THE TAFUNA PLAIN SEWER SYSTEM
PHASE 1

ARCHAEOLOGICAL INVESTIGATION OF THE SURVEYED ROUTE

October 1992

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ABSTRACT

The American Samoa Power Authority propose to install a sewer system in the Tafuna Plain area, Tutuila, American Samoa, joining existing lines to the north along the main road, and to the south along the airport boundary.

In June 1992 an archaeological survey was carried out along the proposed routes on the Tafuna Plain itself, and along a branch line up Malaeimi Valley to the north. Thirteen sites were located within the area.

This report describes the results of the archaeological investigation: the survey strategy, the identification of 13 sites, their definition and their evaluation, and the accompanying literature study.

Only one of the sites was directly in the path of the proposed works, and alternative routes for avoiding this are suggested.
INTRODUCTION

The archaeological survey of the proposed sewer line for Tafuna plain and the Malaeimi valley was carried out for the American Samoa Power Authority between 9 and 26 June 1992. This concerned the impact of the works on any archaeological sites in the vicinity of the surveyed line. Thirty feet (9.1 metre) strips on both sides of the line were examined.

Although most of the area concerned was in high density housing, remains of prehistoric features such as large stone mounds could still be seen in backyards and gardens. It is unlikely that these will survive for much longer, and the number of stone garden walls in the area hint at the amount of site destruction that has taken place in the last few years.

THE AREA

The Tafuna plain is a lava delta created by Holocene volcanic activity (Stearns 1944), the flow spreading out over the lagoon and reef on the southwest part of the island, forming the low lying bulge of land between Tafuna and Leone (Fig. 1). Malaeimi Valley runs back for a mile into the main mountain range off the north edge of this, underlain by the same volcanics. The two together form one of the most important ground water resources on the island. The survey area covered the eastern part of this (Fig. 2).

Soils on the Tafuna plain are classified into two main units; the Pavaiai stony clay loam, which occurs in a strip up to half a mile wide out from the base of the hills to the north, and the Tafuna extremely stony muck, over the rest of the plain to the sea (Nakamura 1984). Much of the latter has now been altered by development, and is a mixture of soil types and fill. The main difference between the two types is the thickness of the top and subsoil layers; some 40 inches in the former and only 18 inches in the latter. Lava flows underly both soil types. The Pavaiai unit is the less permeable, supporting both subsistence and vegetable crops (Nakamura 1984:20), while the few plantations left on the Tafuna soil grow mainly banana and breadfruit.

The mean annual rainfall is from about 120 to 150 inches. High soil porosity results in little or no run-off, with the water percolating through to form a convex lens of fresh water resting on the underlying sea water. This, the Ghyben Herzberg lens, is only about three feet above sea level on the plains themselves, although rising up higher on the valley floors. Wells on the Tafuna plain have supplied the island with drinking water for about thirty years.

Vegetation on the Tafuna plain consists mainly of scrub and overgrown plantations, although pockets of surviving bush do occur, such as close to Kokoville village and Haleks West dairy. Here some old canopy trees were still standing at the time of the survey, although development was starting in the area. Some idea of the original vegetation can be gained from Plate 1, taken in 1942, which shows the Tafuna airbase extending into thick bush.
Figure 1. Location map of Tutuila, showing survey area.
Figure 2. Tafuna Plain, with survey area.
Plate 1. Tafuna Plain 6 April 1842, showing original vegetation cover. (Neg. RG80-G, 410753. National Archives, Washington).
The Tafuna plain population is the fastest growing of any area on Tutuila.

<table>
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</table>

(Figures for Tafuna village district, 1940 to 1990 Census)

At the projected rate of growth some 25,000 people could be living there by the end of the century. It is this concentration of people living on top of one of Tutuila’s fresh water resources that has prompted the sewer project.

Malaemili Valley: This is the catchment area for much of the water that supplies the Tafuna aquifer. The soils here are classed as Leafo silty clay, and extend to a depth of 60 inches or more (Nakamura 1984:13).

There is little permanent settlement in the valley today. Some 8 houses are present at the end of the road up the eastern side of the valley, with another two on the western side. Plantations are starting to encroach from the valley mouth, with one semi-permanent dwelling on one of these, while the rear or north half of the valley is under mixed forest.
PREVIOUS WORK

TAFUNA PLAIN

The initial archaeological work in American Samoa was carried out by W. Kikuchi in 1961-62 (Kikuchi 1963). This consisted of two surveys on Tutuila, and included in the areas covered was the Tafuna plain. Kikuchi recorded 12 sites in the eastern half of Tafuna, seven of which were stone mounds, most of them off the west end of the airport. He enlarged this sample in a later survey, adding another four mounds. Five of these sites were the so-called star mounds; stone mounds with up to about 11 projections or rays around their circumference (Kikuchi n.d.). The other site types recorded by him on the plain were the old Tafuna village, in the area of the airport terminal building, and some possible stone-lined ditches off the west end of the runway (Kikuchi 1963:42,63).

The vegetation cover at that time was still dense enough for Kikuchi to refer to these sites as being "...deep in the forest of Tafuna..." (Kikuchi 1963:61), and to remember 30 years later the difficulty of penetrating any distance into it (Kikuchi; pers comm. 1992).

In 1972 Janet Frost undertook a PhD project on Tutuila which selected four areas for study. One of these was Otto Haleks' plantation near Pavalai. Eight star mounds were cleared and mapped, while others to the southeast of the selected area were seen but not recorded (Frost 1978).

Neither Kikuchi nor Frost tied their sites into any fixed datums, due mainly to the flat terrain and the dense vegetation; however it is unlikely that there is any overlap between them.

In 1980 Jeff Clarke revisited the known archaeological sites in American Samoa, recording them for a site inventory for the government of American Samoa (Clarke 1981)

Between 1989 and 1992 the then Territorial Archaeologist, Dave Herdrich, located at least two more mounds in the area. One, a star mound, is north of the Tafunafou-Otoville road junction, while the other, the remnants of an earth mound, is in the grounds of the South Pacific Academy. Two mounds occur near the Roman Catholic church in Otoville. One of these now features as an exhibit, with a viewing deck and an enclosing wall. These may be mounds that were located by Kikuchi or known to him.

Historic sites of importance also occur on the Tafuna plain. Although barely 50 years old, the remains of W.W.II structures are associated with a global event of such importance that they are worthy of recording and, where possible, preserving. In the survey area are relics of the Marine airbase, in the form of taxiways, dispersal areas and most probably, building foundations. A plan of the airfield layout (Fig. 3) indicates what structures might be encountered, and Plate 2, showing one of the taxiways cut into the forest cover, again demonstrates the original vegetation of the plain.
Figure 3. Plan of Tafuna Airbase in WWII. (From copies of U.S. Navy maps held at Parks and Recreation, Pago Pago).
Plate 2. Tafuna Plain 18 Nov. 1942. Airbase taxiway in forest cover. (Neg. RG80-G 34978, National Archives, Washington).
Summary: The archaeology of the Tatuna plain has been sparse, and restricted to site surveys in thick bush, save for one 2 x 1 metre trench excavated by Frost into a star mound. Enough information however has been recovered to show that although the lack of water and the general infertility of the rocky soil meant that it was not a favoured location for settlement, never-the-less prehistoric activities of some importance took place there.

MALAEIMI VALLEY

No previous archaeological work has been carried out in the Malaeimi valley. Although the soil fertility is greater than that out on the plain, the area is subject to flooding, and prehistoric occupation is likely to have been restricted to cultivation rather than settlement.

The history of the area is difficult to unravel, as records are not easy to find. In the early 1900’s the valley was sold to the Mormons, and the lower part at least appears to have been in cultivation when the first photographic record occurs. In W.W.II a considerable number of military installations were built along the western edge of the valley, and at least two firing ranges angled east by north-east across to the butts near the valley head on the other side.

After the war a government dairy farm was established, and at some time rows of guava trees were planted in the upper part of the valley. This upper area is presently in mixed forest, containing some large trees up to 1 metre diameter, now being felled for firewood. There are plans for a Christian Community centre in the upper 80 acres, which will result in the total clearance of the forest.

In the southern part of the valley a few plantations and vegetable gardens are being established, and some two or three garden dwellings are occupied.
THE ARCHAEOLOGICAL SURVEY.

Equipment: This consisted of two tapes, 328' and 164', a Sunto compass and clinometer, a bush knife, and a heavy stick for discouraging dogs. Base maps for the survey were provided by A.S.P.A., and consisted of sheets 39, 40, 46 & 47 of the 1" to 200' topographic series, based on 1990 aerial photography. The surveyed route of the proposed sewer line was marked on these, together with any existing lines. All manholes were numbered. Due to land negotiations and some recent impromptu housing the final route of the line may differ slightly from that on the plan; however this is unlikely to affect the survey findings.

Site relocation: Due to the detail in the topographic maps the sites could be accurately marked on these, and transferred to the 5000' American Samoa grid system. These grid references are listed in Table 1. In addition, each site is related to a relatively permanent ground datum, the nearest manhole.

The survey route: The pipe-laying operation consists of a trench excavation, about 2 foot wide, usually along the side of the road, within some five feet of the edge, to varying depths dependant on the required fall of the pipeline.

The thirty foot survey strip on either side of the line is standard for such surveys in American Samoa (see Clarke 1990 and Best 1991) and is chosen as a safeguard against the machinery involved in the work deviating from the line itself. This could occur if a temporary access track off the edge of the road was used from which to carry out the work, or if areas were cleared for activities such as backing and turning, or stockpiling materials used in the works.

All of the line was covered on foot, working from south to north. The route was mainly through heavily built up areas, but also took in plantations, some overgrown, and a small amount of regenerating bush. Some flat cleared sections adjacent to the line had reverted to thick grass. The total area covered by the survey was about 110 acres.

The survey procedure: The five main types of ground cover are as follows;

1: Gardens and lawns
2: Overgrown grassed section
3: Tended plantation
4: Overgrown plantation
5: Bush

The survey strategy had therefore to be a combination of several approaches, each relevant to the situation. These fell into three main categories.

1. A visual examination from the road or line.
2. A longitudinal transect.
3. Random transects.
Figure 4. Tafuna Plain, showing proposed sewer line routes (red) and archaeological sites located.
The combination of different vegetation types and their survey strategies are as follows.

1. Gardens and lawns: These were well kept and did not contain any dense growth. They were examined from the road, and although small artifacts such as stone tools would have been missed, the uncertainty of provenance in this situation meant that a closer inspection, with all its attendant problems, would not have been worthwhile.

Visual from road/line.

2. Tended plantations: These were plantations where the spaces between the crops were reasonably clear, due mainly to their being close to a house, and thus subjected to traffic and to the foraging of pigs, chickens etc. A line was walked parallel to the survey line and approximately 15 feet in. In these conditions small artifacts might well have been located, and any feature such as a low housemound would almost certainly have been recorded.

Longitudinal transect.

3. Overgrown grassed sections: These presented a problem in that the grass, up to 3 feet high and with a matted base of dead stems, was extremely difficult to cut or move through, and had zero ground visibility. Although some transects were made, the main method of survey was examination from the road. As the grass grew to a uniform height, so features of any size should have been visible.

Occasional longitudinal transect/visual from road.

4. Overgrown plantation and bush: The main factor that reduced the visibility in these categories was the creeper mile-a-minute (Fue saina or Mikania micrantha). This also rendered clearing tracks for transects a lengthy process. Most of this category occurred when the surveyed line left the road and cut off across country. The line could not be accurately followed on the ground in these cases, as the end pegs could not be found, and there were no points on the map as aids to location. In this situation a line was cut in the general direction using compass bearings, and each side was examined for the larger features such as mounds, by pushing through the undergrowth until a large enough area had been covered to compensate for any errors in direction. These cross country links were not usually more than a few hundred yards in length, and with a reference point at the other end where it rejoined the built up area any error was restricted to the middle of the link.

Random transects.
SITE EVALUATION.

Each site was evaluated, using the National Register Criteria (National Register Bulletin 15). This states (Criterion D) that the site must be likely to yield information important in history or prehistory. This information must also be evaluated within a historic context.

Criteria of effects: The following criteria have been set out for this survey.

1. No effect

2. No adverse effect

3. No adverse effect with conditions: avoid or recover data/reconstruct.

All the archaeological sites recorded on the survey have been damaged to some extent by previous activities such as gardening, stone wall construction etc. Only one of these lies directly in the path of the proposed sewer line, the remainder are unlikely to be further disturbed if care is taken with machinery while working in their vicinity.

The criteria for the evaluation of these sites is their historic or prehistoric status. Eleven of the twelve prehistoric sites located were stone or stone and earth structures of some size, and were similar to those recorded on the east and west parts of the plain by Kikuchi and Frost. They thus formed part of an overall occupation or activity, the form of which is not as yet known.

Whether other less spectacular features occurred in conjunction with the mounds is not clear; many of these large structures, even in the early days of Kikuchi and Frost, were only recorded because they had turned up during forest clearing; by the time the archaeologist arrived, any such information would probably have been destroyed. It is also likely that the discovery of an undisturbed mound in dense bush, given the spectacular appearance of these structures, would have diverted the fieldworker away from examining the surrounding area for less obvious signs of occupation. Thus the possible extent of these sites is not known; they may be part of a larger complex, and that some subsurface evidence of this may still remain nearby, even when the ground has been severely disturbed. However this theoretical situation cannot realistically be considered when assigning the criteria of effect and evaluation for the sites.

"No effect" and No adverse effect" are used in this report when the site is close to or outside the 30' survey limit. Such sites and their immediate surrounds are considered to be either beyond the reach of any pipe laying activities, or to be affected to such a minor degree that their archaeological value would not be appreciably diminished. The other criteria, of "No adverse effect with conditions: avoid or recover data/reconstruct" has been applied to sites that are closer to the line and of easier access for machinery, and for one that lies across the line. Data recovery means that if the site cannot be avoided then salvage archaeology should take place. Mitigation in all cases however need consist only of careful use of machinery and possible rerouting of the line.
Thirteen sites were located; 12 on Tafuna plain, and 1 in the Malaeimi valley. American Samoa Register numbers AS-31-47 to AS-31-59 have been assigned, and grid references calculated. The manhole identification follows that on the base map provided by A.S.P.A. A synthesis of the data is contained in Table 1.

**AS-31-47** The remains of a stone mound, removed by owner of house to south (Noefel) as fill. This consists of an edge of large rocks, c. 36’ long, running parallel to and 16’ north of the road edge, behind which is an area of smaller rocks, the fill of the mound. Location is c. 40’ east of manhole 3M6-3.

Grid reference: E243535 N286354

**Comment:** The area was covered in thick creeper, and only the south side was cleared. It was not possible to identify the other edges of the mound base, as they were on the same level as the surrounding ground and of the same loose stony aspect. The ground slopes away slightly to the south, and the large rocks remaining on that side may have been the levelling basecourse.

**Evaluation:** The site is well within the 30’ survey strip, and being an open space at the end of one of the sewer line laterals may be used by machinery. However the feature has almost totally disappeared, and the little that does remain is unlikely to provide any significant information.

**Recommendation:** *No adverse effect.*

**AS-31-48** A damaged stone mound, built out from the edge of a natural rock scarp, with the steep side facing south (Fig. 5a & Plate 3). Location is south of a dirt track running from manhole 3M6-2 to about midway between 3M6.1-2 and 3M6-3.

Grid reference: E243569 N286401

**Comment:** At the time of the survey this mound was being actively quarried by local householders (see Plate 3). Apart from the on-going destruction, the mound’s sides had apparently also been quarried, and the dirt road has removed some of its north edge. According to an informant, a flag used to fly from the top; a stone circle on the highest point, c. 5’ in diameter, may be associated with this.

**Evaluation:** Although badly damaged, the site is still important in that it is one of the few survivors in the area. It is outside the survey strip; the nearest pipe lines are 120’ to the south and 200’ to the north. During the installation of the 4” pipe from the neighbouring manholes to the households however this road will be probably be used: if so then care should be taken not to further damage the mound.

**Recommendation:** *No adverse effect with conditions: avoid or recover data.*
AS-31-49 An area of loose rocks, c. 50 X 50 feet, with two high points within it, one 6' and the other 5'. The location is half way between manholes P1-8 and P1-9, and c. 30' north of the road.
Grid Reference: E242157 N285354.

Comment: No local information was obtained identifying this as having been a mound; however the high points appear to be the remnants of a core, and it is difficult to imagine that it had been a more recent stockpile of rocks for fill, walls etc. One of Kikuchi's star mounds, (#90), plots to within 200' of this, and may be the same feature.

Evaluation: Little is left of any original structure, and what does will eventually become hard fill or building material.

Recommendation: **No adverse effect.**

AS-31-50 A stone mound, built out from a slope, with the steep side facing south-east (Fig. 5b). Location is 200' back up Ottoville road from the Ottoville road-Golf Course road junction, and 65' in to the south-west.
Grid Reference: E242630 N284346.

Comments: The site has apparently been robbed of some stone (D. Herdrich; pers comm.), although this is not easy to see, save for a possible area on the south-west side. The remainder is in good condition.

Evaluation: This site is well outside the survey area, and should not be affected by the sewer works, even if the flat area around it is used for turning or stockpiling.

Recommendation: **No effect.**

AS-31-51 A stone mound, built out from a scarp, with the steep edge facing north (Fig. 5c). Location is half way between man holes 7A4-2 and 7A4-3, (opposite the Samoa Gas Co. compound), and 98' to the south-east.
Grid Reference: E244961 N287882

Comments: The surface of the mound is very flat, and paved with pahoehoe slabs. On the south-west side a portion of this has been removed, exposing loose rubble, European household rubbish, and some shell material, occur at a depth of < 1'. Shell could also be seen some 2 feet in under the surface slabs. On the west end of the feature, on a terrace some 2' lower, was a hole 3' deep and 3' wide, containing rubbish at its base. The mound needs further investigation, but at this point is interpreted as prehistoric in origin.

Evaluation: The mound is well outside the survey area, and should not be affected during the works.

Recommendation: **No effect.**
Figure 5. Sites. a:AS-31-48  b:AS-31-50  c:AS-31-51
**AS-31-52** A W.W.II feature; the original build up of Procurement road (Fig. 6a and Plate 5). Location is half way between manholes 7A4-3 and 7A4-4, on the south-east edge of the road.
Grid Reference: E244661 N287811

**Comments:** Part of the original taxi way from the airbase.

**Evaluation:** The feature is of historic interest, and worthy of recording. The proposed works will disturb a part of it.

**Recommendation:** No adverse effect.

**AS-31-53** A probable housemound, of indeterminate age, some 8" in height (Fig. 6b). Location is c. 20’ north of manhole 2M-4.
Grid Reference: E243882 N285433.

**Comments:** The feature had stone edging, up to 2 courses, and a fine coral dressing. Both the south-west and north-east ends were disturbed by the formation of the dirt road and side track. No worked stone, which might have indicated a prehistoric origin, was found on or near the feature.

**Evaluation:** This feature is within the survey area, and about 15’ off the line. The recent truncating of the south-west end did not reveal any deposit which might have called for data recovery. At the same time, care during the line excavation should ensure that the feature is not further damaged.

**Recommendation:** No adverse effect; avoid or recover data.

**AS-31-54** A stone or stone edged mound, the east and north sides unclear (Fig. 7a).
Location 40’ south of manhole 2M-3.
Grid Reference: E244000 N285394.

**Comments:** The feature was covered with thick matted grass, and due to time constraints and it’s position outside the survey area only the west edge was cleared. The other edges were faint and uneven. The prehistoric status of this structure is unclear; no European material was found on or around the cleared section, and it did not appear to have been constructed by machinery. The feature is on the edge of a slight gulley, with the built up side facing downslope. In this general area south-west of the mound are some arrangements of both volcanic and coral rocks.

**Evaluation:** The north edge of the feature is 45’ from the side of the road, and thus is outside the survey limits. There is sufficient flat space in the area for any off road activities that might be needed in the pipeline laying project.

**Recommendation:** No Adverse Effect
**AS-31-55** A small stone-faced earth house-mound (Fig. 7b). Between manholes 2M7-2 and 2M7-3; 60' from 2M7-2 and 10' off road to south-west.

Grid Reference: E242898 N286000

Comments: A house mound of indeterminate age. The owner, an aged man, said it had always been there. No material evidence for prehistoric status. The owner was very concerned about any damage to this, as he intends building on it at some time.

Evaluation: The edge of this mound is 12' from the road. The mound itself is nearly 6' high, with 45 degree sides, so should be easily recognizable. Care with machinery at this spot should avoid any disturbance.

Recommendation: **No Adverse Effect; Avoid or recover data.**

**AS-31-56** A low stone mound, in overgrown plantation (Fig. 7c, & Plate 4). Location is between manholes 2M-8 and 2M-9; 80' from 2M-8 and some 15' north of the proposed line.

Grid Reference: E242748 N285732

Comments: The surface of the mound is not level, and the mound itself has a somewhat irregular appearance. This may be from previous disturbance, since it is situated in a plantation that has reverted to scrub. The site is well within the survey area, and given the possible slight difference in the actual route of the proposed sewer line from that shown on the map, may be within a few feet of the works.
Evaluation: The questionable status of the mound, and it’s proximity to the line, presents some difficulties in evaluation. The feature should be avoided, but if it is on the line and re-routing is not an option, then the Territorial Archaeologist should be advised when the work is done, in order to record any relevant data.

Recommendation: No adverse effect with condition: avoid or recover data.

AS-31-57: A damaged stone mound, in open garden (Fig. 7d). Location is on the right angled corner of Procurement road where it turns west towards Ottoville road (between manholes M11 and 11M-1), and 100' along the road on the south side. Grid Reference: E244094 N286961

Comments: This mound is also built off the edge of a small scarp, with the highest side to the east. Loose rock extends from the main part of the structure to the side of the road, and appears to be the remains of part of the mound. The structure is in open garden, and it is surprising that it has not already been quarried to a greater degree. Kikuchi’s site 88 plots at this position, and may be the same mound.

Evaluation: The sewer line appears to cross the road from south to north at this point; if so there should be no risk to the structure. If for some reason the line remains on the south side of the road then care should be taken to avoid further damage to the rock pile at that place.

Recommendation: No adverse effect with condition: avoid or recover data.

AS-31-58: A stone mound, in bush (Fig. 7e, & Plate 6). Location is c. 400' west of the Airport-Tafunafou road junction (between manholes L-1 and L-2), and c. 100' at a bearing of 60 degrees from the very large fig tree. Grid Reference: E244094 N289772.

Comments: The position of manhole L-2 was not securely located. Compass bearings taken from the line as drawn on the base map put the route to the east of the fig tree, however it apparently runs around on the west side (C. McPhee, pers.comm.). As calculated the mound is some 50' to the south-east of the line. The feature is again one that has been built out from a scarp; this time from an extension of level land that runs east to the road; and drops from its north and west sides into a small rugged gulley, which is apparently where the line will go. If any machinery involved in the work follows the line from L-1 to L-3 then it is unlikely that the mound will be affected. If however the line is accessed from the east along the above mentioned flat area in the vicinity of the fig tree the mound might well be endangered.

Evaluation: The feature appears to be outside the survey area, and if the line is further to the west than calculated during this investigation then it will be even more so. Care should still be taken with machinery in the vicinity of the mound.

Recommendation: No Adverse Effect with conditions: avoid or recover data.
Figure 7. Sites. a: AS-31-54  b: AS-31-55' c: AS-31-56  d: AS-31-57' e: AS-31-58
AS-31-59 The remains of a stone wall at the mouth of the Malaeimi valley, running out from the east side (Fig. 8, & Plates 7 & 8). Location is 440’ up the valley road from the main highway.

Grid Reference (for the east end of the wall): E240125 N291906

Comments: The length of the wall remnant is 330’. It commences at the edge of the road; the original end, which would have continued up the hill slope for a way, appears to have been destroyed when the road was built. Up to 10’ high, and about 15’ across at the base, the wall peters out at a plantation; at the same place is evidence of W.W.11 activities in the form of a truck tyre, and spent munitions in a shallow hollow; the latter probably a buried dump. A gap in the wall occurs about half way along, where a small rocky creek flows through. The cross section of the wall is interesting; the shallow sloping sides are an indication of disturbance from bush clearance and land use. Several unsuccessful attempts were made to find evidence of the wall further across the valley. Eventually, during another survey on the west side of the valley, the other end of the stonework was found.

There is no doubt that this feature is a defensive structure belonging to the prehistoric past, probably to a period when fortifications were being built. Based on the dates from one of these, Tatagamatau near Leone, this could have been between 600 and 900 years ago (Best et al. 1989).

Evaluation: This remnant of the wall is a striking reminder of Samoa’s past, and being easily accessible to the public every effort should be made to preserve it. Two possible alternative routes were suggested in the interim report, that of taking the line out past the end of the wall, or by using the gap where the creek cuts through. Of neither of these are acceptable then data recovery and reconstruction should be carried out. The data recovery would involve an excavation where the pipe line went through the wall, in an attempt to recover suitable material for dating it’s construction.

Recommendation: No Adverse Effect with conditions; avoid or recover data and reconstruct.
Figure 8. Site AS-31-59 The remains of the stone wall on the east side of Malaeimi Valley
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<th>Grid Ref.</th>
<th>Local Ref</th>
<th>Reccomendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS-31-47</td>
<td>Stone mound</td>
<td>E243535 N286354</td>
<td>40' east of 3M6-3</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>AS-31-48</td>
<td>Stone mound</td>
<td>E243669 N286401</td>
<td>200' n-east of 3M6-3</td>
<td>No Adverse Effect: avoid/ recover data</td>
</tr>
<tr>
<td>AS-31-49</td>
<td>Stone mound</td>
<td>E242157 N285354</td>
<td>120' east of P1-9</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>AS-31-50</td>
<td>Stone mound</td>
<td>E242630 N284346</td>
<td>120' s-west of P-7</td>
<td>No Effect</td>
</tr>
<tr>
<td>AS-31-51</td>
<td>Stone mound</td>
<td>E244961 N287882</td>
<td>200' s-west of 7A4-2</td>
<td>No Effect</td>
</tr>
<tr>
<td>AS-31-52</td>
<td>WWII road</td>
<td>E244661 N287811</td>
<td>150' s-west of 7A4-3</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>AS-31-53</td>
<td>House mound</td>
<td>E243882 N285433</td>
<td>20' north of 2M-4</td>
<td>No Adverse Effect: avoid/ recover data</td>
</tr>
<tr>
<td>AS-31-54</td>
<td>Stone mound</td>
<td>E244000 N285394</td>
<td>40' south of 2M-3</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>AS-31-55</td>
<td>House mound</td>
<td>E242998 N288000</td>
<td>65' n-west of 2M7-2</td>
<td>No Adverse Effect: avoid/ recover data</td>
</tr>
<tr>
<td>AS-31-56</td>
<td>Stone mound</td>
<td>E242748 N285732</td>
<td>80' n-west of 2M-8</td>
<td>No Adverse Effect: avoid/ recover data</td>
</tr>
<tr>
<td>AS-31-57</td>
<td>Stone mound</td>
<td>E244094 N286961</td>
<td>120' east of 11M-1</td>
<td>No Adverse Effect; avoid/ recover data</td>
</tr>
<tr>
<td>AS-31-58</td>
<td>Stone mound</td>
<td>E244094 N289772</td>
<td>c100' at 60 degrees from large fig tree</td>
<td>No Adverse Effect: avoid/ recover data</td>
</tr>
<tr>
<td>AS-31-59</td>
<td>Stone wall</td>
<td>E240125 N291906</td>
<td>440' north of L-6</td>
<td>No Adverse Effect: avoid/ recover data &amp; reconstruct</td>
</tr>
</tbody>
</table>

Table 1. Site list, Tafuna plain survey
Plate 3. Site AS-31-48 showing the quarried side.

Plate 4. Site AS-31-56 A low stone mound in overgrown plantation.
Plate 5. Site AS-31-52 The foundations for a WWII taxiway, now Procurement Road.

Plate 6. Site AS-31-58 The edge of a built-out stone mound or terrace.
Plate 7. Site AS-31-59
The Malaeimi Valley wall, highest section, at Station H

Plate 8. Site AS-31-59
The Malaeimi Valley wall. Start of wall on east side of valley
The Tafuna plain-Malaeimi valley survey located 13 sites within or close to the 30' survey strip on either side of the proposed sewer line. Nine of these were stone mounds or terraces, the same type of structure that had been recorded in the two previous surveys.

These sites have been given 3 main classifications, one with two sub-categories.

<table>
<thead>
<tr>
<th>Classification</th>
<th>No of Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No effect</td>
<td>2</td>
</tr>
<tr>
<td>2. No adverse effect</td>
<td>4</td>
</tr>
<tr>
<td>3. No adverse effect with conditions</td>
<td></td>
</tr>
<tr>
<td>a. avoid or recover data</td>
<td>6</td>
</tr>
<tr>
<td>b. avoid or recover data and reconstruct</td>
<td>1</td>
</tr>
</tbody>
</table>

Classification 3 reduces the likelihood of unexpected archaeological finds occurring at a stage when they could hold up the project, by giving the Constructor the option of either keeping clear of the site, or having it excavated by an archaeologist.

All sites that are to be avoided should be marked in some way during the project, to minimize the risk of unintentional damage. Their position should also be made known to all members of the construction crew.

Archaeological sites on the Tafuna plain have been damaged and destroyed to a greater extent than any other area in American Samoa, due to the rapid growth experienced there. The same process is starting to gather momentum in other places as the population increases.

The archaeological information available for the Tafuna plain, despite the non-intensive aspect of the surveys, shows that it was an area supporting widespread prehistoric activities. It is important that the few remaining examples of such sites in the district, even if already altered to some degree, are given due care when construction projects are carried out in their vicinity.
References.


