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S.S. *Dicky* Archaeological Management Planning Documentation

Heritage Impact Assessment

FINAL DRAFT

S.S. *Dicky*
26° 41' 51.37", 153° 08' 21.65" (WGS 84)
Dicky Beach
Caloundra
NSW

February 2015

EXECUTIVE SUMMARY

This document is a draft Heritage Impact Assessment, which will support an application by the Sunshine Coast Council to remove and preserve key heritage elements of the wreck of the S.S. *Dicky* at Dicky Beach, Caloundra, as well as reduce safety risks posed by the wreck by removing hazardous elements. As the wreck is protected under the *Queensland Heritage Act 1992* a permit is required to interfere with the site.

The iron hulled cargo steamer was wrecked in 1893 during a cyclone with no loss of life. A number of attempts to re-float the vessel came to nought and the wreck of the S.S. *Dicky* has become a familiar landmark in the Caloundra area. As would be expected for a shipwreck located in the intertidal area of a surf beach, it has gradually broken down over the last 121 years. The wreck has reached a point where the bulk of the remains are often buried. Concerns have been expressed that the barely buried remains of frames and other wreckage pose a health threat to the public and that the heritage significance of the S.S. *Dicky* is being eroded by sand and sea. It because of these concerns that the Sunshine Coast Council is seeking to preserve key heritage elements and remove hazardous elements of the wreck.

To be awarded a permit it will need to be demonstrated that mitigation proportionate to the wreck's cultural heritage significance will able to be implemented. Therefore a Conservation Management Plan and an Interpretation Plan are required as part of the permit application. Before these plans can be prepared the details of how the wreck is to be disturbed, the standard of archaeological recording, conservation and display of wreck materials will need to be defined. The impact – the disturbance of the site – and the proposed mitigation will need to be measured against the site's assessed cultural heritage significance to determine whether the impact and mitigation is acceptable.

There are a variety of ways in which all or sections of the wreck of the S.S. *Dicky* can be recorded, moved, conserved and interpreted. Such methods, or options, needed to be examined for their impact to the heritage values of the site as well as for their feasibility in terms of cost, safety and engineering practicalities. The options examined are presented in Section 5 and Annexes E to H. Sunshine Coast Council considered these options, which individually dealt with engineering, archaeology, conservation and interpretation aspects, to select one combined approach in order to complete the Heritage Impact Assessment.

The resultant combination of options has been called the 'Cut and No Cover' approach. It seeks to minimise disturbance to the wreck of the S.S. *Dicky* while reducing the risk the wreck poses to public safety.

The impacts to the wreck entail the removal of upper portions of the wreck while the majority of the wreck remains buried *in situ* beneath natural beach sand deposits. This option includes the provision for the ongoing removal of loose wreckage as it becomes exposed in the future. It also includes reinforcing of the bow stanchion to remain as a wreck marker *in situ* as well as assessment of future options to replace this stanchion with another wreck marker if the stanchion were to become insufficient for this purpose.

The impacts to the wreck site will be mitigated by archaeological recording/monitoring, the conservation and/or storage of material recovered from the site and the creation of an outdoor display within line of sight to the wreck site. These mitigation measures are detailed in the accompanying Conservation Management Plan and the Interpretation Plan.

6 PROPOSED WORKS

The proposed works will seek to minimise disturbance to the wreck of the S.S. *Dicky* while reducing the risks posed by the wreck to public safety. Impacts to the wreck site will be offset by archaeological recording and the creation of an outdoor display nearby.

This approach is referred to as the 'Cut and No Cover' option entailing the removal of upper portions of the wreck for conservation, storage and outdoor display while the majority of the wreck remains buried *in situ* beneath natural beach sand deposits. This option includes the provision for the ongoing removal of loose wreckage as it becomes exposed in the future. It also includes reinforcing of the bow stanchion to remain as a wreck marker *in situ* as well as assessment of future options to replace this stanchion with another wreck marker if the stanchion were to become insufficient for this purpose.

What follows in this section is a summary of the key elements of the proposed impacts and mitigation, details of which are provided in the Conservation Management Plan and the Interpretation Plan. A heritage impact assessment will be made in relation to the proposed impacts and then re-assessed based on the suggested mitigation measures to minimise identified impacts.

6.1 Outline of Proposed Works

6.1.1 Proposed Impact

Detail on the particulars of each impact will be presented in the Conservation Management Plan, however some key points regarding the impacts are as follows:

- Removal of loose wreck debris from around the wreck;
- Removal of frames and hull sections above the turn of the bilge and/or where the floor frames end (see Figure 17 and Figure 43);
- Removal of the remnant stern assembly (Figure 44 and Figure 45);
- Reinforcement of the remaining upright stanchion close to the bow, and;
- On-going removal of loose wreckage as it becomes exposed.

The rationale for the removal of the loose debris and remnant upright frames is so as to reduce the risk to public safety. It is believed that, as the wreck continues to deteriorate and become less visible in what is considered the normal beach profile, users of the beach may not be aware that there is a wreck present and injure themselves on wreckage buried just below the beach surface.

The proposed impacts do not fully remove risk of injury as the basal part of the wreck will remain in place. However, it is believed that the risk and type of injury would be restricted as only the relatively flat and broad surfaces of the wreck will remain. It is also expected that larger sections will become visible as the wreck is periodically exposed, rather than random barely protruding spikes, thereby showing it as an obvious hazard.

It may not be possible to satisfactorily remove the upright frames on the port side at mid-ships (see Figure 17). This is because these frames are below the LAT and attempting to remove them in near zero water visibility may damage/destabilise the remainder of the wreck and could pose a risk to those undertaking the removal if the cutting is to be done manually. The risk of injury, however, posed by the remaining frames on the port side would be mitigated because the remaining expanse of the starboard side of the wreck would become exposed first, thereby warning passers-by that there is a hazard present. Furthermore, at such times when the remaining wreck is exposed temporary, signage can alert the public as to the potential hazards of walking around the wreck.

Figure 43. Example of where frames are to be cut down to on starboard side. *The stubs in the foreground are the tips of the floors, the frames having been removed by recent storm surges.* (Cosmos Archaeology, 28 April, 2014)

Figure 44. Indicative cut for the removal of the stern assembly. *View from the starboard side.* (Cosmos Archaeology, 19 December, 2014)

Figure 45. Indicative cut for the removal of the stern assembly. *View from inside the wreck.* (Cosmos Archaeology, 19 December, 2014)

The removal of the stern assembly does not entirely conform to the rationale of the dangers posed by the mostly buried remains as it is the most conspicuous feature of the wreck and is never buried. However, the stern assembly is unstable and wobbles when pushed with minimal force. This has led to the re-evaluation of the long term stability of the feature it is considered that the collapse of the stern assembly will very likely occur within the next decade. To pre-empt its collapse, it was thought best for the stability of the wreck to remove it in a controlled manner. Cutting will take place at a location at the stern which will not de-stabilise the stern area of the wreck.

The proposal to remove loose wreckage extends to when such objects are exposed after a storm. Such removals could occur years after the main effort of cutting away frames has taken place. It is intended that this process be a permissible condition of the permit being currently sought.

The proposed stabilisation of the stanchion close to the bow is so that it can remain as a visible wreck marker for as long as possible. It is in effect to replace the stern assembly as the conspicuous feature of the wreck in normal beach profile situations.

6.1.2 Proposed Archaeological Mitigation

Detail on the particulars of proposed archaeological mitigation will be presented in the Conservation Management Plan, however some key measures are as follows:

- An archaeologist be present to locate and record any loose wreck material to be recovered;
- Recording in this context means photography, tagging of object with unique identification, recording its position and orientation and detailed description of the object after it has been removed;
- Recording of intact frames/hull plates and stern assembly prior to removal;
- Recording in this context means photography, tagging of object with unique identification, relating its position and orientation onto a site plan, photogrammetry and detailed description of the object after it has been removed;
- Monitoring the removal of wreckage, both those sections to be cut away and loose wreckage, including wreckage exposed after storms;
- Preparation of an artefact collection policy which would provide guidance on what should be conserved, buried or discarded; and,
- Establishment of a monitoring protocol when the wreck becomes exposed after storm events.

The archaeological works proposed have the objectives of creating a record of the wreck and wreckage prior to any disturbance, ensuring the proposed impacts are within the scope of the permit, as well as having archaeologists on hand to provide guidance on the conduct of the works, which includes the opportunistic recovery of material exposed after storms in the years to come.

6.1.3 Proposed Conservation Mitigation

Detail on the particulars of proposed conservation measures will be presented in the Conservation Management Plan, however some key approaches are as follows:

- Examination of the suitability of anodic protection for the in-situ wreck;
- Treatment of recovered objects for outdoor display – this may include de-concretion, grinding, re-shaping and/or stabilisation;
- Treatment of the vessel's propeller currently covered in fibreglass and on display in a car park nearby;
- Treatment of recovered objects for above ground storage as part of a type collection; and,
- Appropriate methods of burial or discard for artefacts.

The proposed conservation treatments for the wreck and associated artefacts are confined to what is to be recovered from the wreck site as part of these works, those artefacts currently held at the SSC depot and the propeller on display at a nearby car park.

The treatments will range from burial to conserving for either outdoor display or storage. The proportion of what will be treated, buried or discarded cannot be stated at present as this depends mostly on what material is recovered from the wreck site and what will be used in

the outdoor display. The creation of the artefact collection policy will also provide some guidance. The artefact collection policy will outline the requirements for the retention of select artefacts – more precisely, components of the wreck – to be accessible for research and teaching purposes. Such artefacts would need to be conserved in a manner for them to remain stable and would also need to be stored in a suitable environment.

The examination of the suitability of installing anodes on the wreck site is in response to leaving the wreck *in situ*. Such a measure may prolong the structural integrity of the wreck at a relatively inexpensive investment.

6.1.4 Proposed Interpretation Plan

The proposed interpretation of the site will focus on the installation of an outdoor interpretative display on the grassed area between the Dicky Beach car park and the beach (Figure 46). This location was chosen by the SCC as it is close to and maintains a line of sight to the wreck.

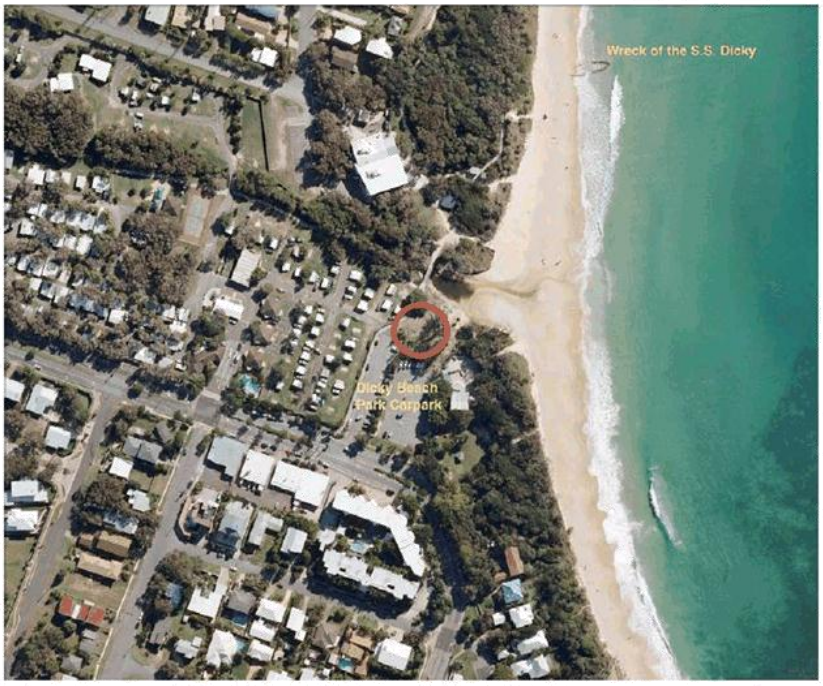

Figure 46. Proposed location for the outdoor display of S.S* Dicky *within the red circle.
(Basemap source: Google Earth)

The objective of the outdoor interpretative display is to provide an above ground representation of the wreck in effect replacing what has been gradually disappearing over recent decades, a process which will be accelerated by the proposed works. The outdoor display will utilise a range of materials including elements of the wreck. These elements could be those recovered from the wreck site as part of the proposed works, elements already held in storage at the SCC depot or and the propeller currently on display at the Dicky Beach Park car park. More detail on the display is provided in the Interpretation Plan.

The Interpretation Plan also provides detail on a travelling museum display on the S.S. *Dicky* and a substitute site marker to replace the bow stanchion should it collapse in the future.

8 CONCLUSION

This report has examined a wide variety of options relevant to the twin aims of this study – the reduction of risk to public safety that the wreck currently poses and the retention, if not enhancement, of the cultural heritage significance values of the wreck. The report found that an acceptable reduction of risk to public safety could be achieved by undertaking the following:

- Removal of loose wreck debris from around the wreck;
- Removal of frames and hull sections above the turn of the bilge and/or where the floor frames end;
- Removal of the remnant stern assembly;
- Reinforcement of the remaining upright stanchion close to the bow, and;
- On-going removal of loose wreckage as it becomes exposed.

These impacts were assessed to be acceptable on condition that the following mitigation measures are applied:

- An archaeologist be present to locate and record any loose wreck material to be recovered (Recording in this context means photography, tagging of object with unique identification, recording its position and orientation and detailed description of the object after it has been removed);
- Recording of intact frames/hull plates and stern assembly prior to removal (Recording in this context means photography, tagging of object with unique identification, relating its position and orientation onto a site plan, photogrammetry and detailed description of the object after it has been removed);
- Monitoring the removal of wreckage, both those sections to be cut away and loose wreckage, including wreckage exposed after storms in the years to come;
- Preparation of an artefact collection policy which would provide guidance on what should be conserved, buried or discarded;
- Establishment of a monitoring protocol when the wreck becomes exposed after storm events;
- Creation of an outdoor display in the grassed area of the Dicky Beach Park Carpark;
- Preparation of a travelling museum display on the S.S. *Dicky*;
- Examination of the suitability of anodic protection for the *in-situ* wreck;
- Treatment of recovered objects for outdoor display – this may include de-concretion, grinding, re-shaping and/or stabilisation;
- Treatment of the vessel's propeller currently covered in fibreglass and on display in a car park nearby;
- Treatment of recovered objects for above ground storage as part of a type collection; and.
- Appropriate methods of burial or discard for artefacts.

These proposed mitigation measures will be discussed in detail in the accompanying Conservation Management Plan and Interpretation Plan.