

(8-86)

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section _____ Page _____

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SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 14000893

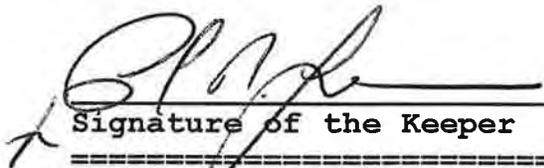
Date Listed: 03/04/2016

Tumon-Maui Well
Property Name

Guam GU
County State

N/A
Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.


Signature of the Keeper

3/4/2016
Date of Action

Amended Items in Nomination:

Significance:

The Period of Significance is revised to read: 1947.
[Under Criterion C, as a significant example of post-war civil engineering, the period of significance is considered the date of construction. Continued use or activity does not necessarily justify continuing the period of significance under this Criterion.]

These clarifications were confirmed with the Guam SHPO and FPO offices.

DISTRIBUTION:

- National Register property file
- Nominating Authority (without nomination attachment)

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United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions



1. Name of Property

Historic name: Tumon-Maui Well (GHPI 66-01-2278)
Other names/site number: USGS Well Number 80, Dededo, Guam
Name of related multiple property listing:
N/A
(Enter "N/A" if property is not part of a multiple property listing)

2. Location

Street & number: Marine Corps Drive and Tumon Lane
City or town: Dededo State: Guam County: 010
Not For Publication: N/A Vicinity:

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property meets does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

national statewide local

Applicable National Register Criteria:

A B C D

[Signature] Sept. 25, 2013
Signature of certifying official/Title: STATE HISTORIC PRESERVATION OFFICER Date
State or Federal agency/bureau or Tribal Government

In my opinion, the property meets does not meet the National Register criteria.

Signature of commenting official:

Date 9/5/2014

Title: Department of Navy
Federal Preservation Officer

State or Federal agency/bureau
or Tribal Government

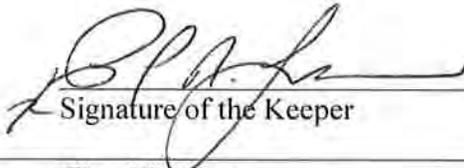
Tumon-Maui Well
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4. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register
- determined eligible for the National Register
- determined not eligible for the National Register
- removed from the National Register
- other (explain:)


Signature of the Keeper

3/4/2016
Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

- Private:
- Public – Local
- Public – State
- Public – Federal

Category of Property

(Check only **one** box.)

- Building(s)
- District
- Site
- Structure
- Object

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Number of Resources within Property

(Do not include previously listed resources in the count)

Contributing	Noncontributing	
<u>4</u>	<u> </u>	buildings
<u> </u>	<u> </u>	sites
<u>3</u>	<u> </u>	structures
<u>4</u>	<u> </u>	objects
<u>11</u>	<u> </u>	Total

Number of contributing resources previously listed in the National Register None

6. Function or Use

Historic Functions

(Enter categories from instructions.)

GOVERNMENT/
public works
water supply system

Current Functions

(Enter categories from instructions.)

GOVERNMENT
public works
water supply system
Work in Progress

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7. Description

Architectural Classification

(Enter categories from instructions.)

OTHER:

Functionalism

(Structure and Buildings are void of any ornate features)

Materials: (enter categories from instructions.)

Principal exterior materials of the property:

OTHER: STRUCTURE/TUNNEL: concrete foundation, shotcrete, steel shoring

BUILDINGS: Concrete foundation, Concrete Masonry Blocks (CMU), and concrete slab roof or concrete foundation, steel framing, sheet metal walls and roofing.

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

The Tumon-Maui Well (also called USGS Well No. 80), built in 1947, is a Maui-type well located in Dededo, Guam on Marine Corps Drive and Tumon Lane in the northwest portion of the island. The well maintains historic integrity which consists of an underground pump room, two vertical shafts, a sloped access tunnel and a number of small supporting structures on the surface. The total underground portion of the well is the main character defining feature of this structure which includes the pump room with two vertical vent shafts to the surface, a water collection tunnel that extends eastward from the pump room, and a upward sloped access tunnel to the portal doorway leading to a small cable-winch trolley that formerly ran up and down the sloping access tunnels on tracks to the surface. The two vertical shafts consist of one vent shaft above the pump room and the other extends to the surface from the far eastern end of the water collection tunnel. Features on the surface were evaluated as contributing features such as the supporting structures near the portal (to the west) are a generator house, fuel tank support saddles and containment walls, and a concrete pad with electrical equipment. Above the pump room on the surface are a fan house, chlorination house, and water piping. On the surface above the far eastern vertical shaft is a vent house. All these features of the well site are linearly oriented on a west-east axis. The approximate distance from the (west) generator house to the (east) vent house is about 1350'.

Since the well's construction, several changes have occurred but have not affected the historic integrity or character defining features of Tumon-Maui Well.

- In 1966, the Air Force demolished a steel 315,000 gallon above ground water storage tank that was located on the property, northeast of the chlorine house. At that time, water from this tank was piped to the existing water supply via the (now) sealed 45-degree stub.

Tumon-Maui Well

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- In 1977, the fan house was rehabilitated and vent house was reconstructed.
- In 2012 the Tumon-Maui Well was rehabilitated. The generator house and chlorine house have been rehabilitated. The concrete saddles and containment walls, abandoned electrical switch boxes, electrical winch and cable, fan house and thrust block, and piping behind chlorine house were all removed. Adjacent to the rehabilitated generator house is a new concrete transformer pad; adjacent to the rehabilitated chlorine house is a new booster pump building, water booster tank, water treatment unit and new surface site improvements. The primary character defining features including the underground pump room, two vertical shafts, and sloped access tunnel have not been altered. Rehabilitation of the tunnel consisted of new galvanized steel guardrails; refurbishing of the rail track system; new trolley, winch and cable, exhaust fans, turbine pumps, light fixtures, aluminum louvered doors, and piping.

Narrative Description

The subsurface features of the Tumon-Maui Well have not changed over time, which includes the access tunnel (featuring trolley tracks), the pump room, and the entrance to the water collection tunnel. The underground pump room is the heart of the Tumon-Maui Well, measuring about 59' long x 22' wide with an irregular, variable ceiling height of between about 22' and 26'. The sloped access tunnel enters the west end of the pump room through an excavated arched opening about 9' wide by 8' high. The water collection tunnel enters the pump room at the east end through an arched opening formed of concrete that is about 6' wide and 8' high. The floor of the pump room is a concrete slab; the walls and ceiling have an undulated shotcrete coating over the excavated natural rock. Beneath the concrete slab floor is a sump (approximately the size of the pump room) that receives water from the collection tunnel for pumping to the surface. At the top of the stairs and side ramps, the access tunnel daylight at the arched portal opening that is set into the side of a cliff face. The portal has double metal doors with fixed louver lower panels. The trolley tracks from the pump room to the surface are still extant and are centered in the sloped access tunnel but are not being used. The tracks extend outward from the portal opening where they terminate at the edge of a 6" high concrete slab measuring 7'-0" wide by 12'-0" long. Mounted transversely on this slab is the winch that moves the trolley up and down the access tunnel which is covered by a rectangular-shaped sheet metal housing.

The surface features include the generator house grouping (generator house, fuel tank saddles, containment structure, and concrete slab), the fan house grouping (fan house and chlorination house), and the vent house.

The generator house grouping is about 105' west of the portal opening. The generator house grouping is a grouping of three structures: a generator house, fuel tank saddles and containment structure; and a concrete slab with abandoned electrical equipment that is enclosed with a chain link fence. The generator house is a 12'-0" x 20'-0" CMU building, concrete slab on-grade foundation and a concrete gable roof with slight pitch and a 2' eave overhang. The generator house has a single flush door and fixed louver vents on the south side, and double doors with large fixed louvered insert on the east side. The rear (north) side of the generator house has no

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openings and the inside is bare. The fuel tank saddles and containment structure located on the south side of the generator house are constructed of concrete on a concrete slab foundation. The two concrete tank saddles once held a 4' diameter tank (now removed) and are 5'-0" wide x 4'-6" high x 6" thick and are spaced 3'-0" apart. Saddles are on a concrete foundation and contained by concrete walls measuring at 9'-4" wide x 9'-8" length x 2'-8" high walls (6" thick walls). On the north wall of the containment structure is a 5' high metal ladder that is bolted to the containment wall. Also east of fuel tank saddles and containment structure is an 11'-0" wide x 17'-0" length concrete slab with electrical equipment. The pad also has freestanding electrical equipment and a CMU wall with electrical switch boxes that are abandoned.

(continued on Form 10-900a)

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Property is associated with the lives of persons significant in our past.
- C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

- A. Owned by a religious institution or used for religious purposes
- B. Removed from its original location
- C. A birthplace or grave
- D. A cemetery
- E. A reconstructed building, object, or structure
- F. A commemorative property
- G. Less than 50 years old or achieving significance within the past 50 years

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Areas of Significance

(Enter categories from instructions.)

Engineering

Period of Significance

1947-1999

Significant Dates

N/A

Significant Person

(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

U.S. Navy

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The Tumon-Maui Well historically provided a significant contribution to the livelihood of Guam and its water distribution system. Fresh water was of paramount importance to Guam's post-war development. It accounted for a large portion of the water supply until its initial closure in 1995

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due to trace levels of perchloroethylene. During its time of operation, the well was one of the highest capacity wells of the northern aquifer system, the primary source of Guam's freshwater. Today it remains as a supplemental water resource for the military build-up of which it can still draw up to 0.8 million gallons/day (mgd).

The Tumon-Maui well is one of the oldest operable wells on island and is still a supplemental resource for the military. Tumon-Maui Well is eligible under Criteria 'C' for its distinctive construction type during the mid to the late 1940s since most wells at that time were designed with a vertical shaft which is bored or drilled, whereas Tumon-Maui well has a sloped tunnel to account for the islands geophysical stratum and salinity issues that maybe encountered by vertical shaft. The tunnel extended at just the right level to skim the relatively thin layer of underground freshwater (basal groundwater lens) that floats atop the salt water of the island's water table. This basal layer, or basal lens, can be only several feet deep. Often when this thin layer is tapped by ordinary vertical driven wells, the suction of the pumps can quickly overreach the limits of the freshwater and begin to draw the underlying salt water. The Maui well avoids this by use of the horizontal tunnel, which skims the freshwater layer over a long distance and allows pumping without sucking salt water. Maui wells can produce large quantities of fresh water from basal layers that are so thin that they would only yield brackish or salt water if pumped by conventional, vertical wells.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

Tumon-Maui well has a distinctive construction type and is one of two skimming wells on the Island of Guam. Using knowledge of the location of the underlying fresh water lens gained from drilled wells, engineers designed a Maui-type well to access Guam's fresh water lens to provide large amounts of potable water to serve the needs of the military and local community. The Maui-type wells, known as "skimming wells," originated on Maui Island, Hawaii, in the early 20th century and typically have a sloping shaft to access an underground pump chamber located above the fresh water lens. A fresh water lens is an underground pool of water shaped like a lens and usually located beneath permeable limestone islands or peninsular landmasses in the tropics. The fresh water lens is the main source of fresh water. Typically, fresh water lenses on islands had been accessed for hundreds of years by digging shallow pits near the shore. Improvements in pump technology permitted development of deeper wells capable of producing large volumes of fresh water. This type of well was capable of evading potential contamination issues encountered by vertical wells.

Tumon-Maui Well was one of the two Maui skimming wells built around 1947 on the west side of Guam; the other being the Tamuning Maui Well (also called the ACEORP Tunnel and USGS Well No. 79). However, the Tamuning Well was only used intermittently because it produced water of about 400-600 parts per million salinity. It was an engineering achievement at that time and eligible under Criteria 'C' for its distinctive construction type during the mid to the late 1940s. Most wells at that time were designed with a vertical shaft which is bored or drilled whereas Tumon-Maui well has a sloped shaft to the pump room. To achieve this, the engineers started at the base of the limestone bluff near the existing generator house overlooking Tumon

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Bay, excavated a sloping access tunnel, and installed the pumps and plumbing required to deliver the water to the surface, where it could be stored, treated, and distributed. The underground structure (tunnel, vent shafts, underground chamber housing equipment) maintains a high degree of integrity of location, design, setting, materials, workmanship, feeling and historic association. Some of the surface contributing features have been upgraded or removed to meet current standards and to ensure acceptable water quality to the military and local community. Current water consumption on the island of Guam is approximately 40 mgd of which Tumon Maui well produces up to 1 mgd.

(continued on Form 10-900a)

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

Mohlman, Geoffrey & Salo, Edward

2012 Andersen Air Force Base, North Field. Historic American Engineering Record, HAER #GU9. *Written Historical and Descriptive Data Photographs*. Submitted to U.S. Department of the Interior, National Park Service, San Francisco, CA.

Naval Facilities Engineering Command Marianas in consultation with the Guam State Historic Preservation Officer. (2012). *The Tumon-Maui Well Rehabilitation Project: An Application of Appropriate Technology for Then and Now* [Booklet]. Santa Rita, Guam.

Pacific Islands Engineers. (1949). *Water Sources Report*. [Report]. Guam, Marianas Island. Prepared for Department of the Navy Bureau of Yards and Docks.

Ruzicka, Dee

2012 Tumon-Maui Well (USGS Well #80). Historic American Engineering Record, HAER #GU8. Mason Architects Inc., Honolulu. *Photographs: Written Historical and Descriptive Data*. Submitted to U.S. Department of the Interior, National Park Service, Oakland, CA. Funded by NAVFAC Pacific, Honolulu.

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # GU-8
- recorded by Historic American Landscape Survey # _____

Primary location of additional data:

Tumon-Maui Well

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County and State

State Historic Preservation Office

Other State agency

Federal agency

Local government

University

Other

Name of repository: _____

Historic Resources Survey Number (if assigned): N/A

10. Geographical Data

Acreeage of Property 7.4

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates

Datum if other than WGS84: _____

(enter coordinates to 6 decimal places)

1. Latitude: _____ Longitude: _____

2. Latitude: _____ Longitude: _____

3. Latitude: _____ Longitude: _____

4. Latitude: _____ Longitude: _____

Or

UTM References

Datum (indicated on USGS map):

NAD 1927 or NAD 1983

Tumon Maui Well DOD Parcel that is located below the cliff line bounded by condominiums with an access right-of-way to the entrance of the tunnel.

1. Zone: 55N Easting: 262992.8495 Northing: 1494593.5887

2. Zone: 55N Easting: 263223.4984 Northing: 1494537.3220

3. Zone: 55N Easting: 263209.0477 Northing: 1494478.0795

4. Zone: 55N Easting: 262978.3988 Northing: 1494534.3463

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5. Zone: 55N Easting: 262976.2085 Northing: 1494730.4044
6. Zone: 55N Easting: 262992.2361 Northing: 1494726.6248

Verbal Boundary Description (Describe the boundaries of the property.)
(see map)

Boundary Justification (Explain why the boundaries were selected.)
(see map)

11. Form Prepared By

name/title: Jackie Sanehira, Historical Architect
organization: Naval Facilities Engineering Command, Pacific
street & number: 258 Makalapa Drive, Suite 100
city or town: Pearl Harbor state: HI zip code: 96860
e-mail Jackie.Sanehira@navy.mil
telephone: (808) 472-1427
date: 03/29/2013

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to

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the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photo Log

1. Name of Property: Tumon-Maui Well
2. City or Vicinity: Dededo,
County: U.S. Territory State: Guam
3. Photographer: David Franzen
4. Date Photographed: January 2012
5. Description of Photograph(s) and number, include description of view indicating direction of camera:
6. Photo Number: 1 of ___ (also noted on photographs)

Photo 1 of 21

5. Elevation of entry to underground pump room from the access tunnel showing the excavated arched opening. Note the stairs going up to the portal. With scale device. View facing west.

Photo 2 of 21

5. Elevation of water collection tunnel opening to the underground pump room. Looking into the collection tunnel. With scale device. View facing east.

Photo 3 of 21

5. Overview of the underground pump room showing the pumps with vertically oriented electric motors. Note the large concrete thrust block in the middle ground where the water pipe elbows upward to the surface through the conduit opening in the ceiling. Access tunnel entry opening is in the background. View facing northwest.

Photo 4 of 21

5. Overview of the underground pump room showing the water piping and the pumps. A portion of the large concrete thrust block is visible on the left, the water collection tunnel opening is in the background, behind the pumps. View facing northeast.

Photo 5 of 21

5. Detail of the large concrete thrust block and water supply pipe extending up to the surface. Note the access tunnel entry. View facing southwest.

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Photo 6 of 21

5. Overview of the underground pump room showing the opening to the water collection tunnel in the background. View facing southeast.

Photo 7 of 21

5. Overview of the interior of the portal opening showing the stairs and sloping ramps. Note the concrete arched passage that extends 5' into the tunnel from the outer bulkhead wall. View facing northwest.

Photo 8 of 21

5. View looking down the sloping access tunnel showing the shotcrete coating on the walls and ceiling. Note the trolley tracks at each side of the stairs. View facing east.

Photo 9 of 21

5. Elevation of the exterior of the arched portal with the double doors open. Note the cable rollers for the trolley that are set between the trolley tracks. With scale device. View facing east.

Photo 10 of 21

5. Elevation of the exterior of the portal with the double doors closed showing the bulkhead wall and metal canopy supported by pipe posts. The trolley, concrete slab and roller are in the foreground. With scale device. View facing east.

Photo 11 of 21

5. Oblique view of the portal. Note the concrete slab and sheet metal housing that covers the winch. View facing northeast.

Photo 12 of 21

5. Oblique view of the trolley, concrete slab, and winch housing. View facing southwest.

Photo 13 of 21

5. Detail of the trolley. View facing northeast.

Photo 14 of 21

5. Oblique view of the generator house, fuel tank saddles and containment structure, and the electrical equipment in the chain link fence enclosure. The portal to the access tunnel is in the far background, behind the electrical equipment. View facing northeast.

Photo 15 of 21

5. Oblique view of the generator house and fuel tank saddles. View facing northwest.

Photo 16 of 21

5. Overview of the fan house (left), large upright thrust block enclosing the U-shaped water pipe, and CMU chlorine house (right). View facing northeast.

Photo 17 of 21

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5. Oblique view of the chlorine house showing the water pipe. Fan house is in the background.
View facing west.

Photo 18 of 21

5. Elevation of the upright thrust block with scale device and oblique view of the fan house.
View facing north.

Photo 19 of 21

5. Oblique view of the thrust block and fan house. Note the manhole (door closed) at the base of the pump house that leads down into the conduit. View facing southwest.

Photo 20 of 21

5. Oblique view of the vent house. View facing south.

Photo 21 of 21

5. Oblique view of the vent house. View facing north.

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

**National Register of Historic Places
Continuation Sheet**

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

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7. Description

Narrative Description

Summary Paragraph (continued from Form 10-900)

East of the generator house grouping is the portal opening to the tunnel. The surface structures in front of the portal opening include remnants of a railroad track which terminate at a concrete slab and a trolley. The concrete slab foundation (7'-0" x 12'-0") is topped with a winch covered by a rectangular-shaped metal housing (2'-8" wide x 6'-0" length x 2'-4" high) that is bolted to the concrete slab.

Also on the surface, above the underground pump room, is the fan house grouping that includes the fan house, chlorination house, and water supply piping. At the surface, the concrete lined conduit that carries the supply pipe is covered by a heavy steel plate. Atop this plate sits the small 3'-4" wide x 5'-0" length x 7'-0" high fan house. The fan house is constructed of painted sheet metal with a low-pitched sheet metal roof. All openings are covered with expanded metal mesh. It is steadied by four metal guy wire cables anchored to the ground by a buried concrete footing. Inside the fan house, set on a steel plate covering the conduit is a metal housing containing a supply fan that forced fresh air into the pump room via the conduit. The fan house's supply fan, expanded metal mesh screening, guy wires, and a steel door were appear to have been replaced. At the rear (northeast) side of the fan house, the steel plate covering the conduit is pierced by a 2'-0" square manhole opening. Next to the manhole, the 12" water supply piped emerges through the steel plate continuing upwards through a thrust block. The U-shaped curve within the upright thrust block and the air relief valve functioned as a backflow preventer to keep water in the above-ground piping system from being siphoned back down the vertical supply pipe into the pump room. About 12' from the thrust block is a sealed piping stub that formerly went to an underground storage tank that was removed in 1966. The chlorine house is located about 30' east of the fan house. It is a 12'-0" square x 8'-0" high CMU building with a concrete slab-on-grade concrete foundation and concrete roof with a low pitch. It has metal fixed louvers on the north and south walls. The interior is empty and the door has been removed.

The vent house is located on the east side of Marine Drive (Guam Route 1) about 1000' east of the fan house grouping. It is on the surface, atop a vertical shaft that rises from the east end of the underground water supply tunnel. The shaft is a vent opening from the tunnel to the surface. The vent house is a 9'-4" square x 9'-0" high cast-in-place concrete structure or CMU block with a smooth plaster finish. It has a flush metal door and window openings filled with expanded metal mesh. Inside the vent house is a metal housing containing a fan that drew air out of the water supply tunnel and the pump room via the vertical shaft.

United States Department of the Interior
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8. Statement of Significance

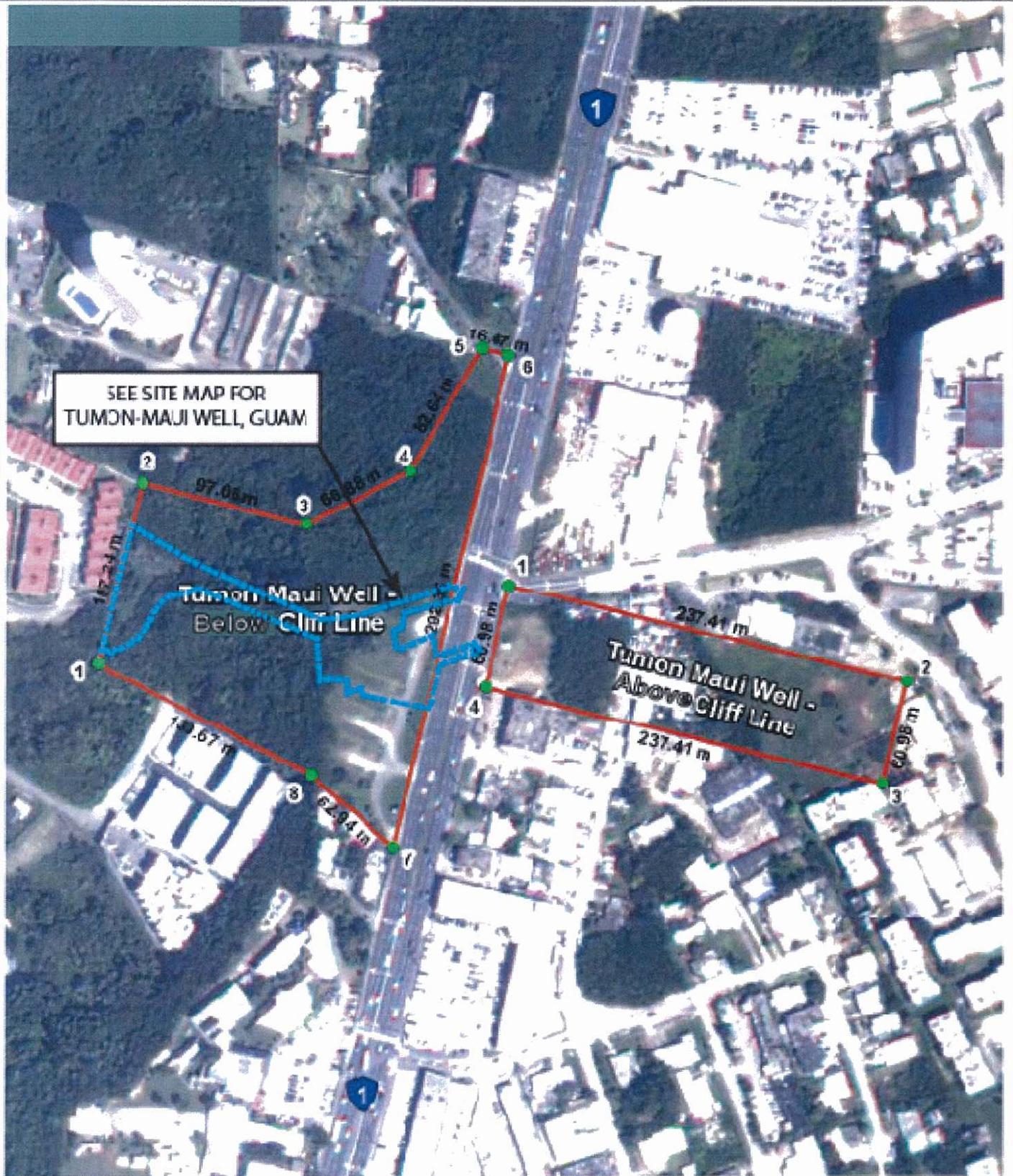
Period of Significance

The Tumon-Maui well was completed in August of 1946. Fresh water was of paramount importance to Guam’s post-war development . It has been in service throughout several significant periods of American history (such as post WWII, Cold War and the Vietnam War).

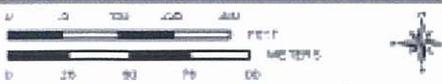
Upon the US liberation of Guam, the military population increased on the island. Military installations were built throughout the island, including a large army/air base, now called Anderson Air Force Base which was initially established in 1944 on the northern end of Guam. Stream diversions, drilled wells, and the Tumon Maui Well supplied water for this large expansion. Even though the rapid demobilization at the end of the war sent great numbers of service members off the island, Guam's military expansion continued due to its strategic location in the Pacific. The military continued construction of Anderson Air Base and the Naval installation at Apra Harbor. The post-war expansion applied to civilian businesses as well as military installations. Banks and markets opened, movie theaters and ice plants were built, Coca-cola and Pepsi-cola bottling plants began operating. By 1946 there were about 6,000 civilians employed (compared with 1,200 before the war), half were working for the Navy.

Consequently, since 1947 the well delivered over one million gallons of fresh water per day (1 mgd). Its approximate 1 mgd draw ranks it as one of the highest capacity wells of the system at that time. Most wells tapping the northern aquifers draw less than 0.4 mgd. Large-scale groundwater development on Guam dates from late World War II after the American liberation of the Island when dozens of wells were drilled to supply water to the many U.S. military installations, as well as the civilian population. With the brisk expansion of the military presence and civilian industry that accompanied the end of the war, northern wells produced 6 to 8 mgd. By the mid 1970s, the U.S. Air Force was using 3 mgd of northern aquifer of water of which Tumon-Maui well contributed over 1 mgd out of a total draw of 15 mgd from fifty-seven wells drawing from the northern aquifers.

**National Register of Historic Places
Maps and Photos**



Tumon-Maui Well Property Boundary



Legend

- FITM References - Tumon Maui Well Boundary
- Tumon Maui Well Boundary (EOD Land Inventory 5/24/10)



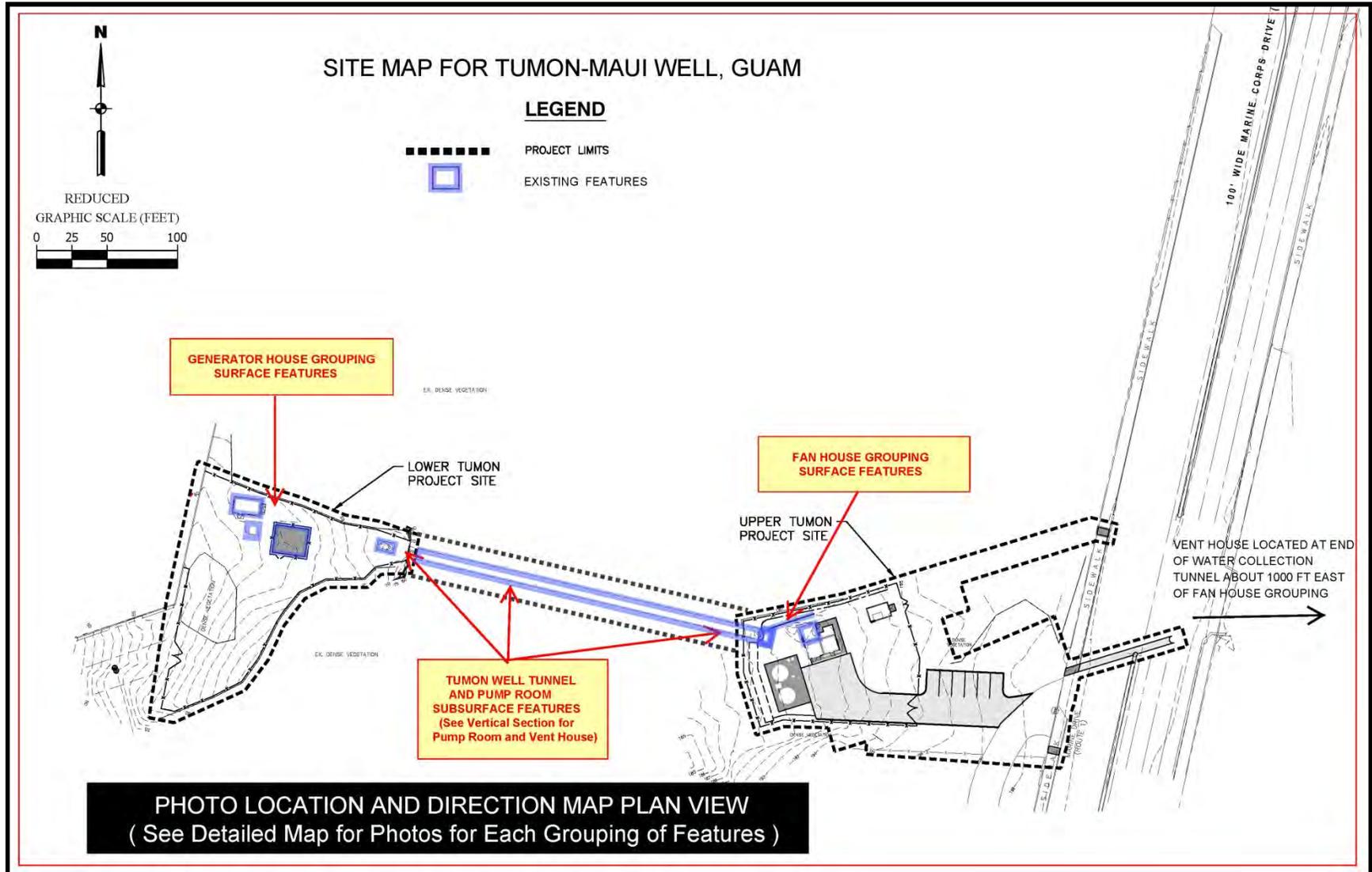
Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Name of multiple listing (if applicable)



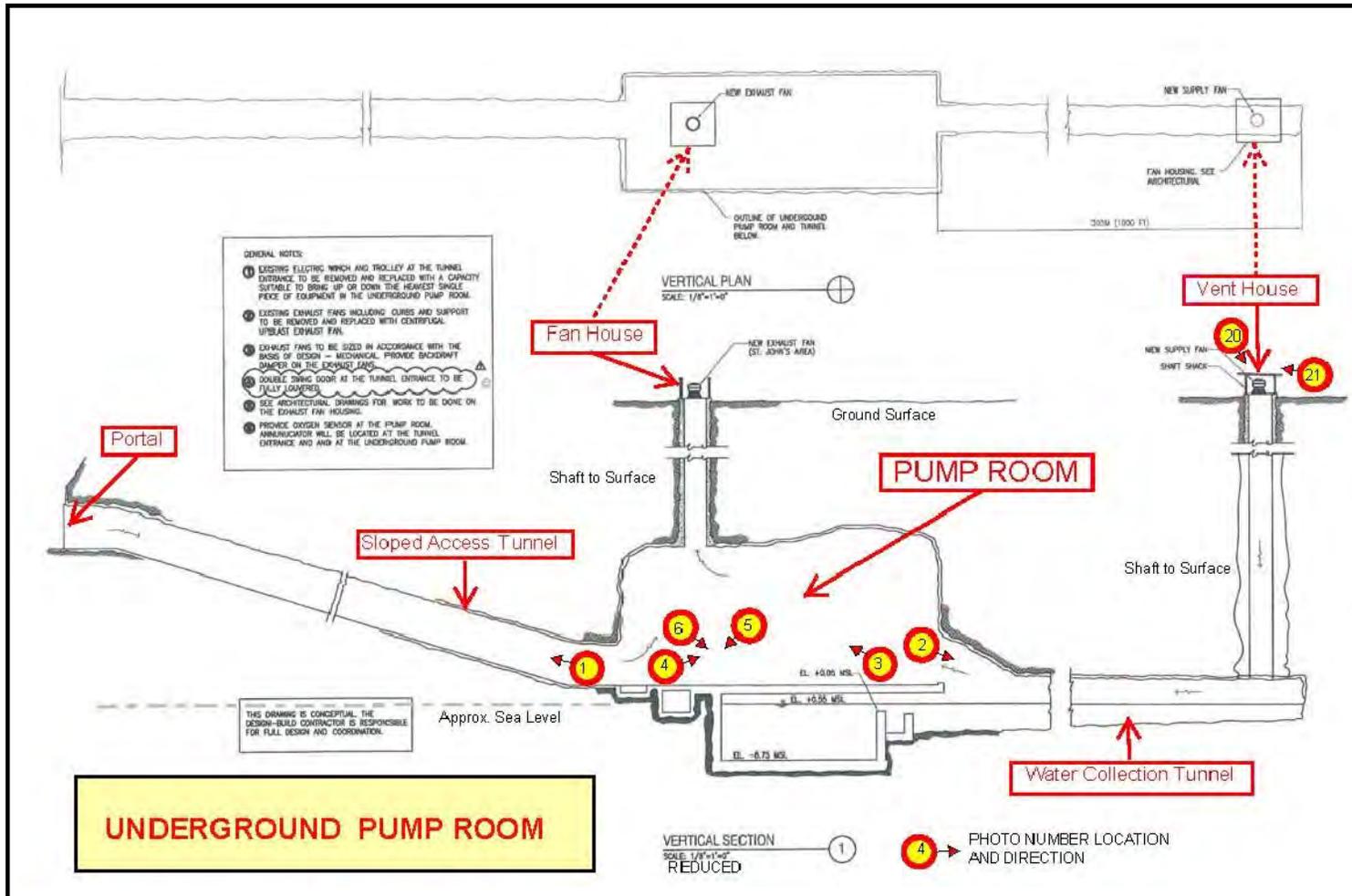
Tumon-Maui Well

Name of Property

Dededo, Guam

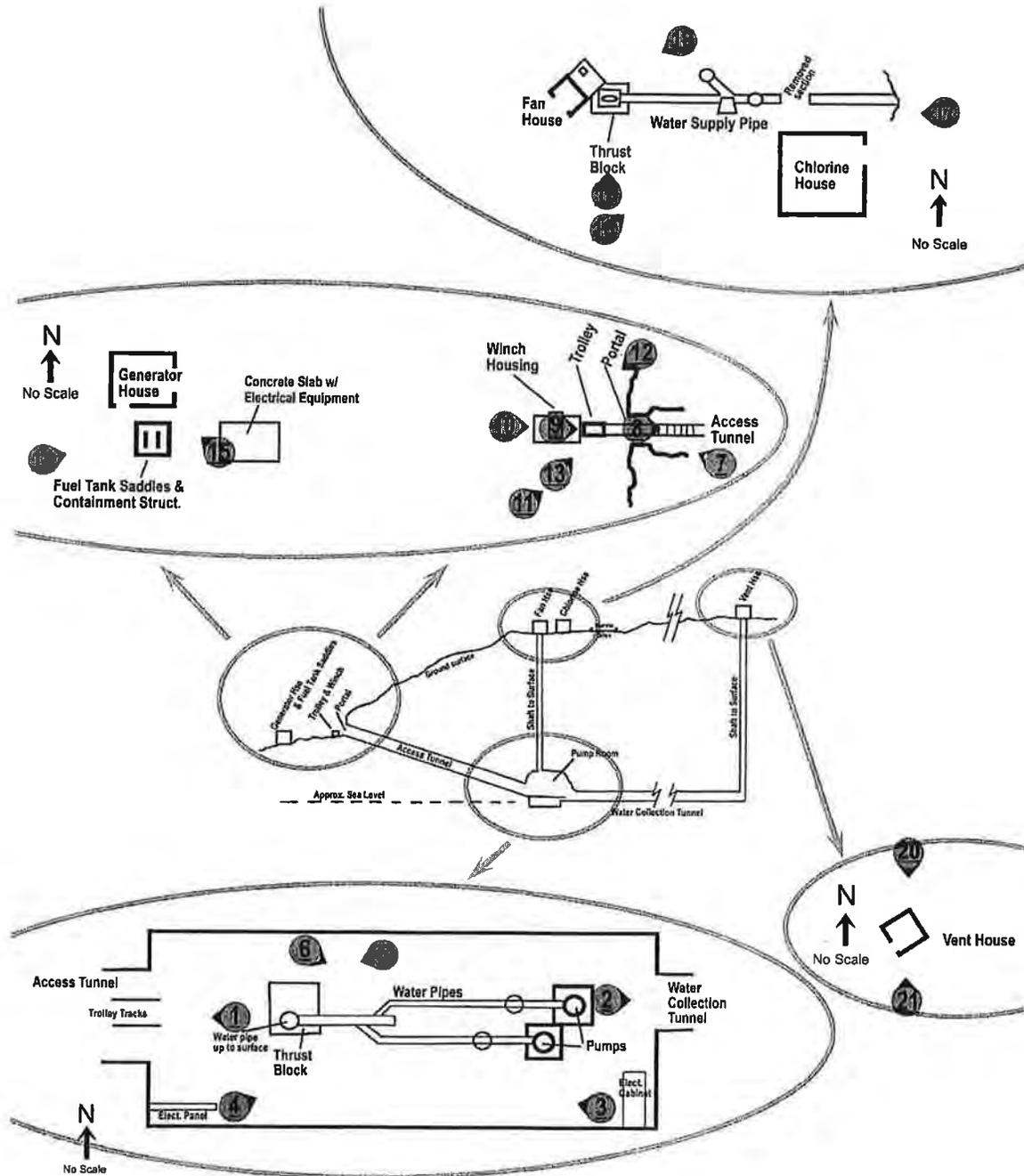
County and State

Name of multiple listing (if applicable)



TUMON MAUI WELL
 HAER No. GU-8
 Index to Photographs (Page 3)

PHOTO KEY



Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)

PHOTOGRAPHS



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Elevation of entry to underground pump room from the access tunnel showing the excavated arched opening. Note the stairs going up to the portal. With scale device. View facing west.
7. Photo number 1 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well

2. Dededo, Guam

3. David Franzen

4. January 2012 (applies to all photographs)

5. N/A (applies to all photographs)

6. Elevation of water collection tunnel opening to the underground pump room. Looking into the collection tunnel. With scale device. View facing east.

7. Photo number 2 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Overview of the underground pump room showing the pumps with vertically oriented electric motors. Note the large concrete thrust block in the middle ground where the water pipe elbows upward to the surface through the conduit opening in the ceiling. Access tunnel entry opening is in the background. View facing northwest.
7. Photo number 3 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Overview of the underground pump room showing the water piping and the pumps. A portion of the large concrete thrust block is visible on the left, the water collection tunnel opening is in the background, behind the pumps. View facing northeast.
7. Photo number 4 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Detail of the large concrete thrust block and water supply pipe extending up to the surface.
Note the access tunnel entry. View facing southwest.
7. Photo number 5 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Overview of the underground pump room showing the opening to the water collection tunnel in the background. View facing southeast.
7. Photo number 6 of 21

Tumon-Maui Well

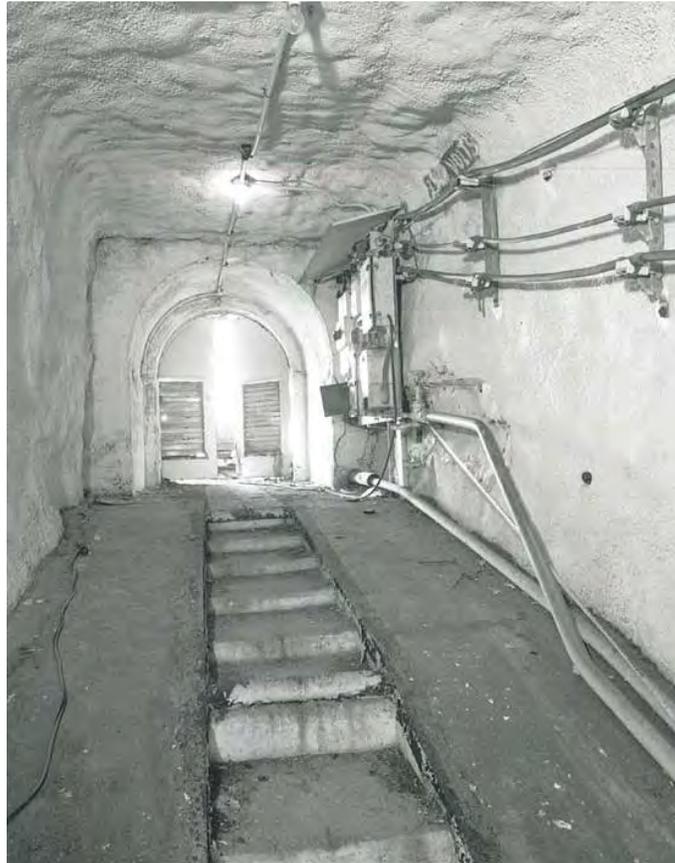
Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Overview of the interior of the portal opening showing the stairs and sloping ramps. Note the concrete arched passage that extends 5' into the tunnel from the outer bulkhead wall. View facing northwest.
7. Photo number 7 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. View looking down the sloping access tunnel showing the shotcrete coating on the walls and ceiling. Note the trolley tracks at each side of the stairs. View facing east.
7. Photo number 8 of 21

Tumon-Maui Well

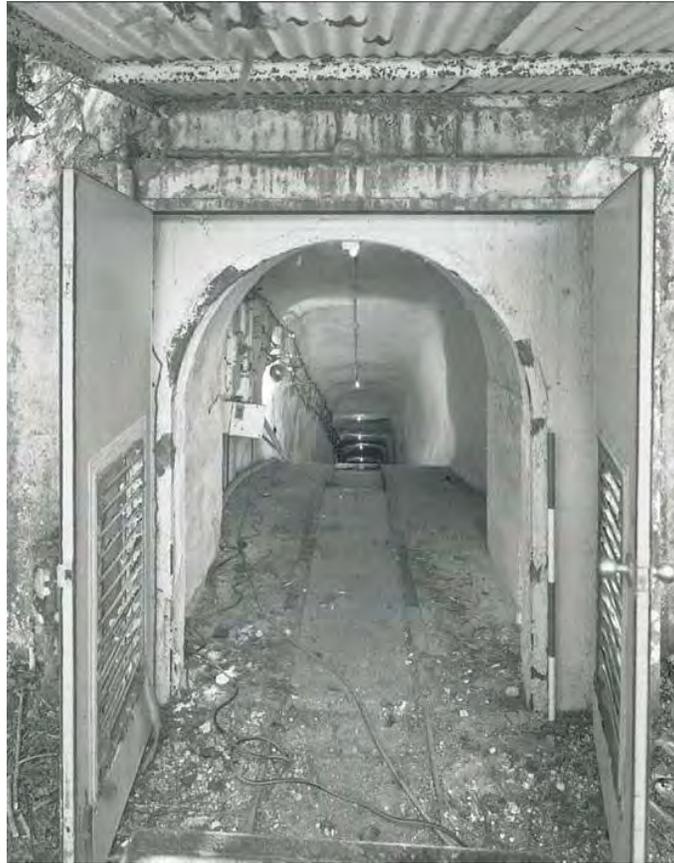
Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Elevation of the exterior of the arched portal with the double doors open. Note the cable rollers for the trolley that are set between the trolley tracks. With scale device. View facing east.
7. Photo number 9 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Elevation of the exterior of the portal with the double doors closed showing the bulkhead wall and metal canopy supported by pipe posts. The trolley, concrete slab and roller are in the foreground. With scale device. View facing east.
7. Photo number 10 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Oblique view of the portal. Note the concrete slab and sheet metal housing that covers the winch. View facing northeast.
7. Photo number 11 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Oblique view of the trolley, concrete slab, and winch housing. View facing southwest.
7. Photo number 12 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Detail of the trolley. View facing northeast.
7. Photo number 13 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Oblique view of the generator house, fuel tank saddles and containment structure, and the electrical equipment in the chain link fence enclosure. The portal to the access tunnel is in the far background, behind the electrical equipment. View facing northeast.
7. Photo number 14 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Oblique view of the generator house and fuel tank saddles. View facing northwest.
7. Photo number 15 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Overview of the fan house (left), large upright thrust block enclosing the U-shaped water pipe, and CMU chlorine house (right). View facing northeast.
7. Photo number 16 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Oblique view of the chlorine house showing the water pipe. Fan house is in the background.
View facing west.
7. Photo number 17 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Elevation of the upright thrust block with scale device and oblique view of the fan house.
View facing north.
7. Photo number 18 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Oblique view of the thrust block and fan house. Note the manhole (door closed) at the base of the pump house that leads down into the conduit. View facing southwest.
7. Photo number 19 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Oblique view of the vent house. View facing south.
7. Photo number 20 of 21

Tumon-Maui Well

Name of Property

Dededo, Guam

County and State

Not Applicable

Name of multiple listing (if applicable)



1. Tumon-Maui Well
2. Dededo, Guam
3. David Franzen
4. January 2012 (applies to all photographs)
5. N/A (applies to all photographs)
6. Oblique view of the vent house. View facing north.
7. Photo number 21 of 21

END









































