

Appendix 2

Development and conservation proposal

Introduction

In 2008 the Department of Infrastructure, Energy and Resources (DIER) based the early concept design for the Brighton Bypass around known constraints that included a number of historically known and more recently discovered Aboriginal sites. Route selection in the preceding decades had considered known sites with the expectation that impact on Aboriginal heritage values had been avoided.

Around 2008 Aboriginal Heritage Tasmania (AHT) had begun to apply a more scientific and rigorous approach to Aboriginal heritage assessments, which resulted in further more detailed investigation of the bypass alignment by archaeologists. After thorough investigations two main heritage themes became apparent; the first theme was one of low Aboriginal sensitivity across the majority of the Brighton Bypass alignment and the second theme was one of very high sensitivity focused on a levee deposit located west of the Jordan River.

It has now been established that the Brighton Bypass intersects the Jordan River levee site for a short section of the 500 metre long levee feature. DIER has responded by reviewing and amending the Brighton Bypass design at the Jordan River with the intention that permanent physical impact of the Jordan River levee be avoided. This design proposal and associated maps show that DIER has achieved an outcome that enables the construction of the Brighton Bypass as well as the long term protection of the important levee site. Moreover, DIER suggests a number of conservation and interpretation measures for the Aboriginal community to consider.

The following discussion and description of the development and conservation proposal provides background to the assessment of this site, a description of the original proposal and details DIER's design response to the recently described heritage site.

Discussion

In response to the progression and eventual completion of the archaeological investigation at the Jordan River levee deposit and confirmation that the site is significant, DIER has responded by progressively adjusting the design of the Brighton Bypass in the area of the levee. Recent improvement in the design followed the alternatives considered and improvements made in the design of the Brighton Bypass prior to the completion of the investigation to reduce the impact on the levee site, such as the relocation of the temporary construction compound that was to be located near the levee deposit.

The design of the Jordan River crossing generally evolved through three generations to arrive at the current proposal. In consideration of the high value of the Jordan River levee and concerns of the Aboriginal community, DIER focussed on making improvements to the only practical and feasible alignment available for the Brighton Bypass (refer Appendix 3 for discussion on alternatives examined).

The concept or generation 1 design for the road was completed in 2008 when the extent of knowledge of the Jordan River area was that it contained a small number of surface artefacts. The significant heritage values were believed at that time to be north of Pontville in a site discovered earlier by Scotney.

During development of the preliminary design in 2009, heritage values were again reported to be at the northern end of the bypass where areas incorrectly recorded as Aboriginal quarries were located. The preliminary design generally reflected the concept design and was completed as the detailed archaeological investigation was in progress and prior to the cessation of the investigation in August 2009 due to concerns of the Aboriginal community and the withdrawal of AHO services.

A preliminary design proposal was subsequently presented to the Tasmanian Aboriginal Land and Sea Council (TALSC) prior to completion of the archaeological investigation in February 2010. This proposal involved the construction of the Jordan River crossing generally in accordance with the preliminary design and included the concealment of a section of the levee beneath an embankment and a 125 m multi-span bridge over the Jordan River. A representation of the concept design (similar to the initial proposal) is depicted in the photomontage in Figure 1 below.



Figure 1. Initial Jordan River Crossing design proposal (viewed from the south).

The design approach at that time was generally to reduce the permanent impact of temporary works to ensure areas outside the highway footprint were disturbed as little as possible. There was also reduction in the impact of permanent works and some additional offset measures. The proposal did, however, require a drain to be cut through the levee to drain the area behind the embankment. The proposal was not endorsed by the Aboriginal community.

As the archaeological investigation progressed and an indication of the possible heritage values of the levee became available, DIER commenced designing an alternative bridge with a long span that provided for no permanent physical disturbance of the levee. It was initially expected that this alternative might be required if completion of the investigations showed the levee to be significant.

This generation 2 design was discussed with Aboriginal community representatives in March 2010. The proposal was not endorsed by the Aboriginal community.

The archaeologist's interim report has now been provided following completion of the archaeological investigation. It details the outcomes of the investigation and includes extensive discussion and the findings of the artefact analysis completed to date. The final report will include management recommendations to be implemented following construction and is expected to integrate with reports of other recent investigations in the area.

When the full extent of the values associated with the Jordan River levee deposit were confirmed via the completion of the Optically Stimulated Luminescence (OSL) dating and completion of the archaeologist's interim report, further design changes were made to the Jordan River crossing to arrive at the generation 3 design presented in this document and associated permit application. A range of improvements have been made to the design and to further reduce temporary and permanent impacts on the heritage values of the levee and to address concerns raised by the Aboriginal community. Furthermore, a number of heritage conservation measures are also proposed.

It is hoped that the measures taken in the generation 3 design and presented in this proposal will be seen as the real and significant mitigation measures and design and construction concessions they are. Some of the proposed measures come at a high cost and are offered to provide a genuine way forward for preservation of the levee site while still permitting the construction of the Brighton Bypass. Indeed, it is hoped this proposal will see the area better preserved than if the Brighton Bypass project had never been conceived. In all likelihood, if the Brighton Bypass had not followed this alignment, the site would not have been discovered and the area may have been subjected to incremental development resulting in the permanent loss of very important heritage values. Attachment A includes a summary of the original proposal and associated plan for comparison with this proposal.

DIER has invested a significant amount of time and a large sum of money in the investigations on the Jordan River levee and elsewhere on the Brighton projects. A significant investment has also been made in the preparation of this thorough development and conservation proposal for the Jordan River crossing. The approach proposed was developed following full and proper consideration of the outcomes of the investigation and issues raised by the Aboriginal community and is supported by the archaeology. DIER considers its proposal to be an appropriate response to the concerns of the Aboriginal community.

The development proposal.

The proposal to construct a crossing at the Jordan River involves some permanent and temporary impacts within the Aboriginal heritage site TASI 10757 as recorded by Stone and Everett in 2008. The permanent impacts are confined to a small proportion of the floodplain outside of the levee deposit and are the subject of a Permit to Partially Destroy. Temporary impact or temporary concealment of other areas outside of the levee deposit is also included in the scope of the permit application.

Scope of Permit to Partially Destroy

A permit to partially destroy is being sought as opposed to a permit to destroy. The proposed permanent impact will only affect approximately 4% of the TASI 10757 site and is confined within the 20% of the site that is owned by DIER. Importantly, the term “destruction” in this permit application does not relate to the levee deposit, but the areas of TASI 10757 outside the levee deposit. The levee deposit as defined by Paton will remain intact.

In summary, permanent features in the proposal include the eastern abutments of twin bridges over William St and the adjacent South rail line, a fill embankment, the western abutments and 70 m long bridge spans and two sets of bridge piers and nominal 30m bridge spans over the Jordan River flood plain. Figure 2 shows an animation of the proposal at completion.

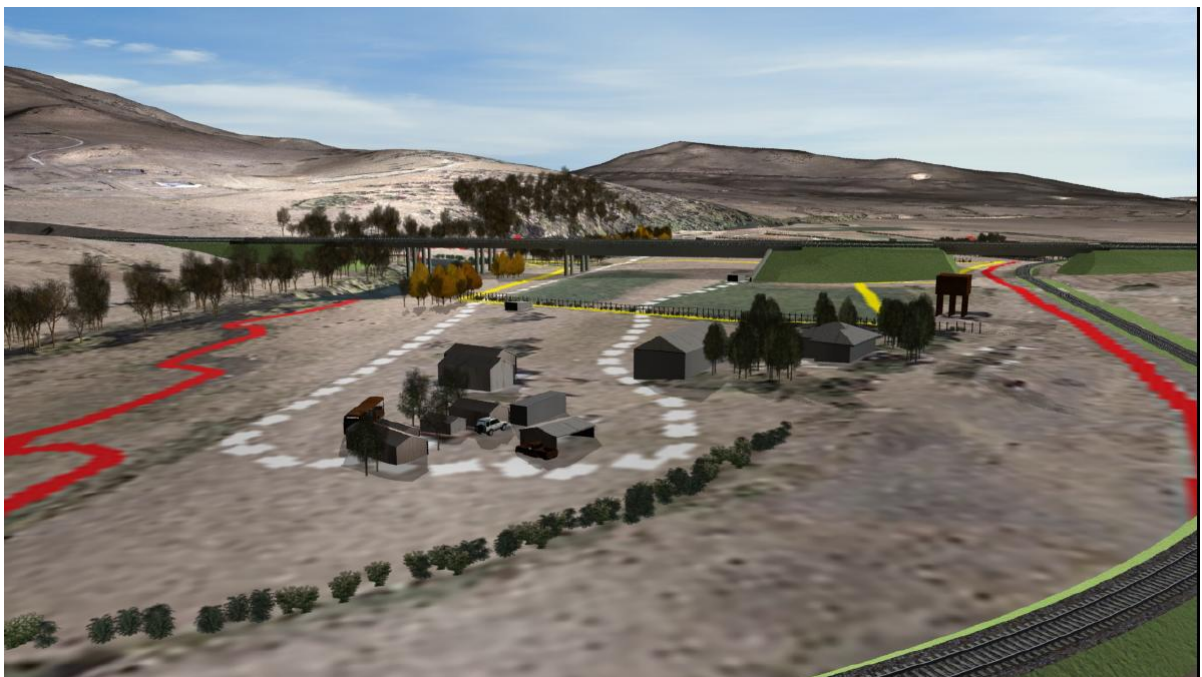


Figure 2. The proposed Jordan River Crossing looking south. The levee is defined by the white broken line.

The scope of the permit application is as follows:

- A bridge over the South Rail line and William Street (William Street Underpass Bridge) - including a bridge abutment within TASI 10757 as currently defined. Much of this bridge will be constructed outside TASI 10757 in an area that is highly disturbed and has previously been released by AHT for construction, but the eastern abutment (support) for the bridge will be located within TASI 10757, although no relics have been identified in this area (see Map 5 in Appendix 1). Construction of this bridge and associated reconstruction of William Street would entail disturbance of an area on the fringe of TASI 10757, some of which is already developed including road and rail infrastructure, services and agricultural land. Piles will be driven and some soil excavated. The area would be accessed by heavy construction equipment.
 - Reason: The William St Underpass Bridge requires a support at its eastern end.
 - Impact on heritage values: Investigations to date have not identified any artefacts in this area. Some artefacts are expected to be present in the floodplain but "...the artefacts in this instance simply document a presence or absence of material (Paton)" and are not related to the artefacts located in the ancient levee deposit. The artefacts are in a disturbed layer of soil that "will have been frequently waterlogged (Paton)" and are not expected to be stratified and would have less scientific value.
 - Justification: Paton has stated that these areas would have been wetter than the levee and, as shown by the investigation, to have low scientific value in comparison to the levee. This area is immediately adjacent to William Street and on the fringe of TASI 10757. Any soils that may contain cultural material would be retained for use on site.
 - Original proposal: These works are proposed to be completed substantially as initially proposed.
- Relocation of services – the construction of the abutment for the William Street Underpass requires the relocation of services that are currently located on DIER land into the William Street road reservation. The area proposed to be excavated is depicted on Map 5 in Appendix 1 .
 - Reason: The services are located in the position of the proposed abutment and must be relocated.
 - Impact on heritage values: Investigations to date have not identified any artefacts in this area. The investigation has established that some artefacts are expected to be present in the floodplain but the service relocation is proposed to occur on the fringe of TASI 10757 and with the William Street Road Reservation.
 - Justification: The services must be relocated to allow construction of the William Street Underpass Bridge. Any impact on heritage will be very limited.

- Original proposal: These works are proposed to be completed substantially as initially proposed.
- Relocation of services to neighbouring property – the construction of the Brighton Bypass has required the acquisition of part of a property to the south of the bypass. Water and electricity connections must be relocated to an area adjacent to William Street but within TASI 10757 but west of the levee. The area is on private property and is not believed to have been surveyed for Aboriginal heritage. A trench 700mm deep and nominally 300mm wide and approximately 15m long will be excavated, services installed and material replaced to backfill the trench. The impact on heritage is considered to be negligible as the area implicated is west of the levee, the volume of material to be removed is very small and excavated material will be returned to the excavation. Alternatives to the installation of these services have been investigated but were found to not be suitable. The new electricity cable is represented as a short broken orange line in Map 5a and the new water connection is shown as a short solid blue line in Map 5a. Both are represented by blue lines at the lower extent of the permanent impact areas in Map 5c.
- Excavation for embankment construction – the extent of the embankment between the William Street Underpass and Jordan River Bridge has been reduced in response to the concerns of the Aboriginal community but requires the removal of topsoil west of the levee and removal of soft and compressible sediments to reach competent material. The area proposed to be excavated is depicted in the green hatched area on the Map 5a in Appendix 1. Map 5c shows the area that will be permanently impacted by excavation or construction.
 - Reason: Leaving the topsoil and soft sediments in place would cause unacceptable movement of the embankment over time and a likely maintenance and traffic hazard, possibly requiring major rectification works in the future and temporary closure of the highway.
 - Impact on heritage values: The investigation has established that some artefacts are expected to be present in the floodplain but “...the artefacts in this instance simply document a presence or absence of material” (Paton) and are not related to the artefacts located in the ancient levee deposit. The artefacts are in a disturbed layer of soil that “will have been frequently waterlogged” (Paton) and are not expected to be stratified and would have less scientific value. This option will not affect the integrity of the levee deposit (as defined by Paton).
 - Justification: Paton has stated that these areas would have been wetter than the levee and, as shown by the investigation, to have low scientific value in comparison to the levee. Retaining all material in this area would result in an unacceptable project risk. This area will be permanently concealed in any case if it were not to be removed. Any soils that may contain cultural material could be retained for use on site.
 - Original proposal: it was originally proposed to construct an embankment between the William Street underpass and the Jordan River Bridge on sound material by

excavating a significant depth and extent of sediments (including the levee silts that contain Aboriginal artefacts) see Figure 1 above.

- Temporary Impacts - Construction of temporary pavement for construction access to TASI 10757. Pavement to be constructed on the existing topsoil with a geotextile layer installed to improve removal of road materials and improve reinstatement of the area. The proposed area of temporary pavement is indicated as the yellow hatch areas east and west of the levee depicted in Map 5d;
- Reinforced earth wall and piles – the western abutment of the long bridge span is proposed to include a vertical wall on the edge of the levee and steel piles to support the bridge superstructure. Due to the significant constraint of construction with beams of a maximum span of 70m, the wall is proposed to be immediately adjacent to the edge of the levee as defined by Paton. The wall is necessary to retain the material in the embankment to the west of the levee and prevent encroachment of that material onto the levee. Steel piles are proposed to be installed and concealed behind the wall. Structural fill will be placed behind the wall to construct a reinforced earth wall.

To construct the wall, some access by light equipment will be required on the levee (indicated on Map 5d in Appendix 1). This can be limited to personnel and light vehicle access, use of elevating work platforms (EWPs) and the possible erection of a scaffold on the surface of the edge of the levee. The levee would be protected using proprietary protective matting or a similar system over the existing surface with a width of approximately 3.5m.

Access for similar equipment would be required in the future for bridge maintenance activities such as inspections, repairs and painting. Access for emergency vehicles and personnel in the event of an accident or the need to retrieve items will be required. It is envisaged that an agreed form of temporary fencing would be erected to ensure access to the levee is controlled. It would be possible to constrain future, programmed maintenance activities to times of dry weather or for matting to be used under vehicles if access is required at other times.

Should excavation of soft material be required adjacent to the edge of the levee, sheet piles (a commonly used support system similar to vertical plates) could be installed to provide support to the levee in the areas adjacent to such excavation. Support would be restored on replacement of the soft soil with select fill.

- Reason: The 70 m bridge spans and adjacent shorter spans will require support. Piles are proposed to be driven to rock to support the heavy vertical loads. A vertical wall is proposed to retain the embankment and prevent encroachment of that material onto the levee. Some level of access will be required to the levee area in front of the wall for construction reasons.
- Justification: the wall and piles are required to allow the 70m bridge to span the levee deposit. The wall is thin compared to the length of the adjacent embankment and only light vehicles will access the 3.5 m temporary access strip on the levee.

- Impact on heritage values: There will be a minor permanent impact on any heritage values that may be present west of the levee for construction of the wall. No permanent impact will result from the temporary access strip.
 - Original proposal: The original proposal was for the construction of an embankment across the levee site with a bridge crossing the river and flood plain.
- Jordan River Bridge superstructure – In consideration of the age and significance of the levee site, the construction option now preferred by DIER in the third generation design is to not conceal the levee site with an embankment but leave it exposed and span it with single 70m long bridge spans as part of a longer Jordan River Bridge (or pair of bridges). Access for emergency vehicles and personnel in the event of an accident or the need to retrieve items will be required. Runoff from the surface of the bridge will be collected and piped to the western abutment or first pier east of the levee and released into overland flow via an energy dissipater to reduce the risk of erosion.
 - Reason: The bridge will limit the physical impact on TASI 10757 to its disturbed extents east and west of the levee, which have been found in the archaeological investigation to be of lower scientific value and to display limited presence of cultural material. The long bridge span will mark the presence of the site. Some level of access will be required for practical reasons.
 - Justification: the 70m bridge will span the levee deposit as defined by Paton to ensure no permanent physical impact of the important levee deposit.
 - Impact on heritage values: There will be no physical impact on heritage values contained in the levee deposit from the 70m bridge span. The bridge will be approximately 7 m above the levee.
 - Original proposal: The original proposal was for the construction of an embankment across the levee site with a bridge crossing the river and flood plain.

As described above, some level of future access will be required for maintenance of the long bridge span. It would be possible to constrain future, programmed maintenance activities to times of dry weather or for matting to be used under vehicles if access is required at other times.

- Re-use of topsoil – Any topsoil or sediments required to be removed from areas outside the levee in TASI 10757 for construction have potential to contain some artefacts and could be utilised on site so any artefacts contained within such soil remain at the site, although in a disturbed context. Such materials could be used in accordance with the wishes of the Aboriginal community. It is important to note that Paton has stated that the artefacts in this area are "...completely out of situ and in a plough zone".
- Bridge pier construction – two sets of bridge piers will be constructed east of the levee deposit (as mapped by Paton) within TASI 10757 in an area identified as the modern floodplain (see locations of piers on Maps 5a, b & c). The supporting piles would be driven without significant

excavation but boring of small holes to guide the piles into the bedrock below would be required. The pile caps adjacent to the levee (significant concrete elements) are proposed to be constructed on the ground surface (rather than underground) to minimise excavation and disturbance in this area. It is also proposed to rotate the adjacent pile caps to be parallel to the levee to increase clearance between the levee and the bridge. The second pair of pile caps closer to the river is proposed to be constructed underground in the normal fashion, which will require excavation (or benching) of the area around the pile cap to allow safe access for the construction of the pile cap.

Additional scour protection may be installed in the form of rock mattresses to minimise erosion in extreme flood events. The need or desire for this will be confirmed through consultation with the Aboriginal community.

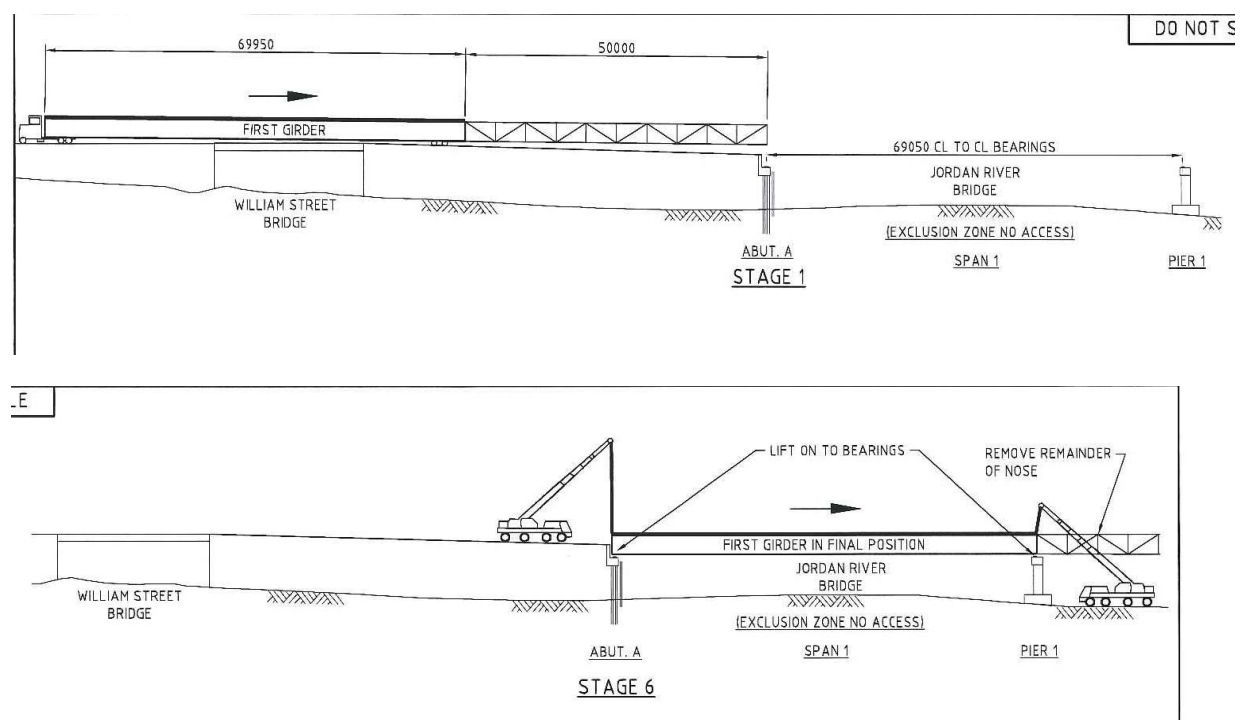
- Reason: The 70m bridge span requires support at each end.
 - Justification: As part of the archaeological investigation Paton established that this area east of the levee is a modern floodplain consisting of "...homogeneous black clay that is devoid of cultural material". He went on to state that the area has experienced "...massive and significant disturbance" and contains a modern rubbish dump.
 - Impact on heritage values: 'H' section piles are proposed as they will cause less ground disturbance (see plan).
 - Original proposal: the original proposal of large circular piles and a buried pile cap has been replaced to reduce disturbance. The original proposal was to construct a bridge with shorter spans and a longer embankment that would have concealed the levee.
- Drainage – A large culvert located at the base of the embankment west of the levee is proposed to allow drainage of the water that would otherwise accumulate in the depression at the back of the levee and would otherwise be retained by the road embankment. The culvert will eliminate the need to construct a drain through the levee as was proposed in the first generation design. The design of this item is yet to be completed but is expected to be generally in accordance with the Map 5a in Appendix 1.
 - Reason: Road surfaces must be drained for safety in wet conditions and runoff from roads and surrounding land is collected and directed into watercourses.
 - Justification: Drains are typically cut into existing surfaces to improve water holding, simplify construction and reduce the overall footprint. To eliminate a drain through the levee, a culvert is proposed to be constructed underneath the embankment and within the footprint of the embankment.
 - Impact on heritage values: Minimal additional impacts beyond that associated with soil removal for embankment construction.

- Original proposal: a drain approximately 1m deep was proposed to drain the area west of the levee and north of the highway. This drain would have reached a depth of approximately 2m through the levee with a total width of approximately 8m. Consideration was given to elevating the drain. Such a structure would reduce excavation but would be very wide and would not have captured all runoff from the area behind the levee. This drain has now been eliminated in favour of one behind the levee.
- Temporary Piles - Driving of temporary piles to support cranes will be required outside the defined extent of the levee in the areas east and west of the levee. Large cranes will be required to lift the long beams and other components into position. It is paramount that crane outriggers be well supported so rather than removing sediments from areas outside the levee, the driving of piles to support vertical loads may be required. These piles would likely be timber so they can remain in place rather than disturb the soil by attempting to remove them.
- Fill west of William Street – As the embankment east of William Street will now be much shorter than initially proposed, a surplus of material will now be produced in the excavation west of William Street that cannot be used within the road construction. This material may be placed on DIER owned land west of William Street. The area in question contains two artefacts identified by Stone and Everett in an area that was previously not implicated in construction. It is proposed that location and identification of the artefacts be attempted and, if they are of Aboriginal origin, that they be salvaged and provided to TALSC for curation.
- Vibration – Vibration will be caused during construction, particularly during compaction of the temporary pavements either side of the levee and compaction of the reinforced earth fill behind the western abutment. Local vibration will be created by driving of piles for the western abutment and pier one east of the levee. The sediments containing the levee deposit have been assessed geotechnically as not only being able to withstand such adjacent impacts but to withstand the construction of a pavement directly on the levee and the use of such a pavement by heavy construction equipment. Of course, such a pavement is no longer proposed to be constructed on the levee. During operation of the highway, traffic induced vibration will be absorbed by the mass of the bridge structure and any fluctuation in load carried by the supporting piers and piles to the bedrock below.
- Noise – Temporary noise will be created during construction by plant, vehicles and other activities. Post construction, noise will be generated by vehicles on the highway. Noise modelling was completed to quantify impacts for neighbouring properties post construction. Fundamentally, noise levels directly below the bridge are predicted to be very low as noise would be blocked by the structure. Some distance from the bridge, noise will become apparent but will generally reduce with distance from the highway. Road noise from the highway will be blocked by the concrete barriers on the bridge with a result that the maximum noise level in the vicinity of the bridge is predicted to be sufficiently low not to cause a nuisance and require noise mitigation should a residence have been located there.

Launching of the long bridge span

The construction methodology proposed is to launch (or push out) the bridge span without accessing the levee with cranes and heavy trucks, thus eliminating temporary impacts on the levee. The process to be employed justifies further explanation so the complexity DIER has volunteered to impose can be understood.

Launching a bridge is a complex process that will add a range of safety issues that will require careful management and will provide additional challenges. DIER understands this will be the first structure of its type to be constructed using a launching process in Australia. The process will also impose significant additional cost on the project in reinforcing other elements of the structure (such as the western abutment) and in fabricating many dedicated components including a long steel structure known as a launching nose. A representation of a launching is shown below.



Fabrication of beams – All bridge beams on the Brighton Bypass project (north and south) were proposed to be constructed efficiently, cost effectively and sustainably from concrete and mostly in Brighton. The longest span achievable using the facilities in Brighton (the only suitable facility in southern Tasmania) is 34 metres. Beams for the Jordan River Bridge must, therefore, be made of steel to make them light enough to span 70 metres. In this case, light means that each of the four main beams in the bridge will weigh over 180 tonnes. This is the same mass as eight fully laden dump trucks. These massive steel beams must be fabricated in Launceston so must then be transported to Brighton. As such a load cannot be transported by road, the beams must be manufactured and transported in sections.

Transport of beams – Beam sections will be transported from Launceston to Brighton at low speed and under escort with each vehicle having the mass of around four fully laden dump trucks. It is

expected that the beam sections may still be too long and heavy to travel on local roads so may need to be reversed 2 km along the highway from the southern section of the Brighton Bypass.

Assembly of beams – As the beams will arrive in sections, those sections must be removed from their transport, supported, precisely aligned and joined on site. Each welded splice must be precisely completed, inspected and tested over a number of weeks.

Launching of beams – Launching is a process of pushing out bridge superstructure elements in an elevated position over an obstacle (typically a ravine, sensitive waterway or operating infrastructure). To prevent heavy beams overbalancing and tipping (in this case onto the levee) a lighter weight launching nose structure is attached to the leading end of the beam to guide it into position. In the case of the Jordan River Bridge, the launching nose on the first beam to be launched would be around 45 metres long.

Once in the correct horizontal position, the first beam would be lowered into its correct vertical position with two large cranes positioned off the levee but within the extents of TASI 10757. Subsequent beams are proposed to be launched along a preceding beam then repositioned vertically and horizontally using two cranes as for the first beam.

There are a number of other considerations in using steel beams and launching including the long lead time to fabricate, transport, splice and erect the beams and the necessary changes to the construction program.

Summary of Proposed design

DIER has devised a detailed construction proposal incorporating all measures that could reasonably be devised to minimise the effect of the highway and its construction on the Jordan River levee and TASI 10757. Included in the proposal are a number of heritage offsets or the suggestion of possible offsets. Some elements are not defined and the cost of implementing some may exceed the value in doing them. Consultation with authorities and the Aboriginal community will be required to arrive at a reasonable final solution. The Proposed Design would incorporate the following main features, some of which are indicated on the drawing included as Map 5a, Appendix1.

- Long bridge span over the Jordan River levee (as defined by archaeologist Rob Paton). This funding of this proposal is yet to be confirmed by the Tasmanian and Australian Governments. Launching of a 70 m bridge span over the levee will result in no permanent physical impact on the levee;
- Construction of temporary pavement for construction access to TASI 10757. Pavement to be constructed on the existing topsoil with a geotextile layer installed to improve removal of road materials and improve reinstatement of the area. The proposed area of temporary pavement is indicated as the yellow hatch areas east and west of the levee depicted in Map 5d;

- Stripping of soils for embankment construction limited to soft and compressible materials west of the levee site;
- Driving of piles off the levee in lieu of localised removal and replacement of soils outside the levee for preparation of pads for safe operation of cranes;
- A new drain constructed along the rail line (outside TASI 10757) and a culvert under the embankment west of the levee in lieu of drainage requiring excavation of the levee;
- Any removed topsoil retained and used on embankment batters so any artefacts in soil adjacent to the levee can be incorporated into landscaping in the adjacent area; and
- Pile cap rotated to increase clearance to the levee and constructed on surface without significant excavation and possible provision of protective rock mattresses for additional protection. H piles used to minimise local disturbance of the levee.

Conservation proposal

1. Heritage Conservation Area – DIER purchased more land than required for the highway to provide sufficient space for a site compound or concrete pre-casting facility for the construction of the most significant bridge on the Brighton Bypass. These facilities have now been constructed in alternative locations, leaving the balance of the Crown land in this area undeveloped. As the levee heritage area has been shown to extend well north and south of the Brighton Bypass, it is proposed to provide a Heritage Conservation Area north of the bridge for access and management by the Aboriginal Community. This will extend to access beneath the bridge to the area on the southern side of the highway and will ensure an area that would otherwise have been at risk of development or other disturbance can be preserved. In the opinion of the project archaeologist, and based on the findings of the investigation, the entire levee area is likely to be of similar heritage value;
2. Investigate options to protect levee located on private land: Given the majority of the levee deposit is located on private land, DIER proposes to consult with the Aboriginal community, Aboriginal Heritage Tasmania and potentially private land holders on how best to ensure long term protection of the levee deposit. This would serve to control future development across the whole of the levee deposit;
3. Interpretation: As agreed with Michael Mansell on the 4th February 2010, DIER will fund interpretive signage, the content and location of which can be determined by the Aboriginal community. Further, the Aboriginal community could be given input into the design of artwork for the long span as it could provide two 70 m long canvases for the presentation of culturally sensitive designs and messages.
4. Cultural, Social and Historic report: DIER has agreed to fund the preparation of this report as agreed with Michael Mansell on behalf of the Aboriginal community. This report will be for the use of the Aboriginal community and in June 2010 research for the report was still underway;
5. Bridge naming: The bridge over the Jordan River can be given an Aboriginal name as suggested by Michael Mansell on 4th February 2010.
6. Part Funding of New TALSC position: DIER in partnership with DPIPWE is currently negotiating shared funding of a new position with the Tasmanian Aboriginal Land and Sea Council. It is envisaged that this role will help to support the development of AHOs and their roles.
7. Environmental remediation – To improve the environmental and natural qualities of the western bank of the Jordan River, DIER could provide funding for the planting of native species along the riverbank, boundaries and road embankment in an attempt to restore the area to a more natural appearance. This work could extend to partially screening the highway. The Aboriginal community would be involved in all aspects of the rehabilitation of this area to ensure work is completed in a sensitive manner to minimise disturbance to the levee site and permit future study. Some nearby land is owned by the Department of Primary Industries, Parks, Water and the Environment, which must also be involved in any such proposal; and

8. Further archaeological investigation – Further investigation of the heritage values at this site but outside the road footprint could be supported by DIER after construction. This work would provide heritage benefit as too often, the only areas that are investigated are those that will be destroyed through development. Such investigation could extend into other areas of Crown Land on the Jordan River. An extended surface Survey of the immediate Jordan River valley to determine other areas worthy of protection could be negotiated with the Aboriginal community, AHT, DPIPWE and Brighton Council.

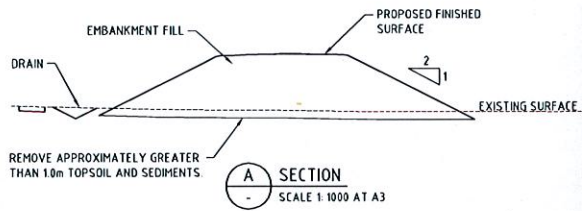
Attachment A

Summary of Original design

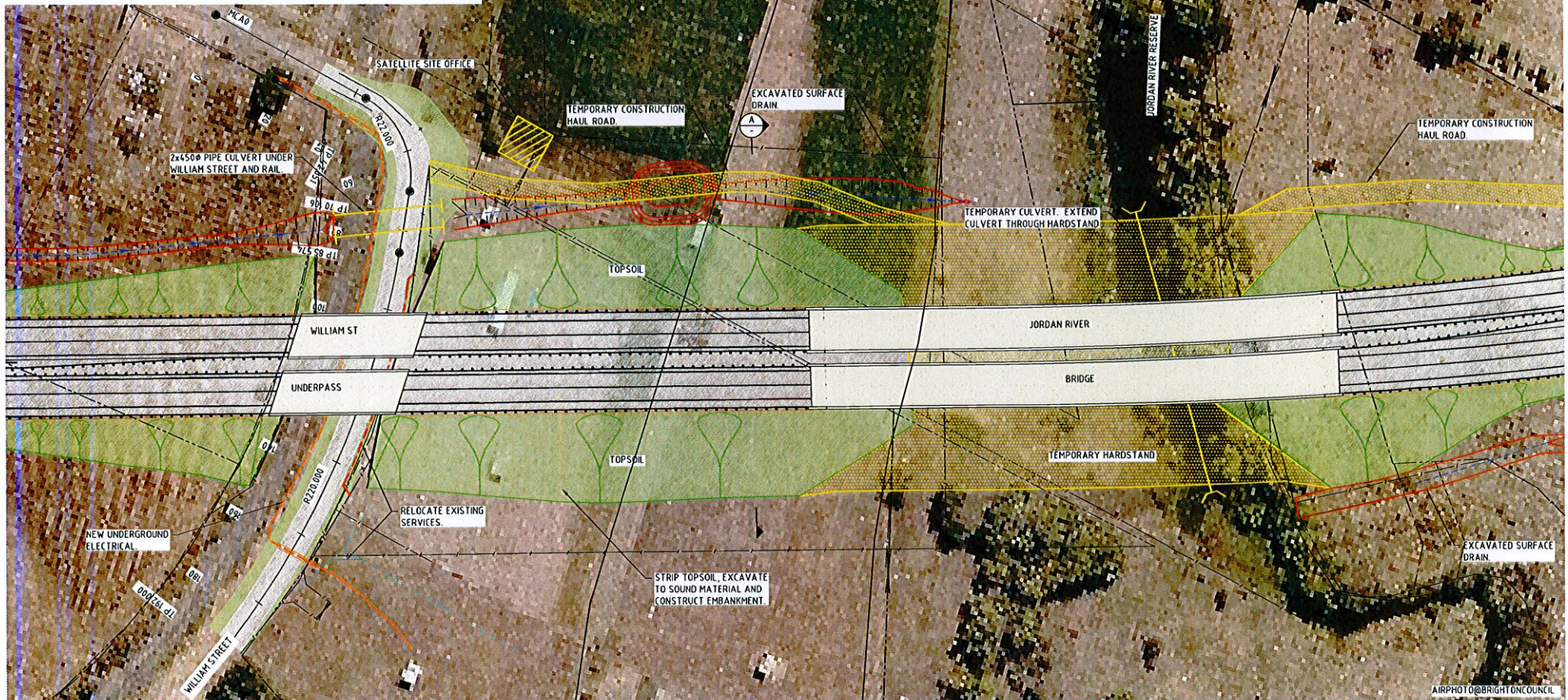
The proposed design is discussed above in some detail. For comparison, the original generation 1 design incorporated the following features as indicated on the attached Figure 005:

- Stripping of soil and construction of full hardstand area beneath bridge to permit free movement of construction vehicles;
- Stripping of up to 1.5m of sediments and construction of embankment between William Street and the Jordan River Bridge;
- Construction compound near the levee;
- Drainage excavated through levee;
- Balance land sold after construction;
- Some vegetation removed for construction;
- Excavation of toe of levee for construction of pile cap;
- Extensive paved access area on the levee to facilitate construction of the bridge over the levee; and
- Initial proposal for excavation for construction of the access area.

DO NOT SCALE



SUPERSEDED PROPOSAL



NOTE: THIS PLAN INDICATES CONCEPTS ONLY, DETAILS MAY VARY.

ORIGINAL DESIGN

DEPARTMENT OF INFRASTRUCTURE, ENERGY AND RESOURCES
 BRIGHTON BYPASS - NORTHERN SECTION
 WILLIAM STREET AND JORDAN RIVER SCHEMATIC
 FEB 2010
 FIGURE 005

FIG DATE: 11/MAR/2010 - 10:06 AM