FINAL

ARCHAEOLOGICAL INVESTIGATIONS AND ORAL HISTORY OF THE AGAT-SANTA RITA WASTEWATER TREATMENT PLANT AREA OF POTENTIAL EFFECT (APE), LOTS 238-1-4 AND 238-1-R5, SANTA RITA, GUAM

Prepared by

Darlene R. Moore, MARS
Judith R. Amesbury, MARS
Thomas Leppard, IARII
Adam Lauer, IARII
Justin Maxwell, IARII
and
Rick Schaefer

Prepared for

Duenas, Camacho, and Associates, Inc.
and
Guam Waterworks Authority

Micronesian Archaeological Research Services, Inc.

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INTRODUCTION

Guam Waterworks Authority (GWA) is constructing a new Wastewater Treatment Plant (WWTP) at the site of the existing Agat-Santa Rita sewer pump station on Lot 238-1-4, Santa Rita, Guam. The footprint for the WWTP site is located to the east and south of the sewer pump station, which was built after 1996. Duenas, Camacho and Associates, Inc. (DCA) contracted Micronesian Archaeological Research Services (MARS) to provide archaeological services for the construction of this new WWTP (Figs. 1-3). Lot 238-1-4, a 44.37-acre Government of Guam parcel, is located on the south side of Route 2A. To reach the project area, travel along Route 2A 0.52 mile southwest from the Route 2A/Route 5 intersection, then turn south from Route 2A onto the paved road that leads to the existing sewer pump station.

On March 11, 2015, the Guam Historic Resources Division (HRD) approved the Scope of Work and Research Design for the project. MARS' approved Scope of Work and Research Design separated the investigations into three distinct Areas of Potential Effect (APE). This report covers Area A—the Agat-Santa Rita WWTP, and Area B—the Hyundai waterline easement. Area C—the Routes 2 and 2A waterline monitoring, is a separate project, and not part of MARS' contract.

The Area of Potential Effect (APE) on Lot 238-1-4 consists of about 10 acres for the facility footprint and the 1,000 ft long by 30 ft wide portion of the corridor for the waterline easement (see Fig. 3). The total length of the waterline easement is estimated to be 1,600 ft long and 30 ft wide. The APE on Lot 238-1-R5 is a corridor that measures 600 ft long by 30 ft wide (0.41 acre). This section of the waterline easement extends south from the south edge of Lot 238-1-4, across Lot 238-1-R5 to the Hyundai Subdivision.

The archaeological tasks related to MARS' part of the project were completed in stages, beginning with 1) an inventory survey of the WWTP footprint on Lot 238-1-4 in April 2015, 2) intermittent field checking the clearing and grading of the footprint in 2015-2017, 3) field checking the addition of a Laydown Area on Lot 238-1-4 near the entrance to the facility in 2016-2017, and finally 4) an inventory survey of the Hyundai waterline easement corridor on Lot 238-1-R5 in October 2017 and monitoring the clearing and grading of the Hyundai waterline easement in February 2018.

The initial inventory survey of the APE for the WWTP footprint within Lot 238-1-4 was completed on April 6-7, 2015 by Thomas Leppard, Ph.D. and Adam Lauer, M.A., of the archaeological firm International Archaeological Research Institute, Inc. (IARII) under contract to MARS. The objective of the survey was to locate, document, and assess the significance of historic properties, and make recommendations regarding their treatment.

MARS submitted an interim report to HRD in May 2015. The interim report, *Archaeological Assessment of the Area of Potential Effect for the Footprint of the Agat-Santa Rita Wastewater Treatment Plant, Lot 238-1-4, Santa Rita, Guam,* contained the results of the inventory survey of the WWTP footprint (Moore et al. 2015). The interim report was provided to HRD so that the construction permit could be issued and GWA could proceed with construction of the wastewater treatment plant. The interim report also is included as part of this technical report.

This report is organized according to the chronological order that the four main archaeological tasks were completed during the period from 2015 to 2018. Presented first after the background information are the results of the initial inventory survey; next are the results of the intermittent field checks of GWA's clearing and grading for the WWTP footprint. The third section covers the change order to create a Laydown Area near the entrance to the WWTP and it includes additional information about Camp Roxas gained through an interview with a former resident. The fourth section presents the results of the inventory survey and monitoring for the Hyundai waterline easement. Photographs are included at the end of each of the four sections. Following the descriptions of the archaeological investigations are the results of the laboratory analyses. The conclusion and recommendations end the report.

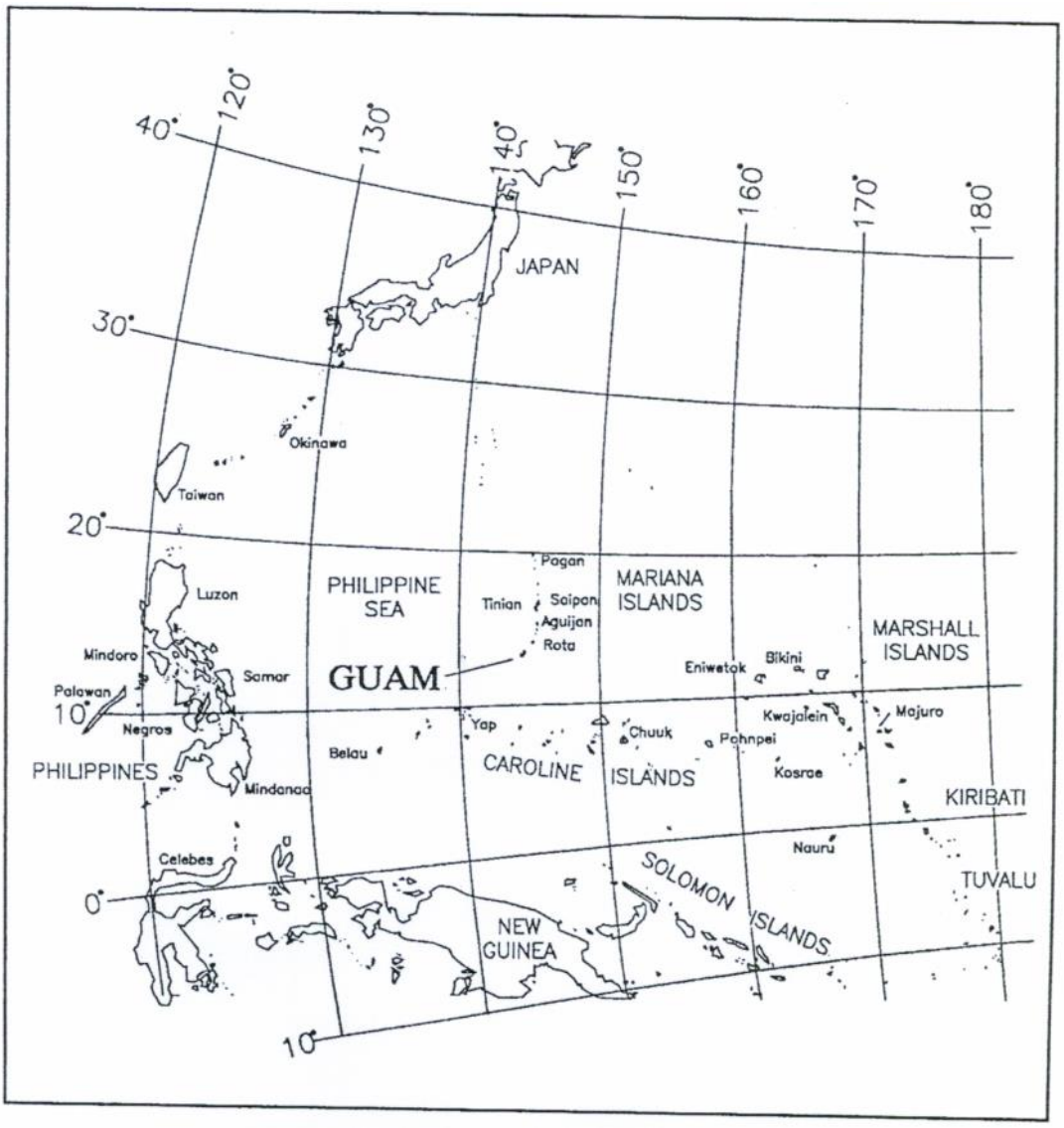

Figure 1. Map of the western Pacific showing the location of the Mariana Islands and Guam.

Figure 2. Map of Guam showing the location of the proposed GWA Wastewater Treatment Plant (courtesy of the University of Texas Libraries, the University of Texas at Austin).

Figure 3. Plan of the APE for the Agat-Santa Rita Wastewater Treatment Plant, prepared by DCA.

ENABLING REGULATIONS FOR ARCHAEOLOGICAL RESEARCH ON PROPERTIES IN WHICH THE FEDERAL GOVERNMENT HAS AN INTEREST

Because the construction of the proposed Agat-Santa Rita Wastewater Treatment Plant includes a federal stipulation to GWA, the archaeological research performed for this project complies with the Federal regulatory mandate, including the amended National Historic Preservation Act of 1966 (especially Section 106), the National Environmental Policy Act, Executive Order 11593, the Archaeological and Historic Conservation Act of 1974, the Housing and Community Development Act of 1974, and the Archaeological Resources Protection Act of 1979. The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation were followed during the project.

The Guam regulatory mandate for the proposed undertaking includes Public Laws 20-151 and 21-104. Public Law 20-151 requires that the project area historic properties be professionally assessed in order to fulfill Dept. of Parks and Recreation/Historic Resources Division (HRD) permitting conditions. Under Public Law 12-126 all government agencies, such as GWA, must conduct their undertakings so as to maximize the protection of cultural resources.

ENVIRONMENTAL BACKGROUND

The project area is situated in the Municipality of Santa Rita. Lots 238-1-4 and 238-1-5R are in the low land below Mt. Tenjo, west of the junction of Route 2A and Route 5 and south of Route 2A. Route 5 continues to the inland village of Santa Rita, which is located inland of Orote Peninsula in the southern part of the island. Route 2A crosses the inland portion of the peninsula and links Marine Corps Drive on the island's west side with Route 2, which parallels the southwest coastline and provides access to the village of Agat from the north and the south. On the north side of Route 2A, is US Naval Base Guam, bounded by chain-link fencing that parallels the highway. A portion of the naval base, Camp Covington (formerly Camp Roxas), is located just north of the fence, opposite Lot 238-1-4.

Just after World War II (WWII), portions of the area north and south of Route 2A were modified to house temporary workers from the Philippines who were brought in to help re-build the island. Camp Roxas was located north of Route 2A in the vicinity of what now is called Camp Covington and Camp Busanda was located south of Route 2A. After the camps were abandoned in the 1970s, much of the area south of Route 2A was left unused, although in the early 1990s, the Seabees apparently stored heavy equipment in the area east of Lot 238-1-4 (Carucci 1993). In November 1998, the US Government quitclaimed 44.37 acres (now Lot 238-1-4) to the Government of Guam for the construction of a wastewater treatment plant. The US Navy retains much of the lands adjacent to the project area including Lot 238-1-5R to the south and west. The US Navy has granted GWA an easement across Lot 238-1-5R to the Hyundai Subdivision for the installation of the waterline. The Hyundai Subdivision is south of Lot 238-1-5R. West of Lot 238-1-4 and Lot 238-1-5R is LF-18, a parcel of filled land that is currently being used as a staging area by a construction company. Formerly, this filled area was used by the Government of Guam as a school bus parking lot.

The project area is within the coastal lowland and valley floor physiographic unit (Randall and Holloman 1974:33; Tracey et al. 1964). In the vicinity of the project area, abruptly rising limestone hummocks occur. The soils of the project area derive from terrigenous sources (Young 1988). The dominant soils are Saipan-Yona-Chacha Clays and Inarajan Clay. The Saipan-Yona-Chacha Clays are shallow and occur on ridges, generally grading into clayey limestone 12 to 24 inches below the surface. Alluvial Inarajan Clay ranges in depth from 3 to 25 or more feet, is poorly drained, frequently flooded, mottled and alkaline. In prehistoric and early historic times, periodic flooding and associated inputs of terrigenous sediments helped form these clay deposits.

Vegetation in the project area includes *tangan-tangan*, *Phragmites karka*, *Casuarina equisetifolia*, *Morinda citrifolia*, a variety of vines, ferns, weeds, and ornamentals such as crotons, *Hibiscus*, *Sanseviera*, and *Wedelia*. Also present are wild taro, arrowroot, pickle tree, coconuts, starfruit, panama cherry, mango, papaya, soursop, ti, and tapioca (Camacho, pers. comm., 2015)

HISTORICAL BACKGROUND

People have lived in the Mariana Islands for at least 3,500 years or about 3,000 years before European contact. The Prehistoric Period lasted from the arrival of the first people by at least 1500 BC until the arrival of Magellan in AD 1521. Spoehr (1957) divided the long Prehistoric Period into the Pre-Latte Phase and Latte Phase. Subsequent authors (Craib 1990; Moore 1983; Moore and Hunter-Anderson 1999) have proposed various subdivisions for the Pre-Latte Phase.

Pre-Latte Phase cultural deposits are found below the surface usually along the coasts. Artifacts that characterize the Pre-Latte Phase include pottery sherds with red-slipped exterior surfaces, some of which are decorated with lime-filled designs, stone and shell tools, and beads and bracelets made from cone shells.

The Latte Phase began by at least AD 1000 and is characterized by the megalithic features called latte sets. A latte set consists of two parallel rows of upright stone shafts (*haligi* in Chamorro) associated with capstones (*tasa*). The number of shafts in a set varies, but sets with eight, ten, or twelve shafts are common (Graves 1986; Hunter-Anderson and Moore 2002).

Based on the cultural materials and features associated with latte sets, archaeologists believe they functioned as foundations for residential structures. Latte Phase sites are widely distributed along the coastline as well as in the interior of the Mariana Islands. They are found not only on the major islands of the southern arc, but on the smaller islands of the northern arc as well. Characteristic artifacts of the Latte Phase include plain pottery sherds, stone mortars, stone and shell tools, and beads made from *Spondylus* shells.

Technically the Spanish Period began in 1521 with the arrival of Magellan's fleet. In 1565, Legazpi claimed the Marianas for Spain, and shortly thereafter, trading ships regularly stopped at Guam. More than 100 years passed before Spain established a religious and military colony in the islands in 1668. By this time the Manila galleons regularly crossed the Pacific from Acapulco to Manila, stopping at Guam for provisions on their westward crossing.

Throughout the Spanish Period, which ended in 1898, most Chamorros relied on subsistence farming, gathering wild foods, and reef and lagoon fishing. During the 18th and 19th centuries, a variety of new plants and animals were introduced from the Old and New World locations (see Thompson 1947). Among the imported plants were corn, sweet potatoes, coffee, and tobacco. Rice, which had been introduced in prehistoric times, was also grown during the Spanish Period. Deer (*binadu*) from the Philippines were brought in, as well as pigs (*babui*), chicken (*mannok*), cattle (*guaka*), and water buffalo (*karabao*). The Mexican *metate*, *mano*, and *comal* (*kommat*) were introduced to process the corn and prepare *tortillas* (*titiyas*), and domed ovens (*hotnu*) were built in order to roast meat and bake other goods (including breadfruit, see Moore and Steffy 2008).

Spanish villages situated nearest to the project area include Sumay and Agat. Sumay, located on the east side of Orote Peninsula north east of the project area, was destroyed during WWII. After the war its residents were relocated to Agat and Santa Rita.

Agat, located on the shoreline southwest of the project area, was one of the village centers established by the Spanish in the 1680s, and it has been occupied continuously since that time. During Spanish times, the main village was located just south of what is now the Namo River. Agat was also destroyed during WWII, and after the war, the village proper was moved further south. A few homes, a variety of businesses, parks, and other public facilities occupy both sides of the highway, beginning south of the Namo River and continuing south to Nimitz Beach Park.

Santa Rita was established in the unoccupied hilly area inland of Agat in 1945, on land originally owned by the Bordallo family (Hunter-Anderson and Moore 2006). Santa Rita was specifically built to house the former Sumay residents who wanted their own village.

There is little information about utilization of the project area during the Spanish Period, however rice was planted in the Atantano area in the 1800s. Ibanez del Carmen et al. (1976:24, 79) report that in 1867, Japanese laborers were brought to Guam in a commercial agricultural venture that involved the cultivation of cotton, sugar, and rice; and that in 1870 Japanese laborers were working in the Atantano rice paddies. The venture ultimately failed, and the Japanese who had not died from accidents and hardships were repatriated. Spanish and Filipino laborers, common criminals and political prisoners, were also imported to Guam during the late 1800s to supplement the labor supply (see Rogers 1995).

During the First American Period (1898-1941), Guam was governed by a series of US naval officers. The Americans implemented several civic construction projects and emphasized the need for a reliable water supply. Roads, bridges, public buildings, and a cable station at Orote were built (Thompson 1947:127-128), and water systems were designed and built within the first decades of the 20th century. The naval administration employed local people, and the money they earned was spent for imported goods. A compulsory public education system was established (Thompson 1947:217). Guam's population increased from 9,676 in 1901 to 23,067 in 1940 (Thompson 1947:37).

A 1913-1914 topographic map of Guam prepared by the Army Corps of Engineers (Sturdevant 1914) shows the relatively undeveloped state of the project area vicinity at that time (Fig. 4). The figure indicates that the areas to the north, south, and west of the project area were marshy.

Thompson (1947:137) illustrates the 1939 pattern of land use on Guam. Rice paddies are shown for portions of Agat, the Atantano lowlands, and Piti (Fig. 5), but none occur in the project area.

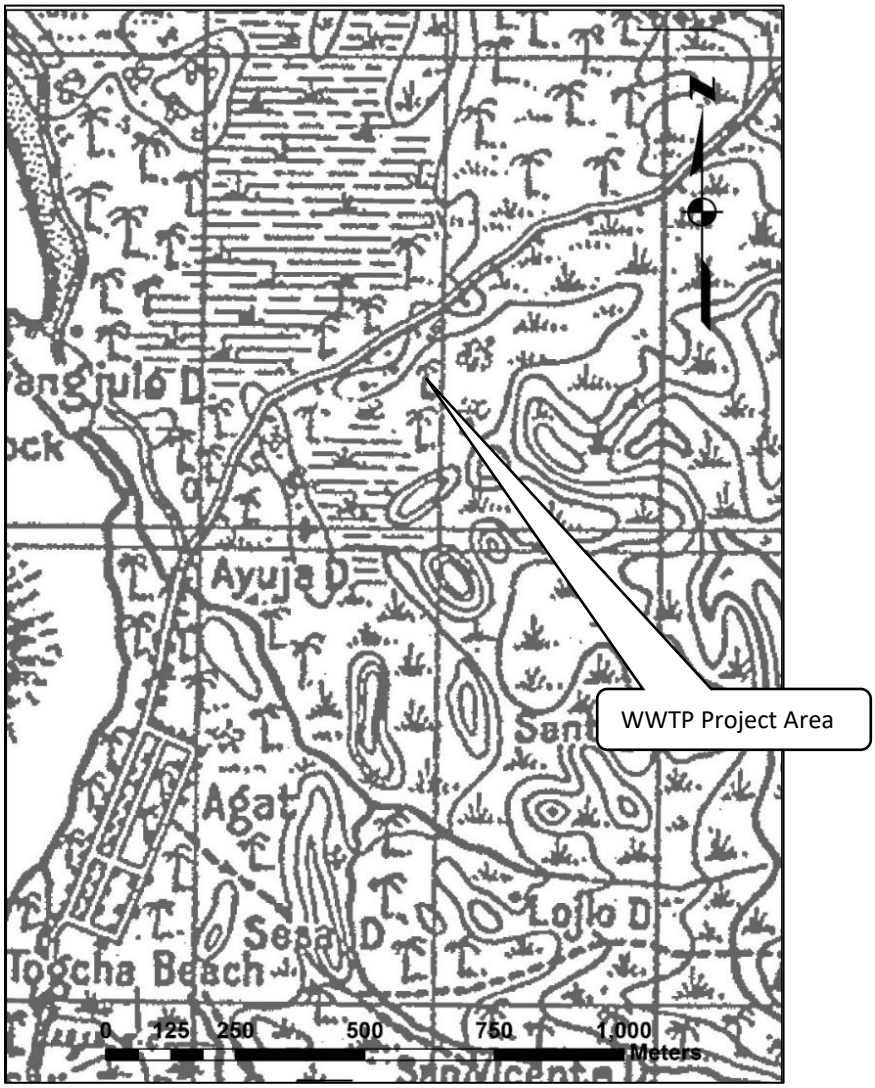

Figure 4. Section of a map of Guam dated 1913-1914 (Sturdevant 1914) showing no development in the vicinity of the project area at that time. Note that Old Agat Road, now Route 2A, had already been built and the areas north and southwest of the project area were marshy.

The Japanese captured Guam in December 1941 and also bombed Pearl Harbor at the same time. These incidents marked the involvement of the United States (and Guam) in WWII. During WWII, the Japanese *Kaikuntai* on Guam forced the local people to grow crops (rice, sweet potatoes, corn, taro, tapioca, and other foods) to feed the military (Carano and Sanchez 1964;

Sanchez 1988). During the Japanese Occupation, existing agricultural lands throughout the island were expanded to increase production, including rice plantings in Agat.

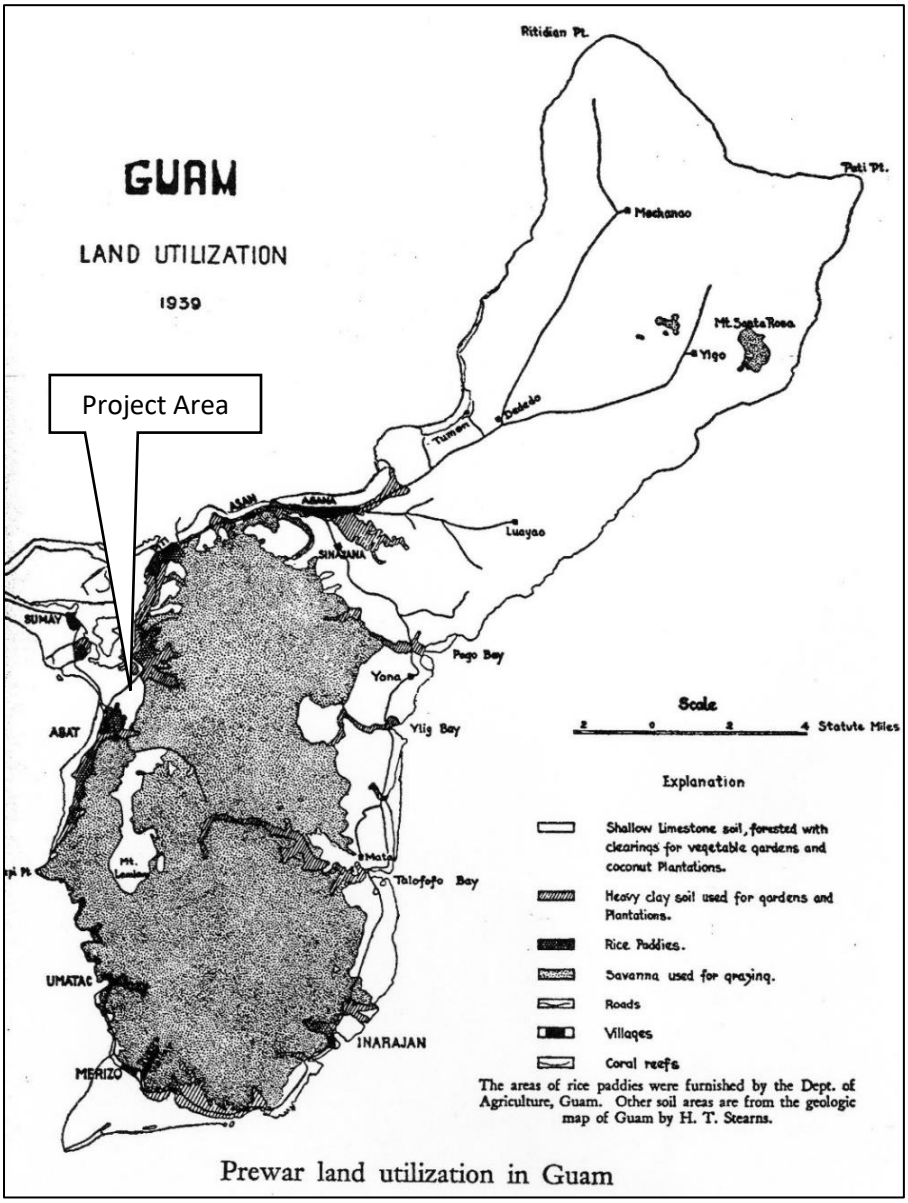

Figure 5. Map of Guam showing land use prior to WWII (taken from Thompson 1947). Rice paddies are not shown to occur in the project area, although the land could have been used for gardens.

Prior to the American re-invasion in 1944, the Japanese constructed a well-camouflaged, coastal defensive system comprised of numerous concrete gun positions, bunkers and trenches situated along the Agat shoreline and on Orote Peninsula. Before landing troops, the Americans bombarded the island from air and sea. On July 21, 1944, American troops landed on the west coast beaches of Asan and Agat, north and south of the Peninsula. Capture of the Japanese

military installations on Orote Peninsula was the primary objective. This objective was achieved on July 29, 1944 (Denfeld 1997:193). The island was declared secure on August 10, 1944. American views of the history of this period can be found in Hoyt (1980), Crowl (1960), Lodge (1954) and Gailey (1988). Information gathered from Chamorro survivors of WWII on Guam are available in a variety of forms, including newspapers (see Pacific Daily News archives), books (Sanchez 1984; Guam Survivors Memorial Foundation), videos (see Steffy 2015) and on-line sources (see Guampedia).

As part of the US Naval buildup during and after WWII, the Navy took over the land formerly occupied by Sumay Village as well as the rest of Orote Peninsula, and the nearby areas where military facilities and storage areas were constructed. The land in the vicinity of the project area was formerly owned by the Bordallo brothers (Carlos, A.T. and B.J.) who had a house on the coast, west of the project area (Hunter-Anderson et al. 2001). It is not known how they may have used the project area.

Figure 6 shows some of the military installations located in the vicinity of the WWTP project area in 1945. The installations included NCB camps (70, 72), a medical supply storehouse (95), AGE Bone Disposal (150) and ration storehouses (114). The Base Hospital 18 (93) was situated further inland, near Southern High School (Wells et al. 1997).

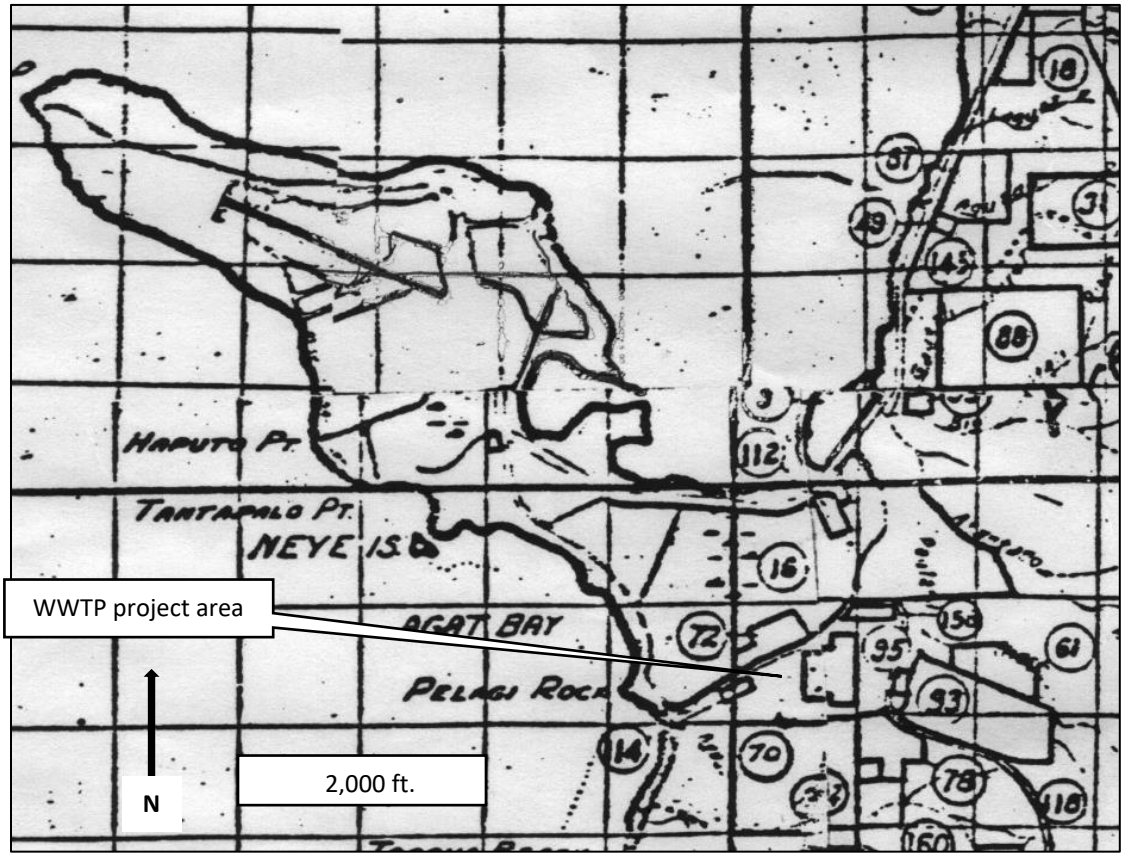

Figure 6. Section of the US military Area Allocations Map dated October 1945, showing the installations in the vicinity of the WWTP project area.

After 1945 Guam's population grew rapidly due to the import of military troops and civilian workers. Thousands of laborers from the Philippines and elsewhere were brought in to help rebuild the island (Rogers 1995). Some of the Philippine laborers were housed at Camp Roxas and Camp Busanda. These camps were situated near the WWTP project area (Fig. 7). Camp Roxas was located north of Route 2A in the vicinity of the NCB camp shown on Fig. 6 (72) and Camp Busanda was located south of Route 2A in the vicinity of the medical supply storehouse and bone disposal facilities shown on Fig. 6 (95, 150). Possibly the AGE bone disposal facility was where the USAPI group was housed or worked (see Luces interview below). The USAPI was a group made up of former Philippine Scouts who were brought to the Marianas from the Philippines at the end of WWII to collect the remains of US soldiers and package them for return to the US.

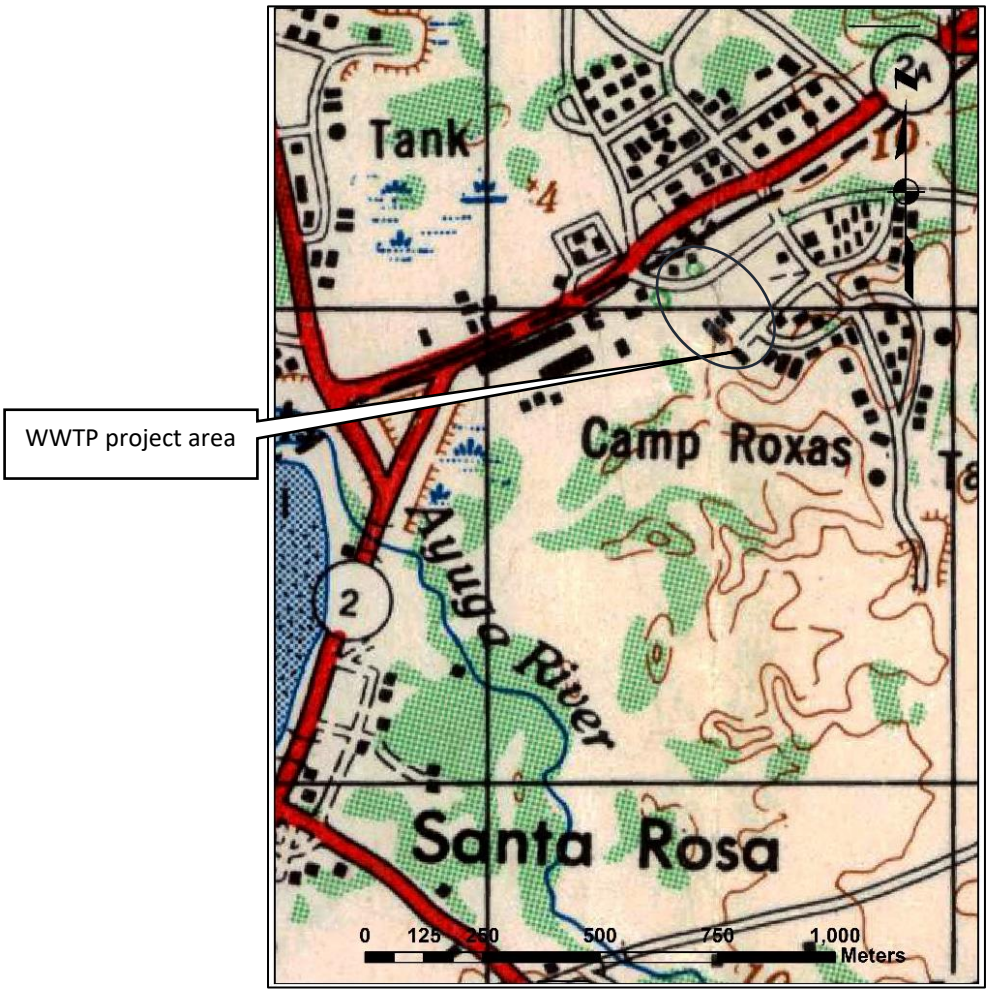

Figure 7. Section of a 1954 map of Guam showing the layout of Camp Roxas. This map makes no distinction between Camp Busanda (south of 2A) and Camp Roxas (north of 2A). Possibly because Camp Busanda had been abandoned prior to 1954 and Camp Roxas had expanded into the area (see Luces interview below). Most of the structures and roads associated with Camp Roxas occur north and east of the project area.

In 1950 the US Congress passed the Organic Act, which made Guam an unincorporated territory of the United States. The act granted US citizenship and a measure of self-government to the people of Guam. In 1962 the Navy security clearance was lifted and by 1967 tourists, mostly from Japan, began to visit Guam.

ARCHAEOLOGICAL BACKGROUND

Modern archaeological investigations on Guam began in the 1920s with the surveys and excavations of Hans G. Hornbostel (Thompson 1932). Although he worked on the island's west coast, Hornbostel did not excavate in Agat. Hornbostel's map (Reed 1952) showing the occurrence of archaeological sites on Guam in the 1920s does not depict sites along the Agat shoreline, but they do occur across the neck of Orote Peninsula.

After WWII, Reinman (1977) conducted an island-wide survey and test excavations on Guam, which excluded the Agat shoreline due to time constraints and because modifications to the shoreline during its use as a WWII invasion beach would have destroyed archaeological features. Since then a number of archaeological projects have been completed along the Agat shoreline. For example, archaeological investigations at the Inn on the Bay project, situated on the beach just south of the Namo River, indicate prehistoric utilization of the beach strand by the beginning of the Latte Phase. The calibrated date of this sample is AD 895-1255 (Hunter-Anderson 1989:48).

Other projects in Agat include the Agat/Santa Rita Waterline (Moore et al. 1995), the Agat/Santa Rita Wastewater Project (MARS field notes 1996-97) and the Monitoring of Cable Trenching along Marine Drive, Route 2A, and Route 2 from Piti to Biyae, Agat (Hunter-Anderson 2002). All three of these projects encountered a previously unknown pre-Contact and historic burial area at the intersection of Routes 2 and 12 in Agat. The cemetery deposits are situated on both the beach and inland sides of Route 2, and north and south of Route 12 (Fig. 8).

Two radiocarbon dates obtained from material recovered from these excavations suggest that this cemetery was used from the 1300s through the 1700s. The date from the Agat/Santa Rita waterline was about AD 1780 (Moore et al. 1995:33), and the date from the Cable Trench was calibrated at 2 sigma to AD 1260-1310 and 1360-1390 (Hunter-Anderson 2002:80). These dates are more recent than the date from the fire-feature at the Inn on the Bay project, which was located north of the Route 2 intersection with Route 12.

Another burial area was identified during monitoring for the Agat/Santa Rita Wastewater Project in 1997 (MARS field notes 1996-97). This burial area was north of the Routes 2/12 cemetery, on the inland side of the Route 2 in front of what was then the Exxon Gas Station. The 76 Gas Station now occupies this location (Fig. 8). At Sta 54+40 of the Wastewater Project, MARS' archaeological monitor identified human bones in the west wall of the trench 1.0 m below ground surface. A board was placed in the trench to protect the west face, and the pipes were installed. The burial area was located 17 m north of a concrete power pole and 8 m south of the curbing on the center island in front of the gas station. Upon further investigation of this spot, the remains of three individuals were identified, two on the west and one on the east face of the trench. HRD was notified, and data recovery was required. MARS was not involved in any

data recovery efforts in this area and is not aware of the status of these human remains. The archaeological report on the Agat/Santa Rita Wastewater Project is pending.

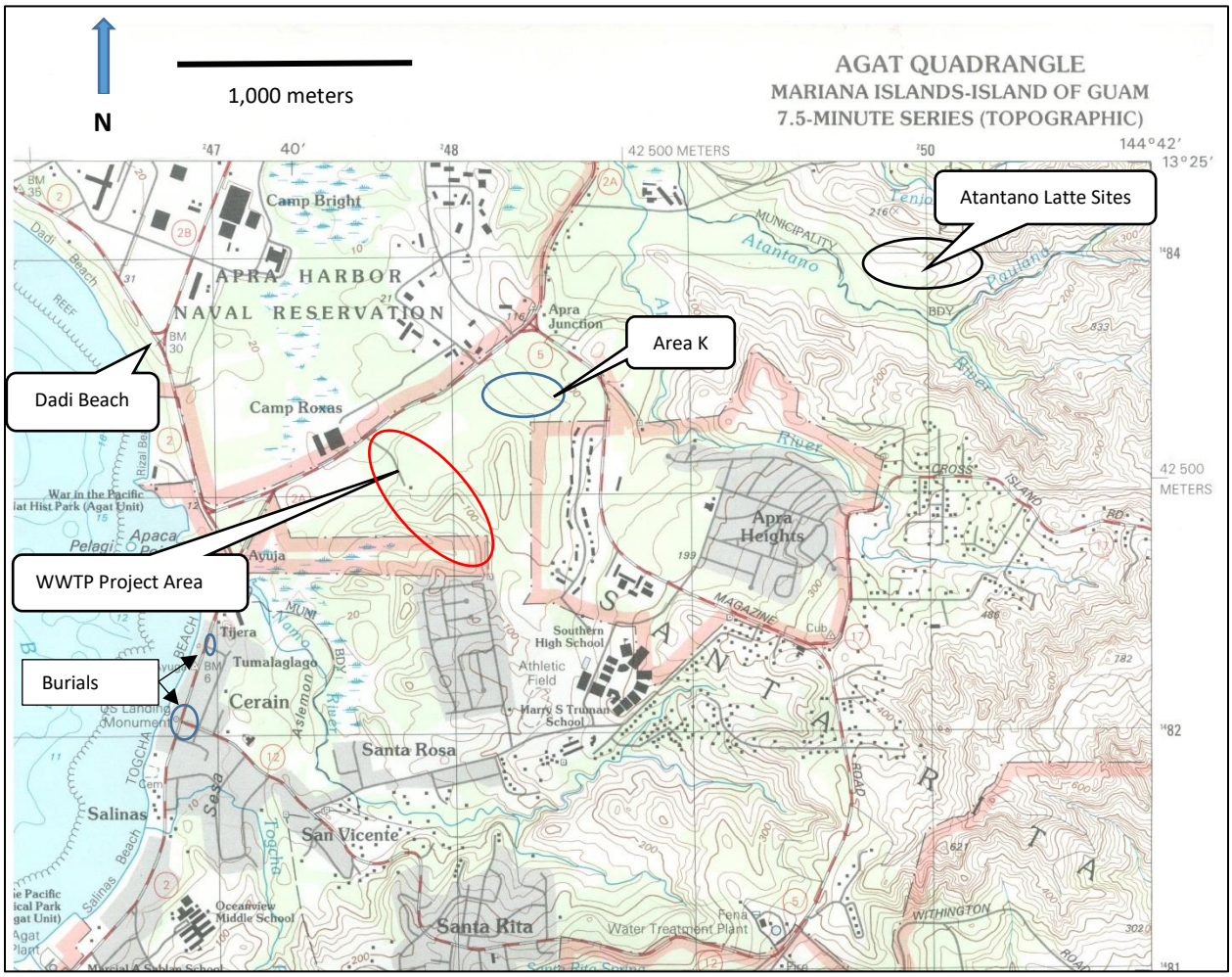

Figure 8. Section of the Agat Quadrangular USGS map (2000) showing the location of the project area and some of the nearby historic resources. Prehistoric cultural deposits and two burial areas are located along Dadi Beach and along Route 2 in Agat. Japanese defensive features occur along the shoreline at Dadi Beach, Affleje Beach (formerly Rizal Beach), and the War in the Pacific Historical Park parcel at Apaca Point. Post WWII roads, concrete slabs and drainage features occur in Area K.

Investigations of the Orote Peninsula area, north of the project area, indicate earlier dates for the initial human occupation of this part of Guam. Based on the results of paleo-sediment analyses of cores taken at Tipalao Marsh, Athens and Ward (1993:196) suggest human presence in the area about 3500 years BP. This early occupation date is similar to other early Pre-Latte sites on Guam and the Marianas (see discussion in Hunter-Anderson and Butler 1995). The authors propose that land utilization at Orote began to intensify by 1399 years BP, and that the area was regularly utilized, perhaps for agriculture, by 833 years BP. Supporting this proposed land use chronology is a prehistoric radiocarbon date, about 1350 years BP, obtained from charcoal

recovered from a cultural deposit in a rockshelter located near the north end of Dadi Beach (Carucci 1993:200). Dadi Beach is located northwest of the project area, just north of Rizal Beach and west of Shoreline Road (see Fig. 8)

The Orote study reviewed the historic literature in order to determine, if possible, where the early villages on the peninsula were once located. Carucci (1993) suggested that a village known either as Orote or Funa, may have been situated along Dadi Beach, and the village of Tuparao may have been situated along Tipalao Beach.

The surface survey of the Tipalao Beach area identified two sites, a pottery scatter (2-1311) and some concrete pads (TN 24), and determined that the land surface had been drastically modified in the recent past. Another site, 2-1312, consisting of three WWII-era caves, was located in the rocky cliff at the south end of Tipalao Beach (Carucci 1993). Much of the area inland of Tipalao Bay has been covered with quarried fill material.

The archaeological survey of the Dadi Beach area documented 12 potential prehistoric and historic sites (Carucci 1993, see Fig. 8). The sites include three Japanese defensive positions near the shoreline, three post WWII retaining walls and/or WWII debris, a rockshelter with a prehistoric cultural deposit (Carucci 1993:235), two pottery scatters, and a swamp that was determined to be too shallow to core. The two pottery scatters (PS 4 and PS 8), located near Shoreline Road, were determined to have little archaeological significance due to an absence of an intact subsurface cultural deposit in the subsurface auger tests. However, Carucci (1993:379) relates that he was informed that in the 1970s human skeletal remains were exposed by sand mining events near the southern end of Dadi Beach. The remains may have been recovered by the Navy Investigative Service. Because he was unable to substantiate this information and because archaeological sites were identified in the area during his survey, Carucci recommended that future construction in this area be monitored by qualified archaeologists (Carucci 1993:379).

Other parts of Orote Peninsula have been investigated archaeologically. Dixon et al. (2004) identified remains of Camp Roxas (Rojas) in Area 8, a Latte Phase artifact scatter in Area 9, and Latte Phase artifact scatters and WWII features in Area 14, near the mouth of the Atantano River (Fig. 9).

Another project, which involved archaeological monitoring during the reconstruction of Marine Drive in the vicinity of the mouth of the Atantano River, indicates that the limestone ridges adjacent to the nearby wetlands were utilized during the Latte Phase (Wells and Prasad 1995). Archaeological investigations near the Atantano River, on property formerly owned by the Shell Corporation, indicate that land adjacent to the river was utilized during the Latte Phase and into the Spanish Period, see Fig. 8 (Hunter-Anderson 1994). Recently, this archaeological complex was donated to the Guam Preservation Trust.

Previous Archaeological Work in the Vicinity of the Project Area

Archaeological surveys completed near the proposed wastewater treatment plant include a survey for the Area IV Wastewater Facility, Agat, Guam (Moore 1987), the Agat/Santa Rita Wastewater System Project (MARS field notes 1996-1997), and The Archaeology of Orote

Peninsula (Carucci 1993), which included Parcel K, an area located just east of the current footprint for the facility.

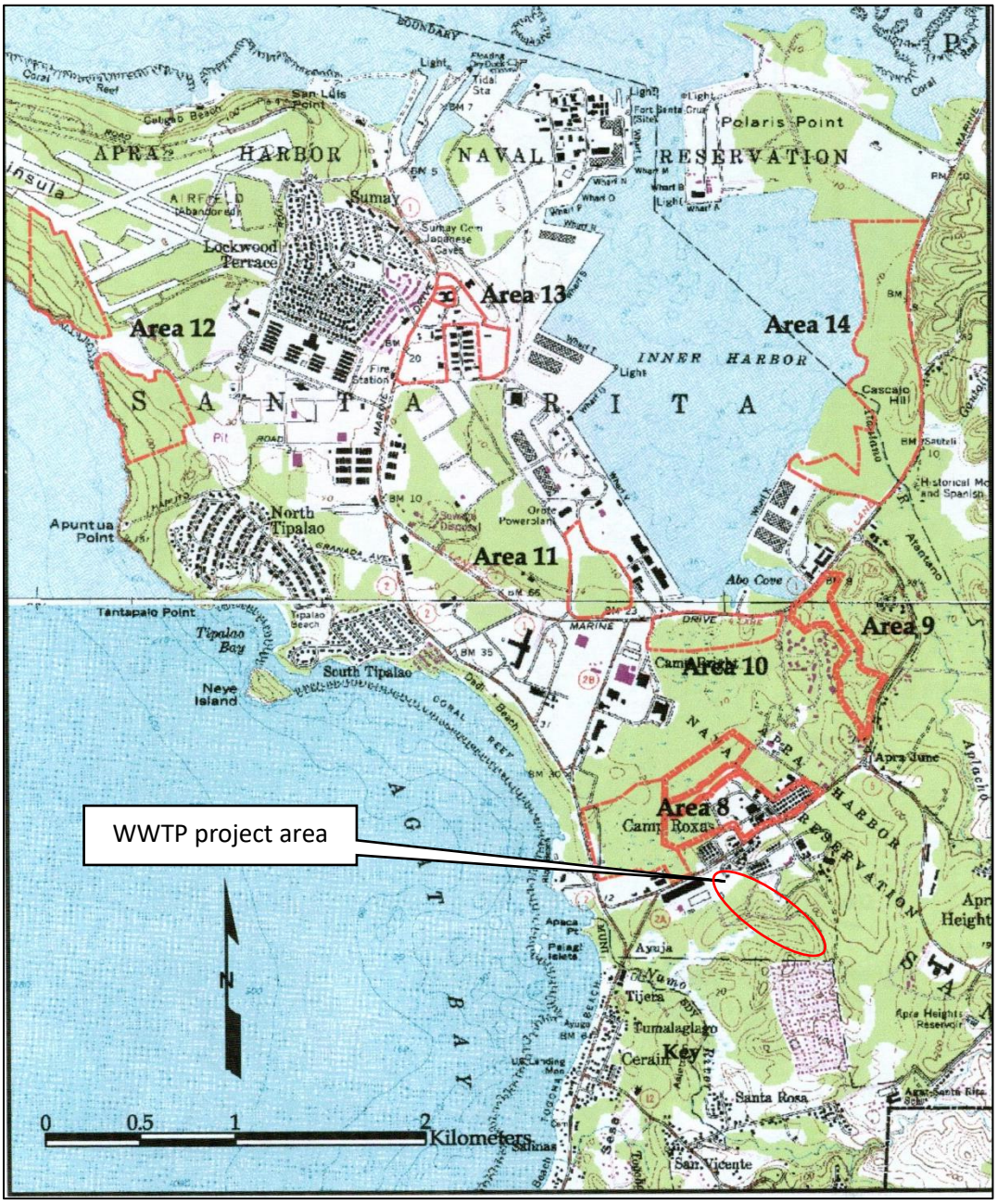

Figure 9. Map of Orote Peninsula showing the location of survey areas investigated by Dixon et al. (2004).

The 1987 survey was located west of the current project area, and south of the filled area which now serves as a staging area for a construction company (Fig. 10; Moore 1987). Wetlands covered much of the area so the archaeological investigation was confined to fast land. The elevated lands contained exposures of limestone outcrops that appeared to have been mechanically truncated, perhaps to provide limestone fill for the lower areas. Much of the area

had been disturbed. Mounds of bulldozed rubble including sections of wooden power poles, metal and concrete fragments, sections of metal posts and chain link fence, 50-gallon drums, refrigerator frames, abandoned vehicle parts, beer cans and glass bottles were observed. No historic resources were identified. Four core samples were taken. No prehistoric cultural material was encountered during the survey or the subsurface probes. No artificial agricultural features such as water courses, dikes or terraces were noted. No WWII Japanese defensive positions were identified.

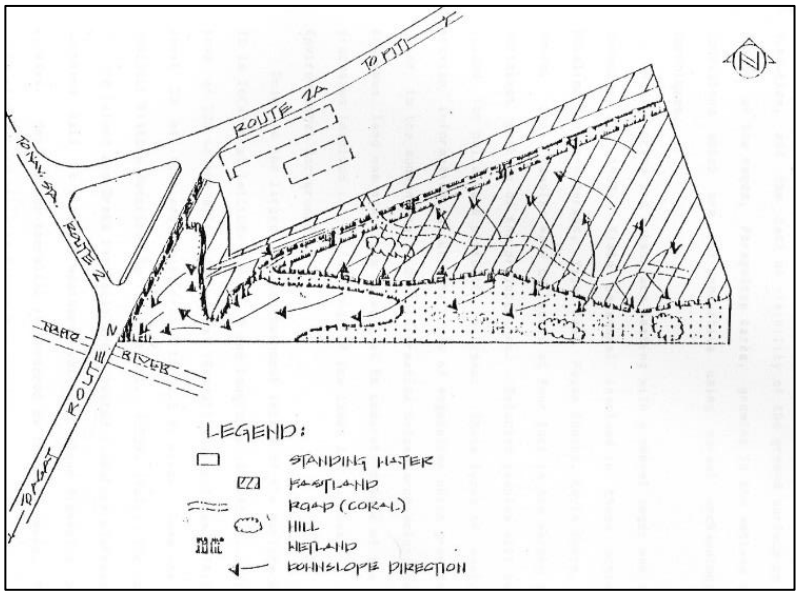

Figure 10. Plan of the 1987 archaeological survey for the Area IV Wastewater Facility, taken from Moore 1987.

During monitoring for the Agat/Santa Rita Wastewater System in 1996-97, a portion of the current project area was investigated when the access road and the footprint for the existing pump station were cleared of vegetation (MARS field notes 1996-97). About 75 ft south of Route 2A a concentration of marine shells (*Anadara, Garfarium tumidum, Spondylus,* and *Isognomon*) was noted and considered to be the remains of an historic meal. Further inland were *Trochus* shells associated with modern bottles. Since Camp Roxas and Camp Busanda, built to house temporary workers from the Philippines after WWII, had been located nearby, it was thought that people living in these camps discarded these shells.

No prehistoric cultural material was associated with the shells or observed on the newly exposed ground surface. Piles of concrete, corrugated metal, metal and asbestos pipes, and scattered bottles (Coca Cola and beer) were seen. A small, metal and wooden foot bridge over a stream (Photo 1), a concrete utility box (Photo 2) and a concrete slab (Photo 3) were photographed (MARS field notes 1996-97). The concrete box measured 1.15 by 1.15 m square. Its walls were 17 cm thick and its upper surface was at ground level. It had a wooden cover. The concrete slab measured at least 92 ft long and 32 ft wide. These three features were destroyed during the construction of the pump station. The technical report for the 1996-97 project has yet to be completed.

Photo 1. Metal and wooden footbridge near the pump station site in 1996 (MARS field notes).

Photo 2. Concrete utility box near the pump station site in 1996 (MARS field notes).

Photo 3. View of a concrete slab near the pump station construction site in 1996 (MARS field notes).

In 1993 a parcel of land to the east of Lot 238-1-4 was surveyed (Carucci 1993:45). At that time it was designated as "K" (Fig. 11 and see Fig. 8). Four localities were identified as follows (Carucci 1993:61-62): TN-15—a concrete drain and a bridge; TN-16—concrete pads and debris; TN-17—two pottery sherds; and PS-5—a bulldozed ridge. The localities were assessed as having no obvious characteristics that met criteria of eligibility for the National Register (Carucci 1993:63). During the survey building debris, trash piles, and junk vehicle parts were observed. It was noted that the area was very wet and prone to flooding.

Goodman and Tuggle (Carucci 1993:323-338) investigated the four localities in area "K" during the 1993 project. According to the Carucci report, Camp Busanda occupied land in this vicinity. The camp had been located on both sides of the small access road which crossed a drainage canal. Camp Busanda housed contract workers from the Philippines from ca. 1946 to 1950, then the area became part of Camp Roxas (see Luces interview below).

TN-15, was an open drain canal and concrete bridge, thought to date to post-war construction of labor camps in the area. Approximately 40 m along the 3.5 to 4 m wide, U-shaped canal was inspected. It was about 1.4 m deep. Two subsurface shovel tests yielded no cultural material.

TN-16 was a large complex of concrete pads and concrete drains. At the time, the only building remaining was a large shed used for storage of heavy machinery by the Seabees stationed at nearby Camp Covington. Six backhoe trenches exposed the subsurface deposits, which consisted of fill and disturbed soils. No evidence of past agricultural activities was observed.

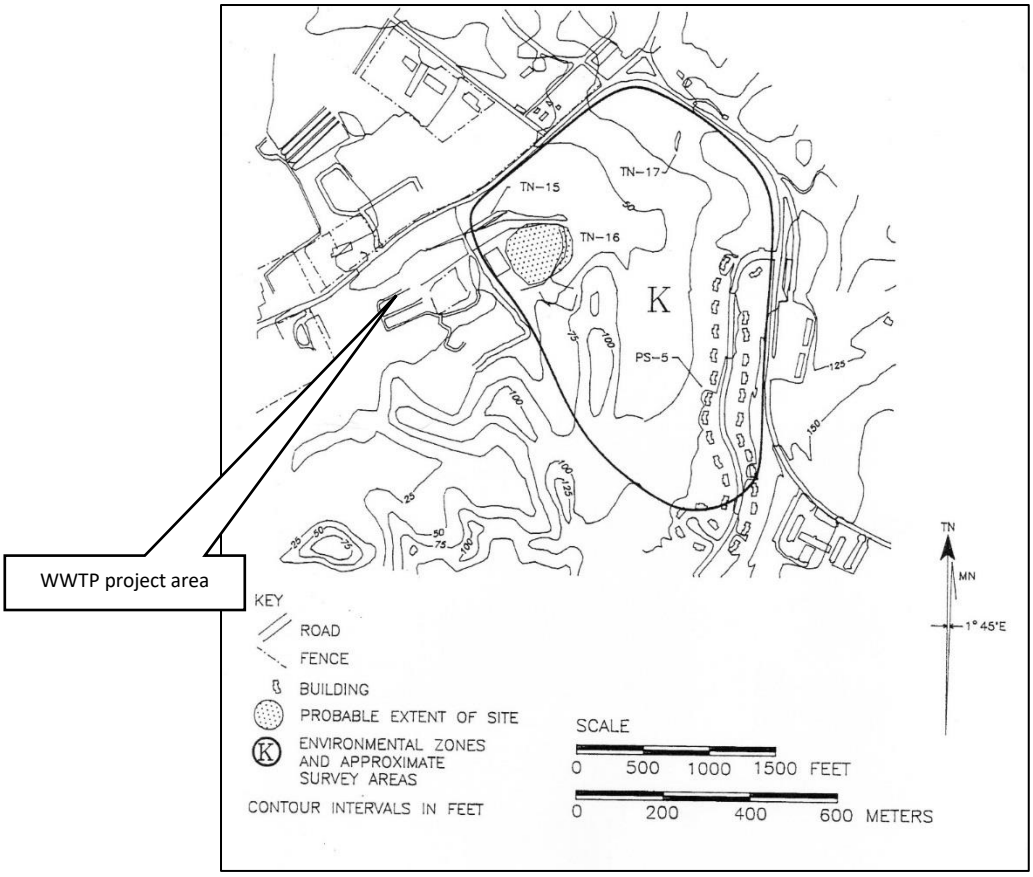

Figure 11. Plan of Survey Parcel K showing the four localities identified (taken from Carucci 1993:52).

TN-17 consisted of two pottery sherds. Two shovel tests, two shovel trenches, and a 50 x 50 cm test unit were completed. Several small pottery sherds, associated with historic trash, were recovered. It was determined that the pottery fragments had been transported to the area by natural or mechanical disturbances. No further work was recommended.

PS-5 was a bulldozed bluff that was shovel tested; no cultural material was exposed.

The remains of Camp Busanda constituted an historic property that was not considered eligible for the National Register at that time (Goodman and Tuggle in Carucci 1993:332). The site was not mapped. It was recommended that if the area were to be developed in the future, qualified archaeologists should monitor all excavations and the history of Camp Busanda should be recorded. At the time of the Parcel K survey, the area was used by the Seabees to store heavy machinery.

HISTORY OF CAMPS ROXAS AND BUSANDA

In order to better understand the history and the relationship between Camps Roxas and Busanda, additional research was undertaken. Bruce L. Campbell's article in guampedia (www.guampedia.com/filipino-migration-to-Guam-1945-1975) provides details about the US policies and practices regarding the importation of Filipino laborers to Guam after WWII.

According to Campbell's article, the Guam Naval Supply Depot permitted Marianas Stevedoring and Development Company (Masdelco) to contract employees from Iloilo, and other places in the Philippines to help rebuild Guam. Masdelco was based in Agat-Santa Rita and, over time, as many as 7,000 Filipino laborers were housed at Camp Roxas.

Guam resident, Bernadette Provido Schumann, the producer of the film "Under the American Sun: Camp Roxas" (www.camproxas.com), is the daughter of a Filipino laborer who once lived at the camp. She was contacted and she recommended that we talk with Mr. Johnny Luces, a former Camp Roxas resident and a long-time resident of Agat.

Interview with Mr. Johnny Luces

On March 13, 2015, Darlene Moore interviewed Mr. Luces and his wife Aida at their residence in Agat. At the time of the interview Mr. Luces was 82 and his wife 78. Mr. Luces arrived on Guam on December 4, 1950. First he resided at Camp Roxas, located north of Route 2A (now part of US Naval Station) and later he moved to the Camp Busanda area. During his time at the camp, he was trained as a carpenter. He joined the US military in 1955 and served for two years. He returned to his home town of Aklan in the Philippines, married Aida in 1958 and they came back to Guam. He became a US citizen in 1962 and enjoyed a career as a Civil Service employee, eventually becoming a structural planner and estimator for Naval Station and Andersen Air Force Base. The Luces are active in Agat's Catholic Church.

In 1949, Mr. Luces traveled from his home in Aklan to Iloilo where he was recruited. Iloilo was one of the major recruiting stations in the Philippine Islands. Mr. Luces knew about the recruiters because his older brother had been a Philippine Scout, who in 1946 was brought by the US Navy first to Saipan and then to Guam to search for, collect, and package the remains of US soldiers to be returned to the United States. According to Mr. Luces, this group, known as USAPI, included Filipinos from various places in the Philippine Islands. While they were on Guam, they stayed in Quonset huts at Camp Busanda (south of Route 2A). When Mr. Luces arrived on Guam in 1950, the USAPI group had already departed. Thereafter, apparently the Camp Busanda area became part of Camp Roxas, although the place name was retained. Mr. Luces recalled that the Camp Roxas managers lived in Quonset huts on the hill above the area known as Camp Busanda.

Camp Roxas had a mess hall that served three meals a day, a laundry facility and recreational facilities including a baseball field and a basketball court. A clinic was staffed by six Filipino nurses, two doctors and one dentist. There was a chapel (Catholic) where Mr. Luces served as an altar boy. His first job was clerking in the parts department of the US Navy transportation shop, which was located just west of the current project area where a local construction firm currently has a staging area.

To earn extra money, some of the Camp Roxas residents operated small kitchens on the camp's perimeter or they offered a variety of other services for a fee. Using some of their pay, the kitchen operators purchased food from the commissary, caught fish, or gathered products from the gardens they had planted and prepared tasty Filipino dishes which were sold to others. Mr. Luces remembers that plants in the gardens around the camp included taro, eggplant, sweet

potatoes, tapioca, bittermelon, string beans and corn. People also planted mango and soursop trees.

On the weekends the laborers went to the beach where they spear fished. I asked if they collected marine shells for food. Mr. Luces said that he did not collect shells, but he knew that some people went to Apra Harbor where they collected clams which they brought back to the camp and cooked. Cock fights were held on the weekends even though cock fighting was not officially permitted.

The information provided by Mr. Luces provides an explanation for the confusion regarding the locations of the Camp Busanda and Camp Roxas place names.

Interview with Mr. Alex Constantino

Another former resident of Camp Roxas, Alex Constantino, was interviewed by Rosalind Hunter-Anderson and Darlene Moore in 2000. He was a contract worker from Iloilo who arrived on Guam in 1949. He lived in a Quonset hut barracks at Camp Roxas that accommodated 20-30 men who slept in bunk beds. At first his job was to remove WWII rubbish (metal) from Orote Point and other parts of Guam. Later he was assigned to Army Stevedoring, unloading and loading ships. In 1964 he went to work for GovGuam at the Port.

While he was living at Camp Roxas, Mr. Constantino recalled that in their spare time the men planted gardens near their barracks and made a little extra money selling the vegetables—beans, eggplant and okra. He said the food served at the mess hall was terrible, often the rice had worms in it.

Before the minimum wage law was enacted on Guam around 1958, the Filipino contract workers were paid about $2.00 per day, and board and room was deducted at the rate of 30-35 cents from each dollar earned.

Mr. Constantino remembered that he along with five or six other men used to go out to the small island west of Agat. They brought scrap lumber out there and built a shelter and some benches. On the weekends they camped there because it was cooler and more private than in Camp. They also fished out there. Mr. Constantino recalled that Camp Roxas was abandoned about 1973.

ARCHAEOLOGICAL EXPECTATIONS FOR THE PROJECT AREA

The archival review, oral history, and the results of the archaeological investigation of Area K indicate that concrete slabs, drainage ditches, and other man-made features dating to the immediate post-WWII period could occur in the project area. Also anticipated were modern dump sites. Scattered military gear, military features or spent ammunition were also anticipated as this area may have been traversed during WWII. But, based on the previous fieldwork in the area, evidence of prehistoric utilization was not anticipated. Prehistoric mortuary areas were not expected.

METHODS AND PROCEDURES

The purpose of the Scope of Work and Research Design was to ensure that historic resources in the project area were located and appropriately treated prior to their being lost from the archaeological record. Methods used during the project included reviewing background information, completing inventory surveys, monitoring vegetation clearing, and collecting oral history.

The plan described the steps taken to assess historic significance. The main criteria for determining the significance of archaeological materials are the federal government's guidelines for nomination to the National Register of Historic Places, especially Criteria A and D. Criterion A states that a site is significant if it is associated with events important to broad patterns of our prehistory or history. This would include WWII. Criterion D states that a site is significant if it has yielded or has the potential to yield important information about the prehistoric or historic record of a place or people. This would include, for example data pertaining to prehistoric settlement, subsistence, social organization, or religion, including mortuary practices.

The report style and content guidelines spelled out in the March 18, 2014, HRD Basic Reporting Requirements were followed, although some photographs lack scales.

RESEARCH QUESTIONS AND APPROACHES

Archaeological inquiry is guided by both broad and site-specific research questions arising from a review of the pertinent literature and from the archaeologist's prior field experience. A major question for all projects is **When and how was the project area utilized?** Descriptions of the archaeological features and items identified during the survey helped answer this question. Information gathered from local informants who had lived in the area previously provided details about post-war use of the area.

There is a growing body of archaeological evidence for prehistoric rice on Guam, but as yet little is known about where it was grown. Rice was known to have been planted in Agat and Atantano in historic times. **Was rice grown in the project area?** The archaeological surveys looked for remnants of fields, potential irrigation canals, and other features such as stone mortars, which were used to process rice. None were found. Economic vegetation was noted because it indicates what had been planted in the area in the past.

INTERPRETATION AND DISSEMINATION OF INFORMATION

This technical report presents the methods employed, the results of the inventory surveys of the APE for the wastewater treatment plant, the staging area, and the Hyundai waterline easement, an assessment of the research questions, and recommendations regarding further work, based on the significance of the findings. Two copies of the final technical report and an electronic version will be submitted to HRD along with shape files. Copies of the final report will be available to DCA and GWA.

PERSONNEL

MARS staff are familiar with Guam archaeology and are qualified to perform the archaeological investigations, to perform laboratory analyses of recovered cultural materials, to select samples for radiocarbon dating, and send them to off-island specialists for processing. All archaeological work and personnel conformed to the Secretary of the Interior's historic preservation standards and guidelines. For this project, MARS subcontracted the archaeological firm International Archaeological Research Institute, Inc. (IARII), and their archaeologists Thomas Leppard, Ph.D., Adam Lauer M.A., and Justin Maxwell, Ph.D. to perform the field surveys of the APE for the footprint of the proposed wastewater treatment plant in Lot 238-1-4 and the corridor for the proposed Hyundai waterline across Lot 238-1-R5. IARII also provided GIS data, including the shape files. Archaeological monitors were Darlene Moore and Rick Schaefer.

WORK SCHEDULE

MARS worked closely with DCA to gain access to the project areas, to ensure that the APE was adequately covered, to complete surveys in a timely manner, and to report the findings to DCA within 10 days of completing the field work. Prior to MARS involvement with the project, a series of bulldozed tracks had cut through the WWTP APE footprint and soil borings had been completed, damaging some of the concrete slabs and the existing ground surface. During the following archaeological survey, the disturbed areas were examined. No significant cultural resources were observed to have been encountered or destroyed by these activities. Subsurface testing was not completed in the project area, because no surficial cultural deposits were noted during the inventory surveys and subsurface testing conducted by Carucci (1993) in the adjacent eastern parcel, with similar terrain, did not encounter buried cultural deposits.

RESULTS OF FIELD WORK

Inventory Survey of the WWTP Footprint

by Adam Lauer and Thomas P. Leppard
International Archaeological Research Institute, Inc.

Introduction

IARII conducted a pedestrian archaeological inventory survey of the proposed Agat Wastewater Treatment Plant APE on April 6-7, 2015 under contract to Micronesian Archaeological Research Services, Inc. (MARS). A team of two archaeologists walked parallel transects across the APE for the proposed wastewater treatment plant. The transects were separated by distances of three to five meters depending on the density of ground cover and surface visibility. When features were located, they were partially cleared and documented (including taking measurements and photographs, and preparing maps, sketches, and descriptions). GPS coordinates were taken using a Trimble GeoXH hand held Global Positioning System unit and post-processed for sub-meter accuracy. Feature locations were plotted on a figure of the APE (Fig. 12).

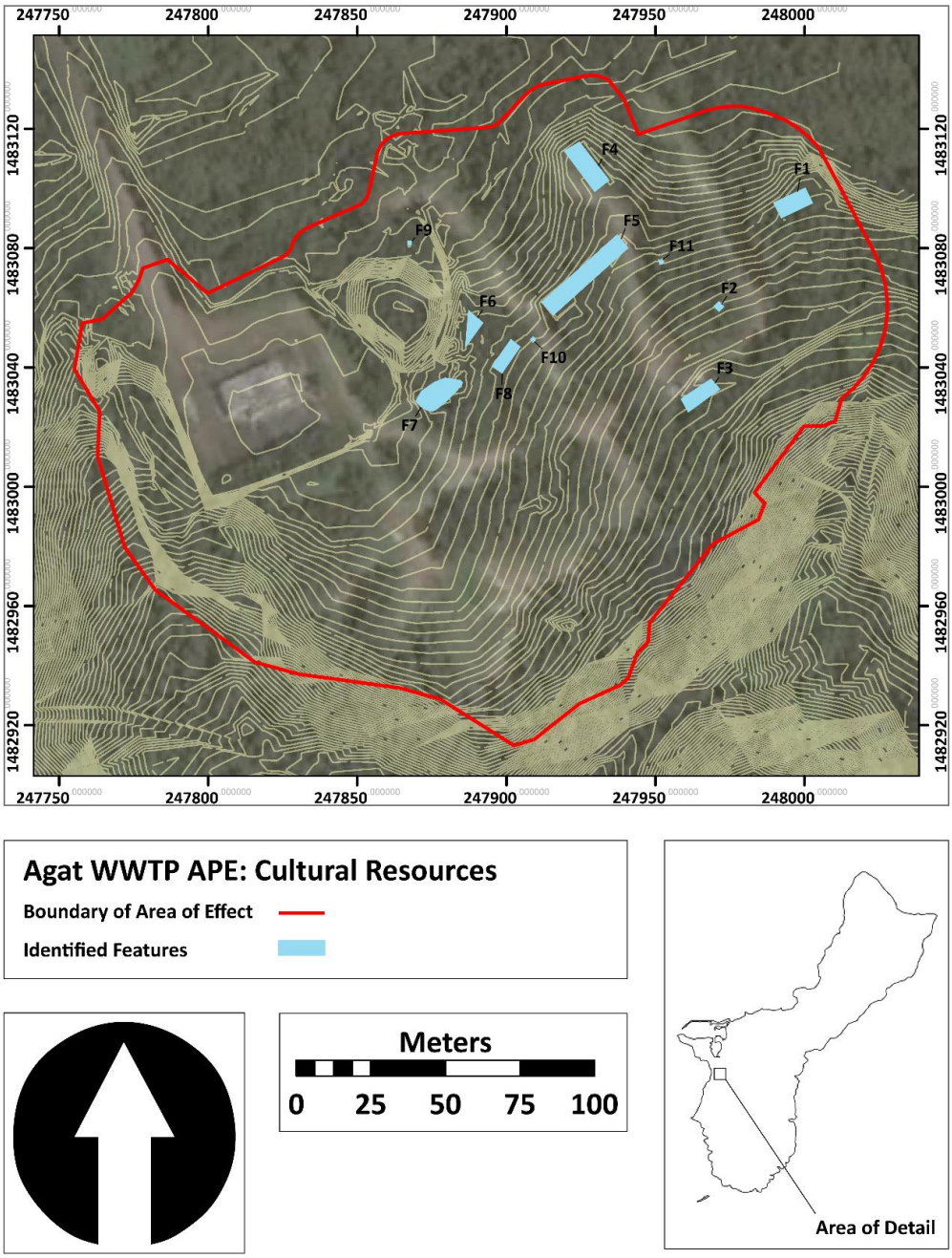

Figure 12. Plot of the eleven historic concrete features on the landscape of the APE for the proposed wastewater treatment plant (prepared by IARII).

The survey identified 11 historic features, consisting of eight concrete foundations or portions of concrete foundations and three probable storm drains or wastewater drains. It is likely that these features date to the post WWII-Second American Period. No additional cultural resources were identified. The feature photos (Photos 4-19) follow the feature descriptions and include the site

number for Camp Roxas, assigned by HRD, 66-02-2945. The photo rod that appears in all of the feature photos is one meter long. The photo captions note the orientation of the view.

Feature 1, 66-02-2945

Feature 1 is a concrete foundation measuring 6.4 m by 12 m. It is located on a shallow slope overlooking a marsh to the northeast of the parcel (Fig. 12; Photos 4-7). This foundation has some internal footings and has been impacted by demolition activities in the past. Despite apparent bulldozing, some internal dividing walls are still extant. An iron pipe, presumably associated with the operation of this structure, adjoins it from the east.

Feature 2, 66-02-2945

Feature 2 is a concrete pad that was likely used to support utilities (Fig. 12; Photo 8). It is located on a shallow slope. The pad is 2.5 m by 2.65 m. The eastern half is breaking down via disturbance from tree roots.

Feature 3, 66-02-2945

Feature 3 is a concrete foundation measuring ca. 6 m by 12 m (Fig. 12; Photo 9). This foundation has been impacted by clearing activities and is partially covered by bulldozer push and rubbish piles, notably oxidizing sheet metal.

Feature 4, 66-02-2945

Feature 4 is a concrete foundation measuring 6 m by 17 m (Fig. 12; Photo 10). The foundation is covered with rusting metal and pushed concrete and vegetation. An assessment of its condition was inhibited by thick bulldozed vegetation. The ground slopes steeply on the north and east sides of the foundation.

Feature 5, 66-02-2945

Feature 5 is a concrete foundation measuring 34 m by 6 m (Fig. 12; Photo 11), aligned along the E-W slope. No internal divisions were observed. The foundation is partly covered by taro and ornamental plant growth.

Feature 6, 66-02-2945

Feature 6 is a concrete foundation that has been heavily impacted by bulldozing and construction activities (Photos 12-13). The size of this foundation could not be determined. The remaining portion of foundation wall measuring 2.3 m on the northeast end is the only portion undamaged. It is possible, but not certain, that Features 6 and 7 represent opposite ends of the same structure, and that the integrity of this structure has been severely compromised by evident bulldozing.

Feature 7, 66-02-2945

Feature 7 is a concrete foundation that has been destroyed by construction activities (Fig. 12; Photos 14-15). A 3.7 m portion of the west foundation wall with 1 m wide steps is present. The rest of the foundation is destroyed or covered with construction debris.

Feature 8, 66-02-2945

Feature 8 is a concrete foundation that has been heavily impacted by construction activities (Fig. 12; Photos 16-17). The northern third of the foundation has been destroyed by demolition activities. The remaining portion is 12 m by 4.3 m. Internal divisions are evident.

Feature 9, 66-02-2945

Feature 9 is a probable storm drain (Fig. 12; Photo 18). The 2.5 x 2.5 m structure has two pipes entering/exiting at the base.

Feature 10, 66-02-2945

Feature 10 is a probable storm drain (Fig. 12; Photo 19). The 2.5 x 2.5 m structure has two pipes entering/exiting at the base. The steel cover has been damaged.

Feature 11, 66-02-2945

Feature 11 is a probable storm drain. The 2.5 x 2.5 m structure has two pipes entering/exiting at the base. It is the same as Features 9 and 10.

Summary

Eleven concrete features were identified during the course of the archaeological inventory survey of the WWTP footprint. No additional cultural resources were identified and no artifacts were recovered. All of these features have been adversely affected by at least two episodes of bulldozing activity, to the extent that all have been partially or almost completely destroyed. Based on their construction, these features should be assigned to the post-WWII-Second American Period, they once were part of Camp Roxas.

Photo 4. Feature 1 concrete foundation overview. View to the northeast.

Photo 5. Feature 1 concrete foundation. Detail of south foundation wall. View to the south.

Photo 6. Feature 1 concrete foundation overview. View to the southwest.

Photo 7. Feature 1 concrete foundation internal wall detail. View to the southeast.

Photo 8. Feature 2 concrete pad. View to the east.

Photo 9. Feature 3 concrete foundation. Note push mounds on the north and south. View to the west.

Photo 10. Feature 4 concrete foundation. Note the extensive push piles of vegetation, concrete and steel over the pad. View to the north.

Photo 11. Northeast wall of Feature 5 concrete foundation. Note the steps on the left. View to the southeast.

Photo 12. Intact portion of concrete foundation wall of Feature 6. Note damage to left of photo.

Photo 13. Concrete piles from ground moving activities, west of Feature 6. View west.

Photo 14. West foundation wall of Feature 7. Note piled concrete on the pad over the steps. View east.

Photo 15. West foundation wall of Feature 7. Note destroyed foundation concrete on the right. View east.

Photo 16. Feature 8 concrete foundation detail. Note foundation wall on south side of the foundation. View south.

Photo 17. Overview of Feature 8 concrete foundation. Note internal foundation walls and push mounds to the left of the photo.

Photo 18. Feature 9. View to the north.

Photo 19. Feature 10, with steel cover. View to the west.

Conclusions

It is clear that much of the ground surface of the APE for the wastewater treatment plant had been disturbed in the past. The first alteration probably occurred when portions of the area were leveled to build the concrete slabs on the drier parts of the APE and to install the subsurface water-related systems. The next alteration occurred when the super-structures erected on the concrete pads were demolished once the facility was abandoned in the 1970s. A portion of the ground surface was disturbed when the GWA sewer pump station was built and again when the soil borings were completed. Due to past disturbances, including recent borings, previously buried soils are randomly exposed throughout the APE. No cultural materials, nor culture bearing deposits dating to the Prehistoric Period, the Spanish Period, the First American Period, or the Japanese Occupation/WWII were seen on the surface or in the disturbed soils. A few scattered bottles and cans on the surface likely relate to the former Camp Roxas facility and/or more recent dumping events. Based on the survey results and the subsurface testing reported in Carucci (1973) on the parcel to the east of the APE, which has a similar history and topography, it was determined that subsurface shovel testing with the APE would be unproductive.

Field Checks of the WWTP Footprint during Clearing and Grading

As required by HRD, MARS inspected the newly exposed ground surface during vegetation clearing of the WWTP footprint. MARS archaeologist, Darlene Moore, inspected the cleared portions of Lot 238-1-4 on the following dates; November 4, 6, 12, and 16, 2015 and March 17, 2017. The spot checks documented one previously unknown concrete slab (Fea. 12, 66-02-2945), recorded the dimensions of the previously identified, largely intact concrete slabs, and described the kinds of trash seen on ground surface. No significant historic properties were identified. No materials or features dating to prehistoric times were present. The WWTP footprint is situated in a partial basin, encircled on the west and south by elevated land with outcrops of limestone. Low land lies to the north, and hills and gullies lie to the east. Primo's Heavy Equipment operated the clearing machinery (tracked excavator and bulldozers). The cleared vegetation was placed in dump trucks and hauled away.

November 4, 2015

By this day the vegetation had been cleared along the northern and western boundaries and a silt fence was being installed along the northern edge (Photos 20-23). The inspection of the newly exposed ground surface revealed a few Coca-Cola bottles (two with dates of 1952), several San Miguel beer bottles, tires, vehicle parts including an axle, metal and PVC pipe segments. An outcrop of limestone was exposed along the western boundary

November 6, 2015

By this day the vegetation had been cleared south of the existing pump station and the silt fence along the western boundary was being installed (Photo 24). Items seen on the ground surface included plastic and glass bottles and jars, window screen, corrugated tin, a tin plate, sections of garden hoses, parts of 50-gallon drums, zories, and shoe soles.

November 12, 2015

By this day the vegetation had been cleared east of the existing pump station and the previously documented concrete slabs had been cleared. The clearing exposed one new concrete slab, Feature 12, that had not been previously recorded (Fig. 13).

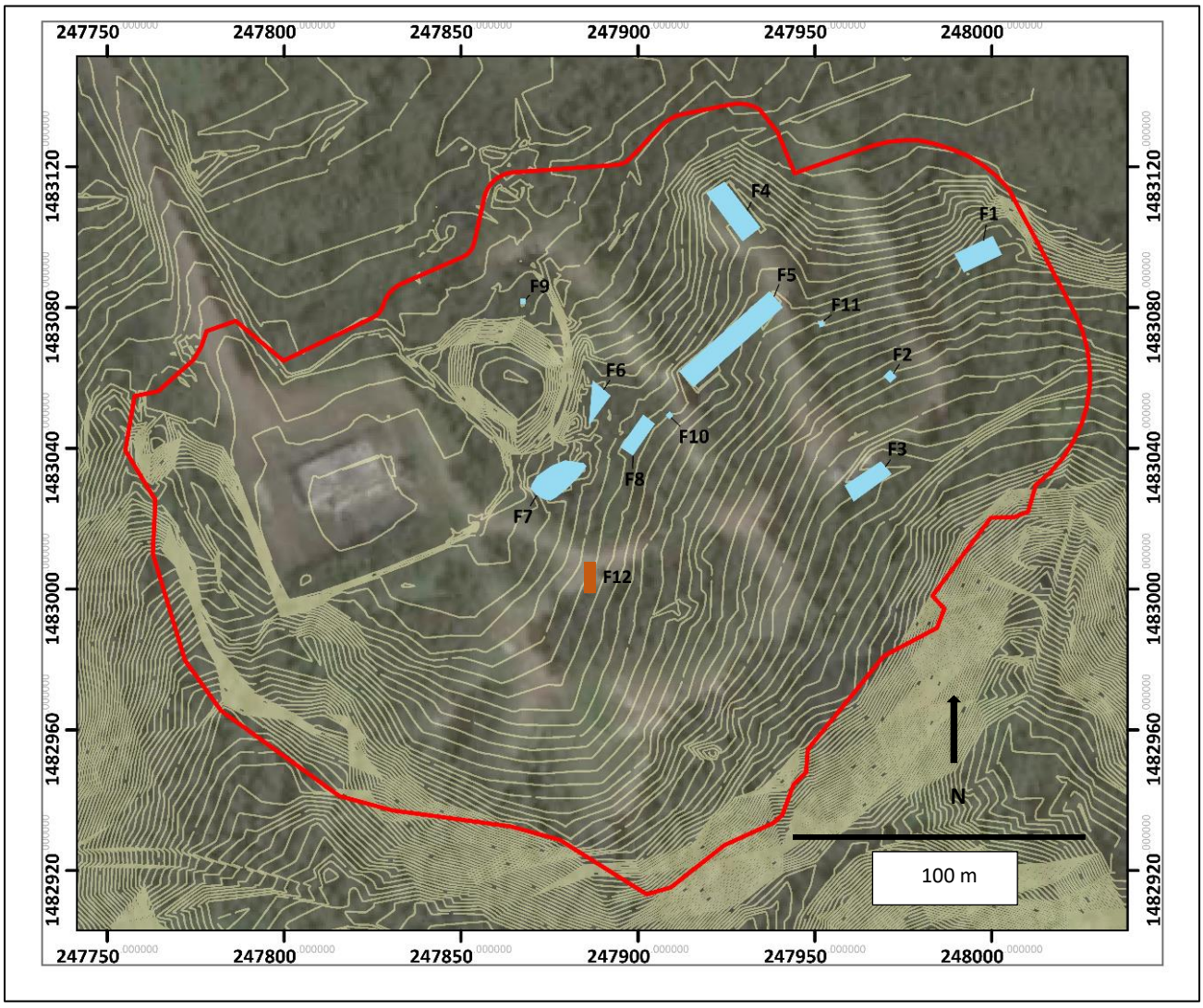

Figure 13. Footprint of the Agat Wastewater Treatment Plant showing the location of the new concrete slab designated Feature 12 (orange).

The new slab was designated Fea. 12, 66-02-2945. The GPS coordinates at its northeast corner were taken with a hand-held Garmin, model GPSMAP 64. The coordinates were Easting 0247884; Northing 1483002. Apparently the slab had been covered with soil during the archaeological inventory survey, so it was not seen at that time. Prior to the present clearing, it had been damaged along its western edge. The remaining portion of the slab measured 18 ft long (N/S) by 15 ft wide, and it was 4 inches thick. On its floor there was a section paved with

firebricks (Photo 25). The paved area measured about 5 ft 2 in (N/S) by 3 ft 4 in wide. Individual bricks measured about 7.5 in long by 3.75 in wide by 2 in thick and were stamped on one side with the word DIABLO (Photo 26). The firebricks suggest that this slab served as a kitchen or food preparation area that included a barbecue pit or similar feature. A small fragment of a US Navy dinner plate was seen on the slab's surface, it was not collected.

According to an internet source (www.calbricks.netfirms.com, 11/18/15), firebricks with the stamp "DIABLO" were made by Gladding, McBean and Co. located in Pittsburg, Contra Costa County, California. The company manufactured firebricks from 1943-1962.

Some of the newly cleared slabs in site 66-02-2945 that had been identified during IARII's inventory survey, were measured.

Feature 1 measured 40 ft long by 21 ft wide.

Feature 2 was an irregular slab of broken concrete that measured 7 ft long by 5 ft 8 in wide—rebar reinforcements had been incorporated into its concrete.

Feature 3 measured 35 ft long by 24 ft wide.

Feature 4 measured 56 ft long, by 21 ft wide (Photos 27-28).

Feature 5 measured 112 ft long by 21 ft wide (Photo 29).

Features 6, 7, and 8, which were described as damaged during the inventory survey had been demolished by the clearing. The slabs were not considered significant historic resources.

Items exposed on ground surface included numerous tires and vehicle parts, as well as food and drink cans and glass jars. A heavy white ceramic saucer and a broken jar were collected because they had identifying marks. The saucer was stamped on the underside with the words TEPCO, USA, CHINA. Stamped on the base of the ceramic jar were STERLING, EAST-LIVERPOOL-OHIO, USA, 1950.

November 16, 2015

By this day, the entire area had been cleared, the concrete slabs demolished, and open trenches dug to remove buried pipes. Moore inspected the ground surface of the southern edge of the cleared area where a milk-glass coffee cup was collected. On its base is the following embossure. USA, TRADE MARK, 35, PYREX, R in a circle, MADE IN USA, 1953. Also collected was a nearly complete ink stone of the type used for calligraphy.

Because the monitoring of the clearing indicated that the construction excavations were to be dug into culturally sterile limestone substrate, or in coral fill material placed over the culturally sterile substrate, MARS indicated to DCA and the construction contractors that it was not necessary to have an archaeological monitor the construction excavations.

March 7, 2017

As construction work continued at the WWTP facility, DCA notified MARS that a piece of buried equipment had been exposed at one of the construction excavations and a photo of the

equipment in situ was e-mailed to MARS (Photo 30). It was a metal track from a piece of equipment that had been buried under about 1.0 m of old fill material. It was exposed in the southwest corner of the excavated pit for Digester 1. The fill material had been introduced to the area at the time the Camp Busanda/Roxas area was modified, filled and built upon. Since the facility was built around 1946, the machinery may have been buried since that time. Alternatively, it could have been buried when the camp was demolished in the 1970s, or when the pump station was built in the 1990s.

Moore proceeded to the project area to find that the operator of the construction excavator had removed the pieces of machinery and set them aside (Photos 31-32). Three large pieces had been removed. They appeared to be parts of a large tracked excavator, they were assigned Feature 13, 66-02-2945. The pieces were briefly examined to see if identifying letters or numbers could be located. None were seen. The track and the wheeled sections appear comparable to the large excavator seen in the background of Photo 32. They may be parts of a similar sized excavator that failed during the construction or demolition of the Camp Roxas facility. Alternatively, they are more recent and were buried during the construction of the pump station. No profile was drawn of the Digester Pit as no significant, intact cultural deposit was exposed.

Elsewhere on the project area a concrete manhole had been exposed in another one of the excavations (Photo 33), it is likely Feature 9 (see Fig. 12), which was identified during the inventory survey. Photo 33 shows the extent of the previous disturbance that has occurred in the project area.

Photo 20. Overview of the newly cleared area along the north edge of the WWTP project area. The camera is facing east.

Photo 21. Overview of the clearing on the west side of the WWTP project area. The camera is facing south.

Photo 22. West side of the project area showing the newly exposed limestone outcrop. The camera is facing west.

Photo 23. Overview of the clearing south of the existing pump station. The camera is facing north. The limestone outcrop west of the pump station is on the left side of the photo.

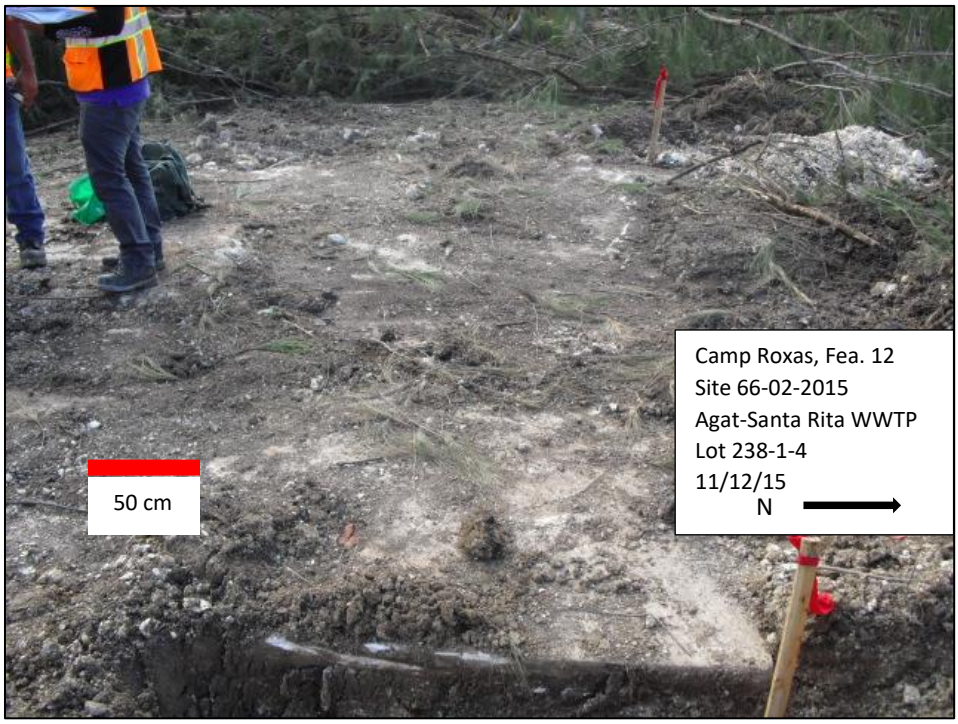

Photo 24. View of Feature 12. The northeast corner of the slab is in the lower right corner of the photo. The camera is facing west. The green back pack resting on the slab measures 40 cm tall.

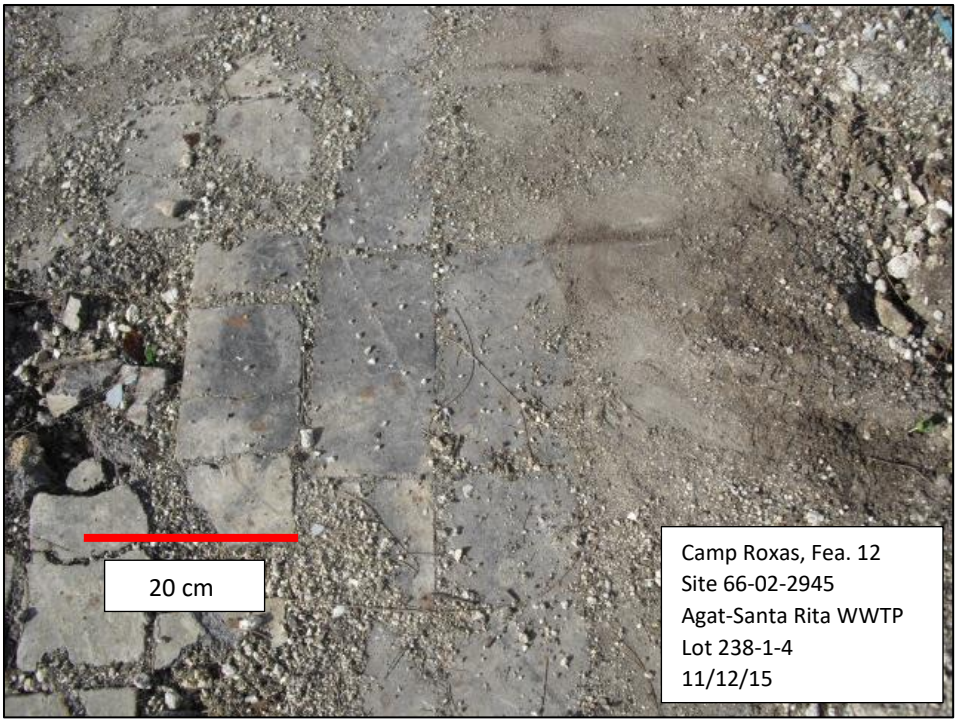

Photo 25. The area of the Feature 12 floor paved with heat resistant bricks.

Photo 26. One of the heat-resistant bricks from the brick-paved floor of Feature 12. The arrow is 25 cm long and it is pointing north.

Photo 27. Overview of clearing in the southeast portion of the project area. Feature 4 is in the background, the camera is facing north.

Photo 28. View of newly cleared Feature 4 (see Fig. 12 and Photo 10). The camera is facing east. Scale not provided.

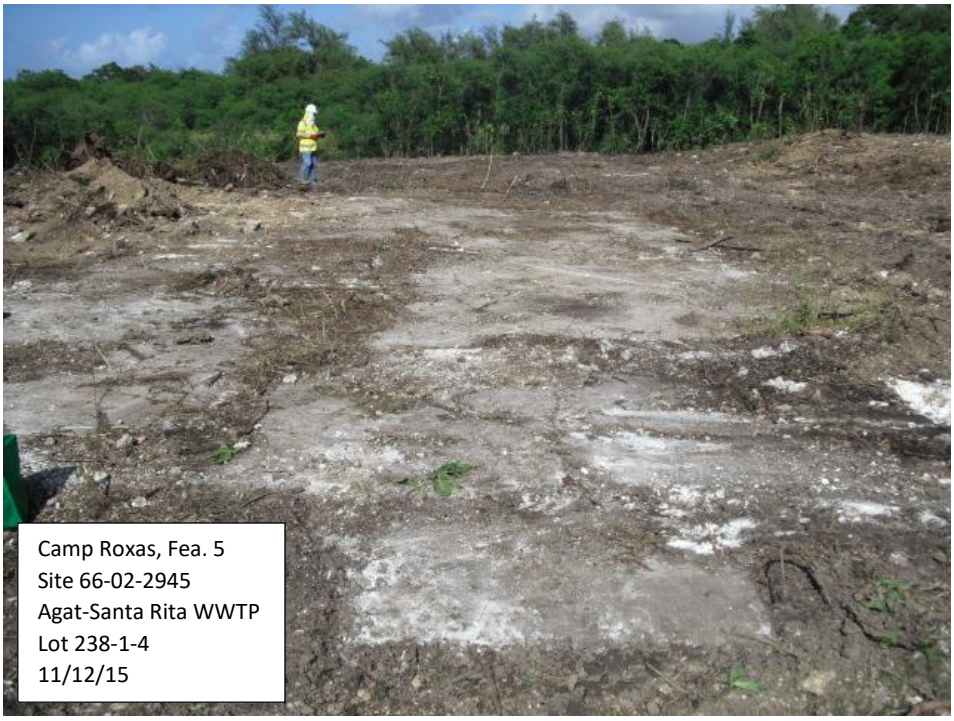

Photo 29. View of newly cleared Feature 5 (see Fig. 12 and Photo 11). The camera is facing east. Scale not provided

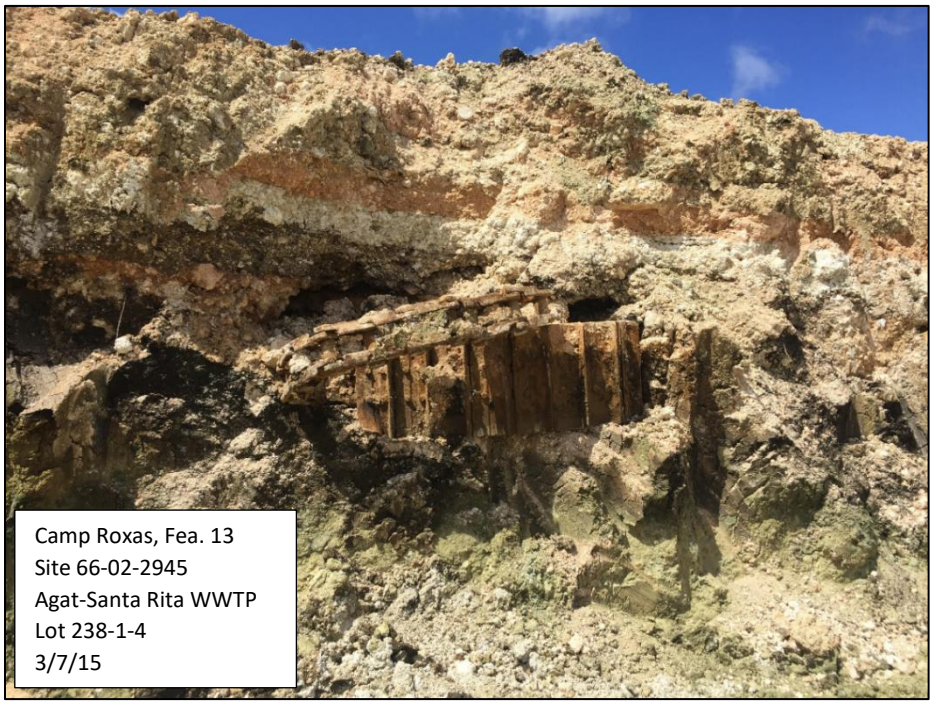

Photo 30. Construction contractor's photo of the metal track *in situ* on the west face of the Digester Pit. The layers of fill material that are visible above the equipment indicate that it had been buried prior to the introduction of the fill. Scale not provided. The buried equipment parts were assigned Feature 13, 66-02-2945.

Photo 31. The broken track from a large excavator after it was removed from the Digester 1 Pit. The pit for Digester 1 is in the background. The arrow is pointing north. The photo bar is 1.0 m long.

Photo 32. Three large pieces of broken mechanical equipment removed from the Digester 1 Pit. The track in the background (see Photo 31) would have been attached to the piece in the foreground. They appear similar to the track assembly on the large excavator parked on the edge of the pit. The photo bar, resting on the middle piece of equipment, is 1.0 m long.

Photo 33. One of the concrete manholes, possibly Feature 9 (see Fig. 12) identified during the inventory survey and exposed during excavations related to construction of the WWTP.

APE Change Order, 2016

Laydown Area, Alcove Description

In May 2016, Sumitomo Construction Co. requested a change order to the APE, in order to clear a Laydown Area on the west side of the road at the entrance to the WWTP (Fig. 14 showing Laydown Area). An informal inspection of this area was conducted on May 6, 2016 by MARS archaeologist Darlene Moore, Claudine Camacho of DCA, and the construction contractors. MARS' archaeologist noted that the Laydown Area had been previously disturbed by the construction of Route 2A. Further disturbance of the Laydown Area occurred when an unpaved road crossed the area during Camp Roxas times (refer to Figs. 3 and 7, showing the corridor for this roadway). Due to these previous disturbances, MARS proposed in a letter dated July 25, 2016 to HRD that historic resources were not likely to exist in the 35,789.01 sq. ft. (0.7572 acres) Laydown Area. In a letter dated August 30, 2016 from HRD to GWA, HRD concurred with the changes to the original APE. The Laydown Area is located within Lot 238-1-4.

During the clearing for the Laydown Area, the Sumitomo construction workers discovered a small concrete and coral pebble feature (alcove) and MARS was notified. Archaeologist Darlene Moore investigated the clearing which was located on the west side of the entrance to the WWTP. Feature 14, 66-02-2945 was located within the limits for the original Laydown Area and it had been carefully avoided by Sumitomo's Filipino construction workers (Fig. 14; Photo

34). In other words, the clearing for the Laydown Area stopped short of its proposed western edge in order to protect Feature 14. The uncleared area in the vicinity of the feature was investigated to check if other structural remains were present as the background research for the project had indicated that a Catholic Church had been located west of Camp Roxas, but its exact location was unclear.

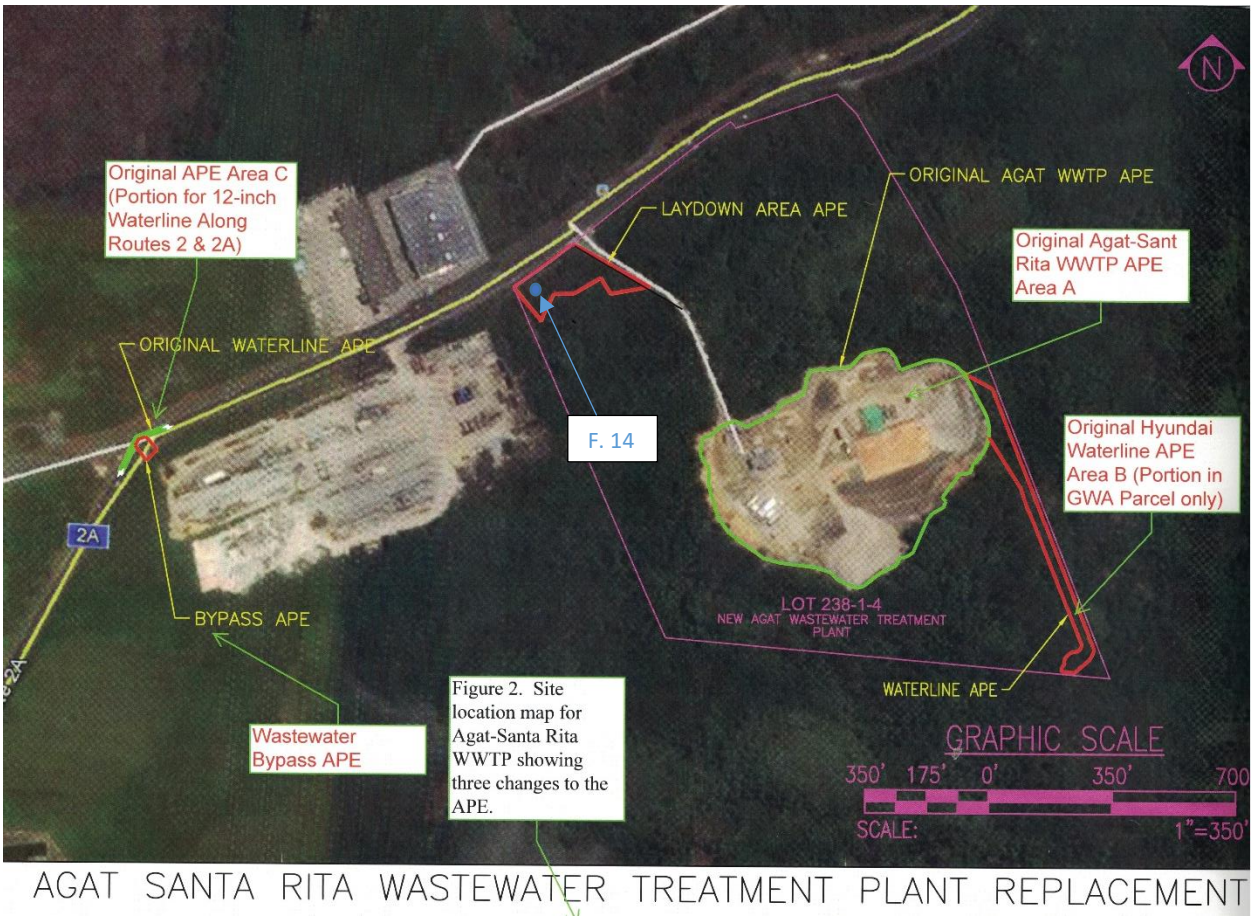

Figure 2. Site location map for Agat-Santa Rita WWTP showing three changes to the APE.

Figure 14. Plan view showing three changes to the original WWTP APE (courtesy of DCA). The changes to Lot 238-1-4 include the Laydown Area and the relocation of the waterline corridor to the east side of Lot 238-1-4. The waterline corridor along Routes 2 and 2A and the bypass area did not affect cultural resources and were not part of MARS investigations. The location of Feature 14, site 66-02-2945 is shown within Lot 238-1-4.

The investigation of the area around Feature 14 noted large chunks of loose concrete in the vicinity, but no intact structural remains of the former chapel were identified. However, an overgrown paved area was located about 20 m west of the feature. There are no trees on this paved area, which is outside and west of the Laydown Area, and it was not affected by the clearing.

Feature 14, an erect free-standing alcove is in good condition. Its GPS UTM coordinates taken with a professional-grade Trimble Geo7X unit, are Northing 1483176.18, Easting 247610.95, using the datum WGS84. GPS data was deferentially corrected for submeter accuracy and

exported as GIS shapefiles. Its exact location was plotted by MARS subcontractor IARII. It is within Lot 238-1-4.

It measures 112 cm tall, 75 cm wide and is about 25 cm thick. The north side of the feature is made of finished concrete, and it has a stepped recessed area that is 88 cm tall, 17 cm wide and 7 cm deep (Photo 35). The sides and back of Feature 14 are covered with small coral beach pebbles set into concrete (Photo 36). The fairly uniformly sized pebbles measure about 7 cm long by 5 cm wide. A linear row of amber bottle bases is evident in the ground in front and in back of the feature. The front row is about two meters long. The back row has been disturbed and is no longer continuous, but it appears to have been at least two meters long as well.

As Feature 14, a carefully constructed arched alcove or niche appears to have been made to house a religious image, MARS conferred with Father Eric Forbes regarding the appropriate terminology to refer to it. He suggested the term "alcove".

MARS contacted local resident Mrs. Bernadette Provido Schumann; her father was a former laborer from the Philippines who lived at Camp Roxas. For years Mrs. Schumann has gathered information about the camp and interviewed many of its former residents (Martinez 2017). She produced a film, *Under the American Sun*, which records the camp's history. We inquired as to whether she had information about the alcove. She provided two photos from her collection. One shows the exterior of Camp Roxas Chapel (Photo 37) and the other shows the alcove (Feature 14) and its spatial relation to the chapel (Photo 38). Mr. Luces provided a photo that shows the chapel's interior (Photo 39).

Josephine Garrido (pers. comm. to Bernie Schumann 11/2/16) recalled that a small replica of Our Lady of the Miraculous Medal was emplaced in the alcove. Information on the internet site (http://www.camproxas.com/artifacts.html, 12/13/16) indicates that the Camp Roxas Chapel was in existence in 1946 and it had three religious icons: a Sacred Heart of Jesus statue, a wooden crucifix, and a statue of Our Lady of the Miraculous Medal. Beginning in 1952 the Camp Roxas residents held an annual procession in honor of Our Lady of the Miraculous Medal (http://www.camproxas.com/artifacts.html, 12/13/16). Mr. Johnny Luces of Agat served as an altar boy at the chapel after his arrival on Guam in 1949. He recalled walking by the chapel everyday on his way to work at the transportation shop, located to the west of the chapel.

After Camp Roxas closed in 1972-73 and the chapel had been demolished, the statues were moved to the Naval Hospital Chapel where Mr. Luces saw them on the floor and asked permission to care for them (http://www.camproxas.com/artifacts.html, 12/13/16). It is largely due to the efforts of Mr. Luces that the Mount Carmel Church in Agat now holds an annual feast in celebration of Our Lady of the Miraculous Medal. The church has a five-foot tall statue of Our Lady of the Miraculous Medal that was made in the Philippines. Mr. Luces still cares for the smaller statue that was in the Camp Roxas Chapel. He cares for it at his house in Agat.

Photo 34. View of Feature 14 standing just west of the cleared portion of the Laydown Area. The camera is facing west.

Photo 35. Front, or north side of the alcove, showing the narrow recessed area where a religious image or wording would have been affixed. The scale bar is 1.0 m long. The arrow is pointing north.

Photo 36. Back, or south side of the alcove showing the beach pebble finish. Note the linear arrangement of bottle bases set into the ground. The scale bar is one meter tall. The arrow is pointing north.

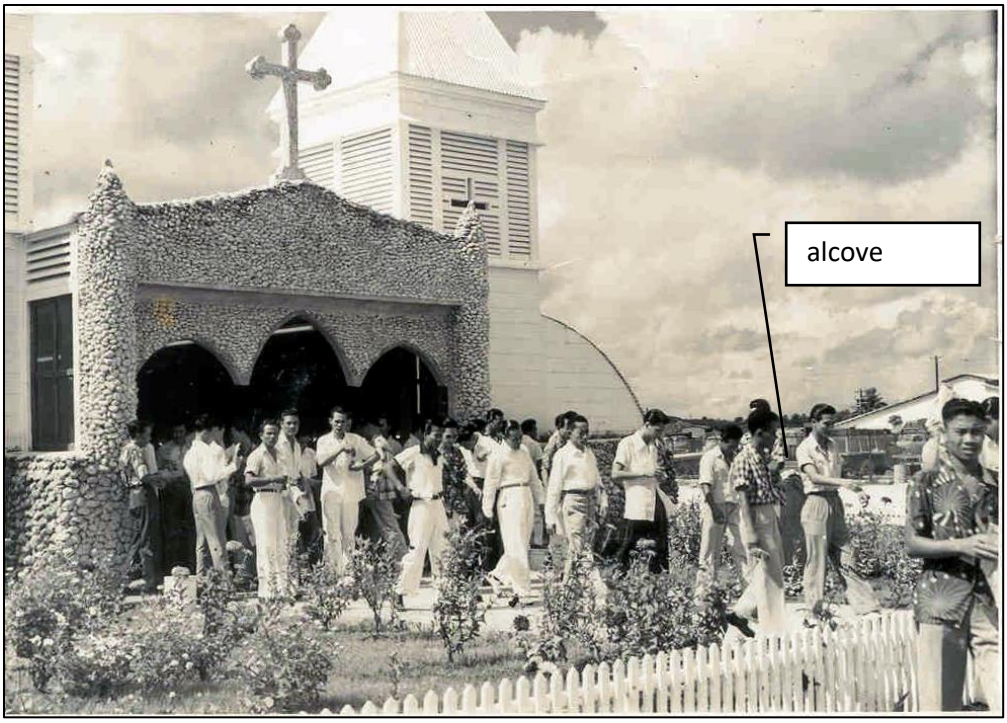

Photo 37. View of the entrance to the former Camp Roxas Chapel (courtesy Bernadette Schumann). Note the coral pebble finish on the exterior of the entrance. The alcove can be seen on the other side of the people walking out.

Photo 38. The back side of the alcove in its position in front of the entrance to the former Camp Roxas Chapel (courtesy Bernadette Schumann).

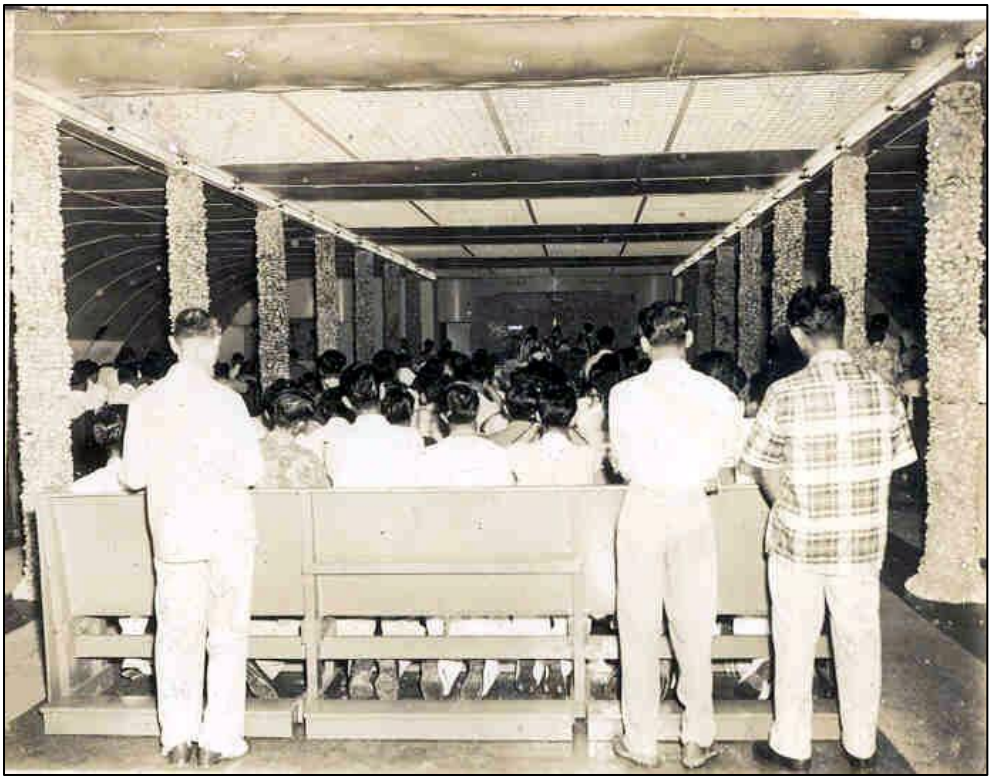

Photo 39. Interior of the former Quonset hut chapel showing the pews and the pillars decorated with pebbles similar to those on the entrance and the alcove (courtesy Johnny Luces).

Field Visit and Additional Information Provided by Mr. Luces

On March 6, 2017, Bernadette Schumann organized a field visit to the alcove. She invited Mr. Johnny Luces, who served as an altar boy at the chapel during his time at Camp Roxas, his two sons (Patrick and Lawrence) (Photo 40), the president of the Camp Roxas Survivors Group (Roland Delfin), Burt Sardoma, and Moore. Roland's father, Oscar Delfin managed Camp Roxas, and later became a senator on Guam.

Mr. Luces said that the Filipino laborers collected the beach rocks and built the alcove and the entrance to the chapel. The actual chapel was a Quonset hut. Moore showed a fragment of a blue, linoleum floor tile found on the ground where the church would have been to Mr. Luces. He confirmed that the chapel originally had a blue tile floor. No intact ruins of the church remain. The chapel was administered by a priest brought from the Philippines. Mr. Luces passed by the chapel on his way to work in the morning, on his way to the mess hall at noon, and on his way back to his barracks after work. He often stopped in to pray. His barracks was located in the area now within the chain-link fence that borders the US Navy base on Orote Peninsula.

We visited the paved area to the west of the alcove. Mr. Luces indicated that this pavement marked a recreation area that was located next to the church. The pavement served as a tennis court and a basketball court. He pointed out remnants of the pipes that held the nets (Photo 41).

This area is nearly clear of vegetation, except for ferns. GPS coordinates were not obtained for the recreation area, and its exact location with respect to Lot 238-1-4 is uncertain.

Photo 40. Mr. Johnny Luces and his sons (Patrick and Lawrence) at the alcove March 6, 2017.

Photo 41. Remains of the metal post that supported some of the nets used for the tennis and basketball courts in the Camp Roxas recreation area, located west of the alcove.

Mr. Luces also recalled the history of the Camp Roxas area in the vicinity of the WWTP. At first the area housed the USAPI, a group that was tasked with collecting the remains of fallen soldiers on Guam, Saipan and Tinian, and packaging them for return to the United States. The USAPI group was housed in the area known as Camp Busanda. According to Mr. Luces, the concrete slabs identified in the WWTP footprint housed different work groups including an engineering unit. Finally, Camp Roxas, which was located north of what is now Route 2A, expanded into the area, because so many laborers were brought in that they out grew their original area.

Inventory Survey of the
Hyundai Waterline Easement Across Lot 238-1-R5

by Justin Maxwell, PhD
International Archaeological Research Institute, Inc.

Introduction

IARII conducted a pedestrian archaeological survey of the proposed pipeline area for the Hyundai waterline associated with the WWTP Area of Potential Effect (APE) on October 19, 2017 under contract to MARS. Figure 15 shows the waterline corridor across Lots 238-1-4 and 238-1-R5. IARII surveyed the portion of the waterline corridor across Lot 238-1-R5 and investigated the corridor across Lot 238-1-4. The survey and investigation did not identify any cultural material other than modern household rubbish.

Personnel and Methods

The survey was conducted by Justin Maxwell (PhD) on the 19th of October 2017. The weather was fine and there were no impediments to the survey. A transect had already been flagged and a track cleared providing excellent access to the survey area. The survey began at the bus stop on the corner of Santa Rosa Ave and Talisay Drive, following the marked track in a northerly direction to the point where it intersected with the waterline corridor across Lot 238-1-4. The cleared corridor across Lot 238-1-4 was inspected and found to be free of historic resources.

Transects, spaced 10 m apart, were walked along both sides of the track across Lot 238-1-R5 which had been flagged prior to the survey. Photo-documentation utilized a Nikon S9900 digital camera (16.0 megapixels). As no cultural remains were identified no GPS points were taken.

Ground cover varied; in general, surface visibility was 30-80 per cent with much of the area being under regenerating secondary forest. The southern half of the survey area starting at the bus stop on Santa Rosa Avenue is on steep hill country, with good visibility below regenerating forest. Limestone cobbles were common, as was modern household garbage in this part of the survey area. The more established vegetation allowed for good visibility; however the steepness of the slope makes it unlikely that any archaeology would be encountered unless it was eroding from higher ground (Photos 42-44). The upper (northern) part of the survey corridor, closest to where the pipe line track had already been cleared, the vegetation was particularly dense making visibility limited. In the lower half of the survey area large natural limestone boulders were present. The ground in the lower half of the survey area is reasonably level (Photos 45-46).

Figure 15. Google image showing the waterline corridor from the Hyundai Subdivision to the Agat-Santa Rita WWTP footprint (courtesy of DCA). On this plan, the section of the corridor across Lot 238-1-R5 extends from Sta 16+00 south to Sta 22+00. The section of the corridor extending from Sta 11+00 to Sta 16+00 crosses Lot 238-1-4.

Photo 42. Upper portion of the survey corridor across Lot 238-1-R5, in the vicinity of Sta. 17+00, showing the forest and ground cover, facing east (courtesy J. Maxwell). Scale not provided.

Photo 43. Upper portion of the survey corridor across Lot 238-1-R5, in the vicinity of Sta. 17+00, showing the forest and ground cover, facing east (courtesy J. Maxwell). Scale not provided.

Photo 44. Upper portion of the survey corridor across Lot 238-1-R5, in the vicinity of Sta. 17+00, showing the forest and ground cover, facing west (courtesy J. Maxwell). Scale not provided.

Photo 45. Lower portion of the survey corridor across Lot 238-1-R5, in the vicinity of Sta 21+00, showing limestone boulders, facing northwest. Scale not provided.

Photo 46. Lower portion (southern end) of the survey corridor across Lot 238-1-R5, in the vicinity of Sta 22+00, showing an old washing machine drum?, facing northwest. Scale not provided.

Results

No cultural material was identified within the survey area. The steep slope and relatively good visibility below the canopy make it unlikely that there are any above or below ground cultural resources in this area. The lower (southern) portion of the survey corridor is more likely to have had cultural remains present, but none were identified above ground. No further archaeological investigation is recommended.

Monitoring the Hyundai Waterline Easement
Lot 238-1-R5

The section of the waterline corridor across Lot 238-1-4 had been cleared of vegetation and the waterline installed prior to the clearing the corridor across Lot 238-1-R5. Photo 47 shows the culturally sterile limestone substrate that was exposed along the Lot 238-1-4 section of the corridor. It is the same substrate that occurs throughout Lot 238-1-4. Archaeologist Justin Maxwell investigated that section of the waterline corridor on October 19, 2017. No cultural resources were identified.

As required by HRD, MARS monitored the clearing of the waterline easement across Lot 238-1-R5 during the period from February 1 to 16, 2018. Archaeological monitors were Rick Schaefer and Darlene Moore. In order to create the track, which traversed the west side of a north/south trending ridge, the excavator dug into the ridge, pulling material down from the upper slope to make a level bed. The work began at the north end of the easement, proceeded south across Lot 238-1-R5 to the subdivision (Photos 48-51). Prior to construction of the track, the monitors examined the slope, to insure that no cultural resources were destroyed or covered by fill material. Ground surface consisted of about .20-.30 m of black clay containing considerable amounts of weathered limestone pebbles and cobbles. In most places, the clay overlay weathered limestone bedrock, but in some places along the corridor, a deposit of tuffaceous sandstone, was present between the clay and the limestone bedrock.

No significant historic resources were present. Observed on the surface at the northern end of the corridor, between Sta 16+00-17+00 (see Fig. 15) were some scattered beer and soda bottles and a few golf balls. No material was collected, but bottles with legible dates indicated that they dated to post-WWII. They may have been discarded by occupants of Camp Busanda or Camp Roxas. Observed on the surface of the southern end of the Hyundai corridor, approaching the northern edge of the subdivision, was considerable modern trash and construction material including ceramic tile fragments; apparently deposited in the area by the residents of the Hyundai Subdivision, or by construction workers during the development of the housing area.

In the middle of the corridor, about Sta19+00 on Fig. 15, a piece of probable WWII ordnance was seen (Photo 52). It was identified as a US 37mm HE round with the fuse gone (Schaefer pers. comm. upon consulting with John Scott, owner of Ampro, a local explosive clearance company). According to information provided by Schaefer, the US developed this type of ammunition in 1938. Although it proved worthless in Europe during WWII, as it could not penetrate the German tanks, it was used in the Pacific because it could penetrate the Japanese tanks (Schaefer pers. comm). Its occurrence provides tangible evidence that the US military troops passed through this area, perhaps on their way to capture Orote Peninsula (Denfeld 1997).

The elevation of the southern end of the Hyundai easement, as it approaches the subdivision is much lower than the rest of the corridor. In order to make a level base for the waterline, fill material will be introduced to raise the elevation of this area so that it will be the same height as the area around the bus stop (see Photo 51). More than 1.0 m of fill material will be needed.

Due to the fact that the trench for the installation of the waterline across Lot 238-1-R5 was to be dug either in limestone bedrock or in culturally sterile fill material, there was no need for archaeologists to monitor the installation of the waterline.

Photo 47. Overview of the waterline easement across Lot 238-1-4. The camera is facing north. No scale provided. Photo courtesy Justin Maxwell.

Photo 48. View of the north end of the Hyundai waterline easement across Lot 238-1-R5. The photo rod is 1.0 m long. Photo courtesy R. Schaefer.

Photo 49. View of the mid-section of the Hyundai waterline easement across Lot 238-1-R5. Note culturally sterile decaying limestone below the very dark brown ground surface. The scale is 1.0 m long. The arrow is pointing north. Photo courtesy R. Schaefer.

Photo 50. East face of the Hyundai waterline easement across Lot 238-1-R5 showing the stratigraphic profile. Note the green tuffaceous sandstone above the limestone bedrock at the bottom of the photo. The photo rod is 1.40 m tall. The photo was taken about Sta 21+00 on Fig. 15.

Photo 51. View of the south end of the Hyundai waterline easement where the ground has been disturbed by activities related to the construction and occupation of the Hyundai subdivision, which is visible in the background. The yellow structure is a school bus stop. The white arrow points to the red and white photo rod which is 1.40 m tall and the north arrow. The camera is facing south.

Photo 52. The ordnance found during monitoring the Hyundai waterline easement across Lot 238-1-R5. The scale is 10 cm long. Photo courtesy R. Schaefer.

RESULTS OF LABORATORY ANALYSES

The historic items recovered during monitoring the clearing and grading of the WWTP project area are described in this section, and they date to WWII or more recently. Also included in this section are descriptions of some of the beer bottles that are associated with the alcove situated in the WTTP Laydown Area. Items dating to the Pre-Contact, Spanish, and First American Periods were not observed in the WTTP project area.

Historic Ceramics

Two industrial-type white glazed stoneware dishes were recovered from the surface of Lot 238-1-4, a complete saucer and a broken jar. The saucer has a diameter of six inches. Markings on its underside indicate that it was made by TEPCO, USA (Photos 53-54).

The diameter of the cylindrical jar is 3.25 inches and it is 2.88 inches tall (Photo 55). Vessel walls are 5/16 inch thick. The rim is stepped on the inside forming a narrow ledge that would have held a lid. On the exterior, a narrow raised decorative rib occurs ½ inch below the edge of the rim. A similar raised rib occurs ¼ inch above the edge of the base. Markings, in gray, on the base indicate that the jar was made by Sterling, East Liverpool, Ohio, U.S.A. Below the logo, the word STERLING in a banner, are the numbers 1950, probably indicating the year that the jar was manufactured (Photo 56). The jar probably served as a sugar bowl.

Both TEPCO and Sterling China Co. manufactured dinnerware for industrial use, including hotels, the US military, and other institutions. TEPCO, based in El Cerrito, California, was founded in 1930 and closed in 1968 (https://patch.com/california/.../tepco-el-cerritos-days-as-a-motherlode-of-dinnerware, 11/9/17). Sterling China Company was founded in 1917, with offices in East Liverpool, Ohio and a factory in Wellsville, Ohio. Both companies produced dinnerware for the US military during WWII and after.

Ink stone

A nearly complete ink stone was recovered from the WWTP footprint (Photo 57). It is black or very dark gray in color, and may be manufactured from slate. It measures 97 mm long, 61 mm wide, and 17 mm thick and weighs 7.3 oz. One end of the interior surface is flat while the other end slopes down to form a reservoir. The reservoir would have held the ink.

This object would have been used to hold the ink used in drafting or drawing. Although its place of origin remains unknown, possibly it was used by draftsmen in the engineering section that, according to Mr. Luces, was assigned to the buildings in the WWTP footprint area before the residents of Camp Roxas moved in to the area.

Glass

Cup

A milkglass cup was recovered from the WWTP footprint. Its exterior diameter at the rim measures 3 ½ inches, exterior diameter at the base measures 2 inches and it is 3 ½ tall (Photos 58-59). The wall is ¼ inch thick. Two opposing side seams continue from the base to the rim. Embossures on the base read U.S. TRADE MARK PYREX MADE IN U.S.A. The numbers 35 appear above PYREX and the numbers 1953, indicating its year of manufacture, appear below MADE IN U.S.A. The cup would have arrived in Guam in 1953, or later.

Feature 14 (Alcove) Bottles

Some of the bottles associated with the alcove, which once stood in front of the former Camp Roxas Chapel, are San Miguel beer bottles from the Philippines. The bottles are machine made of amber colored glass, and they are buried in the ground so that their bases form a row in front and in back of the alcove. One loose bottle was collected (Photo 60). The diameter of this bottle base is 6.0 cm, bottle height is 20.5 cm, and outer diameter of the closure is 2.6 cm. Two side seams on opposite sides of the bottle continue from the base over the crown closure. The embossed words "NO DEPOSIT NO RETURN" and "NOT TO BE REFILLED" appear on the bottle's shoulder. Non-returnable bottles were developed in 1935 (https://sha.org/bottle/pdffiles/Owens///-BLockhart.pdf, 3/1/17). On the base is the embossed SM logo, which is a M overstamped with a S. To the left of the logo is the number 7 and to the right the number 54, which probably indicates the date the bottle was made, 1954. Above are the numbers 130 – N (Photo 61). This bottle would have had paper labels.

San Miguel Brewery was established in 1890 within the Spanish walls of the old city of Manila. When WWII broke out in the 1940s, the Japanese Military seized the San Miguel Brewery and renamed it the *Balintawak Beer Brewery*. After the war, the brewery renewed operations as San Miguel (http://sanmiguelpalepilsen.com, 12/13/16). San Miguel bottles made before the war exhibited the SM logo on the side of the bottle, and this type of bottle is commonly found in Guam (Amesbury et al. 1991; Craft 2017). Immediately after the war, apparently paper labels replaced the embossed logo on the side of the bottle and the logo was moved to the base.

The bases of another type of amber colored beer bottle also appear in the linear arrangements (Photo 62). These bottles have a maker's mark, which includes an angular G entwined with an angular C that stands for Glass Containers, Inc. (1933-1955), based in California. Later, the company name was changed to Glass Containers Corporation. The angular mark was used in 1945 and appears on bottles dating to the 1940s and 1950s. Later the angular mark was replaced with more rounded forms for the letters G and C (https://sierradeagua.wordpress.com, 12/15/16; http://myinsulators.com/glass.factories/bottlemarks.html, 12/15/16). Other information appearing on these bottle bases is the embossure "1-WAY". This embossure was used by various bottle makers after WWII to indicate that the bottles were not to be re-used. At this point it is unclear as to what brand of beer these bottles contained.

Photo 53. Stoneware saucer, interior.

Photo 54. Stoneware saucer, exterior base mark.

Photo 55. Stoneware jar, interior.

Photo 56. Stoneware jar, base mark.

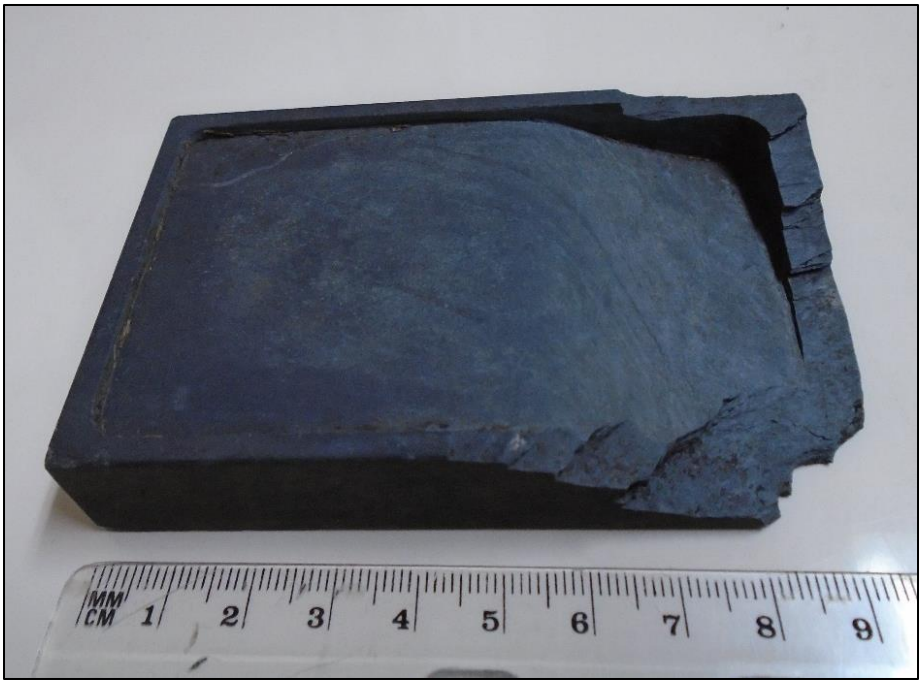

Photo 57. Ink stone recovered from the WWTP footprint.

Photo 58. Milk glass cup, exterior.

Photo 59. Milk glass cup, base mark.

Photo 60. San Miguel beer bottle.

Photo 61. Bottle base showing San Miguel logo.

Photo 62. Two bottle bases in the linear alignment near the alcove. The angular G entwined with an angular C indicates that they were made by the Glass Container, Inc. factory based in California. They also have the embossure 1-WAY.

DISCUSSION OF RESEARCH QUESTIONS

One of the research questions was "When and how was the project area utilized?" Based on the results of the archival review, the oral history, the inventory surveys, and the monitoring of clearing and grading, the APE for the wastewater treatment plant was not utilized until 1944 or 1945, when the US Navy condemned the land in this area for military purposes. The former landowners, the Bordallo brothers, had a house located along the shoreline west of the project area. It is not known how, or if, they utilized the project area. A plan showing US military area allocations as of October 1945 (see Fig. 6) indicates that military storehouses were located in the vicinity. By 1954, a map shows structures and roads in the vicinity of the APE and refers to the entire area north and south of Route 2A as Camp Roxas (see Fig. 7). The concrete slabs and man holes identified within the APE are located west of the more numerous features shown on Fig. 7.

According to information gathered from informants, after the US Navy had secured the Mariana Islands in 1944, they established Camp Busanda in the project area. Camp Busanda housed

Filipinos tasked with the recovery of the remains of US soldiers. The recovered remains were packaged for return to the US. After Camp Busanda closed, apparently some of the structures on the concrete slabs in the APE were occupied by a military engineering section. The ink well collected from the surface of the WWTP provides possible archaeological evidence of such an activity. With the exception of the fire-bricks on Feature 12, which suggested it had been a structure used for food preparation or to heat water for laundry or showers, it was difficult to interpret slab functions. The beverage bottles and cans on the ground surface suggest that people congregated in the area, or perhaps dumped their trash in the area. The pipes and concrete manholes suggest that managing water or wastewater was an important function within the APE. Former roadways were not identified during the archaeological investigations.

Another research question involved whether there was any evidence that the area had been used for pre-WWII agriculture, particularly rice paddies. No evidence of pre-war agriculture was found. There is evidence that ornamental trees and economic plants had been planted in the past, probably at the time the concrete slabs were utilized. Although it is possible that the former landowners, the Bordallo brothers, had planted trees or crops in the area prior to WWII. Claudine Camacho (pers. comm. 2015) noted ornamental and economic plants. Ornamental plants include crotons, *Hibiscus*, Pink Tecoma, *Sanseveria*, *Polyscias scutellaria* and *Wedelia*. Possible economic plants include wild taro, soursop, coconut, papaya, ti, mango, panama cherry, tapioca, and arrowroot (*Tacca leontopetaloides*, *gabgab*). These are plants that could have been planted in the gardens of people who once lived in the camps after 1944 or who planted in the area prior to WWII.

While WWII military features related to the Japanese defense of their facilities on Orote Peninsula or foxholes and trenches related to the approach of US troops during their efforts to gain control of Orote Peninsula were not identified during the project, the piece of ordnance observed during the monitoring of the Hyundai waterline easement across Lot 238-1-R5 provides tangible evidence that US troops passed through the area.

CONCLUSION AND RECOMMENDATIONS

The concrete slabs recorded in the WWTP footprint during the inventory survey and during clearing and grading were in poor condition and they lacked integrity. They no longer yielded information important to the history of Guam. They were not built by a known artisan. The slabs did not qualify as eligible for nomination of the National Register of Historic Places and no further archaeological services were recommended for their treatment. The concrete manholes and the buried mechanical equipment encountered during construction excavations indicate that the area had been greatly modified, probably by 1945 if not in 1944. The inventory survey of the waterline corridor across Lot 238-1-R5 did not encounter significant historic resources.

Feature 14, the small concrete and stone alcove situated on Lot 238-1-4, within the Laydown Area near the entrance to the WWTP is historically significant, particularly to Guam's Filipino population, especially the Camp Roxas Survivors Group. The feature reminds them of their relatives who left their homes in the Philippine Islands to come to Guam and help rebuild the island after WWII. Often these laborers survived difficult living and working conditions. Camp Roxas existed from about 1945 to 1972/73. Even before the Camp closed, many of the original

laborers changed jobs, became US Citizens, continued to live on Guam and raise families. Their descendants are part of Guam's diverse population and as a group they continue to make valuable contributions to the island. MARS recommends that the alcove be preserved as an object that represents Camp Roxas, a labor camp that was formed by the US Navy as a direct result of WWII. During its existence, the Camp housed as many as 7,000 workers from the Philippines.

The alcove is significant under Criterion A, as it is associated with a series of events, WWII, that significantly impacted the US, including Guam. As a WWII battle site, Guam's infrastructure and villages were largely destroyed during the war. The local residents, recovering from their traumatic war-time experiences, were involved with putting their lives back together. The considerable post-war rebuilding activities were accomplished by Filipino laborers who were brought to Guam by the US Navy.

The alcove represents a ceremonial object that symbolizes the devotion of the Camp Roxas occupants to their Catholic faith. While its exact date of construction is not known, it is more than 50 years old. The Catholic Chapel at Camp Roxas was built about 1946 and destroyed when the Camp was abandoned in 1972-73. By 1952 the Camp Roxas residents began holding an annual procession to honor Our Lady of the Miraculous Medal. Since the alcove was associated with the chapel, and the chapel along with most of the rest of Camp Roxas has been destroyed, the alcove has lost some of its integrity, but not its sense of place within camp limits, its association with the labor camp, nor its religious symbolism. Its physical qualities, in combination with its setting, convey a historic sense of its association with Camp Roxas.

If it is preserved in place, perhaps a small structure could be built over it to protect it. The area could be developed into a small shrine, similar to the one at Atantano, with a small parking/picnicking/meditation area. It could be screened from passersby traveling on Route 2A by ornamental or indigenous plants. Any development should be coordinated with Guam Waterworks Authority, the Dept. of Parks and Recreation, Duenas, Camacho and Assoc., and the Filipino Community on Guam, especially the Camp Roxas Survivors Group. In the meantime, GWA should ensure that the feature is protected and preserved.

This report provides evidence that DCA and GWA complied with local and federal requirements regarding the identification, assessment and treatment of historic properties within the APE of the proposed Agat-Santa Rita Wastewater Treatment Plant.

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