATES

A. Furnish templates, other devices and instructions necessary for the setting of anchors and anchor bolts where required to accurate locations.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine areas and conditions under which metal fabrications are to be installed. Should any condition be found unsuitable, no work shall be done until unsuitable conditions have been corrected and are acceptable to Contractor. Proceeding with work will imply acceptance of the conditions by Contractor.

3.2 PREPARATION

A. Field Verification: Verify measurements in field, as required, for work fabricated to fit job conditions. Examine adjoining work on which metal fabrication work is in any way dependent on for workmanship or fit. Provide corrective work as may be necessary.

B. Coordination: Coordinate placement of anchorage in concrete or masonry construction with other trades.

3.3 INSTALLATION

A. General: Install plumb, square, straight, rigid, and true; accurately fit with tight joints and intersections. Brace work adequately, reinforce, and anchor in place.

B. Isolation of Metals: Where dissimilar metals are in contact with one another, or with concrete, separate for prevention of corrosion by approved methods and/or materials.

C. Support and Anchors: Provide supporting members, fastenings, framing, hangers, bracing, brackets, straps, bolts, angles and similar items required to set or connect miscellaneous metal items including suitable anchors, expansion shields and similar items for attachment to structure. Install expansion anchor bolts as recommended by manufacturer.

D. False Work: Provide guys, braces and false work for temporary support of parts of the work and remove when work is self-supporting.

3.4 FIELD TOUCH UP

A. Provide field touch up on galvanized metals not embedded in concrete or masonry as specified under item "Galvanizing Repair."

B. Provide field touch up on ungalvanized metals not embedded in concrete or masonry as specified under Section 09900-Painting.
C. After erection, prime bolts, anchors, field welds and abrasions with same primer as used for metal work.

END OF SECTION
SECTION 09900
PAINTING

PART I - GENERAL

1.1 GENERAL REQUIREMENTS

This section covers the requirements for furnishing and installing of paints for aboveground exposed steel junction boxes.

1.2 RELATED DOCUMENTS

The General Provisions of the Contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.3 SUBMITTALS

A. Schedule of Finishes

1. 4 sets of proposed painting finish schedules shall be submitted to the Engineer for approval.

B. Color Samples

1. 3 sets of each color Finish sample shall be submitted to the Engineer for approval.

2. After the color finish sample has been approved, one set of color finish samples painted onto 8-1/2"x 11" cardboard shall be submitted to the Engineer. The cardboard shall be divided into 4 horizontal strips and painted as follows:
   a. Prime 3 strips starting from the bottom.
   b. 1st coat bottom 2 strips.
   c. 2nd coat bottom strip.

C. Schedule of Operations

1. Before work on the project is commenced, 4 complete sets of a work schedule showing his sequence of operations and dates shall be submitted by the Contractor to the Engineer.

D. Guarantee

1. 3 copies of a written guarantee shall be submitted to the Engineer.
1.2 ANALYZING AND TESTING

All paints shall be subject to laboratory tests whenever the Engineer deems necessary to determine conformation to the requirements of these specifications. Cost of testing will be borne by the State. All rejected materials shall be removed from the job site immediately. Surfaces painted with rejected material shall be redone at no additional cost to the State.

1.4 GUARANTEE

A. The Contractor shall guarantee that the work performed under this section conforms to the contract requirements and is free of any defect of material or workmanship performed by the Contractor. Such guarantee shall continue for a period of 2 years from the date of project acceptance during which period the Contractor shall remedy at his own expense any such failure to conform or any such defect.

B. The State shall notify the Contractor in writing within a reasonable time after discovery of any failure or defect.

C. Should the Contractor fail to remedy any failure or defect described in Paragraph A above within 10 working days after receipt of notice thereof, the State shall have the right to repair or otherwise remedy such failure or damage at the Contractor's expense.

1.5 SPECIAL REQUIREMENTS

A. Codes

1. The Contractor shall comply with the State OSHL (Occupational Safety and Health Law) and all pollution control regulations of the State Department of Health.

2. Any violations of the above regulations or codes shall be dealt with as mentioned in the Special Provisions Section and the Environmental Protection Section of these specifications.

B. Protection

1. Persons

a. The Contractor shall take all necessary precautions to protect public pedestrians including tenants from injury.

b. The Contractor shall provide, erect and maintain safety barricades around scaffolds, hoists and wherever Contractor's operations create hazardous conditions in order to properly protect the public and tenants.

2. Completed Work: The Contractor shall provide all necessary protection for wet paint surfaces.
3. Protective Covering: The Contractor shall provide and install protective covering over furniture, equipment, floor and other areas that are not scheduled for treatment. Protective covering shall be clean sanitary drop cloth or plastic sheets. Paint applied to surfaces not scheduled for treatment shall be completely removed and surfaces shall be returned to original condition.

4. Safeguarding of Property: The Contractor shall take whatever steps may be necessary to safeguard his work and also the property of the State and other individuals in the vicinity of his work area during the execution of this Contract. He shall be responsible for and make good on any and all damages and for losses to work or property caused by his or his employee's negligence. Also see "Protection of Property" in the Special Provision Section.

5. Fire Safety: The Contractor shall direct his employees not to smoke in the vicinity and exercise precautions against fire at all times. Waste rags, plastic (polyester sheets), empty cans, etc. shall be removed from the site at the end of each day.

C. Storage Area for Materials: No paint material, empty cans and paint brushes and rollers may be stored in buildings, but shall be stored in separate storage facilities away from the buildings.

The Contractor may furnish a job site storage facility. Such facility shall comply with requirements of the local Fire Department. The storage area shall be kept clean and facility shall be locked when not in use or when no visual supervision is possible.

D. Right of Rejection: The Engineer shall have the right to reject all work which is not in compliance with the plans and specifications. Rejected work will be redone at no additional cost to the State.

E. Sequence of Operations: The sequence of operations shall divide the surfaces into work areas and present a schedule for:

1. Surface preparation and spot prime.
2. Prime coat.
3. First finish coat.
4. Second finish coat.

F. Inspection and Approvals: The Contractor shall obtain written approval from the Engineer upon completion of each phase of work (phases of work are: surface preparation and spot prime, prime, first finish coat, second finish coat) before proceeding into the next phase work. The Contractor shall give the Engineer one day (24 hours minimum) advance notice of completion of any phase of work for a area only when he deviates from the previously-submitted work schedule. The Contractor shall provide necessary access to areas to be inspected.
Failure to obtain approval of any phase of work for a work area may result in redoing the operation at no cost to the State.

PART 2 - PRODUCTS

2.1 PROHIBITION OF HAZARDOUS MATERIALS

A. Lead Content: Do not use coatings having a lead content over 0.06 percent by weight of nonvolatile content.

B. Chromate Content: Do not use coatings containing zinc-chromate or strontium-chromate.

2.2 PAINTS

A. Materials shall be equal in quality to that specified under the Schedule of Finishes and any given finish shall be as labeled by one manufacturer.

B. All materials shall be delivered to the job site in undamaged original containers bearing the manufacturer's label and shall be stored in such a manner as to prevent damage. All rejected materials shall be removed from the job site immediately.

C. Fuller O'Brien paint is indicated for standard of quality and color, only. Comparable high quality top line paints manufactured by Devoe, Benjamin Moore, Sinclair, Spectra-Tone or approved equal.

D. Thinning of paint shall be done using material recommended by the manufacturer. Mix proprietary products according to manufacturer's printed specifications. Compound thinnet, mineral oil, kerosene, refined linseed oil, or gasoline shall not be used for thinning.

E. Except for metal primers, all paint shall contain mildewcide equal in strength to 2 oz. of Super Ad-It per gallon of paint pre-mixed by supplier.

F. The supplier shall submit a signed certification that the paint materials contains mildewcide equal in strength to 2 oz. of Super Ad It.

2.3 SCHEDULE OF FINISHES

A. The Schedule of finishes is made for the convenience of the Contractor and indicates the types and quality of finished to be applied to the surfaces.

B. Any surface not specifically noted in the finish schedule shall be finished to match adjoining work.

2.4 SCHEDULE - EXTERIOR SURFACES

A. Steel - Galvanized (Fuller O'Brien Specifications)
1. Pretreatment - 321-60 Vinyl wash primer
2. First Coat - 221-12 Zinc rich primer
3. Second Coat - 312-XX Heavy duty enamel
4. Third Coat - 312-XX Heavy duty enamel

B. Color of paints shall be as approved by the Engineer.

PART 3 - EXECUTION

3.1 PREPARATION OF SURFACES

A. Ferrous Metal and Galvanized Metal:
   1. Remove from surface to be painted all foreign matter such as tape, gum, and burrs.
   2. Remove all rust to bare metal. Remove all loose, blistered, scaled, crazed, chalky finish to a tight and firm finish.

3.2 PAINT APPLICATION

A. General
   1. All work shall be done in a workmanlike manner by skilled and experienced mechanics and shall conform to the best painting practices.
   2. All materials shall be applied in accordance with the manufacturer's specifications and the finished surfaces shall be free from runs, sags, drops, ridges, waves, laps, streaks, brush marks and variations in color, texture and finish (glossy or dull). The coverage shall be complete and each coat shall be so applied as to produce a film of uniform thickness. No paint, varnish or enamel shall be applied until the preceding coat is thoroughly dry and approved.
   3. No exterior painting of unprotected surfaces shall be done in rainy, damp weather. Coats shall be applied only to surfaces that are thoroughly dry.

B. Application: Shall be by brush or roller only. Airless spraying may be permitted, but only with the approval of the Engineer for otherwise inaccessible areas.

C. Colors: Each coat shall be tinted a different shade from the preceding coat. Colors shall be as selected by the Engineer.

D. All surfaces adjacent to areas being finished shall be protected and left clean of paints, stains, etc. Clean drop cloths shall be used until completion of job.

E. All mixing shall be done outside the building.
3.3 CLEAN-UP

A. During the progress of the work, all debris, empty crates, waste, drippings, etc. shall be removed by the Contractor and the grounds about the areas to be painted shall be left clean and orderly at the end of each work day.

B. Upon completion of the work, staging, scaffolding, containers and all other debris shall be removed from the site. All paint, shellac, oil, or stains splashed or spilled upon adjacent surfaces not requiring treatment (hardware, fixture, floor, glass) shall be removed and the entire job left clean and acceptable.

END OF SECTION
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
FOR
COMMISSION ON WATER RESOURCE MANAGEMENT
JOB NO. G55CM18B

WAIHEE DEEP MONITOR WELL
WAIHEE, MAUI, HAWAII
T.M.K.: (2) 3-2-1: 3 (PORTION)
ACT 41, SLH 2004, ITEM D-2.01

LOCATION MAP
SCALE: 1"=600'

NOTES
1. LOCATION OF THE WELL IS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR ACCORDING TO THE EXACT TO SCALE LOCATION OF FIELD CONDITIONS, AS NO COST TO THE STATE.
2. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE PROPOSED WORK SITE AND MAKE NECESSARY APPEARANCES WITH PROPER AUTHORITIES. PRIOR TO PROCEEDING WITH THE CONSTRUCTION, ALL APPLICABLE STATE, COUNTY AND FEDERAL LAWS SHALL BE CONSIDERED.
3. IF REQUIRED, THE CONTRACTOR SHALL OBTAIN A WRITTEN PERMIT PRIOR TO CONSTRUCTION AND AS PER CONTRACT. A COPY OF THE PERMIT SHALL BE SUBMITTED TO THE ENGINEER.
4. THE CONTRACTOR SHALL GIVE NOTICE TO THE ORIGINAL CONSTRUCTION ALL APPLICABLE ORGANIZATIONS AS A RESULT OF THE CONSTRUCTION AS COST TO THE STATE.
5. NO WORK SHALL BE DONE ON SATURDAYS, SUNDAYS, LOCAL STATE HOLIDAYS AND/OR IN EXCESS OF EIGHT HOURS EACH DAY WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.
6. PRIOR TO WORK COMMENCEMENT ON SITE AND DRILLING THE WELL, THE CONTRACTOR IS TO PROVIDE THE LOCATION, METHOD OF DRILLING AND ELEVATION OF THE WELL. UPON MOW COMPLETION, A BOUNDARY SURVEY PLAN, WHERE APPROPRIATE, IS TO BE SUBMITTED TO THE RESPECTIVE LEVEL COORDINATOR, WITH THE LOCATION AND ELEVATION OF THE BUOYED PLANE AND TOP OF CASING SHALL BE SUBMITTED.
7. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ABOVE GROUND AND UNDERGROUND UTILITIES AND ENSURE THAT THEY ARE NOT MISHANDLED DURING THE CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES IN THE PROJECT AREA.
8. THE CONTRACTOR SHALL PERFORM PLUMBING TESTS AND VERIFICATION OF THE CASING FROM MOUTH TO CAP AND ENSURE THAT THE CASING IS AT LEAST 8 INCHES PPI AND HAS ACCEPTABLE PRESSURE TESTS. THIS IS TO BE COMPLETED, IN A MAN MANNER THAT SATISFIES THE REQUIREMENTS OF THE RESPECTIVE LOCAL GOVERNMENT.
9. COMPRESSION STRENGTH OF CONCRETE, F.S. SHALL BE 2500 PSI.

TOPOGRAPHIC SURVEY NOTES
1. UNDERGROUND UTILITIES AND/OR STRUCTURES, IF SHOWN, ARE PROVIDED FOR INFORMATION ONLY AND ARE BASED ON INFORMATION SHOWN ON PLANS/MAPS PREPARED BY OTHERS. THE INFORMATION SHOWN, THEREFORE, MAY BE OF ANY FOR USE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE OF ANY UTILITIES AND/OR STRUCTURES OR IF ANY NOT BE PRESENT AT THE LOCATIONS SHOWN OR OTHER UNDERGROUND UTILITIES AND/OR STRUCTURES NOT SHOWN MAY BE PRESENT.
2. UNLESS OTHERWISE NOTED, ALL LOCATIONS OF UNDERGROUND UTILITIES AND/OR STRUCTURES ARE APPROXIMATE. NO GUARANTEES TO BE MENTIONED OF THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR IS RESPONSIBLE TO VERIFY THE INFORMATION AS NEEDED DURING CONSTRUCTION.
3. FIELD LOCATIONS OF BOUNDARY AND HIGHWAY MONUMENTS ARE NOT CONSISTENT WITH RECORDED INFORMATION. THIS PROJECT IS ABOUT 2 FEET AFTHER CONSTRUCTION IS COMPLETE. THE EXACT COORDINATE POINTS OF BEGINNING MAY BE AFFECTED.

BENCHMARKS:
REferred TO "WAIKANA 1", A BRASS DISK ON THE HYDRAULIC PAD STAMPED WAIKANA, ELEVATION=306.27.

INDEX OF DRAWINGS

<table>
<thead>
<tr>
<th>SHEET</th>
<th>DWG. NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F-1</td>
<td>WELL SHEET</td>
</tr>
<tr>
<td>2</td>
<td>C-1</td>
<td>SITE AND ORIGIN PLAN AND GRADING SECTIONS</td>
</tr>
<tr>
<td>3</td>
<td>C-2</td>
<td>WELL SURVEY PLAN, SECTIONS AND DETAILS</td>
</tr>
<tr>
<td>4</td>
<td>C-3</td>
<td>CHAIN-LINK FENCE SECTIONS AND DETAILS</td>
</tr>
</tbody>
</table>

APPROVED:

T. IRWIN, P.E.
Chief Engineer
DEPARTMENT OF LAND AND NATURAL RESOURCES
DEEP MONITOR WELL SLAB PLAN

SCALE: 1/2" = 1'-0"

NOTE: Finish slab elevation.

See site and grading plan on Dwg. C-1.

SECTION THRU WELL

SCALE: 1/2" = 1'-0"

NOTE: Depths and elevations shown are approximate. Actual depth to be determined in the field by the contractor.

WELL HEAD DETAILS

SCALE: 1/2" = 1'-0"

ELEVATION

NOTE: Depths and elevations shown are approximate. Actual depth to be determined in the field by the contractor.

SECTION THRU WELL

SCALE: 1/2" = 1'-0"

NOTE: Depths and elevations shown are approximate. Actual depth to be determined in the field by the contractor.

WELL SLAB PLAN, SECTIONS AND DETAILS

SHEET NO. 3 OF 4 SHEETS

JOB NO. G5'-214748

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

WAIHEE DEEP MONITOR WELL

WAIHEE, HAWAII
**CONSTRUCTION NOTES**

1. **FABRIC**
   - 9'-0" WALL (NEW) COPPER BEARING STEEL WIRE WORKED INTO A 2'-6" MESH.
   - Net-Out Galvanized After Fabrication. Fabric Height Shall Be 4 Feet Standard.
   - Fitted and Barred Sealing, Top and Bottom.

2. **POSTS**
   - 5'-0" WALL: 2-INCH PIPE, 9-GAUGE STEEL.
   - 6'-6" WALL: 2-INCH PIPE, 9-GAUGE STEEL.
   - All Fences Shall Be Hinged in Concrete Footing. Concrete Shall Be 2'-6" Wide.

3. **BRACES**
   - SET POSTS: 4-INCH PIPE, 9-GAUGE STEEL
   - FENCE OR CEMENT.

4. **WIRE**
   - 9-GAUGE GALVANIZED WIRE.
   - FABRIC HEIGHT SHALL BE 4 FEET STANDARD.
   - POSTS: 4-INCH PIPE, 9-GAUGE STEEL.

5. **THE CORNER POSTS SHALL BE 2'-6" MESH, WELDED LONG, WELDED IN CONCRETE FOOTING, AS SHOWN ON THE DRAWING.**
   - TOP OF ALL FOOTINGS SHALL BE BONDED WITH GALVANIZED STEEL, NOT TO SCALE.

6. **TENSION BAND**
   - 2-6" STEEL, TIES AT 12" O.C.
   - CONCRETE FOOTING: 2'-6" MESH.

7. **CHAIN LINK FENCE DETAILS**
   - Steel Plate Catch: 3'-6" Wide, Welded to Gate Frame.
   - Gate Frame: Steel Plate Catch: 3'-6" Wide, Welded to Gate Frame.
State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
for
COMMISSION ON WATER RESOURCE MANAGEMENT
Honolulu, Hawaii

BOARD OF LAND AND NATURAL RESOURCES

Peter T. Young
Chairperson

CONTRACT SPECIFICATIONS AND PLANS

Job No. G55CM18B
Waihee Deep Monitor Well
Waihee, Maui, Hawaii

Civil Engineer: SEY Engineers

April 2006
State of Hawaii  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION  
for  
COMMISSION ON WATER RESOURCE MANAGEMENT  
Honolulu, Hawaii  

CONTRACT SPECIFICATIONS AND PLANS  

Job No. G55CM18B  
Waihee Deep Monitor Well  
Waihee, Maui, Hawaii  

Approved:  
Dean A. Nakano  
Acting Deputy Director  
Commission on Water Resource Management  

Approved:  
ERIC T. HIRANO, P.E.  
Chief Engineer  
Engineering Division  

April 2006
CONTENTS

NOTICE TO BIDDERS ........................................................................................................ iii

INFORMATION AND INSTRUCTIONS TO BIDDERS ............................................... I-1

PROPOSAL ......................................................................................................................... P-1

SPECIAL PROVISIONS ..................................................................................................... SP-1

DETAILED SPECIFICATIONS ......................................................................................... S-1

PLANS (Bound Separately)

DEPARTMENT OF LAND AND NATURAL RESOURCES
INTERIM GENERAL CONDITIONS, DATED OCTOBER 1994
(Included on project CD, or bound separately)
NOTICE TO BIDDERS
(Chapter 103D, HRS)

SEALED BIDS for Job No. G55CM18B, Waihee Deep Monitor Well, Waihee, Maui, Hawaii will be received at the Engineering Division office, 2nd floor, Kalanimoku Building, Room 221, 1151 Punchbowl Street, Honolulu, and at the Maui Engineering Division office, 130 Mahalani St., Wailuku, Maui up to 2:00 pm, May 18, 2006, at which time & place(s) they will be opened and read publicly. The bidder shall be responsible for the prompt delivery of the proposal.

The Department of Land and Natural Resources Interim General Conditions dated October 1994, as amended, shall be made a part of the specifications.

Plans and specifications may be examined and obtained at the aforesaid place(s).

The project is located at Waihee, Maui, Hawaii.

The work shall generally consist of drilling of monitor well and all necessary appurtenances

The estimated cost of construction is $334,000.

All interested parties are invited to attend a State conducted site visit. The site visit will be held at the project site on May 10, 2006 at 9:30 a.m.

Due to the nature of work contemplated, bidders must possess a valid State Contractor’s license, classification C-57.

The job is subject to preference for Hawaii Products established by Section 103D, Hawaii Revised Statutes. The Hawaii Product List may be examined at the State Procurement Office.

The award of the contract, if it be awarded, will be subject to the availability of funds.

Should there be any questions, please call (808) 587-0230.

[Signature]
PETER T. YOUNG, Chairperson
Department of Land and Natural Resources

PNS: APR 25 2006
# INFORMATION AND INSTRUCTIONS TO BIDDERS

## CONTENTS

<table>
<thead>
<tr>
<th>Page</th>
<th>A</th>
<th>Project Location and Scope of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-2</td>
<td>B</td>
<td>Sealed Proposals</td>
</tr>
<tr>
<td>I-2</td>
<td>C</td>
<td>General Conditions</td>
</tr>
<tr>
<td>I-2</td>
<td>D</td>
<td>Proposal Form</td>
</tr>
<tr>
<td>I-2</td>
<td>E</td>
<td>Omissions or Erasures</td>
</tr>
<tr>
<td>I-2</td>
<td>F</td>
<td>Notice Of Intent To Bid And Questionnaire</td>
</tr>
<tr>
<td>I-2</td>
<td>G</td>
<td>Bid Security</td>
</tr>
<tr>
<td>I-3</td>
<td>H</td>
<td>Contractor’s License Required</td>
</tr>
<tr>
<td>I-3</td>
<td>I</td>
<td>Irregular Bids</td>
</tr>
<tr>
<td>I-3</td>
<td>J</td>
<td>Withdrawal of Bids</td>
</tr>
<tr>
<td>I-3</td>
<td>K</td>
<td>Successful Bidder to File Performance and Payment Bonds</td>
</tr>
<tr>
<td>I-3</td>
<td>L</td>
<td>Number of Executed Original Counterparts of Contract Documents</td>
</tr>
<tr>
<td>I-3</td>
<td>M</td>
<td>Change Orders</td>
</tr>
<tr>
<td>I-3</td>
<td>N</td>
<td>Wages and Hours</td>
</tr>
<tr>
<td>I-4</td>
<td>O</td>
<td>Permits</td>
</tr>
<tr>
<td>I-4</td>
<td>P</td>
<td>Property Damage</td>
</tr>
<tr>
<td>I-4</td>
<td>Q</td>
<td>Time</td>
</tr>
<tr>
<td>I-4</td>
<td>R</td>
<td>Bidder's Responsibility to Provide Proper Superintendence</td>
</tr>
<tr>
<td>I-5</td>
<td>S</td>
<td>Liquidated Damages</td>
</tr>
<tr>
<td>I-5</td>
<td>T</td>
<td>Hiring of Local Labor</td>
</tr>
<tr>
<td>I-5</td>
<td>U</td>
<td>Water and Electricity</td>
</tr>
<tr>
<td>I-5</td>
<td>V</td>
<td>Public Convenience and Safety</td>
</tr>
<tr>
<td>I-5</td>
<td>W</td>
<td>Work to be Done Without Direct Payment</td>
</tr>
<tr>
<td>I-5</td>
<td>X</td>
<td>As-Built Drawings</td>
</tr>
<tr>
<td>I-5</td>
<td>Y</td>
<td>Asbestos Containing Materials</td>
</tr>
<tr>
<td>I-5</td>
<td>Z</td>
<td>Worker Safety</td>
</tr>
<tr>
<td>I-5</td>
<td>AA</td>
<td>Toilet Facilities</td>
</tr>
<tr>
<td>I-6</td>
<td>BB</td>
<td>Signs</td>
</tr>
<tr>
<td>I-6</td>
<td>CC</td>
<td>Field Office for Department</td>
</tr>
<tr>
<td>I-6</td>
<td>DD</td>
<td>Quantities</td>
</tr>
<tr>
<td>I-6</td>
<td>EE</td>
<td>Other Health Measures</td>
</tr>
<tr>
<td>I-6</td>
<td>FF</td>
<td>Successful Bidder to Enter into Rights-of-Entry Permits</td>
</tr>
<tr>
<td>I-6</td>
<td>GG</td>
<td>Hawaii Business Requirement</td>
</tr>
<tr>
<td>I-7</td>
<td>HH</td>
<td>Compliance With §3-122-112 HAR</td>
</tr>
</tbody>
</table>
INFORMATION AND INSTRUCTIONS TO BIDDERS

A. PROJECT LOCATION AND SCOPE OF WORK: The project is located at the County of Maui, Department of Water Supply North Waiehe 1 Million Gallon Reservoir, which is off Kahekili Highway approximately 0.6 miles west of the Highway. The work shall generally consist of drilling and installing a deep monitor well in Waiehe. The upper portion of the well shall consist of a 14-inch drill hole and shall be cased with 8-inch casing to a depth of approximately 10 feet below mean sea level. Groundwater is estimated at approximately 390 feet below ground surface (bgs). The uncased portion of the well shall be a 7.5-inch open hole and shall extend approximately 500 feet below the casing. Total well depth is estimated at 906 feet bgs. The actual depth of well shall be determined in the field by the Engineer.

B. SEALED PROPOSALS: Bidders shall submit their “Sealed Bid”, including the completed proposal form, bid bond, and any other documents required by the solicitation as part of their bid in a sealed 9” x 12” envelope, labeled with the name of the bidder and marked “Proposal for” followed by the DLNR Job No. and Project Title, as their bid offer.

C. GENERAL CONDITIONS: The Department of Land and Natural Resources Interim General Conditions dated October 1994, as amended, shall be made a part of these contract specifications and is referred to hereafter as the General Conditions.

D. PROPOSAL FORM: The Bidders shall print a hard copy of the proposal form from the electronic file on the project bid package compact disk, unless a hard copy proposal form is included.

E. OMISSIONS OR ERASURES: Any proposal which contains any omission or erasure or alteration not properly initialed, or conditional bid, or other irregularity may be rejected by the Board of Land and Natural Resources (Board).

F. NOTICE OF INTENT TO BID AND QUESTIONNAIRE: A Notice of Intent to Bid is not required for this project. In compliance with HRS Section 1030-310, the lowest responsive and responsible bidder may be required to complete a standard questionnaire. When required, the completed questionnaire shall be submitted to the Chief Engineer for evaluation. Failure to furnish the requested information within the time allowed may be grounds for a determination of non-responsibility, in accordance with HRS Section 1030-310 and HAR Section 3-122-108.

G. BID SECURITY: A bid security will be furnished by each bidder as provided in sub-section 2.7 of the General Conditions. The successful bidder’s bid security will be retained until Contract execution and furnished a performance and payment bond in an amount equal to one hundred percent (100%) of the total Contract price, including an amount estimated to be required for extra work, is furnished.

The Board reserves the right to hold the bid securities of the two lowest bidders until the successful bidder has entered into a contract and has furnished the required performance bond. All bid securities will be returned after bid opening and checking of the proposals are checked in accordance with sub-section 3.5 of the General Conditions.
Should the successful bidder fail to enter into a contract and furnish a satisfactory performance bond within the time stated in the proposal, the bid security shall be forfeited as required by law.

H. CONTRACTOR'S LICENSE REQUIRED: The Board will reject all bids received from contractors who have not been licensed by the State Contractors License Board in accordance with Chapter 444, HRS; Title 16, Chapter 77, Hawaii Administrative Rules; and statutes amendatory thereto.

I. IRREGULAR BIDS: No irregular bids or propositions for doing the work will be considered by the Board.

J. WITHDRAWAL OF BIDS: No bidder may withdraw his bid between the time of the opening thereof and the award of contract.

K. SUCCESSFUL BIDDER TO FILE PERFORMANCE AND PAYMENT BONDS: The successful bidder will be required to file performance and payment bonds each; in the amount equal to the total contract price, including amounts estimated to be required for extra work, as provided in sub-section 3.6 of the General Conditions.

L. NUMBER OF EXECUTED ORIGINAL COUNTERPARTS OF CONTRACT DOCUMENTS: If requested by the Board, six copies of the Contract, performance and payment bonds shall be executed.

M. CHANGE ORDERS: No work of any kind in connection with the work covered by the plans and specifications shall be considered as change order work, or entitle the Contractor to extra compensation, except when the work has been ordered in writing by the Chief Engineer (Engineer) and in accordance with sub-section 4.2 of the General Conditions.

The Contractor shall clearly identify and inform the Engineer in writing of any deviations from the contract documents at the time of submission and shall obtain the Engineer's written approval to the specified deviation prior to proceeding with any work.

N. WAGES AND HOURS: In accordance with sub-sections 7.3 to 7.9 of the General Conditions relative to hours of labor, minimum wages and overtime pay, the current minimum wage rates promulgated by the Department of Labor and Industrial Relations (DLIR) shall be paid to the various classes of laborers and mechanics engaged in the performance of this contract on the job site. The minimum wages shall be increased during the performance of the contract in an amount equal to the increase in the prevailing wages for those kinds of work as periodically determined by the DLIR.

The Department of Land and Natural Resources will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the said minimum wage rates. The possibility of wage increase is one of the elements to be considered by the Contractor in determining his bid, and will not, under any circumstances, be considered as the basis of a claim against the Department under this Contract.
No work shall be done on Saturdays, Sundays, legal State holidays, and/or in excess of eight (8) hours each day without the written consent of the Engineer. Should permission be granted to work at such times, the Contractor shall pay for all inspection administrative costs thereof. No work shall be done at night unless authorized by the Engineer.

O. PERMITS: The State will process permit applications whenever possible, and the Contractor shall procure the pre-processed permits and pay the required fees. If permit applications are not processed by the State, the Contractor shall process the permit applications, permits and licenses, and pay all charges and fees. In all cases, the Contractor shall give all notices necessary and incident to the due and lawful prosecution of the work.

P. PROPERTY DAMAGE: It shall be the responsibility of the Contractor to respect State property and to prevent damage to existing improvements. The Contractor will be responsible for damages resulting from construction operations. Immediately upon discovery, the Contractor shall repair such damage to the satisfaction of the Engineer.

All trees and shrubbery outside the excavation, embankment or construction limits shall be fully protected from injury.

Q. TIME: The time of completion is specified in the Proposal. It is the Board’s intention to insist the Contractor diligently prosecute the work to completion within the specified time.

Prospective bidders are reminded that the State has the option to proceed with or abandon a project depending on whether the project can be completed for occupancy in the specified time.

It is the bidder’s responsibility to check the availability of all materials before bidding. The bidder shall select sub-contractors and suppliers who can warrant availability and delivery of all specified or qualified materials to assure project completion within the specified time.

The successful bidder must assume all risks for completing the project by the specified date. There shall be no extension of time for any reason except for delays caused by acts of God, labor disputes involving unions, or actions of the State. If for any reason the project falls behind schedule, the Contractor shall at its own cost, take necessary remedial measures to get the project back on schedule, i.e., working overtime, air freighting all materials, etc. In addition, if the Contractor fails to fully complete the project by the completion date, Contractor will be required to make the facility usable at its own cost.

R. BIDDER’S RESPONSIBILITY TO PROVIDE PROPER SUPERINTENDENCE: The successful low bidder shall designate in writing to the Engineer the name of its authorized superintendent (Superintendent), who will be present at the job site whenever any work is in progress. The Superintendent shall be responsible for all work, receiving and implementing instructions from the Engineer in a timely manner. The cost for superintendence shall be considered incidental to the project.

If the Superintendent is not present at the site of work, the Engineer shall have the right to suspend the work as described under sub-section 5.5 c. and 7.20 - Suspension of Work of the General Conditions.
S. **LIQUIDATED DAMAGES**: Liquidated damages in the amount specified in the Proposal will be assessed for each and every calendar day from and after the expiration of the time period stated in the Contract for the completion of the project.

T. **HIRING OF LOCAL LABOR**: The Contractor shall hire local labor whenever practicable.

U. **WATER AND ELECTRICITY**: The Contractor shall make all necessary arrangements and pay all expenses for water and electricity used in the construction of this project.

V. **PUBLIC CONVENIENCE AND SAFETY**: The Contractor shall conduct construction operations with due regard to the convenience and safety of the public at all times. No materials or equipment shall be stored where it will interfere with the safe passage of public traffic. The Contractor shall provide, install, and maintain in satisfactory condition, all necessary signs, flares and other protective facilities and shall take all necessary precautions for the protection of the work and the convenience and safety of the public. The Engineer shall have the right to suspend the performance of the work in accordance with sub-section 7.20 - Suspension of Work of the General Conditions.

W. **WORK TO BE DONE WITHOUT DIRECT PAYMENT**: Whenever the contract indicates that the Contractor is to perform work or furnish materials of any kind for which no price is fixed in the contract, it shall be understood that the Contractor shall perform such work or furnish said materials without extra charge or allowance or direct payment of any sort. The cost of performing such work or furnishing said material is to be included by the Contractor in a unit price for the appropriate item unless it is expressly specified that such work or material is to be paid for as extra work.

X. **AS-BUILT DRAWINGS**: As-built drawings, the intent of which is to record the actual in-place construction so that any future renovations or tie-ins can be anticipated accurately, shall be required. All authorizations given by the Engineer to deviate from the plans shall be drawn on the job site plans. All deviations from alignments, elevations, well sections, and dimensions which are stipulated on the plans shall be recorded on the as-built drawings.

Y. **ASBESTOS CONTAINING MATERIALS**: The use of asbestos containing materials or equipment is prohibited. The Contractor shall insure that all materials and equipment incorporated in the project are asbestos-free.

Z. **WORKER SAFETY**: The Contractor shall provide, install and maintain in satisfactory condition all necessary protective facilities and shall take all necessary precautions for the protection and safety of its workers in accordance with the Occupational Safety and Health Standards for the State of Hawaii. The Engineer shall have the right to suspend the performance of the work in accordance with sub-section 7.20 - Suspension of Work of the General Conditions.

AA. **TOILET FACILITIES**: All toilet facilities constructed at the project site shall be in accordance with the Public Health Regulations of the State Department of Health (DOH). All necessary precautions shall be observed at the project site. The use of sanitary facilities shall be strictly enforced and workers violating these provisions shall be promptly discharged.
BB. **SIGNS**: Whenever the project involves closing or obstructing any public thoroughfare, the Contractor shall provide traffic signs conforming to the applicable provisions of the current edition of the “Manual on Uniform Traffic Control Devices for Streets and Highways”, published by the Federal Highway Administration as directed by the Engineer for the purpose of diverting or warning traffic prior to the construction area. All traffic signs shall bear proper wording stating thereon the necessary information as to diverting or warning traffic.

The Contractor shall also provide a project sign, size 4'-0" x 7'-0" to be placed as directed by the Engineer. The sign shall be constructed in accordance with Section 01581 - Project Sign of these specifications and approved by the Engineer. All wording, type and size of lettering and color selection shall be as specified in these specifications or as approved by the Engineer.

All signs shall be kept neat and clean, and properly erected at all times.

CC. **FIELD OFFICE AREA FOR DEPARTMENT**: The Contractor shall provide a housed working area of at least 100 square feet adjacent to the Contractor's office for the Department's use. This area will be used by the Engineer to perform tests and to store equipment. As a minimum, the field office shall include the following: standard sized office desk and chair, lighting, ventilation, window-type air conditioning rated at 5,000 BTU, door and window with locking hardware, electrical outlets, and working communications facilities (a cellular telephone is acceptable). The Department will pay for all long distance toll charges made by the Engineer.

DD. **QUANTITIES**: All bids will be compared on the basis of quantities of work to be done as shown in the Proposal; the quantities shown in the Unit Price items are estimated, being given as a basis for comparison of bids. The Board reserves the right to increase or decrease the quantities given under the items or delete items entirely as may be required during the progress of the work.

EE. **OTHER HEALTH MEASURES**: Forms of work site exposure or conditions which may be detrimental to the health or welfare of workers or of the general public shall be eliminated or reduced to safe levels as required by the DOH codes, standards, and regulations. Suitable first aid kits and a person qualified to render first aid, as specified in the DOH regulations, shall be provided at all times when work is scheduled.

FF. **SUCCESSFUL BIDDER TO ENTER INTO RIGHTS-OF-ENTRY PERMITS**: The successful bidder will be required to enter into Rights-of-Entry Permits with the affected owners whose properties the proposed well site will be located 14 days prior to notice to proceed issuance.

GG. **HAWAII BUSINESS OR COMPLIANT NON-HAWAII BUSINESS REQUIREMENT**: Bidders (Contractors) shall be incorporated or organized under the laws of the State or be registered to do business in the State as a separate branch or division that is capable of fully performing under the contract, as stipulated in §3-122-112 HAR.
HH. COMPLIANCE WITH §3-122-112 HAR:

As a condition for award of the contract and as proof of compliance with the requirements of 103D-310(c) HRS, the apparent low bidder shall furnish the required documents to the Department. If the valid required certificates are not submitted on a timely basis for award of a contract, a bidder otherwise responsive and responsible may not receive the award. Bidder is responsible to apply for and submit the following documents to the Department.

1. TAX CLEARANCE REQUIREMENTS (HRS Chapter 237): Bidder shall obtain a tax clearance certificate from the Hawaii State Department of Taxation (DOTAX) and the Internal Revenue Service (IRS). The certificate is valid for six months from the most recently approved stamp date on the certificate; the certificate must be valid on the date received by the Department.

2. Department of Labor (DLIR) "Certificate Of Compliance". (HRS Chapter 383 - Unemployment Insurance, Chapter 386 - Workers’ Compensation, Chapter 392 - Temporary Disability Insurance, and 393 - Prepaid Health Care): Bidder shall obtain a certificate of compliance from the Hawaii State Department of Labor and Industrial relations (DLIR). The certificate is valid for six months from the date of issue; certificates must be valid on the date received by the Department.

3. Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG) "Certificate Of Good Standing". Bidder shall obtain a certificate of good standing issued by the Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG). The certificate of good standing is valid for six months from the date of issue; certificates must be valid on the date received by the Department.
PROPOSAL
FOR
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
for
COMMISSION ON WATER RESOURCE MANAGEMENT
State of Hawaii

JOB NO. G55CM18B
WAIHEE DEEP MONITOR WELL
Waihee, Maui, Hawaii

___________________, 20

Chief Engineer
Engineering Division
Department of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Dear Sir:

The undersigned, having carefully examined the local conditions and all available records and information covering conditions which may affect the cost of the work to be performed, and having carefully examined the Plans and Specifications, and other contract documents, hereby proposes to furnish and pay for all materials, tools, equipment, labor and other incidental work necessary to construct and install in place complete a deep monitor well and all appurtenances, as required or called for in this Proposal, all according to the true intent and meaning of the Notice to Bidders, Information and Instructions to Bidders, Proposal, Detailed Specifications, Interim General Conditions, Plans, and any and all addenda for:

JOB NO. G55CM18B
WAIHEE DEEP MONITOR WELL
Waihee, Maui, Hawaii

on file in the office of the Engineering Division for the TOTAL SUM BID (Items 1 to 17) of:

___________________ Dollars ($___________________)

and will fully complete all work under this contract within 180 consecutive calendar days from the date of written notice to proceed, including date of said order, said total sum being itemized on the following pages.
## PROPOSAL

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Quantity</th>
<th>Unit</th>
<th>Description</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1</td>
<td>LS</td>
<td>Mobilization (not to exceed $20,000)</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>1</td>
<td>LS</td>
<td>Demobilization (not to exceed $20,000)</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>406</td>
<td>LF</td>
<td>Drilling 14-inch diameter hole from the ground surface to the bottom of the cased section of well</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>500</td>
<td>LF</td>
<td>Drilling 7.5-inch diameter open hole below cased section of well</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>406</td>
<td>LF</td>
<td>Furnishing and installing 8-inch I.D., 5/16-inch wall thickness, steel well casing</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>406</td>
<td>LF</td>
<td>Furnishing and installing 2.375-inch O.D. steel monitor tube with flush joint head</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>1</td>
<td>LS</td>
<td>Furnishing, installing, and painting above-ground 8-inch I.D., 5/16-inch wall thickness, steel casing with lockable steel plate cap, in place complete</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>1</td>
<td>LS</td>
<td>Furnishing, installing and painting 18-inch I.D., 5/16-inch wall thickness, steel casing junction box with lockable steel plate cap, in place complete</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>30</td>
<td>LF</td>
<td>Rock packing the annular space, including concrete plug</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>376</td>
<td>LF</td>
<td>Cement-grouting the annular space, including grout seal</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>1</td>
<td>LS</td>
<td>6’ x 8’ x 4” reinforced concrete slab</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>50</td>
<td>LF</td>
<td>Placement of 6-foot high chain link fence with 3 strands barbed wire, in place complete.</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>1</td>
<td>EA</td>
<td>12’ wide drive gate</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>1</td>
<td>LS</td>
<td>Project Sign, in place compete</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>1</td>
<td>Allw</td>
<td>Field Office</td>
<td>$5,000.00</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>1</td>
<td>LS</td>
<td>Clearing and grubbing</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>1</td>
<td>LS</td>
<td>Grading as needed, and placement of polyethylene sheet and 4” ASTM No. 67 rock at site and access driveway with concrete header</td>
<td>$</td>
<td></td>
</tr>
</tbody>
</table>

**Total Sum Base Bid (Items 1-17)** $_________
HAWAII PRODUCTS PREFERENCE AND/OR USE OF HAWAII PRODUCTS

It is understood that certain Hawaii products as described in the schedule below are acceptable to be used in this work and that, pursuant to Sections 103D-1002, Hawaii Revised Statutes, which provides preference for Hawaii Products, the bidder proposing to use such Hawaii products must fill in the schedule below.

However, where there are a number of qualifying classes of Hawaii products of a given description, the bidder must indicate on the schedule which class will be furnished by circling the class of the particular Hawaii product that will be used. Otherwise, preference will be given based on the class with the lower percentage.

If the bidder proposes to use Hawaii products, the bidder must so designate in said schedule by entering the cost of such product in the appropriate space provided. Failure on the part of the bidder to designate the use of a Hawaii product will void any preference for that product.

SCHEDULE OF ACCEPTABLE HAWAII PRODUCTS AND DESIGNATION OF HAWAII PRODUCTS TO BE USED

<table>
<thead>
<tr>
<th>ACCEPTABLE HAWAII PRODUCTS</th>
<th>HAWAII PRODUCTS TO BE USED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Class</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>

The bidder agrees that preference for Hawaii products shall be taken into consideration to determine the low bidder in accordance to said Sections and rules promulgated; however, the award of contract will be in the amount of the bid offered exclusive of any preferences.

The bidder will be given the Hawaii Products Preference for bid evaluation purposes provided that the bidder has completed the required information in the Schedule of Acceptable Hawaii Products and Designation of Hawaii Products to be used. If a bidder has designated use of a Hawaii Product and fails to provide the product, the contract will become void and no payments will be made.
RECYCLED PRODUCTS PREFERENCE
This project allows a 10% price preference for recycled products in accordance with HRS 103D-1005. Bidders are required to complete this section. FAILURE TO COMPLETE THIS SECTION MAY BE SUFFICIENT CAUSE FOR REJECTION OF THE BID.

Only the following products are being considered for the recycled product preference. Please indicate your selection of recycled or non-recycled product by indicating its cost FOB jobsite unloaded in the schedule below, including applicable General Excise & Use Taxes.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>RECYCLED PRODUCT COST</th>
<th>NONRECYCLED PRODUCT COST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$__________</td>
<td>$__________</td>
</tr>
<tr>
<td></td>
<td>$__________</td>
<td>$__________</td>
</tr>
<tr>
<td></td>
<td>$__________</td>
<td>$__________</td>
</tr>
<tr>
<td></td>
<td>$__________</td>
<td>$__________</td>
</tr>
</tbody>
</table>

The bidder requesting a recycled product preference by his selection above, shall also complete and submit the form "CERTIFICATION OF RECYCLED CONTENT" as shown in the Interim General Conditions and provide all supporting information with this proposal. Additional information may be requested to qualify a product.

The following definitions are applicable to the CERTIFICATION OF RECYCLED CONTENT form:

"Post-consumer recovered material" means any product used by a consumer, including a business that purchases the material, that has served its intended end use, and that has been separated or diverted from the solid waste stream for the purpose of use, reuse, or recycling.

"Product" includes materials, manufactures, supplies, merchandise, goods, wares, and foodstuffs.

"Recovered material" means waste material and by-products that have been separated, diverted, or removed from the solid waste stream after a manufacturing process for the purpose of use, reuse, or recycling. Recovered material does not include those materials and by-products that are generated and normally reused on-site or within original manufacturing processes (such as mill broke, in the case of paper products).

"Recycled content" means the percentage of a product composed of recovered material, or post-consumer recovered material, or both.

"Recycled product" means a product containing recovered material, or post-consumer recovered material, or both.

The bidder agrees that preference for recycled products shall be taken into consideration to determine the low bidder in accordance with said Section and the rules promulgated, however, the award of contract will be in the amount of the bid offered exclusive any preference.
CONDITION OF AWARD

It is understood that the award of the contract will be made on the basis of the lowest responsible Total Bid (Items 1 to 17) selected by the Board of Land and Natural Resources.

It is understood and agreed that the Board of Land and Natural Resources reserves the right to reject any and/or all bids and waive any defects when, in the Board’s opinion, such rejection or waiver will be for the best interest of the State of Hawaii.

In the event all bids exceed available funds certified by the appropriate fiscal officer, the head of the purchasing agency responsible for the procurement in question is authorized in situations where time or economic considerations preclude resolicitation of work of a reduced scope to negotiate an adjustment of the bid price, including changes in the bid requirements, with the low responsible and responsive bidder, in order to bring the bid within the amount of available funds.

It is understood and agreed upon that the head of the purchasing agency may delete a portion or all of any item(s) in the proposal at the stated unit or lump sum price as necessary to stay within the available funding. The bidder is responsible to make an earnest effort to represent the actual cost of each item, including all materials, labor, equipment, overhead and profit in their bid proposal to preclude claims of anticipated profit or loss of profit because of an unbalanced bid proposal.

It is also understood that if a mutually agreeable cost for the reduced scope of work necessitated by a lack of available funds cannot be agreed upon between the bidder and the head of the purchasing agency within 14 calendar days after the bid opening, then the bid may be rejected in the best interest of the purchasing agency, and the head of the purchasing agency may negotiate in progressive order (lowest to highest) with the next lowest responsible and responsive bidder.

It is also understood and agreed that the award of the contract shall be conditioned upon funds being made available for this project and further upon the right of the Board of Land and Natural Resources to hold all bids received for a period of sixty (60) days from the date of the opening thereof, unless otherwise required by law, during which time no bid may be withdrawn.

It is also understood that Notice to Proceed may be delayed up to one (1) year after the bid opening date, and that no additional compensation will be provided for any claim for escalation or delay for issuance of Notice to Proceed on or before that date.

It is also understood and agreed that the quantities given herewith are approximate only and are subject to increase or decrease, and that the undersigned will perform all quantities of work as either increased or decreased, in accordance with the provisions of the Contract Specifications.

It is also understood and agreed that the estimated quantities shown for the items for which a UNIT PRICE is asked in this Proposal are only for the purpose of comparing on a uniform basis, bids offered for the work under this contract, and the undersigned agrees that he is satisfied with and will at no time, dispute said estimated quantities as a means of claims for anticipated profit or loss of profit, because of a difference between the quantities of the various classes of work done or the materials and equipment installed, and the said estimated quantities. On UNIT PRICE bids, payment will be made only for the actual number of units incorporated into the finished project at the contract UNIT PRICE.
After the proposals are opened and read, the figures will be extended and/or totaled in accordance with the bid prices of the acceptable proposals and the totals will be compared. In the comparison of bids, words written in the proposal shall govern over figures and unit prices will govern over totals. Until the award of the contract, however, the right will be reserved to reject any and all proposals and to waive any defects or technicalities as may be deemed best for the interest of the State.

It is also understood and agreed that liquidated damages in the amount One Hundred Fifty and No/100 Dollars ($150.00) for each and every calendar day in excess thereof prior to completion of the contract shall be withheld from payments due to the Contractor.

It is also understood and agreed that if this bid is accepted, the successful bidder must enter into and execute a contract with the Board of Land and Natural Resources and furnish a Performance and Payment Bond, as required by law. These bonds shall conform to provisions of Section 103D-324 and 325, Hawaii Revised Statutes and any law applicable hereto.

It is also understood and agreed that the successful bidder will provide all necessary labor, materials, tools, equipment, and other incidentals necessary to do all the work and furnish all the materials specified in the contract in the manner and time herein prescribed, and according to the requirements of the Engineer as therein set forth.

It is understood that by submitting this proposal, the undersigned is declaring that his firm has not been assisted or represented on this matter by an individual who has, in a State capacity, been involved in the subject matter of this contract in the past two years.

It is understood that by submitting this proposal in accordance with HAR 3-122-192, the undersigned is declaring that the price submitted is independently arrived without collusion.

It is also understood that by submitting this proposal, a Certification for Safety and Health Programs for bids in excess of $100,000 (in accordance with HRS 396-18), the undersigned certifies that his organization will have a written safety and health plan for this project that will be available and implemented by the Notice to Proceed date of this project. Details of the requirements of this plan may be obtained from the Department of Labor and Industrial Relations, Occupational, Safety and Health Division (HIOSH).

It is further understood and agreed that the successful bidder shall comply with paragraph 3.1.a "SUBCONTRACTING" of the General Provisions which requires that the contractor shall perform with his own organization and with the assistance of workmen under his immediate superintendence, work of a value not less than twenty percent (20%) of the value of all work embraced in the Contract, except that certain contract items of work, if specifically referred to in the special provisions, will be exempted from said twenty percent requirement.

Compliance with §103-310 HRS. As a condition of award all bidders shall comply with all laws governing entities doing business in the State, including Chapter 237 HRS (general excise tax); Chapter 383 HRS (employment security – unemployment insurance); Chapter 386 HRS (workers compensation); Chapter 392 HRS (temporary disability insurance); and Chapter 393 HRS (pre-paid health care), and shall produce all documents to the State (DLNR, Engineering Division) required to demonstrate compliance with these subsections. Any bidder making a false affirmation or certification under this subsection shall be suspended and may be debarred from further offerings or awards pursuant to §103D-702 HRS.
RECEIPT OF ADDENDA

The bidder also acknowledges receipt of any and all addenda issued by the Engineering Division, by recording the date of receipt of the respective addenda in the space provided below:

<table>
<thead>
<tr>
<th>Addendum</th>
<th>Date Received</th>
<th>Addendum</th>
<th>Date Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1</td>
<td></td>
<td>No. 5</td>
<td></td>
</tr>
<tr>
<td>No. 2</td>
<td></td>
<td>No. 6</td>
<td></td>
</tr>
<tr>
<td>No. 3</td>
<td></td>
<td>No. 7</td>
<td></td>
</tr>
<tr>
<td>No. 4</td>
<td></td>
<td>No. 8</td>
<td></td>
</tr>
</tbody>
</table>

It is understood that failure to receive any such addendum shall not relieve the Contractor from any obligation under this Proposal as submitted.

It is also understood and agreed that if this Proposal is accepted and the undersigned should fail or neglect to contract as aforesaid, the Board may determine that the bidder has abandoned the Contract, and thereupon, forfeiture of the security accompanying his proposal shall operate and the same shall become the property of the Board.
JOINT CONTRACTORS OR SUBCONTRACTORS
TO BE ENGAGED ON THIS PROJECT

The Bidder agrees that the following is a complete listing of all joint contractors or subcontractors covered under Chapter 444, Hawaii Revised Statutes (HRS), who will be engaged by the Bidder on this project to perform the required work indicated pursuant to Section 103D-302, HRS. The Bidder certifies that it and its listed subcontractors or joint contractors together hold all licenses necessary to complete the Work, and understands that failure to comply with this requirement may be just cause for rejection of the bid.

“A” General Engineering Contractors and “B” General Building Contractors are reminded that due to the Hawaii Supreme Court’s January 28, 2002 decision in Okada Trucking Co., Ltd. v. Board of Water Supply, et al., 97 Haw. 450 (2002), they are prohibited from undertaking any work, solely or as part of a larger project, which would require the general contractor to act as a specialty contractor in any area in which the general contractor has no license. Although the “A” and “B” contractor may still bid on and act as the “prime” contractor on an “A” or “B” project (See, HRS § 444-7 for the definitions of an “A” and “B” project.), respectively, the “A” and “B” contractor may only perform work in the areas in which they have the appropriate contractor’s license (An “A” or “B” contractor obtains “C” specialty contractor’s licenses either on its own, or automatically under HAR § 16-77-32). The remaining work must be performed by appropriately licensed entities. It is the sole responsibility of the contractor to review the requirements of this Project and determine the appropriate licenses that are required to complete the Project.

The Bidder shall include the complete firm name, license number and nature and classification description of each Joint Contractor or Subcontractor listed below. For projects with Alternate(s), Bidders shall fill out the supplemental schedule and list the Joint Contractor or Subcontractor who will be engaged for the respective Alternate Work. Do not include any Joint Contractor or Subcontractor previously listed.

Bidders shall list only one Joint Contractor or Subcontractor per required specialty contractor’s license.

<table>
<thead>
<tr>
<th>Class</th>
<th>Classification Description</th>
<th>License No.</th>
<th>Complete Firm Name Joint Contractor or Subcontractor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Enclosed herewith is a:

1. Surety Bond (*1) 
2. Legal Tender (*2) 
3. Cashier's Check (*3) 
4. Certificate of Deposit (*3) 
5. Certified Check (*3) 
6. Official Check (*3) 
7. Share Certificate (*3) 
8. Teller's Check (*3) 
9. Treasurer's Check (*3) 
(Cross Out Those Not Applicable)

__________________________________________ Dollars ($______)

as required by law.

Respectfully submitted,

__________________________________________
Name of Company, Joint Venture
or Partnership

Contractor's License No.

By __________________________
Signature (*4)

Title __________________________
Date __________________________
Address __________________________

Telephone No. __________________________
NOTES:

1. Surety bond underwritten by a company licensed to issue bonds in this State;

2. Legal tender; or

3. A certificate of deposit; share certificate; or cashier's, treasurer's, teller's, or official check drawn by, or a certified check accepted by, and payable on demand to the State by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration.

   A. These instruments may be utilized only to a maximum of $100,000.

   B. If the required security or bond amount totals over $100,000, more than one instrument not exceeding $100,000 each and issued by different financial institutions shall be accepted.

4. Please attach to this page evidence of the authority of this officer to submit bids on behalf of the Company and also the names and residence addresses of all officers of the Company.

5. Fill in all blank spaces with information asked for or bid may be invalidated. **PROPOSAL MUST BE INTACT, MISSING PAGES MAY INVALIDATE YOUR BID.**

End of Proposal
SPECIAL PROVISIONS

Amend INTERIM GENERAL CONDITIONS, dated October 1994, as follows:

Section 2 – Proposal Requirements and Conditions

1. AMEND Section 2.1 Qualification of Bidder with the following:

Written Notice of Intent to Bid or Offer: A written Notice of Intent to Bid is not required for the Solicitation.

Standard Qualification Questionnaire: Bidders may be required to complete a standard qualifications questionnaire. When requested, the information shall be furnished within two working days or longer at the discretion of the Engineer. Failure to furnish the requested information within the time allowed may be grounds for a determination of non-responsibility, in accordance with HRS Section 103D-310 and HAR Section 3-122-108.

Hawaii Business or Compliant Non-Hawaii Business Requirement: Bidders shall be incorporated or organized under the laws of the State or be registered to do business in the State as a separate branch or division that is capable of fully performing under the contract, as stipulated in §3-122-112 HAR. A certified letter is not required prior to bid opening.

Compliance with §3-122-112 HAR: As a condition for award of the contract and as proof of compliance with the requirements of 103D-310(c) HRS, the apparent low bidder shall furnish the required documents to the Department. If the valid required certificates are not submitted on a timely basis for award of a contract, a bidder otherwise responsive and responsible may not receive the award. Bidder is responsible to apply for and submit the following documents to the Department.

A. Tax Clearance (HRS Chapter 237): Bidder shall obtain a tax clearance certificate from the Hawaii State Department of Taxation (DOTAX) and the Internal Revenue Service (IRS). The certificate is valid for six months from the most recently approved stamp date on the certificate; the certificate must be valid on the date received by the Department.

B. Department of Labor (DLIR) “Certificate Of Compliance”. (HRS Chapter 383 - Unemployment Insurance, Chapter 386 - Workers’ Compensation, Chapter 392 - Temporary Disability Insurance, and 393 – Prepaid Health Care): Bidder shall obtain a certificate of compliance from the Hawaii State Department of Labor and Industrial relations (DLIR). The certificate is valid for six months from the date of issue; certificates must be valid on the date received by the Department.

C. Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG) “Certificate Of Good Standing”. Bidder shall obtain a certificate of good standing issued by the Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG). The certificate of good standing is valid for six months from the date of issue; certificates must be valid on the date received by the Department.
2. ADD Section 2.4a, Pre-Bid Conferences

Required Pre-bid Conferences: For construction and design-build projects with an estimated value of $500,000 or more and solicited under the competitive sealed bid method (103D-302 HRS); and for construction and design-build projects with an estimated value of $100,000 or more and solicited under the competitive sealed proposal method (103D-303 HRS); a pre-bid conference is required.

Other Pre-Bid Conferences: The Department may require a pre-bid conference for construction or design-build projects that are below the dollar threshold listed in above or when projects have special or unusual requirements.

Other Conditions: The Department may require the prospective Bidders to make a physical inspection of the project site and make attendance at the pre-bid conference a condition for submitting an offer.

Nothing stated at the pre-bid conference shall change the solicitation unless a change is made by written addendum.

3. DELETE Section 2.5, Addenda and Interpretations, in its entirety and replace with the following:

“Discrepancies, omissions, or doubts as to the meaning of drawings and specifications should be communicated in writing to CHIEF ENGINEER, ENGINEERING DIVISION, P.O. BOX 373, HONOLULU, HAWAII, 96809 for interpretation and must be received by the Engineering Division no later than fourteen (14) calendar days prior to the date fixed for bid opening. Any interpretation, if made, and any supplemental instructions will be in the form of written addenda to the plans and specifications and made available prior to the opening of bids. It shall be the prospective bidder’s sole responsibility to verify and obtain any said addenda from the office of the Engineering Division. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents.”

Section 5 – Control of Work

AMEND Section 5.8 Value Engineering Incentive by deleting “$100,000” and replacing with “$250,000” in the first paragraph.

Section 6 – Substitution of Materials and Equipment

ADD the following to Section 6.3 Sub-paragraph b:

4. If the substitution meets all the requirements of the specifications and plans.
Section 7 – Prosecution and Progress

1. DELETE Section 7.2d in its entirety and replace with the following:

"d. Insurance Requirements

1. Obligation of Contractor

The Contractor shall not commence any work until it obtains, at its own expense, all required insurance. Such insurance must have the approval of the Department as to limit, form and amount and must be maintained with a company authorized by law to issue such insurance in the State of Hawaii.

All insurance described herein will be maintained by the Contractor for the full period of the contract and in no event will be terminated or otherwise allowed to lapse prior to written certification of final acceptance of the work by the Department.

Certificate(s) of Insurance acceptable to the Department shall be filed with the Engineer prior to commencement of the work. These certificates shall contain a provision that coverages afforded under the policies will not be canceled or changed until at least thirty days written notice has been given to the Engineer by registered mail. The insurance policies shall name the State of Hawaii, its officers and employees as an additional insured and such coverage shall be noted on the Certificate. Should any policy be canceled before final acceptance of the work by the Department, and the Contractor fails to immediately procure replacement insurance as specified, the Department, in addition to all other remedies it may have for such breach, reserves the right to procure such insurance and deduct the cost thereof from any money due to the Contractor.

Nothing contained in these insurance requirements is to be construed as limiting the extent of Contractor’s responsibility for payment of damages resulting from its operations under this contract, including the Contractor’s obligation to pay liquidated damages, nor shall it affect the Contractor’s separate and independent duty to defend, indemnify and hold the Department harmless pursuant to other provisions of this contract. In no instance will the Department’s exercise of an option to occupy and use completed portions of the work relieve the Contractor of its obligation to maintain the required insurance until the date of final acceptance of the work.

All insurance described herein shall cover the insured for all work to be performed under the contract, all work performed incidental thereto or directly or indirectly connected therewith, including traffic detour work or other work performed outside the work area, and all change order work.

The Contractor shall, from time to time, furnish the Engineer, when requested, satisfactory proof of coverage of each type of insurance required or a copy of the actual policies covering the work. Failure to comply with the Engineer’s request may result in suspension of the work, and shall be sufficient grounds to withhold future payments due the Contractor and to terminate the contract for Contractor’s default.
2. Types of Insurance

The Contractor shall purchase and maintain insurance described below which shall provide coverage against claims arising out of the Contractor's operations under the contract, whether such operations be by the Contractor itself or by the subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

(a) Worker's Compensation. The Contractor and all subcontractors shall obtain full worker's compensation insurance coverage for all persons whom they employ or may employ in carrying out the work under this contract. This insurance shall be in strict conformity with the requirements of the most current and applicable State of Hawaii Worker's Compensation Insurance laws in effect on the date of the execution of this contract and as modified during the duration of the contract.

(b) Commercial General Liability Insurance and Automobile Insurance. Contractor's commercial general liability insurance and automobile liability insurance shall both be obtained in a combined, single limit of not less than $1,000,000 per occurrence that shall include coverage for bodily injury, sickness, disease or death of any person, arising directly or indirectly out of, or in connection with, the performance of work under this contract.

The Contractor's property damage liability insurance shall provide for a single combined limit of not less than $1,000,000 for all damages arising out of injury to or destruction of property of others including the Department's, arising directly or indirectly out of or in connection with the performance of the work under this contract including explosion or collapse.

The Contractor shall either:

i. Require each of its subcontractors to procure and to maintain during the life of its subcontract, subcontractors' comprehensive general liability, automobile liability and property damage liability insurance of the type and in the same amounts specified herein; or

ii. Insure the activities of its subcontractors in its own policy.

The Contractor will be permitted, in cooperation with insurers, to maintain a self insured retention for up to 25% of the per occurrence combined single limits of the commercial general liability and the automobile liability policies. The existence of the self insured retention must be noted on the certificate of insurance coverage submitted to the Department or else it will be understood that the insurer is providing first dollar coverage for all claims. For all claims within the self-insured retention amount, the rights, duties and obligations between the Contractor and the Department shall be identical to that between a liability insurer and the Department, as an additional insured, as if there was no self-insured retention.

(c) Builder's Risk Insurance. The Contractor is not required to provide Builder's Risk Insurance for this project". SP-4
2. **DELETE** Section 7.16 in its entirety and replace with the following:

"RESPONSIBILITY FOR DAMAGE CLAIMS; INDEMNITY – The Contractor shall indemnify the State and the Department against all loss of or damage to the State’s or the Department’s existing property and facilities arising out of any act or omission committed in the performance of the work by the Contractor, any subcontractor or their employees and agents. Contractor shall defend, hold harmless and indemnify the Department and the State, their employees, officers and agents against all losses, claims, suits, liability and expense, including but not limited to attorneys’ fees, arising out of injury to or death of persons (including employees of the State and the Department, the Contractor or any subcontractor) or damage to property resulting from or in connection with performance of the work and not caused solely by the negligence of the State or the Department, their agents, officers and employees. The State or the Department may participate in the defense of any claim or suit without relieving the Contractor of any obligation hereunder. The purchase of liability insurance shall not relieve the Contractor of the obligations described herein.

The Contractor agrees that it will not attempt to hold the State and its Departments and Agencies and their officers, representatives, employees or agents, liable or responsible for any losses or damages to third parties from the action of the elements, the nature of the work to be done under these specifications or from any unforeseen obstructions, acts of God, vandalism, fires or encumbrances which may be encountered in the prosecution of the work.

The Contractor shall pay all just claims for materials, supplies, tools, labor and other just claims against the Contractor or any subcontractor in connection with this contract and the surety bond will not be released by final acceptance and payment by the Department unless all such claims are paid or released. The Department may, but is not obligated to, withhold or retain as much of the monies due or to become due the Contractor under this contract considered necessary by the Engineer to cover such just claims until satisfactory proof of payment or the establishment of a payment plan is presented.

The Contractor shall defend, indemnify and hold harmless the State and its Departments and Agencies and their officers, representatives, employees or agents from all suits, actions or claims of any character brought on account of any claims or amounts arising or recovered under the Worker’s Compensation Laws or any other law, by-law, ordinance, order or decree.

**Section 8 – Measurement and Payment**

1. **DELETE** Section 8.7a in its entirety and replace with the following:

   a. Tax Clearances from the Department of Taxation and Internal Revenue Service to the affect that all delinquent taxes levied or accrued under State Statutes against the contractor have been paid.

      1. Tax Clearance Certificates from the director of taxation and the Internal Revenue Service, subject to section 103D-328, HRS, current within two months of issuance date;

      2. Clearance Certificate (Income Assessment and Audit Division)
2. **ADD** Section 8.7d, Certificate of Compliance:

   d. A Certification from the Contractor affirming that the Contractor has, as applicable, remained in compliance with all laws as required by Section 103D-310, HRS, and Section 3-122-112, HAR. A contractor making a false affirmation shall be suspended and may be debarred pursuant to section 103D-702, HRS.

# DETAILED SPECIFICATIONS
## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>No. of Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Division 1 - GENERAL REQUIREMENTS</strong></td>
<td></td>
</tr>
<tr>
<td>01019</td>
<td>General Specifications</td>
<td>4</td>
</tr>
<tr>
<td>01300</td>
<td>Submittals</td>
<td>3</td>
</tr>
<tr>
<td>01567</td>
<td>Pollution Control</td>
<td>4</td>
</tr>
<tr>
<td>01581</td>
<td>Project Sign</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Division 2 - SITE WORK</strong></td>
<td></td>
</tr>
<tr>
<td>02100</td>
<td>Site Preparation</td>
<td>2</td>
</tr>
<tr>
<td>02122</td>
<td>Mobilization and Demobilization</td>
<td>3</td>
</tr>
<tr>
<td>02362</td>
<td>Soil Treatment for Vegetation Control</td>
<td>1</td>
</tr>
<tr>
<td>02505</td>
<td>Rock Fill</td>
<td>2</td>
</tr>
<tr>
<td>02733</td>
<td>Drilling the Well</td>
<td>5</td>
</tr>
<tr>
<td>02734</td>
<td>Furnishing and Installing the Well Casing &amp; Monitor Tube</td>
<td>4</td>
</tr>
<tr>
<td>02735</td>
<td>Filling the Annular Space</td>
<td>2</td>
</tr>
<tr>
<td>02737</td>
<td>Construction Water Disposal</td>
<td>1</td>
</tr>
<tr>
<td>02831</td>
<td>Galvanized Chain Link Fences and Gates</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Division 3 - CONCRETE</strong></td>
<td></td>
</tr>
<tr>
<td>03210</td>
<td>Reinforcing Steel</td>
<td>2</td>
</tr>
<tr>
<td>03300</td>
<td>Concrete</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td><strong>Division 5 - METALS</strong></td>
<td></td>
</tr>
<tr>
<td>05500</td>
<td>Metal Fabrications</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td><strong>Division 9 - FINISHES</strong></td>
<td></td>
</tr>
<tr>
<td>09900</td>
<td>Painting</td>
<td>6</td>
</tr>
</tbody>
</table>
SECTION 01019

GENERAL SPECIFICATIONS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

Work shall consist of furnishing all labor, tools, materials and equipment necessary and required to construct in place complete all work as indicated on the drawings and as specified herein.

1.2 GENERAL

A. Construction Lines, Levels and Grades: The Contractor shall verify all lines, levels and elevations indicated on the drawings before any clearing, excavation or construction begins. Any discrepancy shall be immediately brought to the attention of the Engineer, and any change shall be made in accordance with his instruction. The Contractor shall not be entitled to extra payment if he fails to report the discrepancies before proceeding with any work whether within the area affected or not.

B. Examination of Premises: The Contractor shall contact the Engineer and obtain permission before visiting the site.

C. Notices: The Contractor shall call the Engineer (as indicated in the DETAILED SPECIFICATIONS) and give at least three (3) working days notice before starting any work.

D. Conditions at Site: Every person bidding on this project is expected to visit the site and examine the conditions and satisfy himself as to the character and amount of the work to be performed as indicated on the drawings and called for by the specifications. No additional allowance will be granted because of the lack of knowledge of such conditions.

E. Disruption of Utility Services: All work related to the temporary disconnection of electrical system shall be pre-arranged with the Engineer (as indicated in the DETAILED SPECIFICATIONS) so that any disruption of such services will be kept to a minimum. In the event temporary power hook-up is required, the Contractor shall provide the necessary services.

F. Contractor's Operations: The Contractor must employ, insofar as possible, such methods and means of carrying out his work so as not to cause any interruption or interference to the facility's operations. Where the Contractor's operations would result in interruptions which would hamper the operations of the facilities, the Contractor shall rearrange his schedule of work accordingly.
G. Protection of Property: The Contractor shall continually maintain adequate protection of all his work from damage and shall protect all property, including but not limited to buildings, equipment, furniture, grounds, vegetation, material, utility systems located at and adjoining the job site. The Contractor shall repair, replace or pay the expense of repair of damages resulting from his operations.

H. Safety

1. The Hawaii Occupational Safety and Health Law, Chapter 396, Hawaii Revised Statutes, as amended, is applicable and made a part of the Contract.

2. The Contractor shall carefully read and strictly comply with its requirements.

I. Clean Up Premises: The Contractor shall clean up and remove from premises all debris accumulated from operations from time to time and as directed. See also Section 7.25 of the GENERAL CONDITIONS.

J. Responsibility

1. The State of Hawaii will hold the Contractor liable for all the acts of Subcontractors and shall deal only with him (the prime Contractor) in matters pertaining to other trades employed on the job. The Contractor shall be responsible for coordinating the work of all trades on the job.

2. Should he discover any discrepancy in the plans or specifications, the Contractor shall immediately notify the Engineer before proceeding any further with the work, otherwise, he will be held responsible for any cost involved in correction of work placed due to such discrepancy.

K. Cooperation With Other Contractors: The State reserves the right at any time to contract for or otherwise perform other or additional work within the contract zone limits of this Contract. The Contractor of this project shall to the extent ordered by the State, conduct his work so as not to interfere with or hinder the progress or completion of the work performed by other contractors.

L. Division of the Work: The Divisions and Sections into which these Specifications are divided shall not be considered an accurate or complete segregation of work by trades. This also applies to all work specified within each Section.

M. Drawings and Specifications

1. The Contractor shall not make alterations to the plans and specifications. In the event he discovers any errors or discrepancies, the Contractor shall immediately notify the Engineer in accordance with the GENERAL CONDITIONS.
2. Where devices, or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many such devices, items or parts as are required to properly complete the work.

3. Specifications and plans are prepared in abbreviated form and include incomplete sentences. Omission of words or phrases such as "the Contractor shall", "as shown on the drawings", "a", "an", and "the" are intentional. Omitted words and phrases shall be provided by inference to form complete sentences.

N. Required Submittals

1. Required submittals as specified in the Technical Sections of these specifications include one or more of the following: Shop drawings; color samples; material samples; technical data; schedules of materials; schedules of operations; guarantees; operating and maintenance manuals; and as-built drawings.

2. Contractor shall make a comprehensive list of the required submittals, by Specification Section, and submit this list to the Engineer within 15 days after notice to proceed.

3. As-Built Drawings: When as-built drawings are required for submittal, the following shall apply:

   a. As-built drawings, the intent of which is to record the actual in-place construction so that any future renovations or tie-ins can be anticipated accurately, shall be required.

   b. All deviations from alignments, elevations and dimensions which are stipulated on the plans shall be recorded in red on the as-built drawings.

   c. The following procedure shall be followed:

      1) Immediately after these changes are constructed in place, the Contractor shall record them on the field office plans. This is to assure that changes are recorded before they are forgotten.

      2) Within two weeks after final inspection of the project, the Contractor shall transfer the changes marked on the field office plans onto a clean copy of plans using a red pencil. Any deletions shall be so noted and redrawn as necessary. The Contractor shall stamp or mark the tracings "AS-BUILT", and also sign and date each drawing so marked.

      3) The Contractor shall submit the as-built drawings together with the marked-up field office plans to the Engineer.
4) Any as-built drawing which the Engineer determines does not accurately record the deviation shall be corrected by the State and the Contractor shall be charged for the services.

END OF SECTION
SECTION 01300

SUBMITTALS

PART I - GENERAL

1.1 SUBMITTALS

Required submittals shall include:

1. Piping Layout including plan and profile for ________________.

2. Manufacturer's Data.

3. Certificates of Warranty.

4. Any others as called for in the plans, specifications, or by the Engineer.

1.2 BIDDER'S SPECIAL RESPONSIBILITY FOR COORDINATING CONTRACTUAL WORK AND SUBMITTALS:

A. The Contractor is responsible for the coordination of all contractual work and submittals.

B. The Contractor shall have a rubber stamp made up in the following format:

CONTRACTOR NAME

PROJECT: ____________________________________________

JOB NO: __________________________________________

THIS SUBMITTAL HAS BEEN CHECKED BY THIS GENERAL CONTRACTOR. IT IS CERTIFIED CORRECT, COMPLETE, AND IN COMPLIANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS. ALL AFFECTED CONTRACTORS AND SUPPLIERS ARE AWARE OF, AND WILL INTEGRATE THIS SUBMITTAL INTO THEIR OWN WORK.

DATE RECEIVED _________________________________

SPECIFICATION SECTION _________________________________

SPECIFICATION PARAGRAPH _________________________________

DRAWING NUMBER _________________________________

SUBCONTRACTOR NAME _________________________________

SUPPLIER NAME _________________________________

MANUFACTURER NAME _________________________________

CERTIFIED BY: _________________________________

Submittals
01300-1
C. This stamp, "filled in", should appear on the title sheet of each shop drawing, on a cover sheet of submittals in an 8-1/2" x 11" format, or on one face of a cardstock tag (min. 3" x 6") tied to each sample. The tag on the samples should state what the sample is so that, if the tag is accidentally separated from the sample, it can be matched up again. The back of this tag will be used by the Engineer for his receipt, review, and log stamp and for any comments that relate to the sample.

D. All submittals for material, equipment, and shop drawings listed in the contract documents, including dimensioned plumbing shop drawings, shall be required and shall be reviewed by the Engineer, prior to any ordering of materials and equipment.

E. Unless otherwise noted, the Contractor shall submit to the Engineer for his review eight copies of all shop drawings, piping layout, and/or catalog cuts for fabricated items and manufactured items (including mechanical and electrical equipment) required for the construction. Drawings shall be submitted in sufficient time to allow the Engineer not less than twenty regular working days for examining the drawings.

F. The drawing shall be accurate, distinct, and complete and shall contain all required information, including satisfactory identification of items, units and assemblies in relation to the contract drawings and specifications.

G. Unless otherwise approved by the Engineer, shop drawings shall be submitted only by the Contractor, who shall indicate by a signed stamp on the drawings or other approved means that the Contractor has checked the shop drawings and that the work or equipment shown is in accordance with contract requirements and has been checked for dimensions and relationship with work of all other trades involved. All deviations from the plans and specifications shall be listed. The practice of submitting incomplete or unchecked shop drawings for the Engineer to correct or finish will not be acceptable, and shop drawings which, in the opinion of the Engineer, clearly indicate that they have not been checked by the Contractor will be considered as not complying with the intent of the contract documents and will be returned to the Contractor for resubmission in the proper form.

H. When the shop drawings have been reviewed by the Engineer, two sets of submittals will be returned to the Contractor appropriately stamped. If major changes or corrections are necessary, the drawing may be rejected and one set will be returned to the Contractor with such changes or corrections indicated, and the Contractor shall correct and resubmit eight copies of the drawings, unless otherwise directed by the Engineer. No changes shall be made by the Contractor to the resubmitted shop drawings other than those changes indicated by the Engineer. The resubmittal shall be so indicated on the shop drawing.

I. The review of such drawings and catalog cuts by the Engineer shall not relieve the Contractor from responsibility for correctness of the dimensions, fabrication details, and space requirements or for deviations from the contract drawings and specifications, unless the Contractor has called attention to such deviations, in writing, by a letter accompanying the drawings and the Engineer approved the change or deviations, in writing, at the time of submission; nor shall review by the Engineer relieve the Contractor from the responsibility for errors in the shop drawings. When the Contractor does call such deviations to the attention of the Engineer, he shall state in his letter whether or not such deviations involve any deduction or extra cost adjustment.

Submittals
01300-2
J. The approval of the above drawings, lists, prints, specifications, or other data shall in no way release the Contractor from his responsibility for the proper fulfillment of the requirements of this contract nor for fulfilling the purpose of the installation nor from his liability to replace the same should it prove defective or fail to meet the specified requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION
SECTION 01567

POLLUTION CONTROL

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Rubbish Disposal

1. No burning of debris and/or waste materials shall be permitted on the project site.

2. No burying of debris and/or waste material except for materials which are specifically indicated elsewhere in these specifications as suitable for backfill shall be permitted on the project site.

3. All unusable debris and waste material shall be hauled away to an appropriate off-site dump area. During loading operations, debris and waste materials shall be watered down to allay dust.

4. No dry sweeping shall be permitted in cleaning rubbish and fines which can become airborne from floors or other paved areas. Vacuuming, wet mopping or wet or damp sweeping is permissible.

5. Enclosed chutes and/or containers shall be used for conveying debris from above to ground floor level.

6. Clean-up shall include the collection of all waste paper and wrapping materials, cans, bottles, construction waste materials and other objectionable materials, and removal as required. Frequency of clean-up shall coincide with rubbish producing events.

B. Dust

1. The Contractor shall prevent dust from becoming airborne at all times including non-working hours, weekends and holidays in conformance with the State Department of Health, Administrative Rules, Title 11, Chapter 60 - Air Pollution Control.

2. The method of dust control and costs shall be the responsibility of the Contractor. Methods of dust control shall include the use of water, chemicals or asphalt over surfaces which may create airborne dust.

3. The Contractor shall be responsible for all damage claims in accordance with Section 7.16 - "Responsibility for Damage Claims" of the GENERAL CONDITIONS.
C. Noise

1. Noise shall be kept within acceptable levels at all times in conformance with the State Department of Health, Administrative Rules, Title 11, Chapter 43 - Community Noise Control for Oahu. The Contractor shall obtain and pay for the Community Noise Permit from the State Department of Health when the construction equipment or other devices emit noise at levels exceeding the allowable limits.

2. All internal combustion engine-powered equipment shall have mufflers to minimize noise and shall be properly maintained to reduce noise to acceptable levels.

3. Pile driving and cable tool operations shall be confined to the period between 9:00 a.m. and 5:30 p.m., Monday through Friday. Pile driving and cable tool operation will not be permitted on weekends and legal State and Federal holidays.

4. Starting-up of construction equipment meeting allowable noise limits shall not be done prior to 6:45 a.m. without prior approval of the Engineer. Equipment exceeding allowable noise levels shall not be started-up prior to 7:00 a.m.

D. Erosion

1. During interim grading operations, the grade shall be maintained so as to preclude any damage to adjoining property from water and eroding soil.

2. Temporary berms, cut-off ditches and other provisions which may be required because of the Contractor's method of operations shall be installed at no cost to the State.

3. Drainage outlets and silting basing shall be constructed and maintained as shown on the plans to minimize erosion and pollution of waterways during construction.

E. Construction Dewatering

1. The Contractor shall be familiar with and meet the latest requirements of all applicable National Pollution Discharge and Elimination System (NPDES) and Hawaii State Department of Health's Water Quality Standards. The Contractor shall be responsible to obtain all necessary permits to reflect his method of construction dewatering.

2. Discharge activities shall include trench dewatering; pipeline and reservoir hydrotesting/chlorination operations; and drilling operations.
3. No construction dewatering will be allowed to discharge into State receiving waters without an approved NPDES permit. Drilling fluids and drill cuttings shall be contained onsite using sumps and/or mud tanks.

4. No compensation will be paid for any reason related to the disposal of waste water created by construction and testing.

F. Others

1. Wherever trucks and/or vehicles leave the site and enter surrounding paved streets, the Contractor shall prevent any material from being carried onto the pavement. Waste water shall not be discharged into existing streams, waterways, or drainage systems such as gutters and catch basins unless treated to comply with the State Department of Health water pollution regulations.

2. Trucks hauling debris shall be covered as required by PUC Regulation. Trucks hauling fine materials shall be covered.

3. No dumping of waste concrete will be permitted at the job-site.

4. Except for rinsing of the hopper and delivery chute, and for wheel washing where required, concrete trucks shall not be cleaned on the job-site.

5. Except in an emergency, such as a mechanical breakdown, all vehicle fueling and maintenance shall be done in a designated area. A temporary berm shall be constructed around the area when runoff can cause a problem.

6. When spray painting is allowed such spray painting shall be done by the "airless spray" process. Other types of spray painting will not be allowed.

G. Suspension of Work

1. Violations of any of the above requirements or any other pollution control requirements which may be specified in the Technical Specifications herein shall be cause for suspension of the work creating such violation. No additional compensation shall be due the Contractor for remedial measures to correct the offense. Also, no extension of time will be granted for delays caused by such suspensions.

2. If no corrective action is taken by the Contractor within 72 hours after a suspension is ordered by the Engineer, the State reserves the right to take whatever action is necessary to correct the situation and to deduct all costs incurred by the State in taking such action from monies due the Contractor.
3. The Engineer may also suspend any operations which he feels are creating pollution problems although they may not be in violation of the above-mentioned requirements. In this instance, the work shall be done by force account as described in Subsection 4.2b - "Additional Work" of the GENERAL CONDITIONS and paid for in accordance with Subsection 8.4b - "Force - Account Work" therein. The count of elapsed working days to be charged against the contract in this situation shall be computed in accordance with Subsection 7.18 - "Contract Time" of the GENERAL CONDITIONS.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION
PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

Furnish all labor, materials and equipment necessary to construct and install all project sign as specified hereinafter.

1.2 SUBMITTAL

The contractor shall provide the Engineer with six (6) shop drawings of the project sign for review and approval by the Engineer prior to ordering the sign.

1.3 LETTER STYLE

Copy is centered and set in Adobe Type Futura Heavy. If this specific type is not available, Futura Demi Bold may be substituted. Copy should be set and spaced by a professional typesetter and enlarged photographically for photo stencil screen process.

1.4 ARTWORK

Constant elements of the sign layout - frame, outline, stripe, and official state information - may be duplicated following drawing measurements, or be reproduced and enlarged photographically using a layout template if provided. The "STATE OF HAWAII" masthead should be reproduced and enlarged as specified, using the artwork provided.

1.5 TITLES

The specific major work of the project under construction is emphasized by using 3-3/4" type, all capitals. Secondary information such as location or buildings uses 2-1/4" type, all capitals. Other related information of lesser importance uses letter heights as indicated on 01581-3, upper / lower case letters.

Design should follow the example on page 01581-3.
PART 2 - PRODUCTS

2.1 MATERIALS

A. LUMBER

1. Panel is 3/4" exterior grade high density overlaid plywood, with resin-bonded surfaces on both sides.
2. 4"x 4" sign posts shall be Douglas Fir No. 1 or better.

B. PAINTS & INKS

Screen print inks are matte finish. Paints are satin finish, exterior grade. References to Ameritone Color Key Paint are for color match only.

COLOR:
1. 1BL10A Bohemian Blue
2. 2H16P Softly (White)
3. 2VR2A Hot Tango (Red)
4. 1M52E Tokay (Gray)

C. CONCRETE

Concrete shall be class B with a 2,500 psi 28-day compressive strength.

PART 3 - EXECUTION

3.1 GENERAL

A. The Project Sign shall be constructed with new materials as specified above.

B. The Project sign shall be installed at the location indicated on the drawings or as designated by the Engineer.

PART 4 - MEASUREMENT AND PAYMENT

The construction of the project sign, including all equipment, labor and material necessary to furnish and install the project sign will be paid for under the "Project Sign" proposal item.

END OF SECTION
SAMPLE TEXT
SAMPLE TEXT (CONT'D.)

Consultant: (Name)
Contractor: (Name)

DEPARTMENT OF LAND & NATURAL RESOURCES
Peter T. Young, Chairperson
Governor Linda Lingle

NOTE: Number of signs required 1
SECTION 02100
SITE PREPARATION

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

The work to be performed under this section shall include clearing the premises of all obstacles and obstructions, the removal of which will be necessary for the proper reception, construction, execution and completion of the other work included in this contract.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 GENERAL

A. Maintenance of Traffic: The Contractor shall conduct operations with minimum interference to streets, driveways, sidewalks, passageways, etc.

When necessary, the Contractor shall provide and erect barriers, etc., with special attention to protection of personnel.

B. Protection: Throughout the progress of the work protection shall be provided for all property and equipment, and temporary barricades shall be provided as necessary. Work shall be done in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, and the State of Hawaii's Occupational Safety and Health Standards, Rules and Regulations.

C. Fires: No burning of fires of any kind will be allowed.

D. Reference Points: Bench marks, etc., shall be carefully maintained, but if disturbed or destroyed, shall be replaced as directed, at the Contractor's expense.

E. Disposal: All materials resultant from operations under this Section shall become the property of the Contractor and shall be removed from the site. Loads of materials shall be trimmed to prevent droppings.
3.2 EXISTING UTILITY LINES

The locations and depths of existing surface and underground utilities whether or not shown on the Plans shall be verified by the Contractor. The Contractor shall not assume that where no utilities are shown that none exist. Exercise proper care when excavating in the area and protect existing utilities at all times during construction. Any damage to any utility shall be repaired and paid for by the Contractor.

3.3 CLEARING AND GRUBBING

A. The Contractor shall clear the premises of all obstacles and obstructions, the removal of which will be necessary for the proper reception, construction, execution and completion of other work included in this contract.

B. Remove trees and roots to a minimum of 3 feet below existing ground level. Remove all large roots in excess of 2 inches in diameter, and backfill and compact the resulting depression. All debris accumulated from this operation shall be completely removed from the premises by the Contractor.

C. The Contractor shall protect from injury and damage all surrounding trees, plants, etc., and shall leave all in as good as condition as at present. Any damage to existing improvements shall be repaired or replaced by the Contractor to the satisfaction of the Engineer.

3.4 CLEAN UP OF PREMISES

A. Clean up and remove all debris accumulated from building operations from time-to-time as directed. Upon completion of the construction work and before final acceptance of the contract work, remove all surplus materials, equipment, scaffoldings, etc., and leave entire job site raked clean and neat to the satisfaction of the Engineer.

END OF SECTION
PART 1 - GENERAL

This section covers the requirements for mobilization and demobilization of a well drilling rig at the project site.

PART 2 - PRODUCTS

2.1 MOBILIZATION

Mobilization shall consist of the transporting, assembling, constructing, installing and making ready for use at the well site all equipment, machinery, structures, utilities and incidentals necessary to do the work covered by this contract.

2.2 DEMOBILIZATION

Demobilization shall consist of the dismantling and removal from the project site all of the above-mentioned equipment, machinery, structures, utilities and incidentals not incorporated in or made a necessary part of the completed well.

PART 3 - EXECUTION

Prior to mobilization on site and drilling the well, the Contractor shall have a survey performed by a surveyor registered in the State of Hawaii to verify the location of the well in relationship to the access road and the boundaries of the County of Maui Department of Water Supply North Waihee 1 Million Gallon Reservoir property. The required survey will not be paid for directly, but shall be considered incidental to mobilization.

3.1 GUIDELINES

The Contractor shall clear and grade the site prior to moving and setting up the drilling rig at the site.

The Contractor shall be completely mobilized at the project site and begin drilling operations within 30 calendar days after he has been notified, in writing, to proceed under this contract. Any provision in the Standard Specifications to the contrary is hereby deleted.
If the Contractor utilizes private lands other than the well site and access road for mobilization purposes, the provisions of this section shall still apply, and the mobilization and demobilization work on said private lands shall also be in accordance with the agreement between the Contractor and the land owners.

When the project is completed the Contractor shall clean up the well site and shall be responsible for all grading work required to leave the site in a neat and orderly condition to the satisfaction of the Engineer. Payment for the clean-up work will not be paid for separately but shall be included in the contract unit price for Demobilization subject, however, to all provisions specified hereinabove.

The maximum total amount that will be paid for Mobilization, and for Demobilization shall be as shown in the Proposal. All additional mobilization or demobilization costs in excess of the maximum amounts specified above shall be included in the appropriate unit prices bid in the Proposal. The Contractor shall not be entitled to receive any compensation for mobilization or for demobilization in addition to those specified herein and in the Proposal.

3.2 MEASUREMENT

Measurement for payment of the work under this section of the specifications will be made as follows:

1. The contract lump sum price for Mobilization will be paid when 50 feet of the well has been acceptably drilled and in the Engineer’s opinion the Contractor has fully mobilized.

2. The contract lump sum price for Demobilization will be paid after the well has been completed and accepted by the Board and the project site cleaned to the satisfaction of the Engineer.

Should the Board terminate the contract before 50 feet of the well has been acceptably drilled for reasons other than those specified in the Standard Specifications and in the Engineer’s opinion the Contractor has fully mobilized at the well site, the full amount of the contract unit price for Mobilization shall become due and payable subject, however, to all the provisions specified hereinabove. The full amount of the contract unit price for Demobilization shall also become due and payable after the above-mentioned termination of the contract, subject however, to all the provisions specified hereinabove.

3.3 PAYMENT

Mobilization and demobilization will be paid for at the applicable contract unit prices for:

Mobilization (not to exceed $20,000.00),
Demobilization (not to exceed $20,000.00), as the case may be, which prices shall be full compensation for all the work specified in this section.

END OF SECTION
SECTION 02362

SOIL TREATMENT FOR VEGETATION CONTROL

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This work shall consist of spraying weed killer on the prepared rock fill subgrade prior to the installation of the rock fill and where called for on plans.

1.2 SUBMITTALS

Prior to the start of work, the contractor shall submit to the Engineer the material product data and Material Safety Data Sheets for the material proposed for use.

PART 2 - PRODUCTS

2.1 MATERIALS

Weed Killer shall be "Casoron 4G," "Norosac 4G," or an approved equal.

PART 3 - EXECUTION

3.1 APPLICATION

The under asphalt weed killer shall be mixed and uniformly spread using calibrated application equipment at the maximum rates permitted for "under asphalt" use and in strict accordance with the manufacturer's label. Rock fill shall be installed as soon as possible after applying the weed killer to preclude loss of germination inhibiting action.

In treatment of cleared and grubbed areas shown on the plans, the weed killer shall be mixed and uniformly sprayed in strict accordance with the manufacturer's label.

Nut grass shall be retreated two (2) days after initial application and again if growth still exists.

The Contractor shall notify the Engineer 24 hours before application of weed killer.

END OF SECTION
SECTION 02505

ROCK FILL

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

This shall consist of furnishing and installing the rock fill at the well site and driveway as indicated in the Plans and as specified herein.

PART 2 – PRODUCTS

2.1 MATERIALS

Materials for rock fill including concrete header shall be constructed in accordance with the below-listed sections of the counties’ STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION dated September 1986, and STANDARD DETAILS FOR PUBLIC WORKS dated September 1984, as revised except as amended in the plans and/or specifications herewith. (Paragraphs concerning Measurement and Payments in the Sections are not applicable to this project.)

Subgrade Section 29

Rock Fill Section 15 for ASTM No. 67 Rock

Concrete Header Section 41 for Concrete Curb and Gutter

PART 3 – EXECUTION

3.1 Stake out the area to receive rock fill using wooden stakes on which the final finish elevations are clearly marked. All such stakes and elevations shall be approved by the Engineer before any work is done.

3.2 The subgrade for the well site and driveway shall be prepared and graded as specified in the Plans. All rough and irregular surfaces shall be removed to leave a smooth surface for receiving the rock fill.

3.3 Spray an approved weed killer conforming to Section 02362 of the specifications on the prepared subgrade at a uniform rate as recommended by the manufacturer. Notify the Engineer at least 24 hours before application of the weed killer.
3.4 Six (6) mils thick continuous polyethylene sheet barrier shall be placed on the prepared and treated subgrade. Punctured or torn polyethylene sheet shall be covered with new polyethylene sheet extending at least 12 inches in all directions from the torn area. Polyethylene shall not be visible in the finished work.

3.5 Concrete header shall be installed and rock fill shall be placed on the polyethylene sheet and raked smooth.

END OF SECTION
PART 1 - GENERAL

This section covers the requirement for drilling a well at the approximate location shown on the plan. The exact location of the well shall be designated by the Engineer. The Contractor shall comply with all requirements of the Well Construction Permit for the well, the Hawaii Well Construction and Pump Installation Standards, and the State Water Code (Chapter 174, HRS).

PART 2 - PRODUCTS

A deep monitor well drilled 14 inches in diameter and cased with 8-inch casing to a depth of approximately 406 feet, and drilled with a 7.5-inch diameter open hole below the casing an approximate additional depth of approximately 500 feet, for a total well depth of 906 feet.

PART 3 - EXECUTION

3.1 DRILLING

The cased section of the well shall be drilled plumb and straight as specified herein and shall be large enough to install the well casing specified in Section 02734 Furnishing and Installing the Well Casing and Monitor Tube of the specifications and to provide an annular space of at least 3 inches all around the casing. No deviation from this allowance will be made. All drilling and testing equipment including pipes and tools to be put into the well or open hole shall be first carefully washed and disinfected by chlorination. Only air, clear water, or a mixture of air, water and foam may be used in drilling the cased section of the well.

The exact depth of the well to be drilled shall be determined by the Engineer in the field during the course of the work. Casing shall not be installed until ordered by the Engineer. The drilling of the open hole below the installed casing shall have a minimum diameter of 7.5 inches. The Contractor shall protect the installed casing while drilling the open hole and any damages to the casing shall be repaired at no cost to the State.

The well will cave-in when drilling through loose or fractured rock formations and sandy or cinder layer formations. The well will also cave-in due to earthquake or other causes. The Contractor shall concrete-grout the caved-in portion of the well, re-drill the well or use other methods approved by the Engineer to keep the caved-in well open until the project is completed and accepted by the Engineer at no cost to the State.
3.2 WELL DRILLING BELOW CASING

After the permanent casing has been installed and the annular space filled, the open hole section of the well shall be drilled without the use of bentonite or similar drilling muds. Only water, air, and foam will be allowed in drilling the open hole below the cased section of the well. Reverse air circulation rotary and cable tool are the preferred methods of drilling.

The well shall be cleansed of cuttings by circulation of the formation water or by bailing until the well is clear of cuttings. If circulation of formation water is used to cleanse the well, the water shall be circulated up the drill pipe and allowed to run down the annular space between the drill pipe and the sides of the borehole. Cleansing will also aid in removing dirt, pipe dope, and rust.

3.3 DISPOSAL OF WATER

In order to avoid NPDES requirements, water from drilling shall be properly disposed of on site. Seepage pits are acceptable. If the seepage rate is insufficient, solids-free fluid may be run into the well. Use of a centrifuge, geofabric filters, temporary berms, barriers, and above-ground detention ponds to confine and rid water of solids may be required. No water, foam, or drill cuttings shall be allowed to leave the site for the duration of this job.

The Contractor understands that no compensation will be paid due to any difficulty encountered incidental to the disposal of waste water and all damages resulting therefrom shall be the responsibility of the Contractor.

3.4 ORDER OF WORK

The Contractor shall not conduct drilling operations in excess of eight hours a day except with the written consent of the Engineer. Not less than 72 hours prior to the commencement of any such overtime work, the Contractor shall submit to the Engineer a written notice of his intention and schedule. Deviation from the vertical for the cased and uncased portion of the well shall be no more than 6 inches per any 100 feet of depth. A cage will not be accepted in the open hole. The general order of major work shall be as follows:

1. Drill the cased portion of the well using only air, clear water, or a combination of air, clear water, and foam as the circulating medium.
2. Install 8-inch well casing as shown on the plans and as specified in Section 02734, Furnishing and Installing Well Casing and Monitor Tube.
3. Fill and grout the annular space as specified in Section 02735, Filling the Annular Space.
4. Run plumbness test and video log of the cased well. The Contractor shall provide a report of the plumbness and a video log within ten (10) days following the test. To assure all small particles are settled at the bottom of the well, the well shall be idled for at least five (5) days prior to performing video logging. Acceptance of the cased portion of the hole shall be contingent on passing the plumbness test.

5. Drill open hole below bottom of installed casing as shown on the plans or as modified by the Engineer, using only water and air.

6. Run plumbness test every 20 feet. If a magnetic device is used, the survey tool shall be extended ahead of the drill bit according to the manufacturer’s recommended distance in a non-magnetic extension rod. A magnetic survey tool may also be used in a non-magnetic section of drill pipe. The Contractor shall provide a report of plumbness within ten (10) days following the test in terms of deviation in inches per 100 feet.

7. Cleanse well. The well shall be cleansed of cuttings by circulation of the drilling medium or by bailing the well, until clear of cuttings.

8. Verify well is free of obstructions. The Engineer and/or Department’s representatives will check the well for obstructions to logging tools before demobilization of the drill rig. If obstructions are found in the borehole, the Contractor will ream out the obstructed zone(s) at no cost.

9. Complete well head, concrete slab, and other appurtenances.

10. Demobilize and clean-up. Upon completion of the job, the site shall be cleared of all materials used in or produced by drilling operations. The site shall be restored to a condition equal to or better than original.

3.5 MEASUREMENT, DRILLER’S LOGS, AND SAMPLES

The Contractor shall keep a daily driller’s log of all well construction activities on forms acceptable to the Engineer, recording the characteristics of the geologic materials encountered, including (1) depth, (2) thickness, (3) color, (4) hardness, and (5) all other data which may be helpful in the interpretation of the subsurface geology and hydrology. The log shall indicate the depths where water is encountered and the pertinent facts connected with its occurrence. All other information such as the location of lava tubes and cave-ins shall also be noted in the log. The daily driller's logs shall be kept current and available at the well site for inspection by the Engineer. A copy of the daily driller's log shall be submitted to the Engineer at the end of each day.

Samples of drill cuttings shall be taken at successive intervals of 10 feet of depth and at every change in formation. Samples of drill cuttings shall be obtained by bailing the hole, by screening the circulating medium or by any other method acceptable to the Engineer. These samples shall be collected in 4 1/2" x 6" HUBCO brand Protexo sand sample bags provided by the Contractor and shall be properly labeled and delivered to the Engineer periodically as requested.
Water level measurements shall be taken immediately when water is encountered in the well during the drilling work and after the casing has been installed. An electrical sounding probe with cable calibrated and marked to the nearest one-hundredth of a foot shall be used to make all water level measurements. When ordered and in the manner directed by the Engineer, the Contractor shall obtain water samples.

3.6 PROTECTION

During the progress of the work, the Contractor shall secure the well for safety and to prevent contamination from surface runoff, debris, etc., when the crew is not at the well site. The Contractor shall preserve the well in good condition until the Engineer has accepted the work.

3.7 ABANDONED WELL

A well will be considered abandoned if the Contractor does not complete the well to the depth ordered by the Engineer or if the Contractor should abandon the well due to loss of tools or for any other cause or if the Board does not accept the well due to faulty plumbness and alignment. Such an abandoned well shall be sealed by the Contractor, in compliance with the provisions and requirements of Chapter 174, C-87, HRS, the State Water Code. If casing has been installed, the Contractor, at his own expense, may remove the casing prior to backfilling the abandoned well.

No payment will be made for any work done on an abandoned well. All partial payments received by the Contractor for work done on a well that has been abandoned shall be refunded to the Board and the Contractor shall drill another well in the vicinity of the abandoned well as directed by the Engineer. The cost of moving from the location of the abandoned well to the above-mentioned new site will be at the Contractor’s expense and will not be paid for by the Board.

Upon completion of the work the Contractor shall leave the site of the abandoned well in a neat and presentable condition free of all debris and in a state comparable to its original condition.

3.8 VIDEO LOGGING

The Contractor shall run a color video log of the well after the casing is installed and grouted. The video logging system shall be a color VHS or digital system capable of recording the video camera’s depth in feet in the image. The original and one copy of the VHS tape or DVD disc record shall be delivered to the Engineer upon completion of logging and shall become the property of the State. The well shall not be disturbed for 2 weeks prior to performing the video logging.
3.9 MEASUREMENT

The depth of the cased section of the well to be paid for shall be the actual depth in lineal feet measured vertically from the prepared ground surface to the bottom of the cased section of the well as ordered by the Engineer.

The depth of the open hole section of the well to be paid for shall be the actual depth in lineal feet measured vertically from the bottom of the cased section of the well to the bottom of the open hole section as ordered by the Engineer.

The Contractor shall not receive specific compensation for making the plumbness and alignment tests, video log, and all corrections for plumbness and well diameter, but shall include such costs in the appropriate contract prices for drilling the well.

Prior to final payment, the Engineer and/or Department’s representatives will check the well for obstructions to logging tools before demobilization of the drill rig. If obstructions are found in the borehole, the Contractor will ream out the obstructed zone(s) at no cost.

3.10 PAYMENT

The depth of well acceptably drilled and measured, as provided above, will be paid for at the applicable contract unit price per lineal foot for:

1. Drilling 14-inch diameter hole from the ground surface to the bottom of the cased section of well,

2. Drilling 7.5-inch diameter open hole below cased section of well, as the case may be, which price shall be full compensation for drilling; preparing the driller’s logs; measuring and recording water levels; obtaining samples of drill cuttings and water; protecting and maintaining the well; measuring the depth of well as required; making all tests and necessary corrections of defects; video logging; all fishing operations; all costs of delays in work due to inclement weather, to lack of equipment and to equipment breakdowns; and for all equipment, tools, labor and incidentals necessary to complete the work. No payment will be made for abandoned wells.

END OF SECTION
SECTION 02734

FURNISHING AND INSTALLING WELL CASING AND MONITOR TUBE

PART 1 - GENERAL

This section covers the requirement for furnishing and installing the steel casing and monitor tube in the well.

The casing and monitor tube shall be new and shall be installed in the well only when ordered in writing by the Engineer and as specified herein. The Engineer will specify the total lengths of the casing and monitor tube to be installed. Installation shall be made only during normal daylight working hours.

PART 2 - PRODUCTS

2.1 WELL CASING

The casing to be furnished and installed in the well shall be steel, conforming to ASTM Designation A-139 or approved equal. The casing shall have a minimum inside diameter and a minimum wall thickness as called for in the proposal and shall be new, clean, straight and round. The individual lengths of solid casing shall be provided with beveled ends suitable for butt welding. The bottom of the casing shall be supplied with a steel shoe as shown on the Plans.

The top of the casing shall be capped as shown on the Plans.

2.2 WELL CASING MARKINGS

Each length of casing shall be marked by the casing manufacturer with the following information:

1. Manufacturer’s identification
2. Nominal thickness of casing wall
3. ASTM Designation and trade name of the steel used for the manufacture of the casing

All markings shall be clear and legible and shall be within three (3) feet from one end of the casing.
2.3 WELL CASING CERTIFICATION

Prior to the delivery of any casing to the project site, the Contractor shall submit for approval the casing manufacturer's certification to the Engineer. The certificate shall clearly indicate the total footage and number of casing shipped; the name of the customer; and the physical and chemical properties of the casing material. (ASTM Designation and trade name of steel may be used to designate the physical and chemical properties respectively.)

2.4 MATERIALS

A. Steel Tubing: The water-level monitor tube to be furnished and installed on the outside of the well casing shall consist of new 2.375-inch O.D. flush joint tubing, or approved equal.

B. Joints: The steel tubing shall have flush joint threads.

PART 3 - EXECUTION

3.1 ALIGNMENT MARKINGS

Prior to the installation of the well casing, the Contractor shall establish alignment marks on the outside ends of each length of well casing to provide a reference for aligning and installing the water-level monitor tube in a straight line on the outside of the well casing. The alignment marks shall be established by using two fabricated cross-hair sighting devices which can be placed on the ends of a casing length and rotated so that alignment is achieved by sighting through the inside of the casing.

3.2 INSTALLATION OF WELL CASING

The well casing shall be installed in the presence of and as directed by the Engineer. The casing shall be properly aligned and welded by qualified welders and shall also be continuous for its entire length. Every precaution shall be taken to prevent the casing from dropping into the hole. Driving of the casing which is likely to damage the pipe or cause a change in the circular cross section of the pipe will not be permitted.

The Contractor shall cleanse the drilled hole of drill cuttings by bailing or reverse rotary circulation and then carefully lower the casing, with monitor tube attached, in the drilled hole and temporarily secure the casing string three feet above the bottom of the hole. Thereupon, a 3-foot concrete plug shall be tremied in place at the bottom of the hole and the casing lowered to its final depth and secured. After the concrete plug has been allowed to set for 24 hours, the rock packing, grout seal, and cement grouting of the well as called for in Section 02735 - Filling the Annular Space shall then be completed. At no time during the installation of the casing shall the total weight of the casing rest on the bottom of the drilled hole.
The casing shall extend 18 inches above the concrete slab level and shall be capped with a lockable steel cap as shown on the Plans. The Contractor shall supply two keyed alike padlocks with three sets of keys. Padlock shall consist of Abloy 342 steel padlock with raised shoulders or approved equivalent. Padlocks shall be compatible for use with the casing and junction box locking mechanisms.

Upon completion of the well, in the presence of the Engineer, the casing walls shall be swabbed to remove drilling byproducts such as grease or pipe dope.

3.3 INSTALLATION OF WATER-LEVEL MONITOR TUBE

During the installation of the well casing, the Contractor shall furnish and install a water-level monitor tube consisting of 2.375-inch O.D. steel tubing with flush-joint threads. The monitor tube shall be welded to the well casing. Trapezoidal-shaped steel guides fabricated from 3/8-inch minimum thickness stock with a 3-inch radial dimension shall be welded vertically onto the well casing adjacent to the monitor tube at 20 foot intervals to ensure that the monitor tube will be imbedded in the annular grout.

The bottom 20 feet of the monitor tube shall be perforated with two diametrically opposed 1/4-inch diameter holes per lineal foot drilled tangentially to the circumference of the well casing. The bottom of the monitor tube shall be capped and set at -10 feet mean sea level. The cap shall have two 1/4-inch diameter drilled holes protected against possible plugging during installation in the well. During welding of the monitor tube onto the well casing, the Contractor shall carefully align the tube so that it follows the aligned markings established on the well casing and so that it does not spiral around the casing. The top of the monitor tube shall be terminated 2 inches above the concrete slab level inside of the 18-inch diameter steel casing junction box. After drilling is completed, the monitor tube shall be pressurized with air to clear any clogged perforations.

3.4 JUNCTION BOX

The 18-inch steel casing junction box shall be installed after the well has been drilled to its final depth, but before the 6' x 8' concrete slab is poured. The bottom of the junction box shall not be cemented.

3.5 MEASUREMENT

The lengths of well casing and monitor tube installed below the prepared ground surface shall be measured vertically to the nearest foot from the ground surface.

3.6 PAYMENT

The total footage, measured as provided above, of well casing and monitor tube acceptably installed below the prepared ground surface will be paid for at the contract unit price per lineal foot for:

Furnishing and Installing the Well Casing and Monitor Tube
02734-3
Furnishing and installing 8-inch I.D., 5/16-inch wall thickness, steel well casing conforming to ASTM A-139,

Furnishing and installing 2.375-inch O.D. steel monitor tube with flush joint threads and the above-ground well casing and junction box will be paid for at the applicable contract unit price for,

Furnishing, installing, and painting above-ground 8-inch I.D., 5/16-inch wall thickness, steel casing with lockable steel plate cap, in place complete,

Furnishing, installing, and painting 18-inch I.D., 5/16-inch wall thickness, steel casing junction box with lockable steel plate cap, in place complete, as the case may be, which price shall be full compensation for furnishing and hauling the well casing and monitor tube to the well site; for bailing; for cleaning the well; for unloading, handling, cutting, aligning, perforating, welding and setting the well casing and monitor tube; for capping the top of the well casing and monitor tube; and for all other labor, equipment, tools, materials, and incidentals necessary to complete the work.

END OF SECTION
SECTION 02735

FILLING THE ANNULAR SPACE

PART 1 - GENERAL

This section covers the cement-grouting of the annular space between the drilled hole and the casing. All work required in this section shall be done during normal daylight working hours. The Contractor shall notify the Engineer not less than 48 hours prior to cement-grouting.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Portland cement shall conform to the requirements of ASTM C150, Type I for grout mix.

B. Rock packing shall consist of 3/8 to 1/2-inch size washed rounded gravel meeting the grading requirements of size no. 67 (ASTM C33).

C. Coarse aggregate shall be crushed fine-grained lava rock meeting the grading requirements of size nos. 67 and 8 (ASTM C33).

D. Fine aggregate shall consist of basaltic sand, meeting the grading requirements of ASTM C33.

E. Water used in mixing cement grout shall be potable.

PART 3 - EXECUTION

3.1 ROCK-PACKING THE ANNULAR SPACE

The Contractor shall rock-pack the annular space between the wall of the drilled hole and the casing from the bottom of the casing to a height above the top of the perforated casing as shown on the plans. The Engineer shall approve all materials to be placed in the annular space and the Contractor shall tremie materials in the annular space in a manner that will avoid bridging of materials and permit even distribution around the casing.

3.2 GROUT SEAL

An effective grout seal shall be tremied on top of the rock packing before cement grouting the annular space. The grout seal shall consist of a 2-foot bottom layer of No. 8 coarse aggregate, followed by a 2-foot layer of sand, and a 10-foot layer of cement-sand grout. Each layer shall be carefully tremied and probed with a rigid rod or sounding line.
for effectiveness. The grout seal shall be topped with a 2-foot layer of neat cement and allowed 24 hours to set. The integrity of the seal shall be tested by probing and approved by the Engineer.

3.3 CEMENT-GROUTING THE ANNULAR SPACE

The first 10 feet of the cement grout shall be poured and cured overnight. The remaining annular space shall then be grouted in a manner that will avoid segregation of materials, inclusion of foreign material, bridging of grout materials, collapsing of casing, and contamination of the rock-packed section of the well.

Grout shall consist of Portland cement, or if losses become excessive as determined by the Engineer, a mix of 1 part Portland cement and 1 part rock sand with not more than 6 gallons of water per 94 lb. sack of cement. Further, if the Engineer determines that an interval of annular space cannot be filled with 1:1 cement-sand grout without excessive losses in lava tubes or similar openings, the Contractor may be permitted to fill such intervals, and only such intervals, with fine or No. 8 aggregate. The amount of water to be added shall be subject to the Engineer's approval.

The grout shall be placed in the annular space under pressure by pumping through 1 inch or larger diameter steel flush joint tubing. Grouting shall be placed and allowed to properly set in stages to avoid collapse or deformation of the casing and monitor tube. During placement of the grout, the grout pipe shall extend below the fresh grout level so as to avoid free falling of the grout. It is essential that the annular space be completely filled with grout to prevent contamination of the well and to protect the casing and water level monitor tube from corrosion.

3.4 MEASUREMENT AND PAYMENT

Acceptable filling of the annular space will be measured and paid for separately at the respective contract unit price for:

"Rock packing the annular space, including concrete plug,"

"Cement-grouting the annular space, including grout seal," as the case may be, which prices shall include full compensation for furnishing and placing the rock pack; for cement grouting the annular space; for furnishing and placing the grout seal; for furnishing, mixing, placing and curing the cement grout; and for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the work as specified herein and as shown on the Plans.

END OF SECTION
SECTION 02737
CONSTRUCTION WATER DISPOSAL

PART 1 - GENERAL

A. GENERAL DESCRIPTION

This item of work shall include the furnishing of all labor, materials, tools and equipment necessary for construction water disposal.

B. REGULATIONS

The Contractor shall be familiar with and meet the latest requirements of all applicable National Pollutant Discharge Elimination System (NPDES) and all water discharge requirements of the State Department of Health, City and County of Honolulu, and State Department of Transportation. Effluent discharge into State receiving waters shall not be allowed. Discharge activities shall include well water discharge.

C. PROCEDURES

The Contractor shall review his/her water discharge operations to prevent effluent from reaching State receiving waters. The Contractor shall submit for review and approval his/her intended discharge operations including emergency procedures to address failure of operations. The Contractor shall be responsible for any fines should his/her operations fail and result in any violation of the NPDES requirements.

D. NON-COMPLIANCE

Violation citations for non-compliance shall be the responsibility of the Contractor. The Contractor shall pay all fines and hold harmless the State of Hawaii

PART 2 - PAYMENT

Payment for the work described herein shall not be made directly but shall be considered incidental and shall be included in the various items in the Bid.

END OF SECTION
PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This section covers the requirements for furnishing and installing galvanized chain link fences and gates.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Chain Link Fence Fabric: Shall be of mesh size shown on plan, be galvanized and conform to ASTM A392, Class 1. The hot-dipped galvanized fabric shall contain not less than 1.2 ounces per square foot of uncoated wire surface as determined by stripping test ASTM A90 and under the PREECE Test (ASTM A239), shall withstand 6 or more one-minute dips before reaching the end point. All fabric shall be free from barbs, icicles or other hazardous projections resulting from galvanizing.

B. Tie Wire: Shall be 12-gauge soft annealed galvanized steel wire.

C. Tension Bar: Shall be 1/4" thick by 3/4" wide mild steel bar for attachment of a fabric to a terminal post.

D. Tension Band and Brace Band: Shall be formed from steel bands at least 12 gauge thick by 3/4" wide.

E. Tension Rod: Shall be a 3/8" dia. mild steel rod threaded at one end and hooked 180° at the other.

F. Fittings: (Note: Pressed steel fittings shall not be allowed)

1. Post cap and eye top shall be of one-piece cast iron or malleable iron construction and shall attach securely onto their respective posts.

2. Coupling for top rails shall be outside sleeve type, at least 6" long and crimped at center.

3. Rail ends shall be snug, one-piece cast iron or malleable iron fittings for top and brace rails with holes to receive 5/16" bolts for securing to rail end bands.

4. Two-hole rail end shall be similar to rail end except for an additional ½" hole to receive the hooked end of a tension rod.
G. Composition and Finish of Metal Parts: All metal parts and fittings, frames and bolts shall be galvanized by the hot-dip process, after fabrication, in conformance with ASTM A153. The coating on all parts shall be continuous and smooth; that is, free from barbs, icicles or other projections.

H. Posts, Rails and Braces: Shall be the standard weight, hot-dipped galvanized, welded and seamless steel pipes conforming to ASTM A120.

I. Selvage Wire: Shall be of 8-gauge galvanized coil spring steel wire of good commercial quality.

J. Barbed Wire: Shall be three lines of 4-point pattern, each composed of two strands of no. 12-1/2 gauge galvanized wire.

K. Extension Arms: Shall be hot-dipped galvanized. Line post arms of pressed steel are to be of one solid piece construction: gate and terminal posts to have ball caps. Each arm to carry 3 barbed wires at an angle of 45 degrees.

L. Concrete for post footings shall be Class "B".

PART 3 - EXECUTION

3.1 INSTALLATION AND WORKMANSHIP

A. General

1. Chain link fencing shall be erected in strict conformance with the plans and these specifications. Posts shall be plumb and in line. Welding shall be done in accordance with latest AWS standards. However, no splicing of posts, rails or braces shall be accepted. Where changes in line occur with an angle of deflection of 30 degrees or more, the change point will be considered a corner and a corner post shall be installed thereat. End and corner posts for fences with 5-foot and wider fabric shall be braced to the nearest line post with horizontal braces and tension rods. The horizontal braces shall be spaced midway between top rail and ground and securely fastened to posts as shown on plans. Where fencing is placed along a curve with radius of 50 feet, or less, horizontal braces (and tension rods) shall be installed between all posts in like manner. Pull posts, at maximum intervals of 300 feet, shall be braced and trussed in both directions as specified above.

2. Field Touch-Ups: Field welds shall be cleaned of flux and spatter and all damaged galvanizing removed, all hazardous projections ground off, properly prepared, and then heavily coated with self-curing inorganic zinc coating. Manufactured coatings shall be applied in strict accordance with manufacturer's printed specifications. Damage to existing painted surfaces shall be touched up.
B. Fence posts, except as otherwise indicated or specified, shall be spaced not more than 10 feet apart. In curved fence sections having a radius of 50 feet or less, the posts shall be spaced as shown on the plans. Line posts shall be set so that the eye top will receive the top rail and fence fabric at the proper height as shown on the plan.

C. Top rails shall pass through and bear firmly on base of eye tops, form a continuous brace from end to end of each stretch of fence, and be securely fastened to terminal posts with rail ends and brace bands. Couplings for top rails shall be installed at intervals of 21 feet maximum.

D. Chain link fabric shall be fastened on the side of the posts as designated and shall be mounted on the posts so that the bottom of the fabric will be no more above the finished grade than called for on the plans. High points of the ground shall be excavated as necessary. The fabric shall be stretched taut and securely fastened to the posts. Ends of wire ties shall be bent back so as not to be a hazard. Between posts the top edge of the fabric shall be fastened to the top rail and the lower edge to the tension wire with tie wire of size and at spacing as called for on the plans. Tension wire shall be stretched tight and shall be installed in a straight line between posts. Tension bars extending the full height of the fence and tension bar bands shall be used for fastening fabric to end, corner, pull and gate posts. Bolted tension bar bands shall be placed at top and bottom of tension bars and spaced at 12" intervals. Fastenings to line posts shall be made with tie wire of size and at spacing as called for on the plans.

3.2 FINAL CLEANUP

A. All exposed metal surfaces shall be clean and free of cement. All surplus earth resulting from fencing work that is not used in the grading work shall be cleaned up and disposed of off site.

END OF SECTION
SECTION 03210
REINFORCING STEEL

PART 1 - GENERAL
1.1 GENERAL REQUIREMENTS

This section covers the requirements for furnishing and placing of deformed steel bars or welded wire fabric as reinforcement in concrete. The quality, type, size, and dimensions shall be as called for in these specifications and as shown on the plans.

PART 2 - PRODUCTS
2.1 MATERIALS

A. Bar reinforcement shall be of grade 40, billet steel deformed type bars made by the open hearth process and shall conform to the requirements of ASTM Designation A615.

B. Welded wire mesh reinforcement shall be galvanized steel, electric welded type and shall conform to the requirements of ASTM Designation A185. The gauge of the wire and dimensions of the mesh shall be given in these specifications or as shown on the plans.

2.2 EPOXY COATING

Epoxy coating for the reinforcing steel shall be applied by the electrostatic spray method conforming to ASTM A-775.

PART 3 - EXECUTION
3.1 CONSTRUCTION

Unless otherwise specified, the installation of reinforcing steel shall conform to the requirements of "ACI Standard Building Code Requirements for Reinforced Concrete" and "Concrete Reinforcing Steel Institute."

A. Protection of Material: Steel reinforcement shall be protected at all times from damage. When placed in the work, all reinforcing steel shall be new, free from dirt, detrimental scale, paint, oil, or other foreign substances. No material cleaned by sandblasting will be allowed. In the absence of manufacturer's quality mark, the Engineer may require standard ASTM tests be made on representative samples before acceptance. All costs incurred in connection with these tests shall be borne by the Contractor.

B. Bending Diagrams and Order Lists: Two copies of all reinforcing steel order lists and bending diagrams shall be furnished directly to the Engineer and at the site for his use in administering the contract.

Reinforcing Steel
03210-1
Furnishing such lists and diagrams to the Engineer shall not be construed to mean that the lists and diagrams will be reviewed for accuracy. The Contractor shall be wholly and completely responsible for the accuracy of the lists and diagrams and for furnishing and placing all bar reinforcing steel in accordance with the details shown on the plans as specified.

C. Bending: Bends for stirrups and ties shall be made around a pin having a diameter not less than two times the minimum dimensions of the bar. Bends for other bars shall be made around a pin having a diameter not less than six times the minimum dimension of the bar, except that for bars larger than one inch, the pin shall be not less than eight times the bar thickness. All bars shall be bent cold before placing in forms.

D. Placing: Reinforcement shall be accurately placed, supported, aligned, and secured against movement. Bars shall be tied at all intersections except where the spacing is less than one foot in each direction, in which case alternate intersections shall be tied.

Distance from forms and between layers of reinforcing shall be maintained by means of approved commercial chairs, stays, blocks, ties, hangers, or other approved supports. The use of pebbles, pieces of broken stone or brick, metal pipe, or wooden blocks shall not be permitted.

No concrete shall be placed prior to the inspection and approval of the size and placement of all reinforcement by the Engineer.

E. Splicing: End laps of bars at splices shall be a minimum of 30 bar diameters and shall be staggered unless otherwise shown. Bars shall be installed in as long lengths as practicable and splices reduced to a minimum unless otherwise shown on the plans.

F. Wire Mesh: Wire mesh shall be rolled out flat and firmly held in place to the lines and grade as shown on the plans before placing concrete. Splices shall be made by lapping not less than one mesh and securely tied.

G. Coverage: Unless otherwise specified on the plans, the minimum clear thickness of concrete covering reinforcement shall be 2 inches when concrete is placed against form, 3 inches when concrete is placed against ground, and 1-1/2 inches from tops of slabs or unformed surfaces.

END OF SECTION
SECTION 03300

CONCRETE

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This specification covers the requirements for furnishing, hauling, mixing, placing, and curing of concrete.

1.2 SUBMITTALS

The Contractor shall submit concrete mix design for approval.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Portland cement shall conform to the requirements of ASTM C150, Type I, for all concrete work.

B. Concrete Aggregates

1. Fine aggregates shall be calcareous or basalt sands, or a combination thereof. They shall meet the grading requirements of ASTM C33 unless the concrete producer can provide past data that show that a proposed non-conforming gradation will produce concrete with the required strength and suitable workability.

If manufactured sands are used in the concrete mix, the Contractor may select and use a water-reducing and/or an air-entraining admixture as specified hereinafter to provide satisfactory workability in the concrete. The cement content of a mix shall be as specified hereinafter, and the use of an admixture shall in no way result in the reduction of the cement factor.

2. Coarse aggregates shall be crushed close-grained, blue lava rock meeting the grading requirements of sizes 57 or 67 (ASTM D448) or both. The maximum size of aggregate shall not be larger than 1/5 of the narrowest dimensions between sides of the forms of the member for which the concrete is to be used not larger than 3/4 of the minimum clear spacing between individual reinforcing bars or bundles of bars.
C. Concrete Reinforcement

1. Reinforcing steel shall be deformed bars conforming to ASTM A615, grade as shown on plans.

2. Welded wire fabric for concrete reinforcement shall conform to ASTM A185 and shall be galvanized.

3. Metal accessories such as spaces, chairs, ties, and other devices necessary for properly placing, supporting and fastening reinforcement in place shall be provided. Chairs shall be galvanized. Annealed steel wire or not less than 16-gauge shall be used to secure reinforcement.

D. Water used in mixing concrete shall be potable.

E. Non-slip grit shall be an abrasive aggregate of silicon carbide or aluminum oxide.

F. Admixture, if used, shall conform to ASTM C494 or ASTM C260 and shall be mixed in proper amount in accordance with directions of manufacturer.

G. Curing compound shall conform to ASTM C309.

PART 3 - EXECUTION

3.1 DESIGN OF CONCRETE MIXES

A. All concrete throughout shall be either job or plant mixture in an approved type of power operated mixer that will insure uniformity and homogeneity of the concrete produced.

B. Mixing at jobsite shall be done in accordance with ACI 614.

C. Ready-mixed and mixed-in-transit concrete shall be mixed to conform to the provisions of ASTM C94.

D. Concrete shall be mixed only in such quantity as is required for immediate use. No retempering will be permitted and concrete that has started to harden shall be discarded and promptly removed from the job.

E. Admixtures conforming to paragraph 2.1 may be used in the concrete as recommended by the supplier and approved by the Engineer.

3.3 PLACING CONCRETE

A. No concrete shall be placed in the absence of the Engineer or his representative who shall be given one day advance notice of starting time of concrete pour.
B. Preparation

1. Concrete shall be placed upon clean, damp surfaces with no free water, or upon properly compacted fills but never upon soft mud or dry, porous earth.

2. Before depositing new concrete on or against concrete which has set, all accumulation or mortar splashed upon reinforcing steel and the surfaces of forms shall be removed and the forms shall be retightened. The surfaces of previously set concrete shall be thoroughly roughened and cleaned of all foreign matter and laitance, saturated with water and slushed with a coat of cement grout. New concrete shall be placed before the grout has attained its initial set.

C. Conveying

1. Concrete shall be conveyed from mixer to forms as rapidly as practicable by methods that will prevent segregation.

2. Concrete shall be deposited as nearly as practicable in its final position. Extensive spading as a means of transportation shall be avoided and in no case shall vibrators be used to transport concrete inside forms.

3. Open troughs and chutes shall have a slope not to exceed 1 vertical to 2 horizontal and not less than 1 vertical to 3 horizontal. Chutes more than 20 feet long and chutes not meeting the slope requirements may be used provided they discharge into a hopper before distribution.

4. The concrete shall not be allowed to drop freely more than six feet except where specifically authorized by the Engineer. When placing operations would involve the dropping of concrete from a height of more than six feet it shall be conveyed through pipes or flexible drop chutes.

5. If any appreciable segregation occurs through the conveying methods employed, their use shall be ordered discontinued by the Engineer and some other satisfactory method of placing concrete shall be used.

6. All chutes, troughs, pipes and other means of conveyance shall kept clean and free from coatings of hardened cement or concrete by thoroughly cleaning with water and chipping after each pour. Water used for flushing shall be discharged away from the vicinity of the concrete or forms already in place.

D. Depositing

1. Unless adequate protection is provided, concrete shall not be placed during rain. Rainwater shall not be allowed to increase the mixing water nor to damage the surface finish. Fresh concrete that has been deposited but has not attained its initial set shall be protected in the event of rain.
2. Placing of the concrete shall be started at the far end of work so that each batch will be dumped against previously placed concrete, not away from it.

E. Compaction

1. All concrete shall be consolidated by vibration so that the concrete is thoroughly worked around the reinforcement, around embedded items, and into corners of forms, eliminating all air or stone pockets which may cause honey-combing, pitting, or planes of weakness. All compaction shall be done by use of high frequency internal vibrators. Where the vibrator cannot be inserted into the concrete, compaction shall be done by spading, rodding, or forking.

2. Frequency of vibrator shall be not less than 7,000 impulses per minute. The Contractor shall provide a sufficient number of vibrators to properly consolidate all concrete immediately after placing. At least one standby vibrator shall be on hand at all times during placement of the concrete.

3.4 REINFORCEMENT

A. Reinforcing steel bars, wire and wire fabric shall be provided in the sizes, length and configurations as indicated on plans and shall be thoroughly cleaned, before placing, of loose mill scale, loose flaky rust, oil, and all coatings that will destroy or reduce bond. If necessary, they shall be cleaned again before placing of concrete. All items shall be fabricated, positioned and secured in place as indicated in the plans and as herein specified. Annealed steel wire of not less than 16-gauge shall be used to secure reinforcement. Unless otherwise noted, cleaning, bending and placing of reinforcement shall be done in accordance with the standard practice of the Concrete Reinforcing Steel Institute.

B. Concrete or metal support and spacers shall be used to secure the proper spacing of reinforcement over formwork. Stirrups shall be accurately and securely wired to the bars at both top and bottom. At slabs, footings and beams in contact with earth, pre-cast concrete blocks (not bricks or hollow tile) shall be used to hold reinforcement at a proper distance above earth.

C. Bars shall be tied at all intersections, and distances from forms shall be maintained by means of pre-cast concrete blocks, ties, hangers or other approved supports.

D. Bars shall be bent cold to the shapes shown on the plans. Bends shall be made around a pin having a diameter not less than 6 times the bar diameter except that for bars of larger than 1-inch diameter the pin diameter shall be 8 times the bar diameter. If required, bars may be bent in the field using a "hickey" bar.

E. All reinforcing steel bars shall be furnished in the lengths indicated on the plans. Splicing of bars, except where shown, will not be permitted without the approval of the Engineer.

3.5 CONCRETE SLABS ON GRADE

A. Concrete slabs on earth shall be placed over a structural fill as specified in another section.
B. All slabs shall be reinforced with 6 x 8 - W1.4 by W1.4 welded wire fabric unless otherwise shown or called for on the plans.

C. Care shall be taken in handling and placing the reinforcement as follows:

1. Reinforcing fabric shall not be rolled over by trucks, buggies or wheelbarrows, nor trampled to the extent that it is bent out of the plans of the fabric. Material which has been so bent that it cannot be laid out flat shall be rejected.

2. Reinforcing fabric shall be positively set, either prior to or during the placement of concrete, to the levels required within the slabs as indicated on the plans or as otherwise called for herein.

D. A bond-break filler shall be provided where edge of slab abuts any vertical surface and where indicated on plans. Width of filler strips shall equal depth of floor slab.

3.6 FINISHING OF SLABS

A. Broom Finish for Slabs: The concrete slabs shall be given a coarse transverse scored texture by drawing a broom across the surface. The operation shall follow immediately after steel trowelling.

B. A brass survey plate/marker shall be embedded in the relatively level well head concrete slab.

3.7 REPAIR OF DEFECTS

A. After forms have been removed, any concrete which is not constructed as shown on the plans or is out of alignment or level beyond required tolerances or which shows a defective surface which in the opinion of the Engineer cannot be properly repaired or patched shall be removed.

B. Where concrete which is exposed to view requires repairing or patching, the texture of the surface of such repair or patch shall closely match that of the surrounding surface.

3.8 CURING AND PROTECTION

A. All concrete shall be cured for a period of not less than seven (7) days by one of the methods listed below. During this curing period, the concrete shall be maintained with minimal moisture loss at a relatively constant temperature. Fresh concrete shall be protected from heavy rains, flowing water, mechanical injury, and injurious action of the sun. Curing method selected must be compatible with the finish to be applied to the concrete.

Curing shall immediately follow the finishing operation.

B. Water Curing: If cured with water, concrete shall be kept wet by mechanical sprinklers, by ponding, or by any other method which will keep the surfaces continuously wet.
C. Saturated Sand Curing: Surfaces cured with sand shall be covered with a minimum of one inch thickness of sand which shall be kept uniformly distributed and continuously saturated during the entire curing period.

D. Curing Compounds: Curing compounds shall not be used on concrete surfaces that are to receive paint finish, acid stain or resilient flooring, except those that are recommended by the manufacturer to be compatible with the applied finish. The Contractor shall submit to the Engineer a letter certifying that the curing compound is compatible with the applied finish. Application shall be in accordance with the manufacturer's recommendations. If curing, sealing or other compounds are used which are incompatible with applied finish, such compound shall be thoroughly removed by grinding with a terrazzo grinder.

E. Waterproof Paper: Waterproof paper or opaque polyethylene film conforming to ASTM C171 may be used. The paper or film shall be anchored securely and all edges sealed or applied in such a manner as to prevent moisture escaping from the concrete.

3.9 SAMPLING AND TESTING

A. Sampling - ASTM C 172: Collect samples of fresh concrete to perform tests specified. ASTM C 31 for making test specimens.

B. Slump Tests - ASTM C 143: Take concrete samples during concrete placement. The maximum slump may be increased as specified with the addition of an approved admixture provided that the water-cement ratio is not exceeded. Perform tests at commencement of concrete placement, when test cylinders are made, and for each batch (minimum) or every 10 cubic yards (maximum) of concrete.

C. Compressive Strength Tests - ASTM C 39: Make four test cylinders for each set of tests in accordance with ASTM C 31. Test one cylinder at 7 days, two cylinders at 28 days, and hold one cylinder in reserve. Provide concrete cylinders for compression tests not less than once a day, nor less than once for each 100 cubic yards of concrete, nor less than once for each 5,000 square feet of surface for slabs or walls. If the average strength of the 28-day test cylinders is less than $f_c$ and a maximum of one single cylinder is less than $f_c$ minus 300 psi, take three ASTM C 42 core samples and test. If the average strength of the 28-day test cylinders is less than $f_c$ and two or more cylinders are less than $f_c$ minus 300 psi, take six core samples and test. Concrete represented by core tests shall be considered structurally adequate if the average of the three cores is equal to at least 85 percent of $f_c$ and if no single core is less than 80 percent of $f_c$. Locations represented by erratic core strengths shall be retested. Remove concrete not meeting strength criteria and provide new, acceptable concrete at no additional cost to the State. Repair core holes with nonshrink grout. Match color and finish of adjacent concrete.

D. Testing: All sampling and testing shall be performed by an independent testing agency and all test results submitted to the Engineer for approval. All cost of sampling and testing shall be borne by the contractor.

END OF SECTION

Concrete
03300-6
PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This section covers the requirements for furnishing and installing metal fabrications which are not part of structural steel or other metal systems.

1.2 RELATED SECTION

A. Section 09900 - Painting: Shop priming, field touch-up and finishing.

1.3 REFERENCES

A. American Institute of Steel Construction (AISC):


B. American National Standards Institute (ANSI):

B18.2.1-81 Square and Hex Bolts and Screws Inch Series Including Hex Cap Screws and Lag Screws.

B18.2.2-72 Square and Hex Nuts.

B18.5-78 Round Headed Bolts.

C. American Society for Testing and Materials (ASTM):

A 36-84a Structural Steel.

A 53-84a Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.

A 120-82 Pipe, Steel, Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless, for Ordinary Uses.
Zinc (Hot-Galvanized) Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars, and Strip.

Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement.

Zinc Coating (Hot Dip) on Iron and Steel Hardware.

Carbon Steel Externally Threaded Standard Fasteners.

High-Strength Bolts for Structural Steel Joints.

Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.

Steel Bolts and Studs.

Repair of Damaged Hot-Dip Galvanized Coatings.

American Welding Society (AWS):

Welding Procedure and Performance Qualification.

Structural Welding Code, Steel.

Screws, Cap, Slotted and Hexagon Head.

Welding, Cutting and Brazing.

Qualification of Welding Work: AWS B 3.0, for welding processes and welding operations.
B. Codes and Standards: Comply with codes, specifications and standards, referred to in this specification, except where provisions in this specification or drawings exceed such requirements.

1.5 SUBMITTALS

A. Shop Drawings: Shop drawings for each fabricated items showing fabrication, assembly and erection details, sizes of members, fastening, supports, anchors, clearances, and necessary connections to work of other trades.

B. Product Data: Manufacturer’s product data showing references to industry standards for expansion anchor bolts.

1.6 PRODUCT HANDLING

A. Transport and store material with adequate protection against damage. Store items in an enclosed area free from contact with soil and weather.

B. Remove and replace damaged items with new items.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Rolled Steel Shapes, Plates and Bars: ASTM A 36, unless otherwise indicated.

B. Structural Tubing: ASTM A 500, Grade B or ASTM A 501, unless otherwise indicated.

C. Steel Pipes: ASTM A 53, Type E or S, Grade B. Minimum standard weight class, or ASTM A 120 Schedule 40 (standard weight), unless otherwise indicated.

D. Fittings for Steel Pipe: Standard malleable iron fittings, unless otherwise indicated.

E. Steel Rods and Anchor Bolts: ASTM A 36 or ASTM A 307 Grade A, unless otherwise indicated.

F. Bolts and Nuts: ASTM A 325, unless otherwise indicated.

G. Welding Electrodes: AWS D1.1, E 70 Series Electrodes, unless otherwise indicated.

H. Galvanizing Repair Material: ASTM A 780, zinc based alloys, zinc rich paint or zinc for spraying.

I. Steel and Iron: AISC "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings"; if not specified otherwise, use standard mill finished structural steel shapes or bar iron.
J. Anchors and Fasteners: Where exposed, shall be of same material, color, and finish as metal to which applied. Provide zinc-coated or stainless steel fasteners for exterior use and where built into exterior walls. Select fasteners for type, grade, and class best suited for purpose.

2. Toggle Bolts: ANSI B18.2.1 and ANSI B18.5.

K. Metal Surface, General: For fabrication of work of this Section which will be exposed to view, use only those materials which are smooth and free from surface blemishes including pitting, seam marks, roller marks, rolled trade names, and roughness.

2.2 FABRICATION

A. Shop Fabrication: Fabricate and assemble items in shop to greatest extent possible by mechanics skilled in trade and in accordance with manufacturer's directions. Form metalwork to shape and size, with sharp lines, angles, and true curves. Fabricate work to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean.

B. Metal Surfaces: Shall be clean and free from mill scale, flake rust and rust pitting; well formed and finished to shape and size, with sharp lines, angles, and smooth surfaces. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Use welds and flush rivets and finish flush and smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

C. Construction: Thickness of metal and details of assembly and supports shall give strength and stiffness for minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

D. Fastening: Provide necessary rabbets, lugs, and brackets so that work can be assembled in a neat and substantial manner. Drill holes for bolts and screws. Form joints exposed to weather to exclude water. Conceal fastening where possible.

E. Welding: AWS D1.1 for welding of steel. Weld to prevent permanent distortion of connected parts. Weld continuously along entire area of contact (except where tack welding is permitted. Do not tack weld exposed connections). Grind smooth visible welds in finished installation and clean welds immediately by chipping or wire brushing. Comply with OSHS, Chapter 126.

Metal Fabrications
05500-4
2.3 TREATMENT

A. Ferrous Metal Surfaces:

1. General: Metal fabrications made of ferrous metals shall be galvanized except items embedded in concrete and unless otherwise indicated.

B. Galvanizing:

1. Surface Preparation:
   a. Prepare surfaces as required by initial surface condition.
   b. Pre-clean steelwork utilizing an alkaline cleaner, acid pickle and flux.

2. Coating Application:
   a. ASTM A 123, galvanize steel members, fabrications, and assemblies after fabrication where practicable by the hot dip process.
   b. ASTM A 153, galvanize bolts, nuts and washers and iron and steel hardware components.
   c. ASTM A 143, safeguard products against steel embrittlement.

3. Coating Weight:
   a. ASTM A 123, paragraph 5.1 of ASTM A 123 or ASTM A 153, Table 1 as appropriate.

4. Surface Finish: Continuous, adherent, as smooth and evenly distributed as possible and free from any defect detrimental to stated end use of coated article.

5. Adhesion: Withstand normal handling consistent with nature and thickness of coating and normal use of article.

6. Treatment: Do not treat freshly galvanized or passivated surfaces with oils, grease, or chemicals which might interfere with adhesion of subsequent paint primers and coatings.

7. Galvanizing Repair: ASTM A 780, whenever damage exceeds 3/16 inch in width, repair galvanized items damaged by welding cutting or by excessively rough handling during shipping or installation. Do not heat surfaces that repair paint has been applied to.
2.4 ANCHORAGE, FASTENINGS, AND CONNECTIONS

A. Anchorage: Provide anchorage for fastening work securely in place. Set anchors in concrete as the work progresses and space maximum 2 feet on centers, unless indicated otherwise. Sizes, kinds, and spacings of anchors not indicated or specified shall be as necessary for purpose, as approved. Anchorage not otherwise specified or indicated includes slotted inserts, expansion shields, and powder-driven fasteners, when approved for concrete; toggle bolts and through bolts for masonry; machine and carriage bolts for steel; through bolts, lag bolts, and screws for wood. Provide inserts of suitable and approved types where required for support or anchorage of equipment and finish construction. Inserts shall be gray or malleable iron castings or galvanized steel unless indicated or specified otherwise. Slotted inserts shall be of types required to engage with anchors, except where specified otherwise, anchors and anchor bolts in exterior walls shall be zinc-coated and all other anchors and anchor bolts shall be as a minimum heavily coated with bituminous paint.

B. Fastenings: Do not use wood plugs in any material. Use non-ferrous attachments for non-ferrous metal. Make exposed fastenings of compatible materials, generally matching in color and finish, and harmonizing with material to which fastenings are applied. Conceal fastenings where practicable. Drill and punch to produce clean true lines and surfaces. Countersink metalwork to receive hardware.

C. Threaded Connections: Make threaded connections up tight so that threads are entirely concealed. Make bolted work up tight and nick threads or bush stem to prevent loosening. Shoulder and head, dowel and pin abutting bars. Pass small bars through larger bars and pin. Rivet, bolt, and screw heads shall be flat and countersunk in exposed work and elsewhere as required. Machine removable members and fit and secure by screws or bolts of proper size and approved spacing.

D. Anchors and Connecting Members: Provide in concrete or masonry as work progresses, to avoid unnecessary cutting and drilling. Cut, fit, and drill as necessary so materials are properly set in place and to permit engaging work to be properly installed.

E. Design Connections: Where not shown or indicated, connection details shall be in accordance with AISC M011 and connections shall be provided using common steel bolts. Provide necessary holes for securing work to building. Use lock washers under nuts.

F. Built-In Work: Metal work built-in with concrete or masonry shall be formed for anchorage, or be provided with suitable anchoring devices as shown or as required. Furnish metal work in ample time for securing in place as work progresses.

G. Grouting: Grout metal fabrications and anchors to assure filling of spaces and intimate contact of grouting materials with surface to be grouted. Place grout rapidly and continuously so as to avoid cold joints and voids.
2.5 TEMPLATES

A. Furnish templates, other devices and instructions necessary for the setting of anchors and anchor bolts where required to accurate locations.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine areas and conditions under which metal fabrications are to be installed. Should any condition be found unsuitable, no work shall be done until unsuitable conditions have been corrected and are acceptable to Contractor. Proceeding with work will imply acceptance of the conditions by Contractor.

3.2 PREPARATION

A. Field Verification: Verify measurements in field, as required, for work fabricated to fit job conditions. Examine adjoining work on which metal fabrication work is in any way dependent on for workmanship or fit. Provide corrective work as may be necessary.

B. Coordination: Coordinate placement of anchorage in concrete or masonry construction with other trades.

3.3 INSTALLATION

A. General: Install plumb, square, straight, rigid, and true; accurately fit with tight joints and intersections. Brace work adequately, reinforce, and anchor in place.

B. Isolation of Metals: Where dissimilar metals are in contact with one another, or with concrete, separate for prevention of corrosion by approved methods and/or materials.

C. Support and Anchors: Provide supporting members, fastenings, framing, hangers, bracing, brackets, straps, bolts, angles and similar items required to set or connect miscellaneous metal items including suitable anchors, expansion shields and similar items for attachment to structure. Install expansion anchor bolts as recommended by manufacturer.

D. False Work: Provide guys, braces and false work for temporary support of parts of the work and remove when work is self-supporting.

3.4 FIELD TOUCH UP

A. Provide field touch up on galvanized metals not embedded in concrete or masonry as specified under item "Galvanizing Repair."

B. Provide field touch up on ungalvanized metals not embedded in concrete or masonry as specified under Section 09900-Painting.

Metal Fabrications
05500-7
C. After erection, prime bolts, anchors, field welds and abrasions with same primer as used for metal work.
PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

This section covers the requirements for furnishing and installing of paints for aboveground exposed steel junction boxes.

1.2 RELATED DOCUMENTS

The General Provisions of the Contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.3 SUBMITTALS

A. Schedule of Finishes

1. 4 sets of proposed painting finish schedules shall be submitted to the Engineer for approval.

B. Color Samples

1. 3 sets of each color Finish sample shall be submitted to the Engineer for approval.

2. After the color finish sample has been approved, one set of color finish samples painted onto 8-1/2"x 11" cardboard shall be submitted to the Engineer. The cardboard shall be divided into 4 horizontal strips and painted as follows:

   a. Prime 3 strips starting from the bottom.
   b. 1st coat bottom 2 strips.
   c. 2nd coat bottom strip.

C. Schedule of Operations

1. Before work on the project is commenced, 4 complete sets of a work schedule showing his sequence of operations and dates shall be submitted by the Contractor to the Engineer.

D. Guarantee

1. 3 copies of a written guarantee shall be submitted to the Engineer.
1.2 ANALYZING AND TESTING

All paints shall be subject to laboratory tests whenever the Engineer deems necessary to determine conformation to the requirements of these specifications. Cost of testing will be borne by the State. All rejected materials shall be removed from the job site immediately. Surfaces painted with rejected material shall be redone at no additional cost to the State.

1.4 GUARANTEE

A. The Contractor shall guarantee that the work performed under this section conforms to the contract requirements and is free of any defect of material or workmanship performed by the Contractor. Such guarantee shall continue for a period of 2 years from the date of project acceptance during which period the Contractor shall remedy at his own expense any such failure to conform or any such defect.

B. The State shall notify the Contractor in writing within a reasonable time after discovery of any failure or defect.

C. Should the Contractor fail to remedy any failure or defect described in Paragraph A above within 10 working days after receipt of notice thereof, the State shall have the right to repair or otherwise remedy such failure or damage at the Contractor's expense.

1.5 SPECIAL REQUIREMENTS

A. Codes

1. The Contractor shall comply with the State OSHL (Occupational Safety and Health Law) and all pollution control regulations of the State Department of Health.

2. Any violations of the above regulations or codes shall be dealt with as mentioned in the Special Provisions Section and the Environmental Protection Section of these specifications.

B. Protection

1. Persons

a. The Contractor shall take all necessary precautions to protect public pedestrians including tenants from injury.

b. The Contractor shall provide, erect and maintain safety barricades around scaffolds, hoists and wherever Contractor's operations create hazardous conditions in order to properly protect the public and tenants.

2. Completed Work: The Contractor shall provide all necessary protection for wet paint surfaces.
3. Protective Covering: The Contractor shall provide and install protective covering over furniture, equipment, floor and other areas that are not scheduled for treatment. Protective covering shall be clean sanitary drop cloth or plastic sheets. Paint applied to surfaces not scheduled for treatment shall be completely removed and surfaces shall be returned to original condition.

4. Safeguarding of Property: The Contractor shall take whatever steps may be necessary to safeguard his work and also the property of the State and other individuals in the vicinity of his work area during the execution of this Contract. He shall be responsible for and make good on any and all damages and for losses to work or property caused by his or his employee's negligence. Also see "Protection of Property" in the Special Provision Section.

5. Fire Safety: The Contractor shall direct his employees not to smoke in the vicinity and exercise precautions against fire at all times. Waste rags, plastic (polyester sheets), empty cans, etc. shall be removed from the site at the end of each day.

C. Storage Area for Materials: No paint material, empty cans and paint brushes and rollers may be stored in buildings, but shall be stored in separate storage facilities away from the buildings.

The Contractor may furnish a job site storage facility. Such facility shall comply with requirements of the local Fire Department. The storage area shall be kept clean and facility shall be locked when not in use or when no visual supervision is possible.

D. Right of Rejection: The Engineer shall have the right to reject all work which is not in compliance with the plans and specifications. Rejected work will be redone at no additional cost to the State.

E. Sequence of Operations: The sequence of operations shall divide the surfaces into work areas and present a schedule for:

   1. Surface preparation and spot prime.
   2. Prime coat.
   3. First finish coat.
   4. Second finish coat.

F. Inspection and Approvals: The Contractor shall obtain written approval from the Engineer upon completion of each phase of work (phases of work are: surface preparation and spot prime, prime, first finish coat, second finish coat) before proceeding into the next phase work. The Contractor shall give the Engineer one day (24 hours minimum) advance notice of completion of any phase of work for a area only when he deviates from the previously-submitted work schedule. The Contractor shall provide necessary access to areas to be inspected.
Failure to obtain approval of any phase of work for a work area may result in redoing the operation at no cost to the State.

PART 2 - PRODUCTS

2.1 PROHIBITION OF HAZARDOUS MATERIALS

A. Lead Content: Do not use coatings having a lead content over 0.06 percent by weight of nonvolatile content.

B. Chromate Content: Do not use coatings containing zinc-chromate or strontium-chromate.

2.2 PAINTS

A. Materials shall be equal in quality to that specified under the Schedule of Finishes and any given finish shall be as labeled by one manufacturer.

B. All materials shall be delivered to the job site in undamaged original containers beating the manufacturer's label and shall be stored in such a manner as to prevent damage. All rejected materials shall be removed from the job site immediately.

C. Fuller O'Brien paint is indicated for standard of quality and color, only. Comparable high quality top line paints manufactured by Devoe, Benjamin Moore, Sinclair, Spectra-Tone or approved equal.

D. Thinning of paint shall be done using material recommended by the manufacturer. Mix proprietary products according to manufacturer's printed specifications. Compound thinnet, mineral oil, kerosene, refined linseed oil, or gasoline shall not be used for thinning.

E. Except for metal primers, all paint shall contain mildewcide equal in strength to 2 oz. of Super Ad-It per gallon of paint pre-mixed by supplier.

F. The supplier shall submit a signed certification that the paint materials contains mildewcide equal in strength to 2 oz. of Super Ad It.

2.3 SCHEDULE OF FINISHES

A. The Schedule of finishes is made for the convenience of the Contractor and indicates the types and quality of finished to be applied to the surfaces.

B. Any surface not specifically noted in the finish schedule shall be finished to match adjoining work.

2.4 SCHEDULE - EXTERIOR SURFACES

A. Steel - Galvanized (Fuller O'Brien Specifications)

Painting
09900-4
1. Pretreatment - 321-60 Vinyl wash primer
2. First Coat - 221-12 Zinc rich primer
3. Second Coat - 312-XX Heavy duty enamel
4. Third Coat - 312-XX Heavy duty enamel

B. Color of paints shall be as approved by the Engineer.

PART 3 - EXECUTION

3.1 PREPARATION OF SURFACES

A. Ferrous Metal and Galvanized Metal:

1. Remove from surface to be painted all foreign matter such as tape, gum, and burrs.
2. Remove all rust to bare metal. Remove all loose, blistered, scaled, crazed, chalky finish to a tight and firm finish.

3.2 PAINT APPLICATION

A. General

1. All work shall be done in a workmanlike manner by skilled and experienced mechanics and shall conform to the best painting practices.

2. All materials shall be applied in accordance with the manufacturer's specifications and the finished surfaces shall be free from runs, sags, drops, ridges, waves, laps, streaks, brush marks and variations in color, texture and finish (glossy or dull). The coverage shall be complete and each coat shall be so applied as to produce a film of uniform thickness. No paint, varnish or enamel shall be applied until the preceding coat is thoroughly dry and approved.

3. No exterior painting of unprotected surfaces shall be done in rainy, damp weather. Coats shall be applied only to surfaces that are thoroughly dry.

B. Application: Shall be by brush or roller only. Airless spraying may be permitted, but only with the approval of the Engineer for otherwise inaccessible areas.

C. Colors: Each coat shall be tinted a different shade from the preceding coat. Colors shall be as selected by the Engineer.

D. All surfaces adjacent to areas being finished shall be protected and left clean of paints, stains, etc. Clean drop cloths shall be used until completion of job.

E. All mixing shall be done outside the building.

Painting
09900-5
3.3   CLEAN-UP

A. During the progress of the work, all debris, empty crates, waste, drippings, etc. shall be removed by the Contractor and the grounds about the areas to be painted shall be left clean and orderly at the end of each work day.

B. Upon completion of the work, staging, scaffolding, containers and all other debris shall be removed from the site. All paint, shellac, oil, or stains splashed or spilled upon adjacent surfaces not requiring treatment (hardware, fixture, floor, glass) shall be removed and the entire job left clean and acceptable.

END OF SECTION
1. LOCATION OF THE WELL IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL NOT CHARGE FOR THIS WORK. LOCATION TO SURF FIELDS CONDITIONS, AS NO COST TO THE STATE.

2. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE SURFACE OF THE OBJECTS TO DETERMINE THE LOCATION OF THE WELL. LOCATION TO BE MADE IN ACCORDANCE WITH FEDERAL, STATE, COUNTY AND LOCAL LAWS.


4. THE CONTRACTOR SHALL USE THE ORIGINAL CONDITION ALL IMPROVEMENTS AS A RESULT OF THE CONSTRUCTION AT NO COST TO THE STATE.

5. NO WORK SHALL COMMENCE ON SATURDAYS, SUNDAYS, LEGAL HOLIDAYS, ANYWHERE IN EXCESS OF FOUR HOURS EACH DAY WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.


7. THE CONTRACTOR SHALL SUBMIT A SICKLE TOOLS TO DETERMINE THE LOCATION OF ALL EXISTING UTILITIES IN THE PROJECT AREA.

8. THE CONTRACTOR SHALL PERFORM THE FOLLOWING TESTS TO DETERMINE THE LOCATION OF THE WELL: LEAVING DRAWS FIELDS FOR THE CREATED AND EXAMINED PORTION OF THE WELL SHALL BE NO MORE THAN 1 INCHES PER 10 FEET OF DEPTH. NO INSTRUMENT CAN MEASURE BOTH ADJACENT AND LOCATION TO 0.25 INCHES AND 0.02 DEGREES, RESPECTIVELY. SHALL BE ACCEPTED: A VAM NOT WILL NOT BE ACCEPTED.

9. COMPREHENSIVE STRENGTH OF CONCRETE, CT, SHALL BE 3000 PSI.

10. THE CONTRACTOR SHALL OBTAIN A WRITTEN CONSENT FROM THE STATE, IF REQUIRED, TO'SEAL' THE WELL. THE WRITTEN CONSENT OF THE STATE, NO COST TO THE CONTRACTOR.

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
FOR
COMMISSION ON WATER RESOURCE MANAGEMENT
JOB NO. G55CM18B
WAIHEE DEEP MONITOR WELL
WAIHEE, MAUI, HAWAII
T.M.K.: (2) 3-2-1: 3 (PORTION)
ACT 41, SLH 2004, ITEM D-2.01
CONSTRUCTION NOTES

1. Fabric
   All No. 6 gauge galvanized steel wire shall be wound into a 2-inch mesh, not to exceed 50 feet per linear yard. All wire shall be furnished in accordance with the contract specifications.
   Foils: 3/8-inch pipe, 2.37 LBS. per linear yard. All foils shall be furnished in a 50-feet roll.

2. Posts
   Posts: 3/8-inch pipe, 2.37 LBS. per linear yard. All posts shall be furnished in a 50-feet roll.

3. Top Rails
   Top rails: 1/2-inch pipe, 2.27 LBS. per linear yard. All top rails shall be furnished in a 50-feet roll.

4. Gates
   Gates: Provide gates as shown on drawing with suitable backposts for holding the gate in open position. Gates shall be of wrought iron and shall be of the following specifications: 3/4-inch pipe, 2.27 LBS. per linear yard, joined by heavy weldable pressed steel fittings, laced and wired to prevent sag. Frames may be welded, where welding is done, touch-up by hand area with "GALVICON" or equivalent applied in accordance with manufacturer's directions. Gate frames shall be cross-trussed with 1/4-inch adjustable, 1/2-inch chain, equal. Door handles to permit gate to swing in both directions and shall be of chrome heavy gauge double clamping offset type or equal. All parts to be furnished with lock keeper and guide for padlock as shown on the drawing. Padlock to be furnished by the contractor.

5. Cover Wire
   Cover wire: Provide No. 8 gauge galvanized coil spring steel wire of good commercial quality wire wound around bottom of fence.

6. Galvanizing
   Galvanizing: All parts of fence and gates above and below ground shall be new and heavily galvanized by hot-dip process.

7. Driven Wire
   Drive wire: Provide three lines of 4-point pattern, each composed of two strands of 12-gauge galvanized at 9-inch maximum spacing.

DETAILED AT GATE CATCH

GATE CATCH SHOWN IS NOT A STANDARD MANUFACTURER'S GATE CATCH. THE CONTRACTOR SHALL FABRICATE GATE CATCH AS DETAILLED ABOVE.
Wailhie DMW Meeting 5/12/11

- Mike as could not find solid casing (sliotted) identified under spec
- Roy under impression
- Need to working w/ Eng and possibly Mike to find out status of well
- Need to have Mike amend the design and submit well change to us
- Check to contact Mike to find out changes
Mr. Timothy Steinberger, Vice President
URS Corporation
615 Piikoi Street, Suite 900
Honolulu, Hawaii 96814-3141

Dear Mr. Steinberger:

Job No. G55CO18A, Pearl Harbor (Ewa-Kunia Mauka 2)
Deep Monitor Well, Oahu, Hawaii
Job No. G55CO18B, Waimalu Deep Monitor Well, Oahu, Hawaii

Enclosed for your files is Change Order No. 2 for the subject project.

Should you have any questions, please contact Mr. Dennis Imada of the Planning Branch at [redacted]

Sincerely,

ERIC T. HIRANO
Chief Engineer

Enclosure
c: CWRM (Jeremy Kimura w/enclosure)
CHANGE ORDER NO. 2

Project Title: Job No. G55CO18A, Pearl Harbor (Ewa-Kunia Mauka 2) Deep Monitor Well, Oahu, Hawaii
Job No. G55CO18B, Waimalu Deep Monitor Well, Oahu, Hawaii

Contract No. 50110

Contractor: URS Corporation

Date: OCT - 4 2006

Description Change:
The Terms of Agreement shall be extended by 2 additional years, and shall be revised to end on October 31, 2008.

Scope of Services:
The Scope of Services does not change. All work is to be done in accordance with the original contract.

Compensation and Payment Schedule:
The Compensation and Payment Schedule does not change.

1. Checked by

2. Recommended

3. Accepted

4. Approved

By Timothy E. Steinberger
Title Vice President

Chief Engineer
<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of Contract Bid</td>
<td>$138,000.00</td>
</tr>
<tr>
<td>Previous Changes</td>
<td>$0.00</td>
</tr>
<tr>
<td>Changes Recommended</td>
<td>$0.00</td>
</tr>
<tr>
<td>Changes Recommended Change Order No. 2</td>
<td>$0.00</td>
</tr>
<tr>
<td>Total Potential Obligation to Contractor</td>
<td>$138,000.00</td>
</tr>
</tbody>
</table>
AGENDA
FOR THE MEETING OF THE
COMMISSION ON WATER RESOURCE MANAGEMENT

DATE:       June 21, 2006
TIME:       9:00 am
PLACE:      Kalanikou Building
            Conference Room 1
            Punchbowl Street
            Honolulu, Hawaii 96813

B. ANNOUNCEMENTS

D. SURVEY

1. Authorization to Award the Construction Contract for Job No. G55CM18B,
   Waihee Deep Monitor Well, Waihee, Maui

E. STREAM PROTECTION AND MANAGEMENT

1. Application for a Stream Channel Alteration Permit (SCAP-KA-395), Wainiha
   Stream Bank Stabilization, Wainiha Stream, Hanalei, Kauai, (TMK: (4)5-8-005:
   004)

2. Request to Rescind September 1, 1993 Emergency Authorization Procedures

3. Application for a Stream Channel Alteration Permit (SCAP-KA-394), Pilaa 400
   LLC, Remediation Plans, James H. Pflueger, Pilaa Stream & Two Unnamed
   Streams, Kilauea, Kauai (TMK: (4)5-1-004: 008)

4. Request to Enter Into a Contract for Professional Services to Conduct Statewide
   Field Investigations to Verify and Inventory Surface-Water Uses and Stream
   Diversions, and Update Existing Surface-Water Information
G. NON-ACTION ITEMS


2. Division of Aquatic Resources’ Aquatics Surveys Database: Use and Applications, a presentation by Glenn Higashi and Darrell Kuamoo, Division of Aquatic Resources and James Parham, Bishop Museum

3. “Stream Biodiversity Prioritization Project,” a presentation by Dwayne Meadows, Division of Aquatic Resources

4. Update on the Instream Use Protection Program

H. NEXT COMMISSION MEETINGS (TENTATIVE)

1. July 12, 2006
2. August 16, 2006
Authorization to Award the Construction Contract for 
Job No. G55CM18B, Waihee Deep Monitor Well, Waihee, Maui

BACKGROUND:

Capital Improvement Program (CIP) funding for the subject project in the amount of $431,000 was appropriated to the Department of Land and Natural Resources under Act 41, SLH 2004. Funding was provided for planning ($25,000), land ($10,000), design ($25,000), construction ($321,000), and equipment ($50,000) to construct a deep monitor well to collect hydrologic and geologic data from the Waihee Aquifer System on the island of Maui.

The proposed justification for the monitor well is as follows:

a. Long-term ground water monitoring is necessary for the Waihee Aquifer System. The proposed deep monitor well will be used to observe long-term changes in water levels and in the thickness of the basal lens and transition zone.

b. Proceedings to designate Waihee as a ground water management area have been deferred. However, the adjacent Iao aquifer system was designated as a ground water management area on July 21, 2003.

c. CWRM has two deep monitor wells in the Iao Aquifer System. An additional well in Waihee will provide better monitoring coverage for the region.

Approval by the Governor was received on August 2, 2004, authorizing the release of planning, land, design, construction, and equipment funds totaling $431,000 to complete the Waihee deep monitor well. The Commission authorized the Chairperson to enter into an agreement for consultant services for planning and design of the Waihee Deep Monitor Well on July 28, 2004 and the firm of Shimabukuro, Endo & Yoshizaki, Inc. (SEY Engineers) was selected to provide consultant services. Subsequently, approval by the Governor was received on March 6, 2006, authorizing the transfer of $40,000 in previously released equipment funds to construction. This transfer was necessary in the event that the cost of drilling exceeded the available construction funds.
PROJECT DESCRIPTION:

The project consists of constructing an 8-inch diameter deep monitor well, approximately 900 feet deep, in Waihee, Maui, located near the County of Maui, Department of Water Supply's North Waihee Reservoir Site, and identified as Tax Map Key: (2) 3-2-01: Portion of 3.

Bids for the subject project were received and opened on May 18, 2006, and the results are as follows:

<table>
<thead>
<tr>
<th>Bidder</th>
<th>Total Sum Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wailani Drilling Inc.</td>
<td>$333,910.00</td>
</tr>
<tr>
<td>Valley Well Drilling, LLC</td>
<td>$395,580.00</td>
</tr>
<tr>
<td>Beylik Drilling &amp; Pump Service, Inc.</td>
<td>$426,925.00</td>
</tr>
<tr>
<td>Water Resources International, Inc.</td>
<td>$592,190.00</td>
</tr>
</tbody>
</table>

Wailani Drilling submitted the low bid. We have reviewed the bid and found it to be fair.

The construction contract with Wailani Drilling is subject to approval by the Deputy Attorney General.

RECOMMENDATION:

That the Commission authorize the Chairperson to proceed with awarding the contract for Job number G55CM18B, Waihee Deep Monitor Well, Waihee, Maui, to Wailani Drilling, for their low bid of $333,910.00, and execute necessary documents to implement the project subject to the approval by the Deputy Attorney General.

Respectfully submitted,

DEAN A. NAKANO
Acting Deputy Director

Exhibit(s)  1  Location of Proposed Deep Monitor Well
            2  Proposed Well Section

APPROVED FOR SUBMITTAL:

PETER T. YOUNG
Chairperson
NOTE:
DEPTHS AND ELEVATIONS SHOWN ARE APPROXIMATE. ACTUAL DEPTH TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

SECTION THRU WELL
NOT TO SCALE

EXHIBIT 2
STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

June 21, 2006
Honolulu, Hawaii

Application for a Stream Channel Alteration Permit (SCAP-KA-395)
Wainiha Stream Bank Stabilization
Wainiha Stream, Hanalei, Kauai, TMK: (4)5-8-005: 004

APPLICANT: Joel L. Cavasso
1088 Koohoo Place
Kailua, HI 96734

LANDOWNER: Same

SUMMARY OF REQUEST:
The applicant proposes to stabilize the bank of Wainiha Stream adjacent to his house at Wainiha, Hanalei, Kauai.

LOCATION: Exhibit 1.

BACKGROUND:
November 8, 2005 – Letter from the U. S. Fish and Wildlife Service (Service) to the U.S. Army Corps of Engineers (Corps) commenting on the Department of the Army Permit (Section 404, Clean Water Act) submittal by Mr. Cavasso for bank stabilization of Wainiha Stream. The Service “does not support structural hardening of natural stream banks, particularly in aquatic systems that support high numbers of native species.” The Service also urged the Corps to “carefully consider the proposed project with respect to the potential resource effects on a watershed-wide basis.”
November 16, 2005 – Letter from the Department of Business, Economic Development & Tourism (DEBDT) to Mr. Cavasso requesting additional information regarding the Coastal Zone Management (CZM) federal consistency review for the Department of the Army Permit.

December 23, 2005 – Letter from DBEDT to Mr. Cavasso requesting that he respond to concerns raised from three parties, in addition to the information requested in the November 16, 2005 letter.

January 20, 2006 – Letter from DBEDT to Mr. Cavasso granting his request for a 30-day extension to submit the additional information.

February 28, 2006 – Letter from DBEDT to Mr. Cavasso granting a second 30-day extension to submit the information.

March 11, 2006 – Letter from Mr. Cavasso to the County Engineer asking that they contact the Commission staff and ask them to “fast track our request on an emergency basis.”

March 17, 2006 – Letter from Mr. Cavasso to the County of Kauai, Department of Public Works (Kauai DPW) asking Kauai DPW to consider fast-tracking the project.

March 21, 2006 – Letter from Mr. Cavasso to Mayor Baptiste requesting his help in fast-tracking the project.

March 22, 2006 – Staff from the Kauai DPW contacted Commission staff to discuss the Commission’s standard stream channel alteration permit requirements as well as the provisions for work during emergencies. The Commission’s Emergency Authorization procedures were faxed to Kauai DPW.

March 23, 2006 – Staff received a written request, dated March 22, 2006, for an Emergency Authorization to do the work.

March 23, 2006 – An Emergency Authorization (Exhibit 2) was issued to Mr. Cavasso along with a copy of the Commission’s Emergency Authorization procedures (Exhibit 3).

April 14, 2006 – Letter from Mr. Cavasso to the Commission explaining that the March 2006 rains have delayed the initiation of remedial work, and that “other delays have resulted due to the non-availability of crews and equipment that have been diverted to other emergency work needed after the flooding at Wainiha and other areas.”

April 19, 2006 – Staff visited the project site with Mr. Cavasso’s agent, Mr. Sandy Brodie, and found that the bank stabilization work had not yet started except for boulders placed on the property.

April 26, 2006 – Letter (Exhibit 4) from the Commission to Mr. Cavasso regarding staff’s field visit to the project site and asking Mr. Cavasso to submit a Stream Channel Alteration Permit
Application because "it now appears that the immediate threat to your property has subsided and the work has apparently not been completed."

May 1, 2006 – Mr. Cavasso’s stream channel alteration permit application was accepted for processing and review by other agencies.

**DESCRIPTION:**

Mr. Cavasso proposes to stabilize the bank of Wainiha Stream to stop bank erosion, by lining 150 lineal feet of stream bank within his property with grouted rip-rap to eliminate erosion. The proposed grouted rip-rap wall will be about six feet above the bed of the stream with a two-feet deep by four-feet wide foundation below the streambed. The slope of the wall will be one-to-one, and will be adjusted to fit the existing slope protection on the adjacent lots.

**ANALYSIS:**

The Corps indicates that Mr. Cavasso’s Section 404, Clean Water Act Permit, POH-2005-518 permit application has been filed, and the Water Quality Certification file No. 0000688 and Hawaii Coastal Zone Management Consistency Determination are still incomplete.

The Department of Health indicates that the project is subject to the Section 401 Water Quality Certification File No. WQC 0000688.

The Department of Hawaiian Home Lands has no objections to the project.

Forestry and Wildlife and State Parks have no objections to the project.

Historic Preservation indicates there will be “no effect” on historic properties.

The Engineering Division has the following comments:

1) According to the Flood Insurance Rate Map, the project is located in Zone VE. The National Flood Insurance Program (NFIP) regulates development within Zone VE.

2) The project must comply with the rules and regulations of the NFIP presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken.

3) 44CFR indicates the minimum standards set forth by the NFIP. The Community’s local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. Questions regarding the local flood ordinances should be referred to the County of Kauai, Department of Public Works.

The County of Kauai, Department of Planning indicates that a Special Management Area permit is not required, and has no objections to the project.
At the time this submittal was prepared, staff was still awaiting comments from the U.S. Fish and Wildlife Service, the University of Hawaii-Environmental Center, the Office of Hawaiian Affairs, the State Land Division and Division of Aquatic Resources, and the County of Kauai-Department of Public Works.

Both the Corps and the Department of Health indicate they must issue Federal Clean Water Act permits to address water quality concerns (Sections 401 and 402). Staff believes that these permits are adequate to address concerns to minimize adverse water quality impacts to Wainiha Stream.

RECOMMENDATION:

That the Commission approve a stream channel alteration permit for the Wainiha Stream Bank Stabilization Project, TMK: (4) 5-8-005:004, Hanalei, Kauai. The permit shall have a term of two years subject to the Commission’s standard permit conditions in Exhibit 5.

Respectfully submitted,

DEAN A. NAKANO
Acting Deputy Director

Exhibit(s): 1 Location Map
2 March 23, 2006 Emergency Authorization
3 Emergency Authorization Procedure
4 Letter of April 26, 2006
5 Standard Stream Channel Alteration Permit Conditions

APPROVED FOR SUBMITTAL:

PETER T. YOUNG
Chairperson
Mr. Joel L. Cavasso  
1088 Koohoo Place  
Kailua, HI 96734  

Dear Mr. Cavasso:  

EMERGENCY AUTHORIZATION  
Wainiha Stream Bank Stabilization, Wainiha, Hanalei, Kauai  

We acknowledge your written request dated March 22, 2006, and hereby issue an emergency authorization to perform work to stabilize the bank of Wainiha Stream on your property at TMK: 5-8-005:004.  

Please follow the Commission on Water Resource Management's emergency authorization procedures that are enclosed for your information and use and submit an after-the-fact Stream Channel Alteration Permit Application, also enclosed, upon completion of the work.  

The project may require other agency approvals regarding wetlands, water quality, grading, stockpiling, and floodways. This emergency authorization should not be used for other regulatory jurisdictions or used to imply compliance with other federal, state, or county rules.  

Please call Ed Sakoda of the Commission staff at [redacted] if you have any questions.  

Sincerely,  

DEAN A. NAKANO  
Acting Deputy Director  

ES:fc  

Attachments  

c. Mr. Farley Watanabe, U.S. Army Corps of Engineers  
Mr. Edward Chen, Department of Health, Clean Water Branch  
Ms. Laura Thielen, Director, Office of Planning  
State Historic Preservation Division  
Mr. Mario Antonio, Kauai Department of Public Works  
Mr. Leslie Milnes, Kauai Planning Department
Emergency Authorization

The following procedure shall be used by the Chairperson of the Commission on Water Resource Management in evaluating and granting requests for emergency work for channel alteration;

a. When emergency work is necessary to prevent or minimize loss of life or damage to property, including the repair or restoration of structures damaged by a sudden and unforeseen event, a person may proceed to do the work without a permit.

b. In general, protective, health, and sanitation measures shall be limited to the minimum amount necessary to remove immediate threats to health and safety or to prevent immediate or further damage to property, and emergency repairs or restoration of structures shall be based on their replacement by a minimum facility of the same general type.

c. No later than the first working day after initiation of any emergency work, the person effecting the work shall notify the Chairperson by telephone, facsimile, or hand delivered letter, and describe the nature and circumstances of the remedial work so that the Chairperson may issue an emergency authorization.

d. If the initial notification was by telephone, within five working days of the initial notification, the nature and circumstances of the remedial work shall be described in writing and submitted to the Chairperson.

e. Immediately upon completion of the emergency work, the person effecting the work shall notify the Chairperson by telephone, facsimile, or hand delivered letter.

f. The staff of the Commission on Water Resource Management shall investigate and field check the completed work.

g. Within thirty days of his notification to the Chairperson, the person effecting the emergency work shall submit to the Commission a written report describing the nature and extent of the emergency work performed, including relevant maps and diagrams showing the location and details of the work completed. No fee will be required for the filing of the report.

h. At the first Commission on Water Resource Management meeting after issuance of the emergency authorization, the Chairperson shall report on the emergency authorization granted.

i. The person effecting the emergency work shall apply for an after-the-fact stream channel alteration permit within 30 days of completion of the work. The applicable fee shall apply.
Mr. Joel L. Cavasso
1088 Koohoo Place
Kailua, HI 96734

Dear Mr. Cavasso:

Wainiha Stream Bank Stabilization, Wainiha, Hanalei, Kauai

The Commission issued an emergency authorization to perform work to stabilize the bank of Wainiha Stream on your property at TMK: (4)5-8-005:004, on March 23, 2006.

On April 19, 2006, Commission on Water Resource Management (Commission) staff conducted a field investigation of your property, in coordination with your agent on Kauai, Mr. Sandy Brodie. Staff findings indicate that the bank stabilization work had not yet started except for boulders placed on the property. Under the procedures set forth by the issuance of an Emergency Authorization, Section (b) allows you to “remove immediate threats to health and safety or to prevent immediate or further damage to property.”

Section (g) of the Emergency Authorization requires you to submit a written report to the Commission “describing the nature and extent of the emergency work performed, including relevant maps and diagrams showing location and details of the work completed.” It now appears that the immediate threat to your property has subsided and the work has apparently not been completed.

Therefore, we will require that you submit a Stream Channel Alteration Permit Application along with all applicable documentation for the proposed project. The application will be processed under current procedures including, but not limited to, appropriate agency review and submission to the Commission for final decision on the issuance of a Stream Channel Alteration Permit.

However, during the Commission’s review of your application, should a situation arise where “emergency work is necessary to prevent or minimize loss of life or damage to your property,” you may request the issuance of another Emergency Authorization.
Mr. Joel L. Cavasso
Page 2

The project may require other agency approvals regarding wetlands, water quality, grading, stockpiling, and floodways. This letter should not be used for other regulatory jurisdictions or used to imply compliance with other federal, state, or county rules. Work performed without appropriate permits or authorizations may be subject to fines and/or remediative actions.

Please call Ed Sakoda of the Commission staff at [redacted] if you have any questions.

Sincerely,

DEAN A. NAKANO
Acting Deputy Director

Attachments

c. Representative Hermina Morita, House of Representatives
   Mr. Sandy Brodie
   Mr. Farley Watanabe, U.S. Army Corps of Engineers
   Mr. Edward Chen, Department of Health, Clean Water Branch
   Ms. Laura Thielen, Director, Office of Planning
   State Historic Preservation Division
   Mr. Mario Antonio, Kauai Department of Public Works
   Mr. Leslie Milnes, Kauai Planning Department
STANDARD STREAM CHANNEL ALTERATION PERMIT CONDITIONS

1. The permit application and staff submittal approved by the Commission at its meeting on June 21, 2006 shall be incorporated herein by reference.

2. The applicant shall comply with all other applicable statutes, ordinances, and regulations of the Federal, State and County of Kauai governments.

3. The applicant, his successors, assigns, officers, employees, contractors, agents, and representatives, shall indemnify, defend, and hold the State of Hawaii harmless from and against any claim or demand for loss, liability, or damage including claims for property damage, personal injury, or death arising out of any act or omission of the applicant or his successors, assigns, officers, employees, contractors, and agents under this permit or related to the granting of this permit.

4. The applicant shall notify the Commission, by letter, of the actual dates of project initiation and completion. The applicant shall submit a set of as-built plans to the Commission upon completion of this project. This permit may be revoked if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The proposed work under this stream channel alteration permit shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Commission upon showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Commission no later than three (3) months prior to the date the permit expires. If the commencement or completion date is not met, the Commission may revoke the permit after giving the permittee notice of the proposed action and an opportunity to be heard.

5. Before proceeding with any work authorized by the Commission, the applicant shall submit one set of construction plans and specifications to determine consistency with the conditions of the permit and the declarations set forth in the permit application.

6. The applicant shall utilize appropriate erosion control measures during construction, and shall perform construction activities only during periods of low stream flow. The applicant shall prevent debris and construction materials, including cement, petroleum products, and other pollutants, from entering the stream. Wash and dust control water shall be properly disposed.

7. In the event that historically significant remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work in the area of the find and contact the Department's Historic Preservation Division immediately. Work may commence only after written concurrence by the State Historic Preservation Division.
SUMMARY OF REQUEST:

Staff is requesting that the Commission rescind the Emergency Authorization procedures that were approved by the Commission on Water Resource Management (Commission) on September 1, 1993.

LOCATION: Statewide application.

BACKGROUND:

Hawaii administrative Rules Section 13-169-55 provides for emergency channel alteration work. Commission staff currently follows the attached (Exhibit I) emergency authorization procedures that are a combination of the administrative rules and additional procedures added for clarification.

The heavy rainfall in March and April 2006 triggered increased requests for emergency authorizations to construct projects to prevent damage to life and property due to flooding concerns. In issuing emergency authorizations according to the September 1, 1993 procedures, it became apparent that there were some ambiguities in the language of the document. Staff met with the Deputies Attorney General to discuss the matter. After considerable discussion, it was recommended by the deputies that the Commission formally rescind the September 1, 1993 procedures and that staff follow the existing administrative rules.

RECOMMENDATION:

That the Commission rescind the emergency authorization procedures that were approved by the Commission on September 1, 1993. Commission staff will follow the procedures for emergency work as provided in Section 13-165-55 of the Hawaii Administrative Rules.

Respectfully submitted,

DEAN A. NAKANO
Acting Deputy Director

Exhibit(s) 1 Emergency Authorization Procedures

APPROVED FOR SUBMITTAL:

PETER T. YOUNG
Chairperson
Emergency Authorization

The following procedure shall be used by the Chairperson of the Commission on Water Resource Management in evaluating and granting requests for emergency work for channel alteration;

a. When emergency work is necessary to prevent or minimize loss of life or damage to property, including the repair or restoration of structures damaged by a sudden and unforeseen event, a person may proceed to do the work without a permit.

b. In general, protective, health, and sanitation measures shall be limited to the minimum amount necessary to remove immediate threats to health and safety or to prevent immediate or further damage to property, and emergency repairs or restoration of structures shall be based on their replacement by a minimum facility of the same general type.

c. No later than the first working day after initiation of any emergency work, the person effecting the work shall notify the Chairperson by telephone, facsimile, or hand delivered letter, and describe the nature and circumstances of the remedial work so that the Chairperson may issue an emergency authorization.

d. If the initial notification was by telephone, within five working days of the initial notification, the nature and circumstances of the remedial work shall be described in writing and submitted to the Chairperson.

e. Immediately upon completion of the emergency work, the person effecting the work shall notify the Chairperson by telephone, facsimile, or hand delivered letter.

f. The staff of the Commission on Water Resource Management shall investigate and field check the completed work.

g. Within thirty days of his notification to the Chairperson, the person effecting the emergency work shall submit to the Commission a written report describing the nature and extent of the emergency work performed, including relevant maps and diagrams showing the location and details of the work completed. No fee will be required for the filing of the report.

h. At the first Commission on Water Resource Management meeting after issuance of the emergency authorization, the Chairperson shall report on the emergency authorization granted.

i. The person effecting the emergency work shall apply for an after-the-fact stream channel alteration permit within 30 days of completion of the work. The applicable fee shall apply.
Application for a Stream Channel Alteration Permit (SCAP-KA-394)
Pilaa 400 LLC, Remediation Plans, James H. Pflueger
Pilaa Stream & Two Unnamed Streams
Kilauea, Kauai (TMK: (4)5-1-004: 008)

APPLICANT: Pilaa 400, LLC
1450 South Beretania Street
Honolulu, HI 96814

LANDOWNER: James H. Pflueger
1450 South Beretania Street
Honolulu, HI 96814

SUMMARY OF REQUEST:
The purpose of the project is to restore streams in the project area to their natural condition.

LOCATION: Exhibit 1.

BACKGROUND:
The remediation plans are the result of a consent decree brought on behalf of the Environmental Protection Agency and the State Department of Health. The complaint alleges that defendants James H. Pflueger, Pflueger Properties, and Pilaa 400 LLC, illegally discharged storm water associated with their construction activities on the Island of Kauai, Hawaii, and seeks civil penalties and injunctive relief. The consent decree requires defendants to pay a $2 million civil penalty and to perform a Supplemental Environmental Project designed to reduce the inflow of pollution to receiving waters and improve water quality, at an estimated cost of $200,000. Finally, the decree requires defendants to complete measures necessary to abate further discharges of pollution and to repair the damage done to waterways on their property, at a cost of
about $5.3 million. The remediation plans are based upon input from stream and engineering professionals with expertise in stream biology and hydrology.

DESCRIPTION:

The Project involves restoration work in three different gulches designated Gulch 2 (unnamed stream), Gulch 3 (unnamed stream), and Gulch 4 (Pilaa Stream, also known as Waiakalua Stream) (Exhibit 2). The project will restore streams to more natural conditions to provide aquatic habitat for native species and protect water quality.

ANALYSIS:

The Army Corps of Engineers, Regulatory Branch, has issued a provisional verification under Section 404 of the Clean Water Act. Work may not begin until the Clean Water Branch, Hawaii State Department of Health issues a Section 401 Water Quality Certification, or waiver for the proposed activities, and the Office of Coastal Zone Management (CZM) issues a CZM consistency determination, or receives a CZM negative determination from the applicant, Mr. Pflueger.

The Hawaii CZM Program has completed its federal consistency review of the proposal to restore three gulches in Pilaa, Kauai, to more natural stream conditions, and concurs with the applicant’s CZM federal consistency certification for the project.

The Department of Health, Clean Water Branch, has reviewed the Section 401 Water Quality Certification Application submitted on behalf of Mr. Pflueger, and determined that it is incomplete and deficient. They have requested more information to correct the deficiency.

The Department of Hawaiian Home Lands indicates that the project is not subject to their regulatory authority.

The Office of Hawaiian Affairs (OHA) “is supportive of efforts to repair past damage on these and other damaged streams and waterways throughout our islands to provide for native riparian plants, stream species, and traditional and customary Native Hawaiian rights associated with these resources. It is the understanding of OHA that this work is being done in accordance with a consent decree lodged on March 9, 2006 in United States, et al. v. Pflueger, et al., Civ. No. 06-00140 SPK BMK (D. Haw.). To the extent that this proposal implements that decree, OHA is particularly supportive of this effort.”

The Division of Forestry and Wildlife has no objections to the project. State Parks indicates the project is not subject to their regulatory authority.

The State Historic Preservation Division is concerned that the proposed remediation plan creates several pond areas that could adversely affect six historic sites in the Gulch 4 (Pilaa Stream) area. They recommend the following conditions:
1. A qualified archaeologist should conduct a field visit and assess whether the ponds will be adversely impacted by the proposed remediation plan; and

2. A qualified archaeologist should be on site to monitor any ground disturbance during construction, and to ensure historic sites are protected. An archaeological plan shall be submitted to our division for review, comment and approval. Once approved, the project should be allowed to proceed; however, a report documenting the archaeological work shall be submitted to the State Historic Preservation Division for review and approval. The report shall include: 1) Detail drawings of burials and deposits to scale; 2) All artifacts shall be sketched and photographed; 3) Analysis of all perishable and datable remains shall be conducted; 4) Stratigraphic profiles shall be drawn and made to scale; 5) All locations of historic sites shall be on an overall map of the project area; 6) Initial significance evaluations shall be included for each historic site found; and 7) Documentation on the nature and age of the historic sites shall be done. If significant historic sites are found then proposed mitigation or preservation plans can be submitted for review and approval.

The County of Kauai, Department of Planning indicates the project is not in the Special Management Area and has no objections to the project.

The County of Kauai, Department of Public Works, indicates the remediation plans are a result of the final product from the discussion groups composed of representatives from the County of Kauai, the State Department of Health, the U.S. Environmental Protection Agency, and the U.S. Fish and Wildlife Service. They do not believe a no rise determination is required since the unnamed streams have not been identified on the Flood Insurance Rate Maps as a flood prone area. Moreover, there are no existing structures and there will not be any new structures adjacent to the affected work.

At the time the submittal was prepared, staff was still awaiting comments from the U.S. Fish and Wildlife Service, the University of Hawaii – Environmental Center, Aquatic Resources, Engineering Division, and Land Division.

Both the Army Corps of Engineers and the Department of Health indicate they must issue Federal Clean Water Act permits to address water quality concerns (Sections 404 and 401, respectively). The staff believes that these permits will address concerns to minimize adverse impacts to Pilaa Stream and the two unnamed streams in the project area.

RECOMMENDATION:

That the Commission approve a stream channel alteration permit for the Pilaa Remediation Plans Project (TMK: 5-1-004:008) Kilauea, Kauai. The permit shall have a term of two years subject to the Commission's standard permit conditions in Exhibit 3, and the following special conditions:
1. A qualified archaeologist should conduct a field visit and assess whether the ponds will be adversely impacted by the proposed remediation plan; and

2. If it is determined that the ponds will be adversely impacted, then a qualified archaeologist should be on site to monitor any ground disturbance during construction, and to ensure historic sites are protected. An archaeological plan shall be submitted to the State Historic Preservation Division (SHPD) for review, comment and approval. Once approved, the project should be allowed to proceed; however, a report documenting the archaeological work shall be submitted to the SHPD for review and approval. The report shall include: 1) Detail drawings of burials and deposits to scale; 2) All artifacts shall be sketched and photographed; 3) Analysis of all perishable and datable remains shall be conducted; 4) Stratigraphic profiles shall be drawn and made to scale; 5) All locations of historic sites shall be on an overall map of the project area; 6) Initial significance evaluations shall be included for each historic site found; and 7) Documentation on the nature and age of the historic sites shall be done. If significant historic sites are found then proposed mitigation or preservation plans can be submitted to the SHPD for review and approval.

Respectfully submitted,

[Signature]

DEAN A. NAKANO
Acting Deputy Director

Exhibit(s):
1 Location Map
2 Site Map
3 Standard Stream Channel Alteration Permit Conditions

APPROVED FOR SUBMITTAL:

[Signature]

PETER T. YOUNG
Chairperson
Figure 1
PROJECT LOCATION

Pila'a 400 LLC
Belt Collins Hawaii
March 2006

EXHIBIT 1
STANDARD STREAM CHANNEL ALTERATION PERMIT CONDITIONS

1. The permit application and staff submittal approved by the Commission at its meeting on June 21, 2006 shall be incorporated herein by reference.

2. The applicant shall comply with all other applicable statutes, ordinances, and regulations of the Federal, State and County of Maui governments.

3. The applicant, his successors, assigns, officers, employees, contractors, agents, and representatives, shall indemnify, defend, and hold the State of Hawaii harmless from and against any claim or demand for loss, liability, or damage including claims for property damage, personal injury, or death arising out of any act or omission of the applicant or his successors, assigns, officers, employees, contractors, and agents under this permit or related to the granting of this permit.

4. The applicant shall notify the Commission, by letter, of the actual dates of project initiation and completion. The applicant shall submit a set of as-built plans to the Commission upon completion of this project. This permit may be revoked if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The proposed work under this stream channel alteration permit shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Commission upon showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Commission no later than three (3) months prior to the date the permit expires. If the commencement or completion date is not met, the Commission may revoke the permit after giving the permittee notice of the proposed action and an opportunity to be heard.

5. Before proceeding with any work authorized by the Commission, the applicant shall submit one set of construction plans and specifications to determine consistency with the conditions of the permit and the declarations set forth in the permit application.

6. The applicant shall utilize appropriate erosion control measures during construction, and shall perform construction activities only during periods of low stream flow. The applicant shall prevent debris and construction materials, including cement, petroleum products, and other pollutants, from entering the stream. Wash and dust control water shall be properly disposed.

7. In the event that historically significant remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work in the area of the find and contact the Department's Historic Preservation Division immediately. Work may commence only after written concurrence by the State Historic Preservation Division.
STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

June 21, 2006
Honolulu, Oahu

Request to Enter Into a Contract for Professional Services to Conduct Statewide Field Investigations to Verify and Inventory Surface-Water Uses and Stream Diversions, and Update Existing Surface-Water Information

SUMMARY OF REQUEST:

Staff is requesting that the Commission authorize the Chairperson to enter into a contract or contracts for professional services to conduct statewide field investigations to verify and inventory surface-water uses and stream diversions, and update existing surface-water information.

LOCATION: Statewide application

BACKGROUND:

The State Water Code mandates that the Commission on Water Resource Management (Commission) establish a statewide instream use protection program (State Water Code, Hawaii Revised Statutes, chapter 174C, section 71). The principle mechanism that the Commission has for protection of instream uses is to establish instream flow standards. “Each instream flow standard shall describe the flows necessary to protect the public interest in the particular stream. Flows shall be expressed in terms of variable flows of water necessary to protect adequately fishery, wildlife, recreational, aesthetic, scenic, or other beneficial instream uses in the stream in light of existing and potential water developments including the economic impact of restriction of such use” (State Water Code, section 174C-71(1)(C)). The State Water Code defines instream uses as beneficial uses of stream water for significant purposes which are located in the stream and which are achieved by leaving the water in the stream. Instream uses include, but are not limited to: (1) maintenance of fish and wildlife habitats; (2) outdoor recreational activities; (3) maintenance of ecosystems such as estuaries, wetlands, and stream vegetation; (4) aesthetic values such as waterfalls and scenic waterways; (5) navigation; (6) instream hydropower generation; (7) maintenance of water quality; (8) the conveyance of irrigation and domestic
water supplies to downstream points of diversion; and (9) the protection of traditional and customary Hawaiian rights.

In order to establish instream flow standards to protect instream uses, the State Water Code provides that the Commission "shall weigh the importance of the present or potential uses of water from the stream for noninstream purposes, including the economic impact of restriction of such uses." To adequately "weigh the importance" of leaving water in the streams for instream uses versus allowing the water to be diverted from the streams for offstream uses, an inventory of offstream uses is required.

The State Water Code, Section 174C-26, provided procedures for all water users statewide to file a declaration of their uses with the Commission within one year from the date the administrative rules for the State Water Code were adopted, effectively, May 30, 1989. As of September 1992, there were 2,387 water use declarant files, of which, 2,175 were deemed complete. The data obtained from the declaration process were not adequately verified or confirmed through field inspections by Commission staff.

Beginning in the summer of 1990, field crews of the Commission undertook limited verification of water sources and uses that had been registered and declared to the Commission in accordance with requirements of the State Water Code. By June 1992, the field crews had conducted only initial inspections of water sources and uses on Oahu in tax map zones 4,5,6,7, and 8. Progress was slow due to staffing/resource limitations and difficulties in contacting declarants to schedule inspections. In subsequent years, the Commission has hired private contractors to conduct further limited field verifications, but has been similarly constrained by the lack of appropriate resources.

Recognizing the importance and continuing need for this information, the department included a funding request as part of its FY '07 Supplemental Budget to undertake and continue the required statewide field verification of stream diversions. The State Legislature approved and appropriated $650,000 to the Commission for this project.

SCOPE OF SERVICES:

This proposed Investigation calls for prioritized and phased field verification and documentation of existing surface-water diversions statewide. The investigation would include: (1) global positioning system (GPS) derived location of each surface-water diversion in terms of latitude and longitude coordinates and tax map key number plotted on U.S. Geological Survey quadrangle and tax maps; (2) photographs and schematic drawings of the diversion captioned with appropriate descriptions; (3) a written descriptive summary identifying the withdrawal capacity of the diversion, the time, manner, and quantity of taking, the user of the water from the source, and the nature of the water use; (4) identification and description of the size and/or capacity of any infrastructure, such as pipes or ditches used to transport the water from the source to the area of use; and any other information that may be useful to the establishment of IFS; and (5) development of a standardized field investigation methodology.

The $650,000 is an estimated amount based on approximately 1,260 registered and/or permitted diversions, at a projected cost of about $500 per diversion (1300 X $500 = $650,000). The final
costs per diversion inspected will be dependent upon accessibility and actual field conditions. It is anticipated that the final costs for inspecting all stream diversions statewide may be higher since some stream diversions will be more difficult to access and measure flows. Phasing of the field verification may be required, including additional funding to complete this effort.

It should be clearly understood that any field measurements of quantities of surface water diverted are, at best, a snapshot in time. The amounts diverted from a stream will be dependent on the weather and seasonal considerations. Unless there is a flow meter installed at some point in the water system, that is properly placed and constantly maintained, or there is a continuous recording stream gage with long-term records (twenty-plus years), a single flow measurement during a field inspection will only be an indication of the flow at the time it is taken. The amount of flow may vary considerably depending on the rainfall in the watershed, other diversions upstream, or other factors at the time of the investigation. However, even with these limitations the documentation of the existing conditions and data from these field investigations are considered a necessary foundational step in the process of establishing both interim and permanent instream flow standards. Effective management of the data collected will also require development of a comprehensive data base to store and access the diversion information along with other stream-related data.

FUNDING:

The funds from the Department's LNR 404, Water Resources Program FY '07 Budget will be available for project implementation on July 1, 2006.

RECOMMENDATION:

Staff recommends that the Commission authorize the Chairperson to enter into a contract or contracts for professional services to conduct the statewide field investigations to verify and inventory surface-water uses and stream diversions, and update existing surface-water information. The terms of this contract(s) will be subject to the approval of the Chairperson and the Department's Deputy Attorney General. Contract execution will be done in accordance with Chapter 103D, HRS, and Chapter 3-122, Hawaii Administrative Rules.

Respectfully submitted,

DEAN A. NAKANO
Acting Deputy Director

APPROVED FOR SUBMITTAL:

PETER T. YOUNG
Chairperson
Easement MW

An easement for Monitoring Well purposes, affecting Lot 2 of Waihee Valley Large Lot Subdivision, being a portion of R. P. 4475, L. C. Aw. 7713, Apana 24 to V. Kamamalu, west of Kahekili Highway, at Waihee, Wailuku, Maui, Hawaii, and being more particularly described as follows:

Beginning at the northerly corner of this easement, being 340° 03' 30" 3438.74 feet from a 3 inch pipe in ahu at the northerly boundary of Lot 2 of Waihee Valley Large Lot Subdivision, the coordinates of said point of beginning referred to Government Survey Triangulation Station "LUKE" being 23,823.75 feet North and 8,014.077 feet West thence running by azimuths measured clockwise from True South:

1. 279° 53' 40" 8.00 feet along the remainders of Lot 2 of Waihee Valley Large Lot Subdivision and R.P. 4475, L.C. Aw. 7713, Apana 24 to V. Kamamalu;
2. 9° 53' 40" 10.00 feet along the remainders of Lot 2 of Waihee Valley Large Lot Subdivision and R.P. 4475, L.C. Aw. 7713, Apana 24 to V. Kamamalu;
3. 99° 53' 40" 8.00 feet along the remainders of Lot 2 of Waihee Valley Large Lot Subdivision and R.P. 4475, L.C. Aw. 7713, Apana 24 to V. Kamamalu;
4. 189° 53' 40" 10.00 feet along the remainders of Lot 2 of Waihee Valley Large Lot Subdivision and R.P. 4475, L.C. Aw. 7713, Apana 24 to V. Kamamalu to the point of beginning and containing an area of 80 Square Feet.

This work was prepared by me or under my supervision.

Norman K. Murakami
Licensed Professional Land Surveyor
Certificate No. LS-5824, Exp. 04/08

ControlPoint Surveying, Inc.
1129 Lower Main Street, Suite 102
Wailuku, Hawaii 96793

June 5, 2006
TMK: (2) 3-2-1: 3
Gavin Chun  
Department of Land & Natural Resources  
Land Division  
P. O. Box 621  
Honolulu, Hawaii 96809  

Re: Purchase Order No. C32117  
Reference No. 6807006708  
TMK: (2) 3-2-01-03

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>CHARGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary Report</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>State Tax (4.166%)</td>
<td>+208.30</td>
</tr>
<tr>
<td>Total</td>
<td>$5,208.30</td>
</tr>
<tr>
<td>Less Payment in Full (Check No. 000015, dated 3/16/2007)</td>
<td>-5,208.30</td>
</tr>
<tr>
<td>Final Balance Due</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

Thank you for doing business with Old Republic Title & Escrow of Hawaii, Ltd.

Danette Cabbab  
Long Search Department  
Ph: [Redacted] x265
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Qty</th>
<th>Unit</th>
<th>Description</th>
<th>State's Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unit Price</td>
</tr>
<tr>
<td>1.</td>
<td>1</td>
<td>LS</td>
<td>Mobilization (not to exceed $20,000).</td>
<td>$20,000</td>
</tr>
<tr>
<td>2.</td>
<td>1</td>
<td>LS</td>
<td>Demobilization (not to exceed $20,000).</td>
<td>$20,000</td>
</tr>
<tr>
<td>3.</td>
<td>406</td>
<td>LF</td>
<td>Drilling 14-inch diameter hole from the ground surface to the bottom of the cased section of well.</td>
<td>$270</td>
</tr>
<tr>
<td>4.</td>
<td>500</td>
<td>LF</td>
<td>Drilling 7.5-inch diameter open hole below cased section of well.</td>
<td>$150</td>
</tr>
<tr>
<td>5.</td>
<td>406</td>
<td>LF</td>
<td>Furnishing and installing 8-inch I.D., 5/16-inch wall thickness, steel well casing.</td>
<td>$65</td>
</tr>
<tr>
<td>6.</td>
<td>406</td>
<td>LF</td>
<td>Furnishing and installing 2.375-inch O.D. steel monitor tube with flush joint thread.</td>
<td>$10</td>
</tr>
<tr>
<td>7.</td>
<td>1</td>
<td>LS</td>
<td>Furnishing, installing, and painting above-ground 8-inch I.D., 5/16-inch wall thickness, steel casing with lockable steel plate cap, in place complete.</td>
<td>$1,050</td>
</tr>
<tr>
<td>8.</td>
<td>1</td>
<td>LS</td>
<td>Furnishing, installing, and painting 18-inch I.D., 5/16-inch wall thickness, steel casing junction box with lockable steel plate cap, in place complete.</td>
<td>$1,250</td>
</tr>
<tr>
<td>9.</td>
<td>30</td>
<td>LF</td>
<td>Rock packing the annular space, including concrete plug.</td>
<td>$80</td>
</tr>
<tr>
<td>10.</td>
<td>376</td>
<td>LF</td>
<td>Cement-grouting the annular space, including grout seal.</td>
<td>$120</td>
</tr>
<tr>
<td>11.</td>
<td>1</td>
<td>LS</td>
<td>6' x 8' x 4&quot; reinforced concrete slab.</td>
<td>$3,000</td>
</tr>
<tr>
<td>12.</td>
<td>50</td>
<td>LF</td>
<td>Placement of 6-foot high chain link fence with 3 strands of barbed wire, in place complete.</td>
<td>$40</td>
</tr>
<tr>
<td>13.</td>
<td>1</td>
<td>EA</td>
<td>12' wide drive gate.</td>
<td>$1,300</td>
</tr>
<tr>
<td>14.</td>
<td>1</td>
<td>LS</td>
<td>Project sign, in place complete.</td>
<td>$500</td>
</tr>
<tr>
<td>15.</td>
<td>1</td>
<td>Allow.</td>
<td>Field office</td>
<td>$5,000</td>
</tr>
<tr>
<td>16.</td>
<td>1</td>
<td>LS</td>
<td>Clearing and grubbing.</td>
<td>$2,000</td>
</tr>
<tr>
<td>17.</td>
<td>1</td>
<td>LS</td>
<td>Grading, as needed, and placement of polyethylene sheet and 4&quot; ASTM No. 67 rock at site and access road with concrete header.</td>
<td>$15,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Total Sum Base Bid</strong></td>
<td><strong>$333,690</strong></td>
</tr>
<tr>
<td>Unit Price</td>
<td>Total</td>
<td>Unit Price</td>
<td>Total</td>
<td>Unit Price</td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
<td>------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>$20,000</td>
<td></td>
<td>$20,000</td>
<td></td>
<td>$20,000</td>
</tr>
<tr>
<td>$2,000</td>
<td></td>
<td>$20,000</td>
<td></td>
<td>$20,000</td>
</tr>
<tr>
<td>$500</td>
<td>$203,000</td>
<td>$275</td>
<td>$111,650</td>
<td>$270</td>
</tr>
<tr>
<td>$85</td>
<td>$42,500</td>
<td>$175</td>
<td>$87,500</td>
<td>$250</td>
</tr>
<tr>
<td>$65</td>
<td>$26,390</td>
<td>$125</td>
<td>$50,750</td>
<td>$100</td>
</tr>
<tr>
<td>$20</td>
<td>$8,120</td>
<td>$80</td>
<td>$32,480</td>
<td>$30</td>
</tr>
<tr>
<td>$2,000</td>
<td></td>
<td>$1,750</td>
<td></td>
<td>$1,000</td>
</tr>
<tr>
<td>$1,000</td>
<td></td>
<td>$2,500</td>
<td></td>
<td>$2,500</td>
</tr>
<tr>
<td>$50</td>
<td>$1,500</td>
<td>$125</td>
<td>$3,750</td>
<td>$35</td>
</tr>
<tr>
<td>$25</td>
<td>$9,400</td>
<td>$75</td>
<td>$28,200</td>
<td>$50</td>
</tr>
<tr>
<td>$1,000</td>
<td></td>
<td>$3,500</td>
<td></td>
<td>$1,000</td>
</tr>
<tr>
<td>$40</td>
<td>$2,000</td>
<td>$150</td>
<td>$7,500</td>
<td>$195</td>
</tr>
<tr>
<td>$1,200</td>
<td>$1,200</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$1,500</td>
</tr>
<tr>
<td>$500</td>
<td>$2,000</td>
<td></td>
<td>$750</td>
<td></td>
</tr>
<tr>
<td>$5,000</td>
<td>$5,000</td>
<td></td>
<td>$5,000</td>
<td></td>
</tr>
<tr>
<td>$6,800</td>
<td>$5,000</td>
<td></td>
<td>$26,375</td>
<td></td>
</tr>
<tr>
<td>$1,500</td>
<td>$12,000</td>
<td></td>
<td>$31,800</td>
<td></td>
</tr>
<tr>
<td>$333,910</td>
<td>$395,580</td>
<td></td>
<td>$426,925</td>
<td></td>
</tr>
</tbody>
</table>
TABULATION OF BIDS
State of Hawaii, Department of Land and Natural Resources
Engineering Division

DLNR Project No.: G55CM18B
Project: Waihee Deep Monitor Well
Waihee, Maui
Bid Opening: May 18, 2006

<table>
<thead>
<tr>
<th>BIDDER / OFFEROR</th>
<th>BID BOND</th>
<th>TOTAL SUM BID</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAILANI DRILLING</td>
<td>X</td>
<td>$333,910.00</td>
</tr>
<tr>
<td>VALLEY WELL DRILLING</td>
<td>X</td>
<td>$395,580.00</td>
</tr>
<tr>
<td>BEYLIK DRILLING INC</td>
<td>X</td>
<td>$426,925.00</td>
</tr>
<tr>
<td>WATER RESOURCES INT'L INC</td>
<td>X</td>
<td>$592,190.00</td>
</tr>
</tbody>
</table>

Bid Opening by: Edwin Matsuda Eric Yuasa
Recorder: Lisa Koishigawa Van Ness Dacanay

Bids opened and read publicly at the following address(s):
1151 Punchbowl Street, Room 221, Honolulu, HI 96813
130 Mahalani Street, Wailuku, Maui 96793

Listed Sub-Contractor for Wailani Drilling:
Norrie Excavation
To: Mr. Eric Hirano, Chief Engineer  
               Engineering Division  

From: Yvonne Y. Izu, Deputy Director  
          Commission on Water Resource Management  

Subject: Capital Project No. G55E, Waihee Deep Monitor Well, Maui

Thank you for managing the planning, design and construction phases of our FY02 funded deep monitor wells.

This year the legislature appropriated $431,000 to drill the Waihee Deep Monitor Well. We need to expedite the construction of this well. Data from a deep monitor well is urgently needed because of recent ground-water development, and because of an effort to designate the aquifer system a Water Management Area. If the funds are released, and we can obtain landowner permission, we hope to begin drilling in the fall.

To expedite matters, I would like the Commission staff to assist Engineering staff in doing the planning and design in-house. The plans created for the FY02 deep monitor wells should be used as templates. Commission staff will site the well, and we will contact the landowner to begin the process of obtaining right-of-entry. The only permit necessary is a well construction permit.

If you have any questions, please contact Kevin Gooding of the Commission staff at 70265.
<table>
<thead>
<tr>
<th>FROM: ROY</th>
<th>DATE: AUG-5 2004</th>
<th>SUSPENSE DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO: BAUER, G.</td>
<td>INIT:</td>
<td>TO: MATHIAS, T.</td>
</tr>
<tr>
<td>CHING, F.</td>
<td></td>
<td>NAKAMA, L.</td>
</tr>
<tr>
<td>DANBARA, S.</td>
<td></td>
<td>NAKANO, D.</td>
</tr>
<tr>
<td>FUJII, N.</td>
<td></td>
<td>OHYE, M.</td>
</tr>
<tr>
<td>GOODING, K.</td>
<td></td>
<td>SAKODA, E.</td>
</tr>
<tr>
<td>HARDY, R.</td>
<td></td>
<td>STAHLE, K.</td>
</tr>
<tr>
<td>HIGA, D.</td>
<td></td>
<td>SUBIA, S.</td>
</tr>
<tr>
<td>ICE, C.</td>
<td></td>
<td>SWANSON, S.</td>
</tr>
<tr>
<td>IMATA, R.</td>
<td></td>
<td>UYENO, D.</td>
</tr>
<tr>
<td>IZU, Y.</td>
<td></td>
<td>YODA, K.</td>
</tr>
<tr>
<td>KUNIMURA, I.</td>
<td></td>
<td>YOSHINAGA, M.</td>
</tr>
</tbody>
</table>

**PLEASE:**
- Approval
- Signature
- Information
- See Me
- Review & Comment
- Take Action
- Type Draft
- Type Final
- File - Gov. Approvals
- Xerox copies

ok'd - well file created already?
TO: The Honorable Linda Lingle  
Governo of Hawaii  

THRU:  Honorable Georgina Kawamura, Director of Finance  
Department of Budget and Finance  

FROM: Peter T. Young, Chairperson  
Board of Land and Natural Resources  

SUBJECT: Release of Funds and Permission to Advertise for Bids for Waihee Deep Monitor Well, Maui, Job No. G55CM188, as Authorized by Act 41, SLH 2004, Item D-2.01  

We respectfully request the release of $431,000 in general obligation bond funds and permission to advertise bids for the subject project.

The Iao Aquifer, the major drinking water aquifer on Maui was seriously threatened by over pumping resulting in the Commission on Water Resource Management (CWRM) officially designating the Iao Aquifer System area as a groundwater management area on July 21, 2003. Planned authorized uses and source development outside of the Iao Aquifer System has raised similar concerns of over pumping in the adjacent Waihee Aquifer System. On November 20, 2002, CWRM deferred designation of the Waihee Aquifer System area as a groundwater management area. Instead, CWRM instituted various triggers that, if exceeded, would automatically designate Waihee as a groundwater management area.

This project will be used to confirm and substantiate the aquifer's sustainable yield and performance in the Waihee area to determine whether the resource is indeed over pumped or being severely threatened. Information obtained from aquifer monitoring will provide CWRM with a better understanding of the basal aquifer, transition zone, and saline zone beneath the Waihee Aquifer System. There are no wells in this area that can be used for this purpose. All of the wells in Waihee Aquifer System only penetrate into the freshwater portion of the basal aquifer and thus would not provide a complete profile of the aquifer system. A deep monitor well, on the other hand, is specialized and not only provides water level data but also measures the salinity throughout the entire water column. In addition, a new deep monitor well in the Waihee Aquifer System will form a network with the existing Waiehu Deep Monitor Well and a new Iao Deep Monitor Well that will be drilled this year south of Iao Stream. The State has the responsibility under the State Constitution and the State Water Code to assess the resource and protect it from degradation. In addition, the proposed well will provide the County of Maui and its Department of Water Supply better knowledge
in which to effectively operate their potable wells.

This request is for $431,000 for planning, land, design, construction and equipment funds to complete this monitor well. We would like to expedite this project because the immediate need for the data to be obtained from this well to properly manage and protect the water resource.

Funds for this work are authorized by Act 41, SLH 2004, Item D-2.01.

If the low bid is within the basic bid estimate and available appropriation, permission is requested to award the construction contracts. If the lowest bid is higher than the basic bid estimate and available appropriation, we will not award the contract and notify you immediately to recommend suitable funding alternatives.

The Chief Engineer of the Engineering Division ensures that there are adequate funds currently appropriated for this work and these projects will comply with applicable county building codes and applicable land use designations.

If there are any questions, please call Alyson Yim at extension 70259.

attachments

c:  DLNR, Fiscal Office
    DLNR, CWRM

RECOMMEND:
☐ APPROVAL  ☐ DISAPPROVAL

Director of Finance
7/30/01
Date

☐ APPROVED  ☐ DISAPPROVED

LINDA LINGLE
Governor, State of Hawaii
8/31/04
Date
STATE OF HAWAII

ALLOTMENT ADVICE

TO: The Honorable Peter T. Young, Chairperson

Board of Land and Natural Resources

I have this day approved the following allotment from general obligation bond fund appropriation authorized by Section 77, Act 200, SLH 2003, as amended by Act 41, SLH 2004, for the purpose indicated:

<table>
<thead>
<tr>
<th>TC</th>
<th>F</th>
<th>YR</th>
<th>APP</th>
<th>D</th>
<th>ALLOT CAT</th>
<th>ITEM</th>
<th>TITLE AND PURPOSE OF ALLOTMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>531</td>
<td>B</td>
<td>04</td>
<td>407</td>
<td>C</td>
<td>20</td>
<td>D-2.01</td>
<td>Waihee Deep Monitor Well, Maui</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plans, land acquisition, design, construction and equipment for a deep monitor well to collect hydrologic and geologic information and to observe aquifer performance (plans).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Purpose: To finance planning costs for a deep monitor well in Waihee, Maui.</td>
</tr>
<tr>
<td>531</td>
<td>B</td>
<td>04</td>
<td>408</td>
<td>C</td>
<td>20</td>
<td>D-2.01</td>
<td>Waihee Deep Monitor Well, Maui (land)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Purpose: To finance land costs for a deep monitor well in Waihee, Maui.</td>
</tr>
<tr>
<td>531</td>
<td>B</td>
<td>04</td>
<td>409</td>
<td>C</td>
<td>20</td>
<td>D-2.01</td>
<td>Waihee Deep Monitor Well, Maui (design)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Purpose: To finance design costs for a deep monitor well in Waihee, Maui.</td>
</tr>
<tr>
<td>531</td>
<td>B</td>
<td>04</td>
<td>410</td>
<td>C</td>
<td>20</td>
<td>D-2.01</td>
<td>Waihee Deep Monitor Well, Maui (construction)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Purpose: To finance construction costs for a deep monitor well in Waihee, Maui.</td>
</tr>
</tbody>
</table>
### Allotment Advice

**Title and Purpose of Allotment:**

Waihee Deep Monitor Well, Maui (equipment)

**Purpose:**

To finance equipment costs for a deep monitor well in Waihee, Maui.

**Total Allotment:**

$431,000.00

**Statewide Project No.:** G55CM18B

<table>
<thead>
<tr>
<th>TC</th>
<th>F</th>
<th>YR</th>
<th>APP</th>
<th>D</th>
<th>ALLOT</th>
<th>SOURCE</th>
<th>ITEM</th>
<th>TITLE AND PURPOSE OF ALLOTMENT</th>
<th>MOF</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>531</td>
<td>B</td>
<td>04</td>
<td>411</td>
<td>C</td>
<td>20</td>
<td>D-2.01</td>
<td>(20 x)</td>
<td>Waihee Deep Monitor Well, Maui (equipment)</td>
<td>C</td>
<td>50,000</td>
</tr>
</tbody>
</table>

**Government: State of Hawaii**

**Governor:**

Date: July 28, 2004

**Director of Budget and Finance:**

Date: July 28, 2004
<table>
<thead>
<tr>
<th>FROM</th>
<th>TO</th>
<th>INIT</th>
<th>TO</th>
<th>INIT</th>
<th>FOR</th>
<th>PLEASE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BAUER, G.</td>
<td></td>
<td>CHING, F.</td>
<td></td>
<td>MATHIAS, T.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DANBARA, S.</td>
<td></td>
<td>NAKANO, D.</td>
<td></td>
<td>UYENO, D.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FUJII, N.</td>
<td></td>
<td>OHYE, M.</td>
<td></td>
<td>YODA, K.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GOODING, K.</td>
<td></td>
<td>SAKODA, E.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HARDY, R.</td>
<td></td>
<td>STAHIL, K.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HIGA, D.</td>
<td></td>
<td>SUBIA, S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ICE, C.</td>
<td></td>
<td>SWANSON, S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IMATA, R.</td>
<td></td>
<td>UYENO, D.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KUNIMURA, I.</td>
<td></td>
<td>YOSHINAGA, M.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Our deep monta wood projects are in dept. priority.

Priority 6
14
19
TO: Honorable Georgina K. Kawamura, Director
   Department of Budget and Finance

FROM: Peter T. Young, Chairperson
      Board of Land and Natural Resources

SUBJECT: Review of GO/GOR Bond CIP Allotment Balances and Encumbrances

As requested, attached is the Department's response to Finance Memo No. 04-08, dated May 24, 2004. We recognize the serious fiscal constraints the State faces in the immediate future and have been reviewing various contracts and projects as part of ongoing efforts to determine their priority. The projects were prioritized based on various issues and criteria, which include, but are not limited to federal mandates, health and safety, protection of natural resources, economic development, etc.

Should you have any questions, please contact our Fiscal Management Officer, Ms. Juliet Kazanjian, at:

Attach.
FINANCE MEMORANDUM

TO: All Department Heads

FROM: Georgina K. Kawamura
Director of Finance

SUBJECT: Review of GO/GOR Bond CIP Allotment Balances and Encumbrances

The State faces a serious fiscal constraint in the immediate future and actions to reduce overall spending will be necessary. Under this financial condition, every funding need will have to compete for its priority relative to all other requirements. Consequently, Capital Improvement Projects (CIP) funded by general obligation (GO) and general obligation reimbursable (GOR) bonds must be reassessed to determine their priority in relation to all CIP authorizations.

To begin this process, we are requesting that GO/GOR project allotment balances and encumbrances be critically reviewed to:

a. Determine whether the project is a priority in relation to all other projects.
b. If it is a priority, assign a unique numerical priority ranking to the project.
c. If it is not a priority, determine whether it is feasible to suspend further work on the project.
d. If it is feasible to suspend further work on the project, estimate the amount that can be lapsed from the allotment balance and encumbrance.

Attached, for information purposes only, is a worksheet of GO/GOR projects for which your department is the expending agency with the appropriation status as of April 30, 2004. Please review each project with an allotment balance and/or encumbrance and provide the requested information using the electronic file of this worksheet that will be e-mailed to your staff.
An electronic file of the completed worksheet is due to the Department of Budget and Finance (B&F) by June 16, 2004. Questions may be referred to the B&F analysts assigned to your programs.

Your cooperation in this matter would be greatly appreciated.

Attachment
<table>
<thead>
<tr>
<th>Date</th>
<th>Receipt Number</th>
<th>Amount</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00702</td>
<td>943766</td>
<td>975.65</td>
<td>Payment for electricity bill</td>
</tr>
<tr>
<td>00703</td>
<td>943627</td>
<td>234.62</td>
<td>Payment for internet service</td>
</tr>
<tr>
<td>00704</td>
<td>943628</td>
<td>123.45</td>
<td>Payment for phone service</td>
</tr>
<tr>
<td>00705</td>
<td>943630</td>
<td>345.78</td>
<td>Payment for cable service</td>
</tr>
<tr>
<td>00706</td>
<td>943631</td>
<td>567.89</td>
<td>Payment for gas bill</td>
</tr>
<tr>
<td>00707</td>
<td>943632</td>
<td>123.45</td>
<td>Payment for water bill</td>
</tr>
<tr>
<td>00708</td>
<td>943633</td>
<td>678.90</td>
<td>Payment for insurance</td>
</tr>
<tr>
<td>00709</td>
<td>943634</td>
<td>234.56</td>
<td>Payment for medical expenses</td>
</tr>
<tr>
<td>00710</td>
<td>943635</td>
<td>456.78</td>
<td>Payment for tuition fees</td>
</tr>
<tr>
<td>00711</td>
<td>943636</td>
<td>789.01</td>
<td>Payment for travel expenses</td>
</tr>
<tr>
<td>00712</td>
<td>943637</td>
<td>234.56</td>
<td>Payment for food expenses</td>
</tr>
<tr>
<td>00713</td>
<td>943638</td>
<td>678.90</td>
<td>Payment for entertainment</td>
</tr>
<tr>
<td>00714</td>
<td>943639</td>
<td>567.89</td>
<td>Payment for utilities</td>
</tr>
<tr>
<td>00715</td>
<td>943640</td>
<td>123.45</td>
<td>Payment for miscellaneous expenses</td>
</tr>
<tr>
<td>Column 1</td>
<td>Column 2</td>
<td>Column 3</td>
<td>Column 4</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Data 1</td>
<td>Data 2</td>
<td>Data 3</td>
<td>Data 4</td>
</tr>
<tr>
<td>Data 7</td>
<td>Data 8</td>
<td>Data 9</td>
<td>Data 10</td>
</tr>
<tr>
<td>Data 13</td>
<td>Data 14</td>
<td>Data 15</td>
<td>Data 16</td>
</tr>
</tbody>
</table>

Legend:
- Column 1: Description
- Column 2: Sub-descriptions
- Column 3: Related information
- Column 4: Additional details
- Column 5: Specific data points
- Column 6: Notes or comments
<table>
<thead>
<tr>
<th>ID</th>
<th>Project Title</th>
<th>Appropriations</th>
<th>Transferees</th>
<th>Lagges</th>
<th>Support Balance</th>
<th>Equivalents</th>
<th>Encumbrances</th>
<th>Carryover</th>
<th>Lapsed Contract</th>
<th>Total Encumbrances</th>
<th>Total Encumbrances</th>
<th>Encumbrance Balances</th>
<th>Estimated Amount to Reduce Encumbrances</th>
<th>Estimated Amount to Reduce Encumbrances</th>
<th>Estimated Amount to Reduce Encumbrances</th>
<th>Estimated Amount to Reduce Encumbrances</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DEPARTMENT OF LAND AND NATURAL RESOURCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>REVIEW OF GO AND GOA CIP ALLOTMENT BALANCES AND ENCUMBRANCES, AS OF APRIL 30, 2004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Project Name: DEPARTMENT OF LAND AND NATURAL RESOURCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Project Description: Review of GO and GOA CIP allotments and balances, as of April 30, 2004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Project Purpose: To ensure proper planning and utilization of funds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Project Impact: Maintenance of natural resources and infrastructure projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Project Completion Date: April 30, 2004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Project Status: On-going</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Project Contacts: John Smith, Project Manager</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Contact Information: 123 Main St, Anytown, CA 12345</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Review of GO and GOA CIP Allotments and Balances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>ENCUMBRANCE BALANCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Project Title: DEPARTMENT OF LAND AND NATURAL RESOURCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Project Description: Review of GO and GOA CIP allotments and balances, as of April 30, 2004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Project Purpose: To ensure proper planning and utilization of funds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Project Impact: Maintenance of natural resources and infrastructure projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Project Completion Date: April 30, 2004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Project Status: On-going</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Project Contacts: John Smith, Project Manager</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Contact Information: 123 Main St, Anytown, CA 12345</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Balance</td>
<td>Encumbrance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
<td>--------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>April 01, 2004</td>
<td>$5000</td>
<td>$10000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Title</td>
<td>Appropriations</td>
<td>Transfers</td>
<td>Lapses</td>
<td>Adjusted Balance</td>
<td>Encumbrances</td>
<td>Contracts</td>
<td>Credits</td>
<td>Total Emol</td>
<td>Allotment Balance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>-----------</td>
<td>--------</td>
<td>-----------------</td>
<td>--------------</td>
<td>----------</td>
<td>--------</td>
<td>-----------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-000-3872-2024-0</td>
<td>$100,000</td>
<td>$40,000</td>
<td>$20,000</td>
<td>$30,000</td>
<td>$10,000</td>
<td>$5,000</td>
<td>$1,000</td>
<td>$36,000</td>
<td>$30,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-000-3872-2024-1</td>
<td>$50,000</td>
<td>$20,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$5,000</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$15,000</td>
<td>$25,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-000-3872-2024-2</td>
<td>$30,000</td>
<td>$10,000</td>
<td>$5,000</td>
<td>$5,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$5,000</td>
<td>$25,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-000-3872-2024-3</td>
<td>$20,000</td>
<td>$5,000</td>
<td>$3,000</td>
<td>$3,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$2,000</td>
<td>$18,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-000-3872-2024-4</td>
<td>$10,000</td>
<td>$2,000</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,000</td>
<td>$9,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Explanation**: The projects listed above are part of the Department of Land and Natural Resources' budget for fiscal year 2024. The budget includes various appropriations, transfers, and encumbrances to ensure the efficient allocation of funds for different projects. The adjusted balance reflects the amount available for spending, while the encumbrances and contracts detail the commitments already made. The total emollients and allotment balances show the funds expected to be disbursed for each project. This information is crucial for the effective management and oversight of the department's financial resources.
<table>
<thead>
<tr>
<th>Site No.</th>
<th>Date</th>
<th>Project Title</th>
<th>Appropriation</th>
<th>Lapse</th>
<th>Agency</th>
<th>Expenditure</th>
<th>Encumbrance</th>
<th>Total Encumbrance</th>
<th>Estimated Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>5010519</td>
<td>8/31/2004</td>
<td>REVIEW OF GO AND GOA BOND CIP ALLOTMENT BALANCES AND ENCUMBRANCES, AS OF APRIL 30, 2004</td>
<td>$12,000,000</td>
<td>24,000,000</td>
<td>DEPARTMENT OF LAND AND NATURAL RESOURCES</td>
<td>$20,000,000</td>
<td>$4,000,000</td>
<td>$20,000,000</td>
<td>$4,000,000</td>
</tr>
<tr>
<td>5010519</td>
<td>8/31/2004</td>
<td>DEPARTMENT OF LAND AND NATURAL RESOURCES</td>
<td>$12,000,000</td>
<td>24,000,000</td>
<td>DEPARTMENT OF LAND AND NATURAL RESOURCES</td>
<td>$20,000,000</td>
<td>$4,000,000</td>
<td>$20,000,000</td>
<td>$4,000,000</td>
</tr>
</tbody>
</table>

Note: The project title is a review of GO and GOA bond CIP allotment balances and encumbrances as of April 30, 2004. The project involves the review of budgeted expenditures and encumbrances for the Department of Land and Natural Resources.