

**AN ARCHAEOLOGICAL INSPECTION AND UPDATE OF THE  
PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES ON  
MOTUOPAO ISLAND,  
TE PAKI**



*View from the end of the lighthouse settlement tramway, looking east towards the second crane gantry constructed sometime after 1902 [LH2]*

Prepared for  
**Department of Conservation**  
**Northland Conservancy**  
**Kaitia Area Office**

By  
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November 2006

## **Synopsis**

While present on the island for other archaeological purposes, a number of archaeological sites on Motuopao were revisited and the New Zealand Archaeological (NZAA) site records updated.

## **Proposal**

The Department of Conservation (DoC) has made commitment to update all the New Zealand Archaeological Association (NZAA) site information on DoC estate by the year 2010. During the scheduled down time associated with carrying out an archaeological assessment of a proposed emergency hut on Motuopao Island, the author was commissioned by the DoC Kaitia Area Office to use any spare time to record new sites and re-record previously recorded sites on the island including notes on threats and condition (see Appendix 1 for details).

## **Site Information**

Motuopao Island is located 200m off the tip of Cape Maria Van Diemen in the Far North, and is a nature reserve managed by the Department of Conservation (Figure 1). It covers an area of 29ha and has a distinctive topology of a hill at both the northern and southern ends of the island, connected by a sand saddle. Vegetation is a mix of remnant buffalo grass, a drought tolerant pasture grass introduced during the lighthouse period and a small range of regenerating native plants of which flax dominates. Today both the hills have a continuous vegetation cover but the saddle between them have many areas of exposed sand due to decades of grazing, wind erosion and occasional wave deluges.

Archaeological values previously recorded on the island include a small range of shell midden, hangi and cultural stone features associated with Maori occupation in the prehistoric period. However the majority of the archaeological values visible on the ground are associated with the European lighthouse settlement.

Following the realisation in the 1870's that New Zealand needed a network of lighthouses to protect shipping from natural hazards, Motuopao was chosen as the site best suited as the location of a light to protect shipping using the dangerous waters at the northern tip of the country. A lighthouse settlement was established in the early 1880s and continued up to 1941 when the light mechanism was moved to a better location at Cape Reinga. In its 60 years of operation a wide variety of structures were built over the whole island, including houses for the three families; a derrick, tramway and winch system to bring supplies brought by sea up to the light; a flying fox cable car connection to the mainland for supplies brought by land; a weather station and telegraph link to the mainland; and a concrete foundation laid at the northern and highest end of the island, on which was built a wooden lighthouse structure that supported the light mechanism.

Today the island has no human inhabitants and access is by permit only due to a range of rare and endangered species of plants and animals present.



Figure 1. Location of Motuopao Island at Te Pahi in the Far North

### Archaeological background

Wynne Spring-Rice recorded a total of nine archaeological sites on the island in 1984. Seven of these (M2/172-178) were of pre-European Maori origin and included a find spot, a stone heap, midden and four hangis. The remaining two sites are both of the lighthouse settlement but are from different time periods. Site M02/179 is based on the structures visible in a series of photographs by Henry Winkelmann taken in 1902 while the M02/180 is based on aerial photograph 1035/1,2 flown in 1947.

### Method

The inspection and upgrade of the recorded sites will involve visual inspections, site drawings where appropriate, taking a digital photographic record and producing accurate GPS points using the hand held Garmin 60CSx. Following the field work

- the NZAA site record forms will be updated.
- a copy of the complete photographic digital records taken will be produced for the department.
- a report summarising the work will be produced for the department.

### Fieldwork

Following the completion of the archaeological investigation of the emergency hut site, Historic Ranger Alan Macrae and I revisited the nine recorded sites on the island to update the records. A hand held Garmin GPS was used to make accurate grid references and in addition a digital photographic record was made.

All the prehistoric archaeological sites (M02/162-168), and many of the historic sites associated with the historic lighthouse settlement (M02/179 & 180) were inspected

and the records updated. However due to the limited time available between finishing the hut assessment and the return of the helicopter, the field inspection was limited to only the central and northern parts of the island.

### Prehistoric Maori Archaeological Sites

Seven archaeological sites of pre-European Maori origin were recorded on Motuopao in 1984. Of these four were located and updated, one was destroyed, one was not located and one was excluded because it was a find spot only. The updated records will shortly be entered into the NZAA site recording scheme. A summary of this information is set out in table one below. Also a selection of photos taken of these sites during this visit is set out in plates on the following page.

Table 1

<i>[P?]</i>	<i>Symbol on map</i>	<i>Field label</i>	<i>Corrected label</i>	<i>Condition</i>	<i>Easting</i>	<i>Northing</i>	<i>Height</i>	<i>Threats</i>
<b>1</b>	Flag, Blue	M2-172A	M02-172 midden (a)	Intact	2477879	6747750	15.3 m	Dune erosion
	Flag, Blue	M2-172B	M02-172 midden (b)		2477854	6747803	13.6 m	Dune erosion
	Flag, Blue	M2-172C	M02-172 midden (c)		2477845	6747777	18.9 m	Dune erosion
	Flag, Blue	M2-172D	M02-172 midden (d)		2477877	6747791	11.7 m	Dune erosion
<b>2</b>	Flag, Blue	M2-1063	M02-173 hangi stones	Not located				
<b>3</b>	Flag, Blue	M2-1064	M02-174 find spot	Excluded				
<b>4</b>	Flag, Blue	M2-175	M02-175 midden	Intact	2477854	6747845	17.9 m	Dune erosion
<b>5</b>	Flag, Blue	M2-1066B	M02-176 hangi	Destroyed	2477676	6748029	63.6 m	Dune erosion
<b>6</b>	Flag, Blue	M2-1066A	M02-177 hangi	Intact	2477727	6748034	61.4 m	Dune erosion
<b>7</b>	Flag, Blue	M2-1067	M02-178 hangi	Intact	2477716	6748029	61.4 m	Dune erosion





Plate 1: Relocated midden site M02-172 [P1] and stone heap site M02-175 [P4]

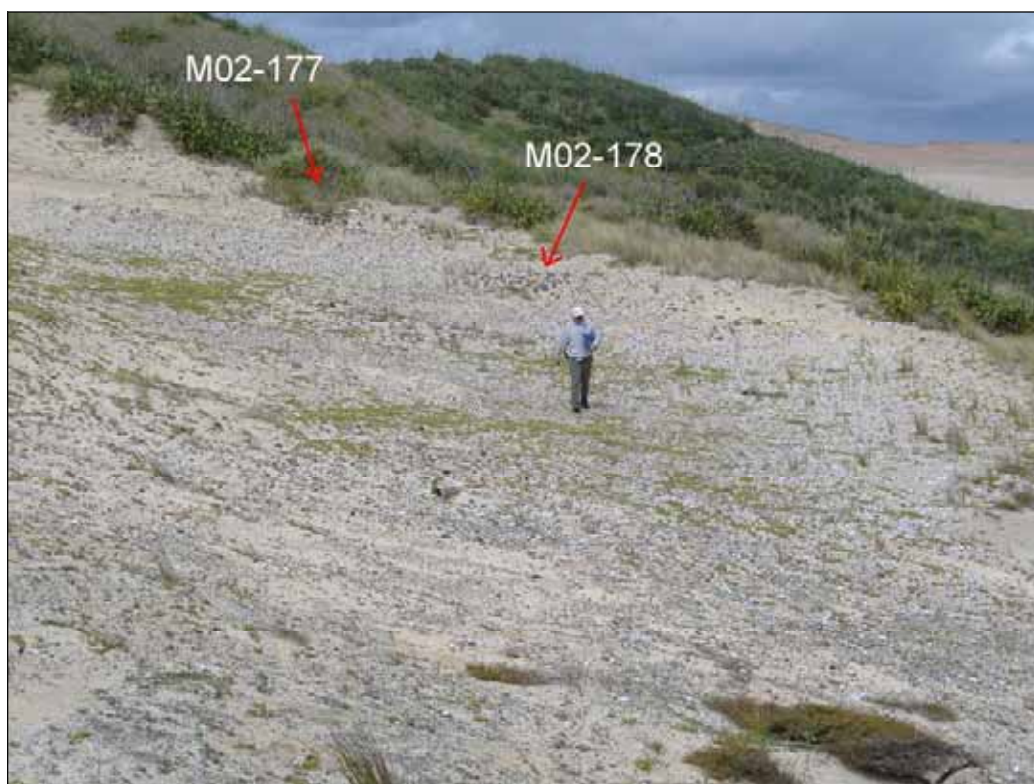


Plate 2: From hangi site M02-176 [P5] destroyed by erosion, looking east to the intact hangi sites M02-177 [P6] and M02-178 [P7].

### **Motuopao Lighthouse Settlement**

The lighthouse settlement era on Motuopao lasted over 60 years. Some structures remained in use throughout this period, such as the light tower and the 1<sup>st</sup> light keepers house (Figure 2), while others like the 2<sup>nd</sup> and 3<sup>rd</sup> keepers houses, the gantry and the route of the tramway changed their use, or were rebuilt often in new locations, or demolished. Since it was not feasible to record these ongoing changes, Spring-Rice chose instead to divide the settlement into an initial phase in record M02-179 and a late phase M02-180.

The first site record (M02-179) is based on a series of photos taken by Henry Winkelmann in 1902, and was used by Spring-Rice to create a “snap-shot” of the structures present at that date. It is assumed that this view is representative of the initial phase of lighthouse settlement at the end of the first 20 years of operation.

The second site record (M02-180) is based in part on personal recollections of Hedley Budd, who was present on the island in the late 1930s, and also an aerial photograph taken in 1947. Although this photo was taken 7 years after the light mechanism and its keepers moved to the new settlement 10km north at Cape Reinga, it still showed the Motuopao lighthouse settlement structures as they were in its final phase of operation in 1940. This was due to delays in its planned demolition caused by WWII (Plate 3).

### **Inspection of the Lighthouse Settlement**

Due to time constraints only structures located on the central and northern end of the island were visited (figure 3). Many of the structures and artefacts found cannot be confidently allocated to a particular time in the settlements operation.

What follows then is figure 3 (parts A-C) that shows where these features are on the ground, and then table 3 which sets out the grid reference, description and condition of these features. The end of this report contains a representative selection of the archival photographs taken (Plates 3 -7)

### **Conclusion**

The seven small prehistoric archaeological sites have all been upgraded and had their condition and potential threats assessed and a good start has been made on identifying the numerous features noted in the two historic lighthouse site records. However due to the time constraints a number of features associated with the lighthouse settlement are still to be visited and assessed. In particular the southern third of the island was not visited at all.

### **Recommendations**

- A number of structures on the southern half of the island (including the late phase 2<sup>nd</sup> and 3<sup>rd</sup> Light-keepers houses and the 1882 aerial tramway) will need to be revisited and have their information upgraded during the 2007 weed trip to Motuopao.

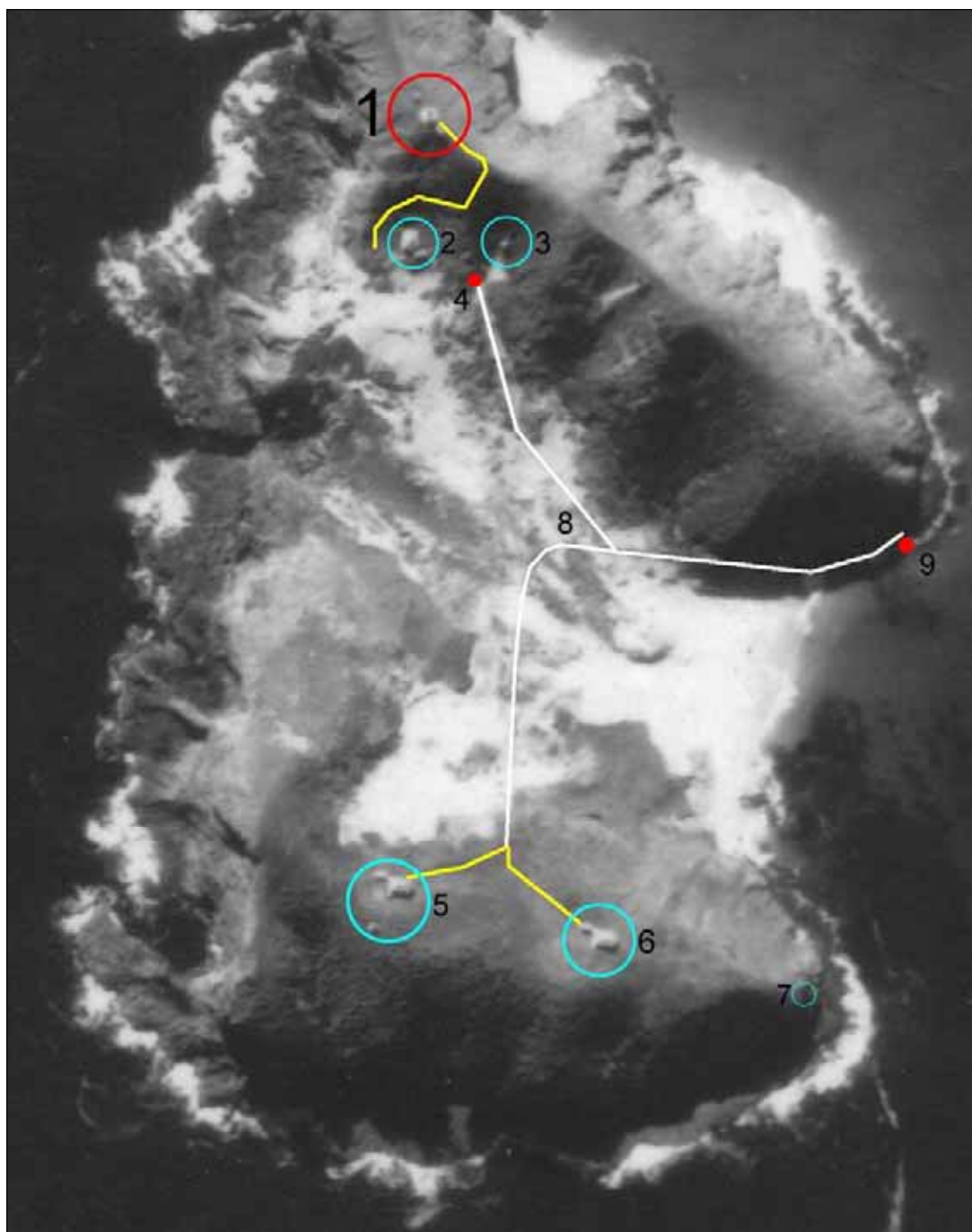


Plate 3: 1947 aerial photo showing the last phase of the Motuopao Lighthouse Settlement that ended in 1940.

- |  |  |                             |
|--|--|-----------------------------|
| 1. Light tower                         | 2. 1 <sup>st</sup> Light keepers house                 | 3. Library & Kerosene store |
| 4. Winch head for tramway              | 5. 2 <sup>nd</sup> Light keepers house and radio shack |                             |
| 6. 3 <sup>rd</sup> Light keepers house | 7. Winch for aerial rope/cable way                     |                             |
| 8. Tramway                             | 9. second gantry crane                                 |                             |

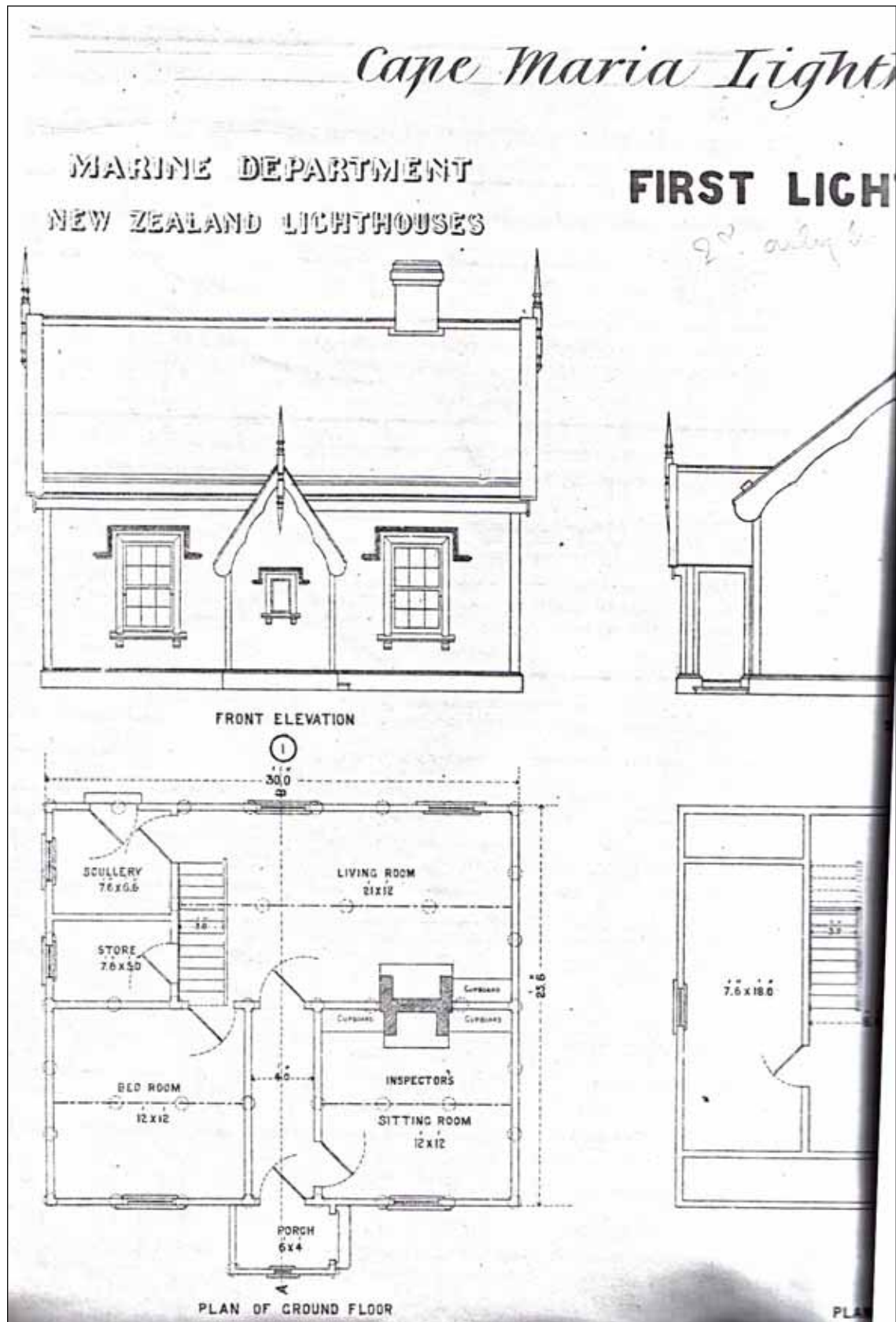


Figure 2: Design MD 45 for original 1880s 1<sup>st</sup> Light Keepers house (see No 2 on Previous page Plate 3)



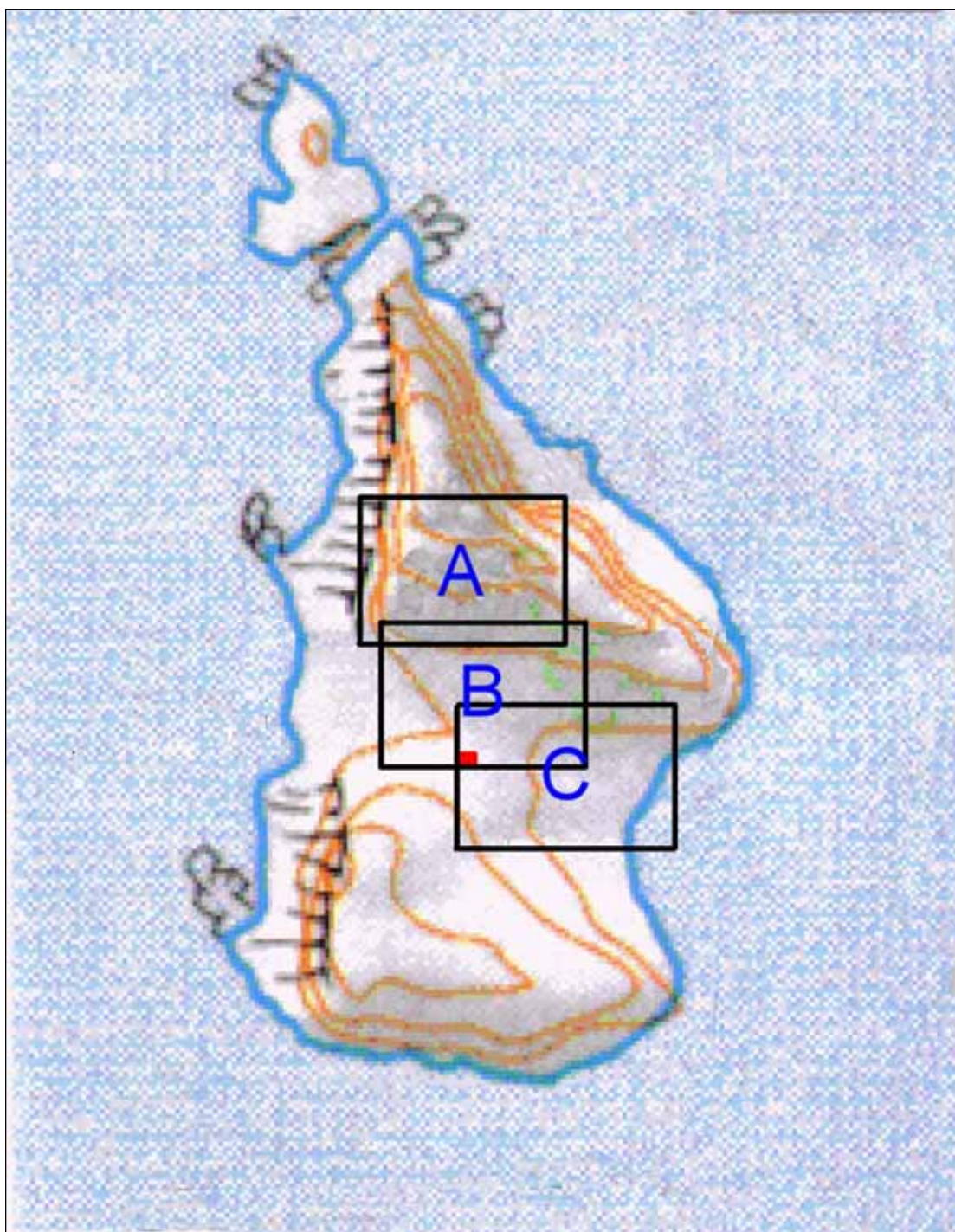


Figure 3: Location plan for the three sheets of GPS data (Figure 3A-C) that plots the features described in the text and tables of this report.

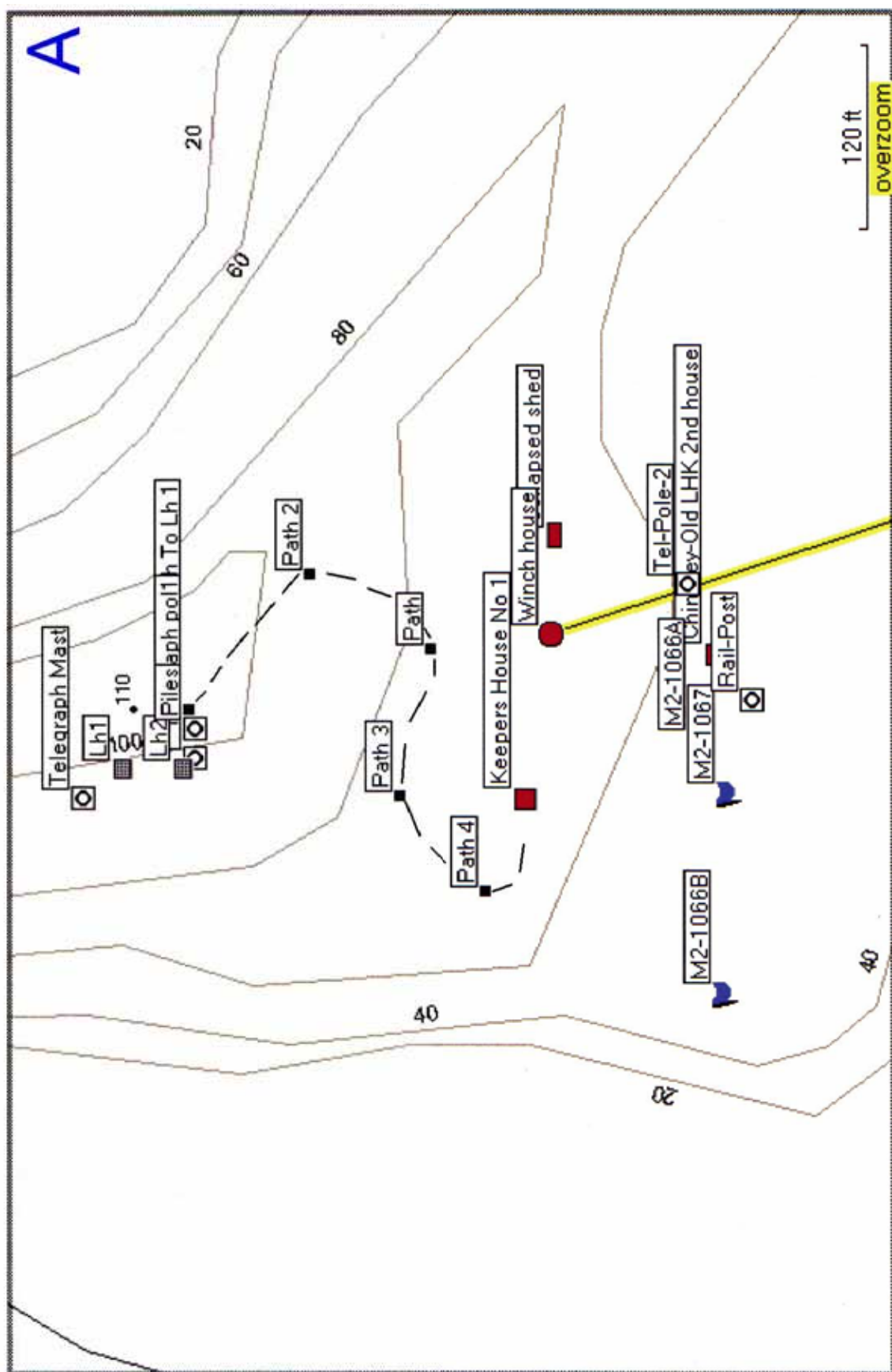


Figure 3 (part A): GPS points described in text and tables and shown in photographs

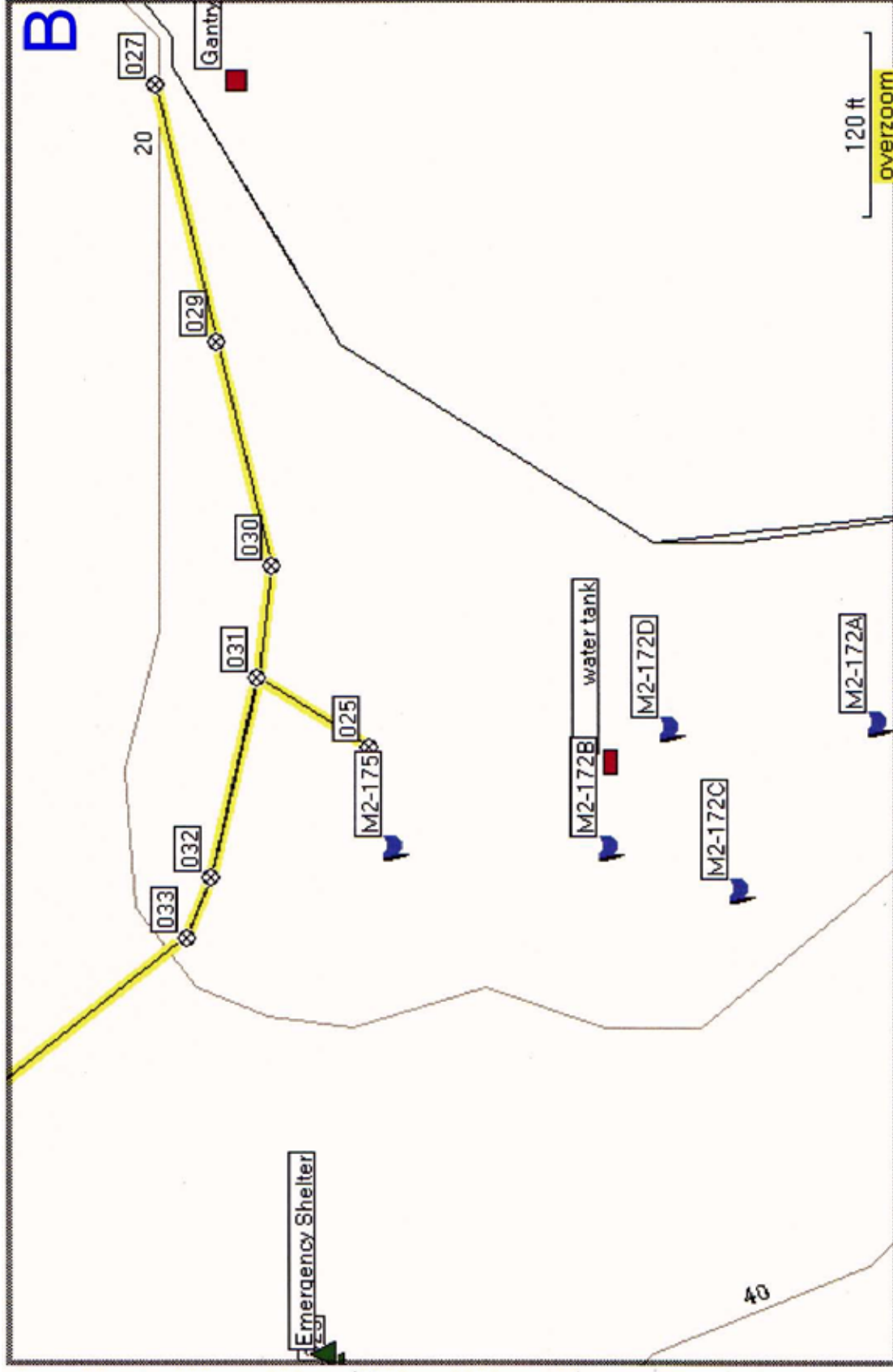


Figure 3 (part B): GPS points described in text and tables and shown in photographs



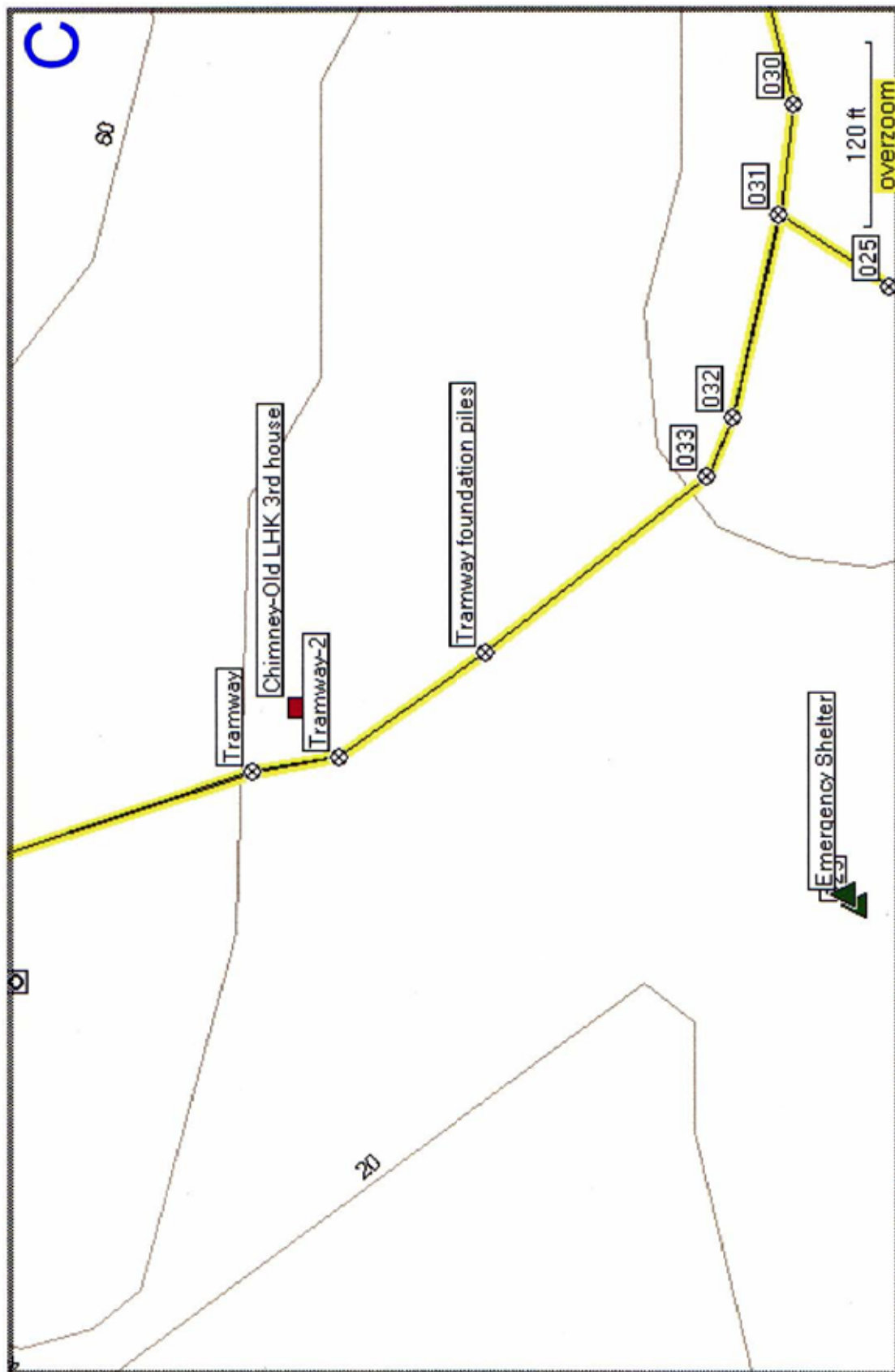


Figure 3 (part C): GPS points described in text and tables and shown in photographs



Table 3

[LH ?]	Symbol on map	Field label	Corrected label	M02- 179 feature	M02- 180 feature	Condition	Threats	Recorded	Easting	Northing	Height
	Building	Lh2	Lighthouse tower Sth side	●		Intact	Decay	11/11/06	2477721	6748137	110 m
1	Building	Lh1	Lighthouse tower Nth side	●		Intact	Decay	11/11/06	2477721	6748149	111 m
2	Circle, Red	Gantry	Tramway crane		●	Intact	Concrete spooling	11/11/06	2478007	6747877	9.02 m
3	Circle with X	27	Tramway line		●	Ruin	Erosion	11/11/06	2478006	6747893	14.1 m
4	Circle with X	29	Tramway line		●	Ruin	Erosion	11/11/06	2477955	6747881	23.0 m
5	Circle with X	30	Tramway line	●	●	Ruin	Erosion	11/11/06	2477910	6747870	25.4 m
6	Circle with X	31	Tramway line	●	●	Ruin	Erosion	11/11/06	2477888	6747873	23.7 m
7	Circle with X	Tramway-2	Tramway line	●	●	Ruin	Erosion	11/11/06	2477780	6747960	43.1 m
8	Circle with X	Tramway foundation piles	Tramway line	●	●	Ruin	Erosion	11/11/06	2477801	6747931	36.4 m
9	Circle with X	Tramway	Tramway line	●	●	Ruin	Erosion	11/11/06	2477777	6747977	48.9 m
10	Circle with X	33	Tramway line	●	●	Ruin	Erosion	11/11/06	2477836	6747887	20.3 m
11	Circle with X	25	Tramway line	●	●	Ruin	Rust	11/11/06	2477874	6747851	17.2 m
12	Circle with X	32	Tramway line	●	●	Ruin	Erosion	11/11/06	2477848	6747882	21.3 m
13	Circle, Red	Winch house	Tramway winch	●	●	Cutting only	Stable	11/11/06	2477748	6748064	77.5 m
14	Controlled Area	Piles	Work shop		●	Foundations only	Decay	11/11/06	2477729	6748135	109 m
15	Controlled Area	Telegraph Mast	Telegraph & signal hut		●	Foundations only	Decay	11/11/06	2477715	6748157	110 m

16	Controlled Area	Rail-Post	Telegraph & signal hut		●	Intact	Decay	11/11/06	2477735	6748024	66.2 m
17	Controlled Area	Telegraph poll	Telegraph & signal hut		●	Intact	Decay	11/11/06	2477723	6748135	111 m
18	Controlled Area	Mast Anchor	Telegraph & signal hut		●	Footing	Decay	11/11/06	2477711	6748174	112 m
19	Controlled Area	Te1-Pole-2	Telegraph & signal hut		●	Intact	Decay	11/11/06	2477758	6748037	70.8 m
20	Rectangle, Red	Collapsed shed	Library & kerosene store		●	Collapsed	Decay	11/11/06	2477768	6748063	70.1 m
21	Rectangle, Red	Water tank	Unknown provenance			Intact	Rust	11/11/06	2477871	6747803	14.5 m
22	Square, Red	Chimney-Old LHK 2nd house	Building	●		Remnant	Vegetation	11/11/06	2477744	6748031	63.3 m
23	Square, Red	Chimney-Old LHK 3rd house	2nd Keepers house (old)	●		Remnant	Vegetation	11/11/06	2477790	6747968	46.0 m
24	Square, Red	Keepers House No 1	1st Keepers house (always)	●	●	Remnant	Vegetation	11/11/06	2477715	6748069	75.8 m
25	Triangle, Green	Emergency Shelter	DoC hut			N/A	N/A	11/11/06	2477753	6747860	25.4 m
26	Triangle, Green	23	DoC hut			N/A	N/A	11/11/06	2477751	6747858	16.7 m
27	Waypoint	Path To Lh 1	Path from 1st house to light	●	●	Intact	Stable	11/11/06	2477733	6748136	109 m
28	Waypoint	Path	Path from 1st house to light	●	●	Intact	Stable	11/11/06	2477745	6748088	91.2 m
29	Waypoint	Path 2	Path from 1st house to light	●	●	Intact	Stable	11/11/06	2477760	6748112	102 m
30	Waypoint	Path 3	Path from 1st house to light	●	●	Intact	Stable	11/11/06	2477716	6748094	83.5 m
31	Waypoint	Path 4	Path from 1st house to light	●	●	Intact	Stable	11/11/06	2477697	6748077	78.7 m



Plate 4: Square metal water tank looking towards the tramway gantry [LH21].



Plate 5: Looking north to the light tower [LH1] from the zigzag path [LH29].



Plate 6: At the lighthouse looking west from the storehouse pile foundations [LH14] to the telegraph pole [LH1]





Plate 7: Looking south from the footing of the telegraph or weather mast [LH15] past the light tower [LH1], down the west coast to Scott Pt.

## References

- |             |      |  |
|-------------|------|--|
| Maingay, J  | 1986 | Initial Report on Northland Archaeology<br>Historic Places Trust 1985/13   |
| Robinson, J | 2000 | Actively Managed Historic Place – Motuopao Island<br>Unpublished internal document<br>Northland Conservancy<br>Department of Conservation  |
| -----       | 1984 | New Zealand Archaeological Association site records<br>M02/172-180   |
| -----       | 1947 | Aerial Photos Run 1035/1,2<br>New Zealand Aerial Mapping Ltd   |
| -----       | 1912 | Index Map of Mangonui County<br>Department of Conservation Northland Conservancy<br>historic records.  |
|             |      | ----- N/D  |
| -----       | 1877 | MD 45 Cape Maria Lighthouse Contract (Marine<br>Department plan 45)<br>Marine Department Archives<br>Auckland Regional Council Historic Section<br>1 of 8 – Oil Store<br>2 of 8 – First Light-Keepers House<br>3 of 8 – Second Light-Keepers House<br>4 of 8 – Third Light-Keepers House<br>5 of 8 – Dry Goods Store<br>6 of 8 – Privy and Coal Shed<br>7 of 8 – (Lighthouse blueprint for construction) |
|             | 1883 | MD 881 Cape Maria Lighthouse (Marine Department<br>Plan 881)<br>Marine Department Archives<br>Auckland Regional Council Historic Section<br>1 of 1 – Wire Rope Tramway Between Island and<br>Mainland  |

## Appendix 1

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Department of Conservation  
*Te Papa Atawhai*

### *Internal Correspondence*

**Date:** 11 September 2006

**Our Ref:**

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**Subject:** Motuapao Archaeological Advice

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#### **Background**

On Monday 21 August Alan Macrae from Kaitaia Area Office contacted me via email and asked me to provide New Zealand Archaeological Association Site Record Files (SRF) M02/172 - 180 for Motuapao Island. I faxed the SRFs to Alan on the afternoon of Friday 25 August and put hardcopies in the mail at the same time.

On Monday 28 August, Alan emailed me again providing more information as to his reasons for requesting the SRFs, namely the planned construction of an emergency shelter or hut on Motuapao Island. The approximate location of the proposed hut is shown on the attached map and the following description of the proposed works was provided:

“The hut is 3.6x3.6 meters and will require 16 or less pile holes to be dug (the sub floor framing plan has not been completed yet so I can only estimate the number of pile holes) Each hole will be approximately 500mm wide x 500mm deep with the excavated material being returned to the hole less the small amount displaced by a small precast concrete pad and the 125x125 pile.”

Alan asked for advice as to what was required for the project to move ahead in historic management terms.

#### **Advice**

After reviewing the SRFs for Motuapao and examining the file information my advice is that the Kaitaia Area Office undertakes an archaeological impact assessment of the proposed site and works. This undertaking is consistent with historic management requirements for previous similar remote/island and other projects e.g. the Motukawanui hut, Urupukapuka toilet, Poor Knights water tank etc. My reasoning is as follows:

1. The proposed works are on a small offshore island in the Far North, with previously recorded archaeological sites in the vicinity. Therefore there is a possibility that unrecorded archaeological sites may be in the area of the proposed works.
2. As well as recorded archaeological sites (e.g. as defined under the Historic Places Act 1993) there are other historic features (as defined by DOC policy) recorded in the vicinity. Therefore there is a possibility that unrecorded historic sites may be in the area of the proposed works

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3. The original site survey is more than twenty years old and was limited by time and existing vegetation cover. I do not judge the data contained within them as comprehensive enough to use for current planning purposes.
4. More and more, the Historic Places Trust is recommending precautionary authorities to modify/destroy sites where there is a high probability of encountering sites.
5. DOC activities in other Output Classes, such as the proposed hut project and ongoing e.g. biodiversity/habitat restoration programmes have the downstream potential to modify archaeological sites e.g. managed native bush succession and subsequent re-colonisation by burrowing seabirds modifies archaeological sites and is damaging to their value (although the 'greater good' is recognised). Nevertheless as the agents of change and more generally as managers of both natural and historic values we have a duty to mitigate our actions by way of properly inventorying and investigating historic heritage resources.

I therefore recommend that:

1. The Kaitia Area Office undertakes an archaeological impact assessment of the proposed hut site.
2. That if possible (e.g. the work was programmed as part of a multi-day trip accompanying island weeders etc), this opportunity be used to record new sites and re-record old sites on the island including notes on threats and condition. This inventory and monitoring work is part of DOC's general historic heritage responsibilities and is also part of fulfilling DOC's commitment to upgrade SRF information as part of the NZAA Upgrade Project, by 2010. Any monitoring and/or treatment of historic structures under Active Management might be undertaken at the same time, as required.

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