

Cultural Heritage Assessment of Alignment Options for Bulla Bypass/Melbourne Airport Link planning study using Objective Based Evaluation Matrix (OBEM)

This document contains an assessment of how each of the alignment options being proposed for construction of the Bulla Bypass as well as the Melbourne Airport Link to the Outer Metropolitan Ring (MAL) complies with its project objectives regarding Aboriginal and non-Aboriginal/European cultural heritage. It addresses a total of five alignment options for the Bulla Bypass (BB1N, BB1S, BB2, BB3 and BB5) and the MAL alignment - each of which is discussed below.

VicRoads is using an OBEM to assess the performance of the proposed alignment options. Using 'project objectives' and 'sub-objectives' and their related 'assessment criteria' in relation to the cultural heritage assessment, the aim is to provide a rating for each of the options.

One project objective is "to minimise impacts on cultural heritage to the extent practicable," with sub-objectives being "impact on identified heritage sites", and "impact on areas of high archaeological potential". Here, these objectives are tested against each of the planned alignments, taking into account the presence, extent, nature and significance of identified archaeological sites. This allows for a rating to be applied to each of the assessed alignment options (Table 1).

Table 1: Scale for assessing the extent to which alignment options meet project objectives

Rating	Defined Values	Colour
Very Well	Best practice, strong level of compliance, major positive impact	Very Well
Well	Improved practice, good policy compliance, positive impact	Well
Moderately Well	Partial policy compliance, no distinct positive or negative impact	Moderately Well
Poor	Policy non-compliance and negative impact	Poor
Very Poor	Major policy non-compliance and major negative impact	Very Poor

Background and Assessment

A cultural heritage assessment has been commissioned by VicRoads as part of the planning to investigate the Bulla bypass and MAL. This assessment consists of a cultural heritage management plan (CHMP 11935) to investigate Aboriginal archaeology and a survey of historical-period archaeology (Heritage Victoria project number 4036), which have been undertaken by Dr Vincent Clark & Associates.

The investigations have included a ground survey (Standard Assessment, in November-December 2011) and an initial stage of test excavations (Complex Assessment, in November 2012-February 2013).

The Standard Assessment investigated an Activity Area that included the whole of the planned activity, which is an area of more than 560 hectares. A total of 49 previously unrecorded Aboriginal archaeological sites and five previously unrecorded historical-period archaeological sites were documented. Adding previously recorded sites, a total of 51 Aboriginal sites (on the Victorian Aboriginal Heritage Register [VAHR]) and ten historical-period sites (on the Victorian Heritage Inventory [VHI] and Hume City Council Heritage Overlay [HO]), were at that time situated within the Activity Area.

An assessment was prepared in April 2012 to consider the impact of the proposed road alignment options on identified cultural heritage, on the basis of the Standard Assessment results. This found that all of the Bulla Bypass alignments would affect recorded sites but that a concentration of cultural material and lack of disturbance meant the northernmost alignment (BB4) would have a particularly negative impact. Based on this information and other specialised assessments, VicRoads opted to discard the BB4 alignment. Subsequently, assessment was undertaken on the new BB5 alignment.

To enable a more informed assessment of the impact of the alignment options on Aboriginal cultural heritage, an initial stage of subsurface testing took place in November 2012 to February 2013. This forms the first stage of the complex assessment for the CHMP. The subsurface testing was conducted in the area between Wildwood/Somerton Road junction in the east and the roundabout on Sunbury Road in the west. The testing concentrated on the four alignment options BB1 North, BB1 South, BB2 and BB3. It is also relevant, in part, for the newly developed BB5 alignment.

The following report incorporates the results of subsurface testing to assess how each alignment agrees with the objective “to minimise impacts on cultural heritage to the extent practicable”.

Method for assessment of alignment options

The assessment of alignment options in relation to the cultural heritage objectives was carried out by incorporating shape files of the alignments into the GIS database which had been developed during the course of the cultural heritage assessment. The location of recorded sites was plotted onto each alignment and a list of sites that lie within each alignment was generated. Sites that are located in close proximity (within 20m) of each alignment were also listed. This information is presented in Table 2.

Since the assessment of alignment options in April 2012, new information has been gathered on the extent, nature and significance of sites which have been investigated using subsurface testing. This includes the re-definition of site boundaries and the recording of additional features and obtaining information such as radiocarbon dated samples. In addition, two new VAHR sites (Lochton 9 [7822-3585], an *in situ* deposit and Lochton 10 IA [7822-3586], a single artefact) have been recorded.

Assessment of alignment options in relation to cultural heritage objectives

Having documented the location of recorded sites in relation to the alignment options, considered the nature and significance of these sites and taken into account the effective coverage of the ground survey and the findings from subsurface testing (where this has occurred), an assessment was made of the impact of the different alignment options. The assessment for each alignment is given for the project objective and sub-objectives (Table 3).

It must be noted that this assessment is based on variable qualities of information; there has been no subsurface investigation in some sections of all alignments, so the findings from survey must be combined with predictions based on the excavations that have been undertaken along the remaining alignments. Where only survey has taken place, it should also be considered that the recording of cultural remains is strongly influenced by ground visibility, and that surface finds may not be reflective or representative of subsurface cultural remains.

Table 2: Alignment options showing affected archaeological/cultural heritage sites and places

Alignment	VAHR sites within alignment	VAHR sites near alignment (within 20m)	Historical-period sites within alignment
BB1 North	7822-3261, 7822-3278, 7822-3286	7822-3260, 7822-3581	[VHI] H7822-2308; -2307; [HO] HO276
BB1 South	7822-3279, 7822-3581, 7822-2106	7822-3278	[VHI] H7822-2308; -2307; [HO] HO276
BB2	7822-3262, 7822-3263, 7822-3584, 7822-3580, 7822-3581, 7822-3585, 7822-3586, 7822-2106	7822-3260	[VHI] H7822-2308; -2307; [HO] HO276
BB3	7822-3584, 7822-3580, 7822-3581, 7822-3585, 7822-3586, 7822-2106		[VHI] H7822-2308; -2307; [HO] HO276
BB5	7822-3261, 7822-3584, 7822-3580, 7822-3581, 7822-2106	7822-3260 7822-3268, 7822-3269	[VHI] H7822-2308
MAL	7822-0994, -3227, -3228, -3229, -3230, -3231, -3232, -3233, -3234, 3235, -3236, -3237, -3238, -3239, -3240, -3241	7822-3246, -3247, -3248	[HR] H1612; [VHI] H7822-0204; -2309; 2308; 2305; [HO] HO26; HO27; HO276

Table 3: Rating of alignment options in relation to cultural heritage project objective and sub-objectives

	BB1 N	BB1 S	BB2	BB3	BB5	MAL
Sub-objective 1 – impact on identified heritage sites	Poor	Poor	Poor	Poor	Poor	Poor
Sub-objective 2 – impact on areas of high archaeological potential	Moderately well	Poor	Very poor	Very poor	Moderately well	Moderately well
Project objective – to minimise impacts on cultural heritage to the extent practicable	Poor	Poor	Very poor	Very poor	Moderately well	Poor

- **BB1 South**

The 'BB1 South' alignment intersects with four Aboriginal sites (VAHR 7822-2106, -3278, 3279 and 7822-3581); it runs close to the newly-recorded Lochton 9 (7822-3585). Of the four VAHR sites, two (7822-3278 and -3279) have high or medium-high significance.

This alignment will affect three historical-period sites, two listed on the VHI (VHI 7822-2308, Oaklands Road Paving, and VHI 7822-2307, Wildwood Road Homestead site) and one included on the local government Heritage Overlay (Ponderosa House [HO276]).

This alignment has a poor (orange) rating in relation to the cultural heritage objectives because of its impact upon both Aboriginal and historical sites and places.

- **BB1 North**

The 'BB1 North' alignment intersects with three Aboriginal sites; two other Aboriginal sites are within 20m (VAHR 7822-3260, -3261, -3278, -3286 and -3581). Of these five sites, one (7822-3278) has high significance.

This alignment will affect three historical-period sites, two listed on the VHI (VHI 7822-2308, Oaklands Road Paving, and VHI 7822-2307, Wildwood Road Homestead site) and one included on the local government Heritage Overlay (Ponderosa House [HO276]).

This alignment has a poor (orange) rating in relation to the cultural heritage objectives because of its impact upon both Aboriginal and historical sites and places.

- **BB2**

The 'BB2' alignment intersects with seven Aboriginal sites (VAHR 7822-2106, -3262, -3263, -3584, -3585, -3586, -3580 and -3581); one other Aboriginal site is within 20m (7822-3260). Of the affected sites, three (7822-3584, -3585 and -3580) have high or medium-high significance.

This alignment will affect two historical-period sites, one listed on the VHI (VHI 7822-2308, Oaklands Road Paving) and one included on the local government Heritage Overlay (Ponderosa House [HO276]).

This alignment has a very poor (red) rating in relation to the cultural heritage objectives because of its impact upon both Aboriginal and historical sites and places.

- **BB3**

The 'BB3' alignment intersects with six Aboriginal sites (VAHR 7822-3584, -3585, -3586, -3580, -3581 and -2106). Of the affected sites, three (7822-3584, -3585, -3580) have high or medium high significance.

This alignment will affect two historical-period sites, one listed on the VHI (VHI 7822-2308, Oaklands Road Paving) and one included on the local government Heritage Overlay (Ponderosa House [HO276]).

This alignment has a very poor (red) rating in relation to the cultural heritage objectives because of its impact upon both Aboriginal and historical sites and places.

- **BB5**

The 'BB5' alignment intersects with five Aboriginal sites (VAHR 7822-3261, -3584, -3580, -3581 and -2106). Of the affected sites, two (7822-3584 and -3580) have high, or medium to high, significance. However, it is noted that only a small portion of the recorded area of 7822-3584, at its northern tip, will be harmed; the scarred tree that is a component of this site will not be affected.

This alignment will affect on historical-period site listed on the VHI (VHI 7822-2308, Oaklands Road Paving). The alignment runs along the edge of two other historical sites: VHI 7822-2307, Wildwood Road Homestead site and HO276, Ponderosa House.

This alignment has a moderately well (yellow) rating in relation to the cultural heritage objectives because of its impact upon Aboriginal sites and places is lower than that of other alignments, especially as it minimises harm to the ridgeline on which VAHR 7822-3584 and -3585 are situated.

- **MAL (Melbourne Airport Link)**

The 'MAL (Melbourne Airport Link)' alignment intersects with 16 Aboriginal sites and three other sites are within 20m (VAHR 7822-0994, -3227, -3228, -3229, -3230, -3231, -3232, -3233, -3234, -3235, -3236, -3237, -3238, -3239, -3240, -3241, -3246, -3247 and 3248). Among these is one (7822-3230) assessed to have high or medium-high significance. Subsurface testing along this alignment is likely to reveal that several of the single artefact instances consist of contiguous artefact deposits, whose significance might therefore increase.

The 'MAL' alignment intersects with nine historical sites, five on the VHI, three on the HO and one with a listing on the Heritage Register and HO: VHI 7822-0204 (St Mary's Church); VHI 7822-2309 (Campbell's Cottage); VHI 7822-2310 (Oaklands Road Cistern); VHI 7822-2308 (Oaklands Road Paving); VHI 7822-2305 (Oaklands Road Homestead); Woodlands Homestead (H1612 and HO25); Hume & Hovell Monument (HO26); Oaklands Road Bridge (HO27); and Ponderosa House (HO276).

This alignment has been rated as poor (orange) in relation to the cultural heritage objectives, mainly because of the high level of impact upon Aboriginal heritage places as well as historical-period sites.

The northern section of the 'MAL' alignment does not intersect with any identified Aboriginal or historical-period archaeological sites. During the survey, ground visibility/survey coverage was low along this alignment, so the lack of identified sites may be partly a reflection of the lack of ground surface visibility in this area during the Standard Assessment.

Conclusion of assessment

All of the proposed alignments will affect identified Aboriginal and historical-period cultural heritage. Moreover, all of the alignments being considered for the Bulla Bypass intersect with Aboriginal sites which are judged to have high or medium-high significance. As there has been no subsurface testing along the MAL alignment, it is hard to give an assessment of the extent, nature and significance of affected sites (which are only known about from surface survey). The subsurface testing gave more information on the significance and intactness of cultural deposits along the Bulla bypass alignments which provides a more informed opinion. This includes the following findings:

- (1) Sites located on the granitic spur east of Deep Creek (especially 7822-3268, -3584 and -3585) have moderate to high significance and intactness and should be avoided where possible;

- (2) Parts of the large site on the terrace immediately east of Deep Creek (Bulla 1 [VAHR 7822-3278]) feature deeply buried archaeological deposits which raise the significance of the site;
- (3) The southern half of the terrace to the west of Deep Creek includes an area of surface artefacts but has no subsurface deposits; the previously recorded sites have now been augmented into a single site (7822-3581) which has low or medium significance;
- (4) Artefact deposits on the northern half of the terrace to the west of Deep Creek include subsurface material; this whole area is now considered a single site (Bulla 3A [7822-3580]) which has medium-high significance.

Though all of the Bulla Bypass alignments have some impact on Aboriginal cultural heritage, the main area for concern is the impact on the immediate east side of Deep Creek, where cultural material is numerous and in often well-preserved contexts. It is important to not only consider the immediate impact of road construction but its impact on the landscape as a whole, which is relevant for considering the significance of areas of intensive Aboriginal occupation such as those found beside Deep Creek.

There are a number of factors which contribute to assessing the significance of Aboriginal places. These include the size and concentration of archaeological deposits, their intactness and preservation, the type of material culture present and the landscape context. The alignments that cross the spur to the east of Deep Creek (BB1 South, BB2 and BB3) perform poorly or very poorly against the project objective because they will cause an adverse impact not only the immediate area of identified sites, but also will affect the landform itself, the whole of which has been assessed to be an area of cultural heritage sensitivity.

Particular consideration is given to the scarred tree recorded at Lochton 7 (7822-3584), which raises the significance of this site, where artefact deposits have been dated to almost 9,000 BP. Wurundjeri has indicated that it will not agree to removal of a scarred tree. Although the cultural origin of the scar on the tree is uncertain, the overall impact of alignments BB2 and BB3 on the site itself, and on the spur which is the location of numerous other sites, cannot be minimised. Alignment BB5 addresses this by avoiding harm to the scarred tree and the cultural deposits present at 7822-3584 and avoids harm to 7822-3585 altogether.

The terrace to the east of Deep Creek, which is the location of the large site Bulla 1 (7822-3278), appears to have significant and deeply buried cultural deposits near to the creek, but it has also been affected by modern quarrying and farming activities, and the nature of the planned alignment means that impacts on this terrace may be minimised through the building design.

Therefore, it is concluded that:

- Alignments BB2 and BB3 would cause negative impacts upon the granitic spur east of Deep Creek, in particular on site VAHR 7822-3584, and their impacts cannot be minimised;
- Alignment BB1 South just intersects with the granitic spur and subsurface site VAHR 7822-3585;
- Alignment BB1 North avoids harm to the spur but will cause an impact upon the large and significant site VAHR 7822-3278, although this harm can be minimised by limiting it to the footprints of the bridge footings;
- Alignment BB5 best fulfils the objective “to minimise impacts on cultural heritage to the extent practicable” by avoiding or minimising harm to significant sites located along the granitic spur.

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12 November 2013