

Echuca-Moama Bridge EES Historic Heritage Impact Assessment

Report Prepared for VicRoads
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Executive Summary

VicRoads, in partnership with New South Wales Roads and Maritime Services (Roads and Maritime), is planning for a second Murray River crossing at Echuca Moama. The second crossing, known as the 'Echuca-Moama Bridge Project' (the Project) would:

- ease congestion on the existing bridge
- provide an alternate access for traffic between the two towns
- support road freight, including Higher Mass Limits vehicles (HML) and High Productivity Freight Vehicles (HPFV).

On 14 June 2013, the (Victorian) Minister for Planning determined that an Environment Effects Statement (EES) would be required to assess the Project's potential environmental effects within Victoria. As the Project extends into NSW, a Review of Environmental Factors (REF) would be required to assess impacts within New South Wales. This impact assessment has been prepared to inform the EES and REF.

This EES considers three (3) alignment options within Victoria comprising roads and bridges that provide an alternate access over the Murray River and Campaspe River between Echuca and Moama. The three alignments considered as part of this EES are identified as the:

- Mid-West Option;
- Mid-West 2A Option; and
- Mid-West 2B Option.

Of these three alignments, the Mid-West Option was determined to be the better performing option when considering a balance between environmental, social and economic considerations and was selected for detailed risk and impact assessment. The Mid-West Option uses existing road reserves for part of its length, has the least impact on biodiversity and habitat values, cultural heritage values and satisfies the Project objectives. This report considers the historic heritage impacts of the Mid-West Option and supports its selection as the preferred alignment.

The location of the preferred alignment is shown in Map 1a. The study area for the project is the town of Echuca in Victoria and the town of Moama in NSW (see Map 1b).

The Right of Way (ROW) for the preferred alignment extends from the western end of Warren Street to Campaspe Esplanade, then northerly from Campaspe Esplanade to the Echuca Tennis Club, then north-east through Victoria Park to the west bank of the Murray River (see Map 1b). The Right-of-Way then runs from the east bank of the Murray River in NSW to join with Meninya Street and the Cobb Highway in Moama (see Map 1b).

A desktop assessment compiled for this study (see Section 3), indicated that there were no historically documented buildings or structures within the preferred alignment. However, the section of the preferred alignment within Warren Street passes close to the Echuca Cemetery, which is of considerable historical and social value. The preferred alignment crosses the site of the former Echuca College which operated from c. 1912 but

was recently closed and demolished. Heritage Victoria has indicated that palm trees that were associated with the school and which are within the preferred alignment are of potential heritage significance.

The desktop assessment also found that at present there are no places listed in the Campaspe Heritage Overlay or the Shire of Murray LEP within the preferred alignment ROW. An Amendment to the Heritage Overlay (C101) is proposed by Campaspe Council. If adopted, it will extend the boundaries of the St Leonards Homestead (HO41) and the stand of Murray Pines (HO79), so that they are within the Preferred alignment alignment.

Amendment C101 was publicly exhibited for a period of 60 days from 29 January to 2 April 2015. VicRoads has lodged a submission to Planning Scheme Amendment (PSA) C101 and at the time of writing, the Campaspe Shire Council is considering all submissions.

Panel hearing dates have been set for:

- Directions hearing: Week commencing 15 June 2015.
- Panel hearing: Week commencing 13 July 2015.

A conservative approach has been taken and the implications of PSA C101 have been considered in this report.

The preferred alignment ROW also passes close to but outside the northern boundary of a property on Campaspe Esplanade which is listed as HO68. The locations of places near the preferred alignment and listed in the Campaspe Heritage Overlay are shown in Map 3.

The Echuca Cemetery is a highly significant place, but is north of Warren Street and outside the preferred alignment ROW. It is not listed on the Campaspe Heritage Overlay, although the gates to the cemetery are listed (HO43 and HO73). The cemetery will not be impacted by the Project.

An archaeological survey was carried out of most of the current Mid-West ROW originally carried out during 2008 and did not locate any historic archaeological sites. Archaeological surveys of alternative road options that were carried out during 2011, recorded two archaeological sites that were subsequently listed on the Victorian Heritage Inventory. These were the remains of a timber weir on the Campaspe River (H7825-0032) and a surface scatter of dark olive bottle glass and ceramics within a road reserve (H7825-0033). Neither of these sites are in the preferred alignment ROW. The location of the sites recorded during 2011 is shown in Map 4.

An extension to the preferred alignment ROW was surveyed on 3/9/2014. The extension was a small corridor or land to the south of Warren Street, that will be required to facilitate the construction of sedimentation ponds. The area surveyed during 2014 is shown in Map 5. No historic archaeological sites were located. Although ground visibility was poor, there had been considerable ground disturbance within the survey area and no indications from the desktop assessment that historic structures or buildings

would be found in the survey area. It is not considered likely that any undiscovered historic sites or places will be found.

The St Leonards homestead (HO 41) at 33 Crofton Street, was visually inspected from the road during the current survey. Access to this property was provided by a former landowner during the 2008 survey and a number of potential historic structures and historic vegetation near the ROW were noted at that time. Since 2008 the property has changed hands and all of the historic structures and most of the vegetation have been either substantially modified or removed. The visual inspection showed that there were now no historic structures within the alignment.

A visual inspection was also carried out from the road of the property on Campaspe Esplanade listed as HO68. The visual inspection indicated that while the ROW passes close to the northern boundary of the property, none of the area listed as HO68 identified as “..Dwelling 279-281 Campaspe Esplanade, Echuca” will be impacted. The Heritage Overlay protects the building and grounds up to the title boundary. The ROW is entirely outside the northern boundary of this property and since the ROW is outside the area protected by the Heritage Overlay, there will be no direct impacts on the Heritage Overlay, property or dwelling.

A detailed Historical Cultural Heritage Impact Assessment and mitigation measures are contained in Section 7.0 of the report. In summary, it was found that the Project poses little risk to historic cultural heritage and that mitigation measures can be put in place to easily manage any potential impacts. The principal impact of the project is on the stand of Murray Pines listed on the Shire of Campaspe Heritage Overlay as HO79. If Planning Scheme Amendment C101 is adopted, the Heritage Overlay will be extended to include the Murray Pines within the ROW. A recent survey by Brett Lane and Associates (2014) has identified 77 trees which are likely to pre-date European settlement. Of these trees, 13 will be impacted by the project. Brett Lane and Associates (2014) have also noted that there may be another 500 Murray Pines on the sand hill outside their survey area. The impact on heritage values caused by the removal of the pine trees is therefore considered to be minor.

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Glossary of Terms

Term	Definition
1 in 100 year flood	A flood which results from a storm which has a statistical probability of occurring once in every 100 years.
Access	The location by which vehicles and / or pedestrians enter and / or leave property adjacent to a road.
Afflux	A rise in upstream water level caused by introducing a constriction such as a bridge, into a stream, channel or floodplain.
Alignment Option	The location and geometric form of a carriageway in both the horizontal and vertical directions. For this impact assessment, the Alignment Option being assessed is the Mid-West Option.
Arterial Road	The nominated traffic routes (such as Murray Valley Highway or Cohuna-Echuca Road / Warren Street), for longer distance travel and larger vehicles.
At grade intersection	An intersection where all roads cross at the same level usually controlled by traffic signals or Stop or Give Way signs.
Attenuation	The reduction in the magnitude of sound pressure level during transmission over a distance or around a barrier.
Axel load limit	Restrictions on how much load can be carried on an axel, single or dual tyres, and on the vehicle or vehicle combinations.
Australian Height Datum (AHD)	The Australian standard height datum for calculating levels.
B-double	A twin trailer articulated vehicle with the second trailer pivoting on the back of the first.
Batter	In road construction, an artificial uniform slope created on the sides of fills or cuts. The proposed batters for the Project have a slope of 2:1 (vertical to horizontal). A batter is also known as an embankment.
Benefit Cost Ratio (BCR)	The ratio of the discounted benefits over the life of a project to the discounted capital costs, or the project's discounted total agency costs.
Bored pile	A steel or reinforced concrete post that is inserted vertically into the ground by drilling, or formed in the ground in a pre-bored hole, to support a load.
Bridge	A bridge is a structure built to cross an obstacle in the road network. The Project comprises bridges across the Campaspe River, the Murray River and some bridging components over the Campaspe/Murray River floodplains.
Carriageway	That portion of a road or bridge devoted particularly to the use of vehicles, inclusive of shoulders and auxiliary lanes, such as the two-lane, two-way carriageway in the initial alignment.
Chainage	The distance of a point along a control line, measured from a datum point.
Clear Zones	An area within the recovery area which is ideally kept clear of hazards (or within which unmovable hazards are shielded). The width of the clear zone reflects the probability of an accident occurring at that location and the cost-effectiveness of removing hazards. The clear zone width is dependent on traffic speeds, road geometry and traffic volume.

Term	Definition
Concept Design	Initial high-level functional layout of a concept, such as a road or road system, to provide a level of understanding to later establish detailed design parameters.
Construction Environmental Management Framework (CEMP)	A site or project specific plan developed to ensure that appropriate environmental management practices are followed during the construction and/or operation of a Project.
Construction Area	The area defined for the Project within the Right of Way that would be directly impacted by construction activities.
Corridor	An area of travel between two points. It may include more than one major route and more than one form of transport. Two corridors were investigated prior to the development of the EES. These corridors were identified as the Mid-West 2 Corridor (which included the Mid-West 2A Option and Mid-West 2B Option) and the Mid-West Corridor, (which included the Mid-West Option).
Culvert	One or more subsurface adjacent pipes or enclosed channels for conveying surface water or a stream below road formation level.
Cut	The depth below the natural surface of the ground to the construction level.
dB(A)	The human ear is not equally sensitive to all parts of the sound frequency range and the scale most commonly used is the A-weighted decibel or dB(A). This unit most accurately reflects human perception of the frequency range normally associated with road traffic noise.
Deceleration lane	An auxiliary traffic lane provided to allow vehicles to decrease speed on the approach to an intersection.
Design speed	A speed fixed for the design and correlation of those geometric features of a carriageway that influence vehicle operation. The Mid-West Option has been designed to 90 kilometres per hour, for a posted speed limit of 80 kilometres per hour.
Driven Pile	A steel or reinforced concrete post that is driven vertically into previously unexcavated soil by striking it with a pile driving hammer.
Earthworks	All operations involved in loosening, removing, depositing, shaping and compacting soil or rock.
Environmental Management Framework (EMF)	Outlines the environmental measures recommended to be adopted as part of the EES.
Environment	For the purpose of the EES, environment incorporates physical, biological, heritage, cultural, economic and social aspects.
Environment Effects Statement (EES)	A statement prepared at the request of the Victorian Minister for Planning, pursuant to the Victorian Environment Effects Act 1978, on the potential environment impact of a proposed development.
Fill	One or more of the following: 1. The depth from the pavement subgrade level to the natural surface. 2. That portion of road where the formation is above the natural surface. 3. The material placed in an embankment.

Term	Definition
Floodway	Land that is identified as carrying active flood flows associated with waterways and open drainage systems.
Freehold land	Privately owned land.
Gradeline	The level and gradient of a road carriageway along the centreline.
High Productivity Freight Vehicles (HPFV)	Larger combination vehicles such as B triples and super B doubles that are restricted to specific arterial routes.
Higher Mass Limits (HML)	Allows for higher axle loading for various axle groups in compliance with National accreditation and restricted to specific routes.
Highway	A principal road in the road network with direct property access, such as the Murray Valley Highway.
Initial Alignment	For the purpose of this EES, the initial alignment comprises the construction of a two lane, two-way carriageway road including bridges across the Campaspe and Murray Rivers.
Intersection	The place at which two or more roads meet or cross.
Land use	The type of development permitted in an area: industrial, commercial, residential, recreational or a combination of some or all of these different uses.
Local access path	Minor path generally located in a local or residential area that links road and/or off road cycling routes, and off road pedestrian paths, such as those paths within Victoria Park.
Major Road	A road to which is assigned a permanent priority for traffic movement over that of other roads.
Mid-West Alignment (Preferred Alignment)	The Mid-West Option extends from the Murray Valley Highway along Warren Street before diverting to the northwest where it crosses Campaspe Esplanade and the Campaspe River, then turns north-east to cross the Murray River north of the Victoria Park Boat Ramp. This alignment then extends north in New South Wales to cross Boundary Road in Moama and connect with the Cobb Highway at Meninya Street.
Mid-West 2A Alignment	The Mid-West 2A Option extends north/northwest on a new alignment from the intersection of the Murray Valley Highway and Warren Street, crosses the Campaspe River north of the Echuca Cemetery, before turning northeast towards Reflection Bend on the Murray River. This alignment then passes immediately south of Reflection Bend and crosses the Murray River north of the Victoria Park Boat Ramp, then extends north in New South Wales to cross Boundary Road in Moama and connect with the Cobb Highway at Meninya Street.
Mid-West 2B Alignment	The Mid-West 2B Option extends north/northwest on a new alignment from the intersection of the Murray River Highway and Warren Street, crosses the Campaspe River northeast of the Echuca Cemetery, before turning north towards the Echuca Sports and Recreation Reserve. This alignment crosses the Murray River north of the Victoria Park Boat Ramp, then extends north in New South Wales to cross Boundary Road in Moama and connect with the Cobb Highway at Meninya Street.
Mitigation Measures	Measures which are implemented to reduce an adverse impact caused by road construction and operation.

Term	Definition
No Project Option	This assumes no additional bridge crossing of the Murray River and assumes existing road conditions and networks remain unchanged.
Preferred Alignment	The preferred alignment within Victoria is the Mid-West Option.
Property	A property is land owned by a single or more landowners. It may include multiple contiguous titles owned by the same registered proprietor.
Recovery Area	The area beside the traffic lane required for a run-off-road vehicle to stop safely or be brought under control before re-joining the traffic lane.
Review of Environmental Factors (REF)	A report prepared to satisfy the planning approval requirements of the Environmental Planning and Assessment Act 1979.
Right-of-Way	The Right-of-Way is a strip of land that is reserved through a planning scheme amendment for the public purpose of a road (road reserve) and encompasses sufficient land to construct and maintain the Project. The Right-of-Way for the Project comprises the sealed road surfaces (including shoulders / verges) and a 5m to 10m wide strip of land on either side of the road formation of the ultimate duplication. Note: In NSW, a Right-of-Way is known as a Road Reserve.
Right-turn lane	Right-turn lanes are used to provide space for the deceleration and storage of turning vehicles.
Risk Assessment	The processes of reaching a decision or recommendation on whether risks are tolerable and current risk control measures are adequate, and if not, whether alternative risk control measures are justified or would be implemented.
Roads and Maritime Services (Roads and Maritime)	Roads and Maritime Services is the co-proponent for the Echuca-Moama Bridge Project. Roads and Maritime Services is the NSW state government department responsible for the environmental assessment on the NSW component of the Project.
Roundabout	A channelised intersection at which all traffic moves clockwise around a central traffic island. The roundabouts proposed as part of the Project are located at the Murray Valley Highway/Warren Street intersection, and on Warren Street. Both are three-leg roundabouts.
Scoping Requirements	The Scoping Requirements for the EES under the Victorian Environment Effects Act 1978 entitled 'The Second Crossing of the Murray River at Echuca-Moama', dated June 2014.
Service Road	A road designed or developed to be used, wholly or mainly, by traffic servicing adjacent land along the north west side of Warren Street as part of the Mid-West Option only.
Shared Path	A paved area particularly designed (with appropriate dimensions, alignment and signing) for the movement of cyclists and pedestrians.
Spill Basins	Engineered basins designed to contain spills on the new carriageway, preventing contaminants from entering the floodplain.
Staged Construction	A construction sequence in which the initial alignment comprising a single traffic lane in each direction is constructed and then, should traffic demand warrant an increase in road capacity, the road and bridge structures are duplicated, providing two traffic lanes in each direction.

Term	Definition
Study Area	The area identified by individual specialists to determine potential impacts for the Project relating to a specific discipline.
Super “T”	A type of bridge span construction where the load-bearing structure (usually reinforced concrete) has a T-shaped cross-section.
The Project	The Echuca-Moama Bridge EES (the Project) involves the construction and operation of a second road bridge crossing of the Murray and Campaspe Rivers at Echuca-Moama.
Title	A title is an official record of who owns a parcel of land. Adjoining titles in the same ownership are considered and assessed as a ‘property’ in the impact assessment.
Turning lanes	An auxiliary lane reserved for turning traffic, providing deceleration length and storage for turning vehicles.
Two Way Carriageway	A carriageway with two traffic lanes allotted for use by traffic in opposing directions.
Ultimate Duplication	For the EES, the ultimate duplication comprises the construction of a duplicated roadway and bridges. The ultimate duplication would be constructed if future traffic demand warrants an increase in road capacity. The EES considers the potential impacts of the ultimate duplication.
VicRoads	VicRoads (Roads Corporation) is the co-proponent for the Echuca-Moama Bridge Project. VicRoads is responsible for project management of the planning and would manage the construction of the Project.
Work Hours	‘Work’ is defined as any activity other than office bound duties, including the starting up of plant and machinery. Work for the Project would not be undertaken outside the hours of 7am or sunrise, whichever is the later, and 6pm or sunset, whichever is earlier. Work outside these hours requires prior consent.

1.0 Introduction

VicRoads, in partnership with New South Wales Roads and Maritime Services (Roads and Maritime), is planning for a second Murray River crossing at Echuca Moama. The second crossing, known as the Echuca-Moama Bridge Project, would ease congestion on the existing bridge, provide an alternate access for vehicles and pedestrians between the two towns and catering for freight and agricultural machinery.

As part of assessment and approvals processes, the Project was referred to the Victorian Minister for Planning to decide whether an assessment under the *Environment Effects Act 1978* was needed to determine the Project's potential for significant environment effects. On 14th June 2013, the Minister determined an Environment Effects Statement (EES) was required to assess environmental effects within Victoria. As the Project extends into New South Wales, a Review of Environmental Factors (REF) would be required to assess impacts within NSW.

This historic cultural heritage Impact Assessment has been prepared to inform both the EES and REF. The EES is required to consider the Project's potential environmental effects, inform the public and other stakeholders and enable a Minister's Assessment to inform decision makers. The purpose of the REF is to document likely proposal environmental impacts and to detail recommended protective measures to be made during construction.

The Project EES has considered three alignment options. As part of the EES options assessment, the Mid-West alignment was found to be the best option and this impact assessment has been prepared based on the Mid-West Alignment (the preferred alignment).

The purpose of this report is to document the existing conditions, the historic cultural heritage impacts and to outline the methodology, risks and proposed mitigation measures for the Project within Victoria and New South Wales.

The proposed Right-of-Way (ROW) for the preferred alignment is sufficient for the Ultimate duplicated carriageway and the area required to construction the alignment. The Right-of-Way extends from the intersection of Murray Valley Highway in Echuca, Victoria, to the intersection of Cobb Highway and Perricoota Road in Moama, New South Wales (refer to Map 3). The study area for this project is broader than the ROW and includes the township areas of Echuca in Victoria and Moama in NSW in the vicinity of the alignment. The study area also extends along and Murray River upstream and downstream of the proposed crossing point, where a desktop search was undertaken for shipwrecks on the bed of the river. Only areas of heritage importance that have potential to be impacted by the alignment have been considered in this impact assessment.

The objectives of this Historical Cultural Heritage Impact Assessment as defined in the Project brief issued by VicRoads are:

- to provide a clear description of the Historical Cultural heritage values of the ROW based on collated existing data, additional field survey and consultation with cultural heritage stakeholders including the Echuca Cemetery Trust;
- to conduct appropriate liaison with cultural heritage stakeholders regarding the identification, significance and management of Historical Cultural heritage within the Mid West Option; and
- to provide an appraisal of any implications for the Project arising from relevant State and Commonwealth legislation or policy;

This report describes the commission of the above tasks.

The Project comprises a ROW sufficient to build a four lane road and duplicated bridges across both the Campaspe and Murray Rivers. The Initial Alignment would involve the construction of a two lane, single carriageway road including a bridge across each waterway. Under the Ultimate Duplication bridges would be constructed to meet future traffic demands.

VicRoads has requested an assessment of a 'No Project' Option, which assumes that the existing bridge and road approaches remain unchanged and no alternate crossing is provided pursuant to the Project.

The main construction activities associated with the Project would comprise:

- Civil and structural works associated with the construction of new elevated roadway and bridges across the Murray and the Campaspe River;
- Construction of earthworks and flood relief structures for the new Link Road across the Murray River and Campaspe River floodplains; and
- Improvements to existing roads and intersections on approaches in Victoria and New South Wales, including the construction of a large diameter roundabout at the Murray Valley Highway / Warren Street intersection and traffic signals with Meninya Street and Perricoota Road in Moama.

Construction activities would include clearing of vegetation, general earthworks (including topsoil stripping, filling and topsoil spreading), relocation of utility services, drainage installation, pavement construction, bridgeworks, landscaping, installation of noise barriers and installation of traffic controls, lighting and signage.

Excavation required for the Project is expected to be limited as the majority of the Project would be elevated above the existing ground level in order to ensure flood free passage of vehicles. Therefore it is expected that fill will need to be imported to the and excavation works will be limited to piled foundations and topsoil stripping for the roadway and bridge structures. There is also the potential for further excavation if soft ground conditions are encountered.

The main operational activity will be ongoing road maintenance consistent with VicRoads and Roads and Maritime Services practices and standards, including the

maintenance of landscape, stormwater drains, retention basins, road pavement, bridges, electrical assets, traffic signals, road furniture and line marking.

The preferred alignment includes:

- a new roundabout at the intersection of the Murray Valley Highway;
- upgrade works along Warren Street, including line marking and intersection upgrades at Homan Street and Redman Street;
- construction of a new service road on the western side of Warren Street between Homan Street and Redman Street;
- line marking for a dedicated right-turn lane for traffic turning into Homan Street;
- construction of a new ‘three-leg’ roundabout approximately 120m south of Campaspe Esplanade;
- construction of a new road extending north-west from Warren Street and construction of a new bridge across the Campaspe River and Crofton Street;
- construction of a new road extending north over part of the former Echuca College site and construction of a new road over a slab on the edge of an existing sandhill;
- a new road extending north-east through Victoria Park, over the western and northern tennis court and to the north of the Echuca Caravan Park;
- construction of a new bridge over the Murray River near the existing boat ramp;
- construction of an elevated road east of the Murray River over Boundary Road to connect with the Cobb Highway;
- signalling of the intersection of the Cobb Highway and Perricoota Road and Cobb Highway and Francis Street

Summary details of the preferred alignment are included in Table 1.

Table 1: Summary Details of the Mid-West Option (preferred alignment)

Summary Details of Mid-West Option	
Approximate Length:	4.3km
Upgrade to existing roads:	1.4km
New raised road formation:	1.3km
Murray River Bridge Length:	650m
Height of Murray River bridge above river banks:	15m
Height above Echuca-Moama Floodplain:	0m – 15m
Upgrade to Murray Valley Highway / Warren Street intersection:	Yes
Shared use path:	Yes
Changes to property access:	Yes
Retain existing service road along Warren Street:	Yes

The Mid-West Option alignment is located on the western side of the township of Echuca which is considered to be that area which is located to the north of the east-west section of the Northern Highway, also known as Ogilvie Avenue and east of Wharparilla Drive. The Mid-West Option alignment commences at Warren Street, on the western side of Echuca. It extends eastward from the Murray Valley Highway along Warren Street, and then extends north-east, crossing freehold and Crown Land situated on the floodplain of the Murray River. The Crown Land is open eucalypt woodland. It crosses the Campaspe River near the western end of Crofton Street. On the north bank of the Campaspe River, there is an extensive sandhill which extends between the former Echuca College site and Reflection Bend on the Murray River. The Mid-West Option crosses the sandhill on the north side of the former Echuca College (Map 1) It then extends in an easterly direction to the crossing of the Murray River at Victoria Park. The road alignment would span across the Murray River on a 630m bridge and then proceed to NSW, where it will connect with the Cobb Highway and Perricoota Road and Meninya Streets in Moama.

1.1 Overview of Project Methodology

This study for the purposes of this Historic Cultural Heritage Impact Assessment was undertaken by considering three main sources of evidence. The first was a desktop review of published and unpublished historical sources and plans (literature review) of information relevant to the historic cultural heritage of the ROW. The desktop assessment also included a review of the following sources:

- National Heritage List;
- Victorian Heritage Register and Inventory;
- NSW Heritage Register and Inventory;

- Register of the National Trust;
- Shire of Campaspe Heritage Overlay;
- Shire of Murray Local Environment Plan (LEP)

The desktop assessment allowed the identification of known items of heritage significance within the Mid West Option ROW. It also helped the consultants identify areas requiring further investigation by means of a field survey.

The second main source of information about potential non-Aboriginal heritage values within the Mid-West Option ROW, was a field survey for heritage sites. Most of the current Mid West Option ROW was subject to an archaeological survey during 2008 and a small additional section of the ROW south of Warren Street was surveyed during 2014. The methodology used for both field surveys is described in more detail in Section 5.1 of this report.

The third source of information was obtained through consultation with local organisations likely to have information about the non-Aboriginal heritage values of the ROW. During 2008, consultation was held with the Echuca Historical Society and also the Echuca Cemetery Trust to discuss heritage issues of which the Society or the Trust were aware. Follow up consultation was held with the Echuca Cemetery Trust during 2014. The results of this consultation are discussed in Section 3.1 of the report.

1.2 EES Scoping Requirements

The focus of this assessment is the evaluation objective in the EES Scoping Requirements *‘to avoid or minimise adverse effects on Aboriginal and historic cultural heritage values’*.

The key issue identified for Historic heritage in the EES scoping requirements relating to this evaluation objective is; *‘the potential for the loss of significant historic heritage values.’*

Priorities for characterising the existing environment

- Identify and characterise Aboriginal cultural heritage sites and areas of sensitivity within the project area, in accordance with the requirements for the CHMP under the AH Act.
- Identify and document known and previously unidentified historic heritage values within the project area, including any areas of significant archaeological interest, in accordance with the Guidelines for Conducting Archaeological Surveys (Heritage Victoria, 2008), as updated in 2013.

Design and mitigation measures

- Identify and describe potential and proposed design and mitigation measures to address effects on any Aboriginal and historic cultural heritage.

Assessment of likely effects

- Identify and assess the likely effects on Aboriginal and historic cultural heritage resulting from the project.

- Archaeological investigations are to evaluate the significance, location and extent of historic archaeological sites that may be affected by the project works, in accordance with the Guidelines for Investigating Historical Archaeological Artefacts and Sites (Heritage Victoria, 2012).

Approach to manage performance

- Identify in the EES any further methods proposed to manage risks of effects on cultural heritage values, including as part of the EMF (see section 4.10) and resulting residual effects.
- Respond to any relevant requirements under the AH Act, such as preparation of a draft CHMP.

2.0 Physical Description of the Mid-West Option ROW

In Echuca, the ROW for the Mid-West Option commences at the western end of Warren Street, and runs along Warren Street until reaching the intersection of an unnamed road opposite Payne Street, on the west side and the intersection of Campaspe Esplanade and Warren Street (Maps 1a and 1b). The ROW then proceeds in a north-westerly direction, crossing Campaspe Esplanade and the Campaspe River. On the north side of the Campaspe River, the ROW passes across the western end of Crofton Street and turns in a north-easterly direction, crossing the former Echuca College site, parts of Victoria Park Oval and the tennis club. The ROW then proceeds through Victoria Park, on the north side of the caravan park, to exit on the west bank of the Murray River, near an existing boat ramp.

In Moama, the ROW crosses the floodplain of the Murray River in a north-easterly direction and exits at the intersection of the Cobb Highway and Meninya Street.

Warren Street is aligned along a low-lying floodplain formed by Cainozoic deposits of alluvium that form part of the Shepparton Formation (DPI Geovic Interactive Map, Accessed 12/8/2008) (Plate 1). The road has been built up by using earth fill. A prominent sandhill, probably associated with a prior stream, is situated outside and north of Warren Street. The sandhill extends across the area between Nolan Street, Homan Street and about 50 metres north of Jarman Street and is the site of the Echuca Cemetery (Plate 2). The sandhill and cemetery are outside and north of the Right-Of-Way for the Mid-West Option.

Between the intersections of Warren Street, an unnamed road and Campaspe Esplanade and north to the Campaspe River, the ROW crosses deposits of recent Quaternary alluvium, forming part of the present floodplain of the Murray and Campaspe Rivers (DPI Geovic Interactive Map, Accessed 12/8/2008). Between Warren Street and Campaspe Esplanade, a former house (now removed) has been constructed on a raised platform of earth fill in this area (Plate 3). Between Campaspe Esplanade and the Campaspe River, the ROW crosses a lightly timbered floodplain, with very little understorey vegetation. Most of this area is regenerated red gum woodland.

North and north-east of the floodplain, the ROW continues along the recent floodplain of the Campaspe River (Plate 4). However, to the west of the former Echuca College site, the ROW passes close to a second sandhill, which is also likely to be associated with an ancient prior stream. The sandhill is covered with largely regenerated red gum and box woodland, but also contains the only remnant stand of Murray Pine in the local area.

In NSW, the ROW crosses the floodplain of the Murray River, which is entirely formed on recent Quaternary alluvium. A sandhill is situated about 300 metres to the east of the ROW in this area. The floodplain is covered with recently regenerated red gum woodland (Plates 5 and 10) with almost no understorey vegetation. Near the intersection with Meninya Street in Moama, the ROW again crosses on to the alluvial plain associated with the Shepparton Formation.

The vegetation communities which survive in the ROW today, have been substantially modified since European settlement. Prior and at the time of European settlement, much of the land along Warren Street would have been Riverine Chenopod Woodland (EVC 103) (DPI Biodiversity Interactive Map, Accessed 3/11/2014). Near the Campaspe River crossing, the ROW would have crossed Grassy Riverine Forest (EVC 106), Floodplain Riparian Woodland (EVC 56) and a mosaic Riverine Grassy Woodland/Sedgy Riverine Forest (EVC 255). Between the north side of the Campaspe River and the Murray River, the vegetation was predominantly plains grassland (EVC 132), with the Riverine Grassy Woodland/Sedgy Riverine Forest mosaic dominating the banks of the Murray River (DPI Biodiversity Interactive Map, 3/11/2014).

3.0 Statutory Legislation

3.1 Statutory Legislation - Victoria

Heritage Act 1995 (Vic)

All historic archaeological sites in Victoria are protected by the Victorian *Heritage Act (1995)*, irrespective of whether these sites are listed on the Victorian Heritage Inventory or the Victorian Heritage Register.

A Consent from the Executive Director of Heritage Victoria is required to disturb or destroy historic archaeological sites, places, buildings or structures listed on the Victorian Heritage Inventory.

A Permit from the Executive Director of Heritage Victoria is required to modify, disturb or destroy historic archaeological sites, places, buildings or structures listed on the Victorian Heritage Register. Permit applications must be approved by the Heritage Council.

Fees apply for the issue of Consents and Permits and a conservation bond is required for artefacts from a historic archaeological site. Heritage Victoria may also require a Conservation Bond for any conservation treatment of artefacts which are recovered from a development site.

The issue of a Permit or Consent is not automatic and will be subject to furnishing of adequate supporting documentation.

Planning and Environment Act 1987

An objective of the Planning and Environment Act 1987 (PE Act), is “to conserve and enhance those buildings, areas or other places which are of scientific, architectural or historical interest or otherwise of special cultural value” (Planning and Environment Act, 1987 4(1) (d)). The PE Act provides for the creation of planning schemes which are statutory documents that set out objectives, policies and provisions relating to, among other things, the conservation of heritage places. Clause 15.03 of the State Planning Policy Framework provides for the conservation of places of heritage significance. Clause 21.04 of the Local Planning Policy Framework (Shire of Campaspe) sets out a strategy for conservation of places of heritage significance including the implementation of a Heritage Overlay. The Heritage Overlay identifies Heritage Precincts, structures, places, vegetation and other features which are protected by the Campaspe Planning Scheme. The Heritage Overlay establishes controls for modification of these places.

Planning approval from the Shire of Campaspe would be required to construct a road that impacted on the grounds of the St Leonards homestead, if the Heritage Overlay is extended by proposed Planning Scheme Amendment (PSA) C101. Planning approval from the Shire of Campaspe would also be required to remove some of the Murray Pine trees within the area of HO 79, if the Overlay is extended by PSA C101. The location of the overlays near the ROW proposed by PSA C101 is shown in Appendix 2.

3.2 Statutory Legislation - NSW

Heritage Act 1977

The *Heritage Act 1977* provides statutory protection for a place, building, work, relic, moveable object or precinct of State significance and historic shipwrecks and archaeological sites. Under Section 156 of the Heritage Act it is an offence to fail to comply with any restrictions of the Heritage Act or a Direction of the Minister or the Heritage Council relating to Aboriginal heritage. It is also an offence to conduct an excavation of an archaeological site or harm a shipwreck without first obtaining a required permit (Division 9).

Environmental Planning and Assessment Act 1979

The Environmental Planning and Assessment Act 1979 makes provision for Heritage Places to be protected within a Local Environment Plan (LEP). Under Section 92 of the Act, a local planning authority may not refuse planning approval on the basis of Heritage, if a Consent or Permit for the works has already been obtained under the Heritage Act 1977.

As there are no historic sites or places in NSW within the preferred alignment ROW or directly or indirectly impacted by the project, there will be no requirement to seek heritage approvals from OEH or the Shire of Murray. There are controls placed on buildings and precincts by the Local Environmental Plan (LEP) of the Shire of Murray in NSW, but these are not applicable to any parts of the present study area.

4.0 A Brief History of Land Use Near the Right-of-Way

This section of the report focuses on aspects of land use history which are relevant to the identification of potential heritage issues within the study area.

Initial European occupation of the land around Echuca and Moama was associated with the overland cattle routes between Victoria and NSW. Hawdon and Bonney first drove stock through Echuca in 1838, in the area around Radcliffe Street, situated south of the preferred alignment ROW, and then crossed the Campaspe River near the existing Rotary Park (Coulson, 1995: 4).

The early settlement of Echuca and Moama stems largely from the rivalry between John Maiden and Henry Hopwood. In 1842, John Maiden was the superintendent of Perricoota Station on the NSW side of the Murray River, and, taking advantage of the traffic to meat and wool markets in Melbourne, constructed a punt across the Murray River, in the present-day town of Moama (Coulson, 1995:20-21). Maiden's punt was located well to the east of the present-day existing road bridge. In 1846, he constructed the Junction Inn at Moama, which was situated near the punt (Coulson, 1995:20-21).

Henry Hopwood arrived on the Murray River in 1849, and initially attempted to establish a bush inn on the Tattalia Run (Coulson, 1995: 31). This initial venture failed, and in 1852, he obtained a licence for the portion of the Wharparilla Run in Victoria, on the Junction of the Murray and Campaspe Rivers (Coulson, 1995: 35). Between 1854 and 1857 Hopwood established a punt, inn, two stores, two smiths, a doctor and a bakery to cater for travellers and residents (Coulson, 1995: 35). He subsequently constructed a pontoon and the still extant Bridge Hotel, on the corner of Hopwood Place in Echuca (Coulson, 1995: 38). The locations of Hopwood's original punt and hotel are shown on an 1857 map of Echuca township (Figure 1). The original punt and hotel were situated within the boundaries of the township of Echuca, around 550 metres south-east of the ROW. Figure 1 shows that the main route out of Echuca ran west along what is now Warren Street, with a punt across the Campaspe River near the present-day site of the Campaspe River bridge crossing on Warren Street.

The area currently known as Victoria Park, which is traversed by the ROW, was originally part of the Wharparilla Run and was leased by Hopwood. This area of land, between the west bank of the Murray River, the junction of the Campaspe and Murray Rivers and the north bank of the Campaspe River, was known as the 'Junction Paddock' prior to being named Victoria Park (Coulson, 1995: 35, Priestley, 1965: 21). There is no evidence from historical sources, however, that any structures or buildings associated with Hopwood's settlement were associated with the Junction Paddock. The western half of the paddock was used by the police to graze their horses, and some early attempts at cultivation were made in the paddock near the Campaspe River (Priestley, 1965: 21).

The Murray Pines situated on the sand hill were shown on a plan of Echuca produced by surveyor, Phillip Chauncy, in 1854 (Ward, 1992: 23). No assessment of significance for the pines has been made, but Ward notes that they are of historical importance as a prominent landscape feature identified during early surveys of Echuca and therefore of local significance.

The bush park area north of the Victoria Park oval and tennis courts has been used for a range of activities, including cattle grazing, sand mining, a shooting range, timber cutting for firewood, a hockey field and a reserve for social gatherings (Heather Rendell, Echuca Historical Society, pers. comm. 14/8/2008). During WWII an army camp was established on the oval and the adjacent bushland was used for training (Heather Rendell, letter to David Rhodes, 20/8/2008 - refer to section 3.1 for further information on Consultation Regarding Heritage Issues).

The original township of Echuca was laid out to the north and east of the Campaspe River and a small section of the ROW passes through the original township area at the western end of Crofton Street. A large extant homestead, grounds and outbuildings, now known as St Leonards, is situated in this area. Parts of the original homestead were built as early as 1857, but all of these are situated east of the ROW.

There do not appear to have been any historically documented sites or places associated with the Echuca wharf precinct within the proposed ROW.

The Echuca Cemetery was gazetted in 1860 and the first official burial took place on 30/6/1860 (Heather Rendell, pers. comm. 14/8/2008). However the land containing the cemetery was set aside for cemetery use when the town was first surveyed in 1853 and burials took place within the cemetery between c. 1853-1860 (Heather Rendell, pers. comm. 14/8/2008, Priestley, 1965: 21). The exact location of the graves is not known, but Heather Rendell (pers. comm. 14/8/2008) believes that they would have been within 'The Circle', which is the oldest part of the cemetery. The original access to the cemetery was from Jarman Street to the north (Heather Rendell, pers. comm. 14/8/2008). The current access from Homan Street on the east side of the cemetery was established after the cemetery reserve was expanded to Homan Street (Heather Rendell, pers. comm. 14/8/2008).

The former Echuca College site (now demolished) was originally established c. 1903. The school was entirely rebuilt at a later date, removing the original timber building. At the time the 2014 field surveys were carried out, had been entirely demolished. Heritage Victoria has identified palm trees associated with the former school as being of potential heritage significance. The history of the palm trees has been investigated as part of this impact assessment, however no evidence has been found to suggest that the trees are of heritage significance.

Very little historical evidence for past land use has been found for the section of the preferred alignment ROW which traverses the land between the east bank of the Murray River and Meninya Street in Moama. Anecdotal historical information provided to Bob Adams of VicRoads by a current Murray Shire Councillor, indicates that this area was repeatedly logged until recently, and that timber milling also occurred within it. There was extensive logging and removal of timber on this land after floods in 1956 and there was possibly some cropping on the site after this time (Heather Rendell, pers. comm. 14/8/2008).

4.1 Consultation Regarding Heritage Issues

This section of the report discusses consultation regarding the current ROW which took place during field surveys conducted in 2008 and in 2014.

During 2008, a meeting was held between Bob Adams from VicRoads, David Rhodes from Heritage Insight Pty Ltd and John Carter, the son of the former owner of the 'St Leonards' property to discuss the proposed road corridor for the Mid-West Option on 25/7/2008. The 'St Leonards' property is situated at 33 Crofton Street, Echuca and is listed in the Heritage Overlay of the Campaspe Planning Scheme as HO41 (see Maps 2-3 and Section 4.1). Mr Carter stated that the original house was built by a police commissioner named Stubbs in 1857. The house appears to have been extensively renovated at a later date, possibly in the 1920's. At the time of the inspection in 2008, the house was associated with an extant outbuilding, containing hand-adzed wooden uprights and bearers incorporated in the structure, as well as more modern additions. There was also a small brick outbuilding constructed from hand-made bricks associated with the house. This may have been associated with the original 1857 dwelling.

During 2008, Mr Carter expressed concerns about impacts on the amenity of the house and gardens if a road to access the bridge was constructed nearby, even if the house was avoided. There has been no consultation with the current property owners about this heritage study.

During 2008, David Rhodes from Heritage Insight Pty Ltd also had preliminary discussions with the Echuca Historical Society in respect to research about this heritage study about the Project. The consultant was referred to Heather Rendell, the President of the Echuca Historical Society. The consultant contacted Heather Rendell by phone, explained the purpose of the study and briefly raised the question of potential heritage issues within the ROW that may be known to the Historical Society. Heather Rendell requested the consultant to email specific questions to her, and stated that she would raise them with the historical society. The consultant subsequently emailed Heather Rendell a list of questions and a map of the preferred alignment ROW, requesting information about the Echuca cemetery's heritage, or any specific concerns associated with the Project.

Heather Rendell responded to the consultant's email by providing some initial information about the cemetery and other areas of land within or near the ROW at the time.

Additional consultation was held with Heather Rendell regarding the Echuca Cemetery on 3/9/2014, since Mrs Rendell is also the Secretary of the Trust. Heather did not consider that the proposed alignment of Mid-West Option would impact on any heritage values of Echuca Cemetery. She pointed out that one of the oldest sections of the cemetery, Section I, was close to the northern boundary of the ROW under the Mid-West Option. However, Section I has since been covered with some 2m of fill, and new graves have been excavated into the surface of the fill. Heather Rendell also pointed out that there were formerly more dwellings to the south of Warren Street, but that these had been removed after several episodes of flooding.

5.0 Previous Studies

5.1 Registered Heritage Places

During 2014, a search was conducted of the following heritage registries for the purposed of this Historic Cultural Heritage Impact Assessment in respect of the Project.

- National Heritage List;
- Victorian Heritage Register and Inventory;
- NSW Heritage Register and Inventory;
- Register of the National Trust;
- Shire of Campaspe Heritage Overlay;
- Shire of Murray Local Environment Plan (LEP) Schedule 5

There were no previously registered heritage sites or places on the Victorian Heritage Inventory or the Victorian Heritage Register within or immediately near the ROW.

There were no previously registered heritage sites or places or shipwrecks in the NSW Heritage Inventory or the NSW Heritage Register within the ROW. The Moama Historic Precinct is listed on the NSW Heritage Register as a cultural landscape. It is situated approximately 1km south of and outside the ROW and is shown in Map 2. The Moama Historic Precinct is also listed as a historic precinct in Part 2 of Schedule 5 of the Murray Local Environmental Plan of the Shire of Murray in NSW.

The Echuca Historic Area is listed on the Register of the National Trust (B2186), although the extent of the area is not defined in the Trust registration. The Echuca cemetery is listed as a file on the Register of the National Trust (B5326). The cemetery is not within the ROW. The former Echuca Rail Bridge (now road bridge) is listed as a file on the Register of the National Trust (B7302) and the Shire of Campaspe Heritage Overlay (HO 6). The bridge is well outside the ROW, situated over 1km to the east.

There are no sites on the National Heritage List within the ROW. The Echuca Wharves, some 500m south of the ROW, are included on the National Heritage List (Place ID 105777). The wharves are also listed on the Victorian Heritage Register (H2168) and the Shire of Campaspe Heritage Overlay (HO 7). The wharves are located outside the ROW and due to a bend in the Murray River the new crossing of the Murray River would not be visible from the Echuca Wharves. The Echuca North Residential Precinct (HO 87) is situated approximately 600m east of the preferred alignment ROW.

There are a number of places listed in the Heritage Overlay of the Campaspe Planning Scheme in close proximity to the ROW. These are shown in Table 2 below. Two of these places will be partially within the ROW if PSA C101 is gazetted. The location of individual places to which the Heritage Overlay applies is shown in Map 3. The proposed extensions to places near the ROW in PSA C101 are shown in Appendix 2.

Table 2: List of places affected by the Campaspe Heritage Overlay in close proximity of the preferred alignment

Campaspe Heritage Overlay No.	Place Description
HO 1	Old Echuca Township Precinct
HO 33	Fountain and Statuary, Victoria Park
HO 87	Echuca North Residential Precinct
HO 41	Dwelling, 33 Crofton St Echuca (St Leonards)
HO 43	Cast Iron Gates, Echuca Cemetery
HO 73	Cast Iron Gates, Echuca Cemetery
HO 68	Dwelling, 279-281 Campaspe Esplanade
HO 79	Stand of Murray Pine, north of the former Echuca College site, Victoria Park shown on a map by surveyor Philip Chauncy in 1854.

The Shire of Campaspe recently proposed an amendment C50 to amend the Heritage Overlay. Part 1 of Amendment C50 was gazetted on 22/5/2014 and amended the boundaries of HO1 and other Heritage Precincts. The Shire of Campaspe subsequently prepared a review of the Gap Study and existing studies (Echuca & Waranga) that inform the heritage study and shall implement the findings of the *Campaspe Heritage Review 2014* through PSA C101. (Shire of Campaspe 2014^{a, b, c}) If approved, PSA C101 will impact on the Project because it will extend the Heritage Overlay around HO41 further to the west to incorporate gardens associated with the dwelling on the property. It will also extend HO79 to incorporate the remaining Murray Pines on the sand hill situated immediately north of the former Echuca College site.

If PSA C101 is approved, the preferred alignment ROW will impact on the western edge of the heritage place HO41 (33 Crofton Street, Echuca) and on part of the heritage place HO79 (Stand of Murray Pine).

Amendment C101 was publicly exhibited for a period of 60 days from 29 January to 2 April 2015. VicRoads make a submission recommending that the proposed extension of HO41 and HO79. VicRoads lodged a submission recommending that HO41 and HO79 be adjusted to match the preferred alignment ROW.

Panel hearing dates have been set for:

- Directions hearing: Week commencing 15 June 2015.
- Panel hearing: Week commencing 13 July 2015.

The north boundary of the land surrounding the dwelling listed as HO68 abuts the southern side of the preferred alignment ROW on Warren Street. HO43 is outside, but close to the ROW.

The Echuca cemetery is listed as a file on the Register of the National Trust (File No. B5326) but is not Registered with the National Trust or on the Victorian Heritage

Inventory. The cast iron gates to the cemetery are listed in the Heritage Overlay as HO43 and HO73. The cemetery and gates are situated north of Warren Street and outside the ROW.

The Echuca cemetery should be regarded as being of very high historical and social value. The cemetery, particularly the old cemetery at the western end of the reserve, contains the burial places of many historic figures associated with the development of Echuca. This includes the grave of Henry Hopwood, who died at Echuca in 1869 (Coulson, 1995: 39). It also includes the graves of Chinese and Italian market gardeners, who moved to Echuca during the nineteenth and twentieth centuries. It also incorporates an Aboriginal cemetery.

5.2 Previous Archaeological Surveys

There have been previous archaeological surveys for European heritage sites within or in close proximity to the ROW. These included the proposed road corridors and alignment options assessed in 2000, 2008-2009 and 2011. The results of these surveys are discussed below.

Archaeological Survey 2000

Three corridors were previously assessed for historic archaeological sites during the an earlier EES study (Terra Culture, 2000). The western corridor assessed during 2000 is situated closest to the current Mid-West Option and crosses similar terrain.

The archaeological sites recorded on the Western Corridor alignment (2000) were entirely located within Victoria. They comprised three small scatters of historic artefacts and/or structural remains (H7825-0013 and 0014 and H7825-0019), which were assessed as being of low scientific and local heritage significance (Terra Culture, 2000: 46). H7825/0013-0014 comprised artefact scatters apparently dating from around the 1930's and earth mounds which were located near the site of the former Echuca tip at the intersection of Warren Street and the Murray Valley Highway. H7825-0019 comprised a surface scatter of handmade bricks which were found in a cut made for a boat ramp on the banks of the Murray River. All three of these sites were found to the north and west and outside of the preferred alignment ROW. H7825-0019 is approximately 3km north of the preferred alignment Right of Way and outside the Study Area of this impact assessment. The artefacts present in the assemblages at these sites, comprised fragments of early 20th Century domestic materials, including bottle glass, ceramics and also remnants of structural materials, including broken hand made bricks (Terra Culture, 2000: 46). It was suggested that these artefacts may have been derived from logging camps or depression era camps on the floodplain (Terra Culture, 2000: 46). These sites were all highly disturbed, and are being considered for listing on the Victorian Heritage Inventory. No historic sites were located on the Western Corridor (2000) in NSW.

A Central Option which was assessed as part of the previous EES in 2000 passed close to the intersection of the current ROW and Meninya Street in Moama. No historic archaeological sites were located in this vicinity during the field survey of the Central Corridor (Terra Culture, 2000: 46).

Archaeological Survey 2008

The 2008 archaeological survey was carried out by Heritage Insight Pty Ltd, although the report on the survey was not finalised. There were no historic archaeological sites identified during the 2008 field survey. The area covered by the 2008 survey was identical to the current ROW, with the exception of the strip of land along the south side of Warren Street which will be acquired for a roundabout and the construction of sediment ponds.

The section of the current ROW situated along Warren Street is built on fill and drainage ditches have been cut on either side of Warren Street (Plate 1). Red gum woodland has regenerated within the drainage ditches. The Echuca cemetery extends as far as the north side of the road reserve in Warren Street, and there are graves close to the edge of the road reserve (Plate 2).

Between Warren Street and Campaspe Esplanade, there is a raised area of fill which is the site of a former house, now demolished (Plate 3). An inspection of demolition fill on the site of the mound contains recent bricks, fibro, cement, tiles and other building materials, indicating that the house which is now demolished was initially constructed in recent times.

The ground surface within and near the ROW between Warren Street and the Campaspe River has been extensively disturbed by various types of land use, but particularly by logging and/or firewood cutting. There were no structural features or artefact scatters found in this area.

The St Leonards property on the north side of the Campaspe River is partially within the ROW and was inspected by David Rhodes from Heritage Insight Pty Ltd and Bob Adams from VicRoads on 25/7/2008 (see Section 3.1). The St Leonards Homestead is listed in the Shire of Campaspe Heritage Overlay (HO 41), but the small section of the grounds that is within the ROW is not currently affected by the Heritage Overlay (see Section 5.1). The original homestead, which is presumably incorporated in the present building, was constructed c. 1857. The main homestead building is a substantial two storey brick structure, which was renovated and possibly extended during the early twentieth century (Plate 6). There was a dome well, shed and a small brick outbuilding constructed from handmade bricks at the rear of the structure (Plates 7-9). The shed contains some upright posts and bearers made from hand-adzed logs (Plate 8), suggesting that the structure may be as old as the original house. However, additional mill-sawn timber bearers and recent galvanised iron cladding indicate that the shed has been partially reconstructed or renovated in the past.

It is not certain whether the grounds surrounding the building reflect any original landscape design, but sections of the garden are definitely more recent additions.

The area within the former Echuca College site was not surveyed, as access to the school was restricted in 2008. Although the school has operated since c. 1903, there were no buildings from that date remaining on the site at the time of the 2008 field survey. The

school has since been entirely demolished. Palm trees which may have been associated with the original school, are still present on the site and are within the ROW.

Between the tennis club and the west bank of the Murray River, the ROW crosses open eucalypt woodland with very little understorey vegetation. On the west bank of the Murray River, there is an existing car park and boat ramp. There are numerous vehicle tracks throughout the corridor in this area, and the ground surface has been extensively disturbed by vehicles and timber cutting in the past.

Near the east bank of the Murray River in NSW, a series of large levee banks have been constructed approximately 50m east of the riverbank and within the ROW, causing extensive ground disturbance. The river bank itself has been disturbed by logging. There is abundant evidence of recent logging and timber cutting activity along the length of the ROW in NSW. There are occasional cleared areas where timber milling with portable mills has obviously been carried out in recent times. Most of the land in this section of the ROW is now covered with recent eucalypt regrowth (Plate 10). The land surface is highly disturbed as a result of logging, and there was no evidence of any historic cultural remains in this area.

As no archaeological sites were located during the field survey, there was no requirement for an assessment of cultural significance for the study area.

Archaeological Survey 2011

During 2011 four alternative alignments, Options 2A to 2D were surveyed by Heritage Insight Pty Ltd for historic archaeological sites (see Map 4). Two historic archaeological sites were identified during the course of the fieldwork. Site H7825-0032 comprised 16 timber pylons exposed in the north bank and bed of the Campaspe River, along approximately 17m of the riverbank. The riverbank and bed of the river at this point were packed with broken hand made brick rubble, presumably to stabilise the banks.

The structure is the remains of a timber weir constructed in 1886 to harness water from the Campaspe River for irrigation (Priestley, 1965: 158). The weir was destroyed the following year in a severe flood and was not rebuilt (Priestley, 1965: 158). It is not known whether there were other structural elements of the weir surviving below the water level at the time of the field survey, but it is likely. The weir was assessed as being of low scientific and local heritage significance.

Site H7825-0033 comprised a small surface scatter of dark olive bottle glass and ceramics within a road reserve to the west of the cemetery. The artefact scatter is approximately 18.4m N-S x 22.9m E-W. Average artefact density is less than 1/m². Two bottle bases were identified with pontil marks and mould seams indicating they were produced on three piece Rickett's moulds. The ceramics were non-descript white-bodied stoneware. The site is likely the remains of a small dump or campsite, which occur commonly on the floodplain of the Murray River. It is considered likely that this has been extensively disturbed and probably dug over by bottle collectors. This site was also assessed as being of low scientific and local heritage significance.

The locations of the two archaeological sites are shown in Map 4.

5.3 Results of Archaeological Survey, 2014

A field survey of a corridor of land on the south side of Warren Street, Victoria that had been added to the ROW, was carried out by David Rhodes of Heritage Insight Pty Ltd on 3/9/2014. Prior to commencing the survey, a Survey Notification form was lodged with Heritage Victoria.

The field survey comprised a corridor of land 50m south of Warren Street, plus an extended area at the site of a proposed roundabout on Warren Street. The survey area was 80,834m². It is shown on Map 5.

Ground visibility was poor across the entire survey area. There was also considerable land disturbance resulting from past logging and agricultural activities.

No historic archaeological sites or places or structures were identified during the field survey. There are no historic records of any historic structures within the survey area. During the course of the field survey, it was noted that the ROW is very close to the boundary of a brick dwelling on the Heritage Overlay (HO 68), comprising a property identified as 279-281 Campaspe Esplanade, Echuca. The preferred alignment ROW is parallel with the southern boundary of Warren Street at this location, but is entirely outside the property.

During the field survey, a visual inspection of the property at 33 Crofton Street was also carried out from Crofton Road. As discussed above, the section of the property containing the homestead is listed on the Heritage Overlay as HO41. The visual inspection was carried out from outside the property boundary from Warren Street.

Since the property at 33 Crofton Street was inspected in 2008, there have been substantial modifications to the property. The small brick outbuilding, likely constructed at the same time as the original house in 1857 and shown in Plate 9, has been completely demolished. The original stables building, also likely constructed during 1857, has been completely modified, possibly for conversion into a second dwelling. Although some of the original external fabric remains, the structure has been completely altered. A driveway to access the former stables building has been cut across the western end of the garden and most of the plantings present in 2008 have been removed. The excavation at the western end of the garden combined with the demolition of the brick out building, is likely to have removed any archaeological features if they had been present. The site of the former Echuca College was also inspected briefly during fieldwork, and no historic features associated with the school were noted. The locations of the canary palms were not recorded, as this matter was raised by Heritage Victoria after the field survey was completed.

5.4 Archaeological Field Surveys - Discussion and Conclusions

No historic archaeological sites were identified in the ROW in either Victorian or NSW during field surveys in 2008 and 2014. The two historic archaeological sites identified in 2011 are not situated within or near the current ROW.

The ROW will pass through the western edge of HO 41 around the property at 33 Crofton Street Echuca, if HO41 is expanded to the west as a result of amendment C101. However, the structural features and vegetation on the western side of this property that are currently outside HO41 but which would have formed part of the historic fabric of the place have been demolished or removed. At present, the project does not impact on the area protected by HO41. If HO41 is extended to the west side of the property by amendment C101, it is highly unlikely that the project would impact on any historic fabric or vegetation, since the latter has been recently removed.

The ROW does pass through the stand of Murray Pine situated on the sandhill. The stand of Murray Pine has been included in the Campaspe Heritage Overlay, since it was marked on a map by the surveyor Philip Chauncy in 1854. If amendment C101 to the Campaspe Planning Scheme is adopted, the project will impact on the Murray Pines.

Recently Brett Lane and Associates conducted a survey of Murray Pines on the southern section of the sandhill (Brett Lane and Associates, 2015). The survey identified 222 Murray Pines within their survey area, with an estimated 500 pines occurring on the balance of the sand hill (Brett Lane & Associates, 2015). Advice from Alan Brennan, Senior Ecologist and Project Manager with Brett Lane and Associates, states that trees identified during the Brett Lane and Associates survey as being large to very large are likely to pre-date European settlement (Alan Brennan, email to David Rhodes, 11/2/2015). A total of 13 of 77 such pines identified during by Brett Lane and Associates (2015) would be removed by the project (Brett Lane and Associates, 2015). Although the total number of large to very large Murray Pines that will be within the Heritage Overlay if Amendment C101 is adopted is not known, it is evident that the majority of pines that are likely to have been present in 1854 will be retained.

It is also evident that the project will not impact on HO68, the dwelling at 279 Campaspe Esplanade, as the property is south of and outside the ROW.

No historic archaeological sites were identified in NSW. The ROW in NSW extends through an area which has been heavily impacted by logging and it is highly unlikely that any historic sites will be found in this area due to extensive surface disturbance which has occurred over many years. The alignment avoids the Moama heritage precinct listed in the Shire of Murray LEP.

6.0 Impact Assessment

6.1 Assessment of Impacts, Mid-West Alignment

The preferred alignment will not impact on any registered historic heritage places or sites. This includes sites on the Heritage Register, Heritage Inventory, Heritage Places in the Heritage Overlay of the Campaspe Planning Scheme, sites listed on the National Trust Register or National Heritage List located within the Study Area but outside of the Right-of-Way.

However, if proposed Amendment C101 to the Campaspe Heritage Overlay is approved during 2015, the ROW will then impact on certain Murray Pine trees within HO79 and the far western edge of HO41. The ROW will not impact on any buildings or vegetation within Heritage Place HO41.

In Victoria, the project will impact on 13 of 77 Murray Pines within an area of the sandhill surveyed by Brett Lane and Associates (2015) that were likely to date from the time before European settlement (see Section 5.4). The 13 pines will be situated within HO79 if amendment C101 is adopted. No other Murray Pines within the extended Heritage Overlay will be impacted.

The ROW will not impact on any historic sites in NSW. It will not directly or indirectly impact on either the former Echuca Rail Bridge or any part of the Moama historic precinct listed in the Shire of Murray LEP.

6.2 Assessment of Impacts, No Road Option

Under the “No Project” Option there will be no impact of the preferred alignment on historic places. Heritage Place HO41 under the Campaspe Planning Scheme, the St Leonards homestead and surrounds, has been substantially altered by recent works on the property and these have had a far greater impact on the site than construction of the Project would have.

There is no difference to the impacts in NSW between the preferred alignment and the “No Project” Option.

6.3 Overall Assessment of Impacts

VicRoads have requested an overall assessment of the impacts of the Mid-West and “N Project” options.

The preferred alignment will perform well in terms of overall impacts. The option will not impact on any known historic archaeological sites, buildings or places. While planning approval may be necessary for the alignment to cross the edges of Heritage Overlays in Victoria, there will be no impacts on any of the buildings contained in the overlays. Standard protection measures that would be adopted for this Project include Clause 160.F1 of the VicRoads DCI contract specifications (Refer to Appendix 4). This requires inspection of all buildings and structures within a minimum distances of the worksite before and after construction. The contractor would be responsible for repair of any damage to properties caused by the contractors operations. This mitigates against any unexpected construction impacts affected by Heritage Overlays, including 33 Crofton Street and 279-281 Campaspe Esplanade, Echuca.

There will be no impacts on historic places, buildings or archaeological sites in NSW.

The No Project option will perform very well, as it will have no impacts at all.

6.4 Risk Assessment

6.4.1 Methodology

The risk assessment for the Project included identification and management of Project risks and Environmental risks. Project risks were identified by VicRoads before an environmental risk assessment was undertaken with key specialists. A summary of the Project risks are outlined in Chapter 6 of the EES.

The environmental risk assessment developed for the EES included the development of impact pathways and mitigation measures that could reduce the impact of the preferred alignment.

A quantitative risk assessment was undertaken with key specialists. VicRoads and key members of the Project Team developed a risk register based upon a detailed understanding of the Project and the Preferred Alignment. The risk register was sent to key specialists for review and consideration prior to attendance at a workshop held on 18 September 2014 to:

- Review the consequence criteria developed;
- Review the risks identified;
- Identify any additional risks that need to be addressed; and
- Develop detailed mitigation measures.

6.4.2 Risk Significance

The significance of risks was identified having regard to the Consequence Criteria and Likelihood Guide.

Consequence criteria were developed by VicRoads and reviewed by project specialists to define a scale of magnitude from “insignificant” to “catastrophic” risks. The scale of magnitude was based on the spatial area affected and expected recovery time of the value impacted. Accordingly, insignificant consequences were generally situated within a localised area with a recovery time potential within the range of normal variability. Conversely, catastrophic consequence criteria describe scenarios involving a very high magnitude event, affecting a State-wide area, or requiring over a decade to reach functional recovery.

The Consequence criteria for historic heritage associated with the Project are outlined in Table 3.

Table 3: Consequence criteria

Aspect	Insignificant	Minor	Moderate	Major	Catastrophic
Historic cultural heritage	<i>Negligible impact to heritage sites. Sites remain intact/unaffected</i>	<i>Disturbance to a locally significant heritage feature or site (HO or DSE local listing)</i>	<i>Complete removal of heritage site of local significance (HO); and or disturbance of a historical heritage inventory site (HI)</i>	<i>Disturbance of a heritage site of state or national significance (VHR, NSW HR and / or the National Heritage List)</i>	<i>Complete removal of a heritage site of state or national significance (VHR, NSWHR, National Trust or National Heritage List)</i>

The significance of the risks were determined having regard to the Likelihood Guide (Table 4) and the Consequence Level (Table 5) as outlined in Table 6.

Table 4: Likelihood Guide

Descriptor	Explanation
Almost Certain	The event is expected to occur in most circumstances
Likely	The event will probably occur in most circumstances
Possible	The event could occur
Unlikely	The event could occur but is not expected
Rare	The event may occur only in exceptional circumstances

Table 5: Risk Significance Matrix

Likelihood	Consequence Level				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain	Low	Medium	High	Extreme	Extreme
Likely	Low	Medium	High	High	Extreme
Possible	Negligible	Low	Medium	High	High
Unlikely	Negligible	Low	Medium	Medium	High
Rare	Negligible	Negligible	Low	Medium	Medium

6.4.3 Risk Workshop

The Environmental Risk Assessment Workshop was held on 18 September 2014 to consider the risks and mitigation measures that would apply to the Preferred Alignment (Mid-West Option). The risk workshop was attended by the flora and fauna, historic and Aboriginal cultural heritage, hydrology, noise, aquatic, traffic and geology specialists. The workshop also included representatives of VicRoads and the NSW Department of Roads and Maritime Services.

Initial discussions at the workshop were held regarding the suggested consequence criteria developed for each of the relevant specialist's disciplines for the Project and were followed by review of environmental risks.

The workshop included review of the Extreme, High and Medium initial risks. As part of the workshop, it was agreed that the consequence criteria or likelihood of some of the initial Medium, High and Extreme risks could be revised. The risk ratings were revised within the workshop and specialists were asked to review the updated risk register as part of their impact assessment to confirm or recommend if any further changes would be required. Table 6 outlines the historic cultural heritage risks identified for the preferred alignment.

6.4.4 Design and Mitigation Measures

In order to mitigate the risks for the Project, standard VicRoads and RMS environmental protection measures and some additional project specific have been identified for incorporation into the Environmental Management Framework (EMF). VicRoads, as the responsible proponent for the construction of the Project, would require the construction contractor to incorporate all of these measures from the Environmental Management Framework into the Construction Environmental Management Plan (CEMP).

Standard protection measures for the historic cultural heritage impacts that would be adopted for this Project include the following Clauses of the VicRoads DCI contract specifications Clause 177.J1. (Refer to Appendix 3).

- Clause 177.J1d
- Clause 177.J1e

There are several additional project specific controls that have been recommended to avoid, mitigate and manage potential historic cultural heritage effects, reducing residual risks/impacts to an acceptable level. These additional controls and the responsibility for implementing them are outlined in Table 8.

Table 6: Risk Register

Risk No.	Impact pathway	Description of consequences	VicRoads Contract Specification Section 177 Reference	Planned Controls to Manage Risk (as per Section 177 and Project Description)	Initial Risk			Additional Controls Recommended to Reduce Risk	Residual Risk		
					Consequence	Likelihood	Risk Rating		Consequence	Likelihood	Risk Rating
1	Construction encounters previously unregistered and unassessed historical heritage site	Damage / destruction to a previously unregistered or unassessed historic archaeological site.	177.J1e	The following procedure will apply in the event of the discovery of any uncovered historic cultural heritage during construction: i) immediate notification of the Superintendent; ii) work at the immediate location to be suspended, and the site isolated by a 'No-Go Zone', which will be temporarily fenced during construction to prevent access, pending completion of an evaluation of the historic cultural heritage and the determination of an appropriate course of protective action; iii) the Contractor shall	Moderate	Unlikely	Medium	Obtain Consent to Disturb the heritage site pursuant to the <i>Victorian Heritage Act 1995</i> from the Executive Director of Heritage Victoria. Conduct salvage works on the site in accordance with the conditions on the Heritage Victoria Consent.	Minor	Unlikely	Low

Risk No.	Impact pathway	Description of consequences	VicRoads Contract Specification Section 177 Reference	Planned Controls to Manage Risk (as per Section 177 and Project Description)	Initial Risk			Additional Controls Recommended to Reduce Risk	Residual Risk		
					Consequence	Likelihood	Risk Rating		Consequence	Likelihood	Risk Rating
				evaluate the nature and extent of the cultural heritage. A cultural heritage advisor shall be engaged to assist in this evaluation; iv) work greater than 50m away from the area in which the cultural heritage was uncovered and/or identified may recommence and continue.							

Risk No.	Impact pathway	Description of consequences	VicRoads Contract Specification Section 177 Reference	Planned Controls to Manage Risk (as per Section 177 and Project Description)	Initial Risk			Additional Controls Recommended to Reduce Risk	Residual Risk		
					Consequence	Likelihood	Risk Rating		Consequence	Likelihood	Risk Rating
2	Construction encounters HO79 stand of Murray pine trees north of former Echuca College	Damage / destruction of a landscape feature listed in the Heritage Overlay of the Campaspe Planning Scheme.	177.J1d	If Amendment C101 is gazetted as proposed at the time of writing this report, then planning approval to impact on area of HO79 crossed by the alignment should be obtained from the Shire of Campaspe prior to works commencing. Works to be conducted in accordance with conditions in any planning approval.	Moderate	Almost Certain	High	Works to be carried out to comply with any conditions issued in any required planning approval	Minor	Almost Certain	Medium

Risk No.	Impact pathway	Description of consequences	VicRoads Contract Specification Section 177 Reference	Planned Controls to Manage Risk (as per Section 177 and Project Description)	Initial Risk			Additional Controls Recommended to Reduce Risk	Residual Risk		
					Consequence	Likelihood	Risk Rating		Consequence	Likelihood	Risk Rating
3	Alignment encounters heritage listed area of the Old Echuca township and Victoria Park (HO1)	Damage / destruction of a heritage place listed in the Heritage Overlay of Campaspe Planning Scheme..	177.J1	Alignment does not currently encounter Old Echuca Township and Victoria Park Heritage Overlay, and will not encounter it if Amendment C101 is passed in its current form.	Minor	Rare	Negligible	Adopt sympathetic materials / colours for the bridge in this location and or complementary landscaping	Minor	Rare	Negligible

Risk No.	Impact pathway	Description of consequences	VicRoads Contract Specification Section 177 Reference	Planned Controls to Manage Risk (as per Section 177 and Project Description)	Initial Risk			Additional Controls Recommended to Reduce Risk	Residual Risk		
					Consequence	Likelihood	Risk Rating		Consequence	Likelihood	Risk Rating
4	Alignment encounters H041 at 33 Crofton Street ¹	Damage / destruction of a heritage place listed in the Heritage Overlay of Campaspe Planning Scheme..	177.J1	Alignment avoids HO41. Planning approval to impact on HO site should be obtained from the Shire of Campaspe in the event that Amendment C101, which extends the Heritage Overlay around 33 Crofton Street, is gazetted as proposed at the time of writing this report. Works to be conducted in accordance with conditions in any planning approval. A Consent to Disturb approval for impacts on any archaeological features should be obtained from Heritage Victoria pursuant to the Heritage Act 1995.	Minor	Rare	Negligible	Ensure design of the alignment does not impact on heritage features within the boundary of HO 41.	Minor	Rare	Negligible

Risk No.	Impact pathway	Description of consequences	VicRoads Contract Specification Section 177 Reference	Planned Controls to Manage Risk (as per Section 177 and Project Description)	Initial Risk			Additional Controls Recommended to Reduce Risk	Residual Risk		
					Consequence	Likelihood	Risk Rating		Consequence	Likelihood	Risk Rating
5	Alignment encounters HO 68 at 279-281 Campaspe Esplanade	Damage / destruction of a heritage place listed in the Heritage Overlay of Campaspe Planning Scheme	177.J1	Alignment to avoid HO. Planning approval to impact on HO site should be obtained from the Shire of Campaspe in the event of impacts. Works to be conducted in accordance with conditions in any planning approval. A Consent to Disturb approval for impacts on any archaeological features should be obtained from Heritage Victoria pursuant to the Heritage Act 1995.	Minor	Rare	Negligible	Works to be carried out to comply with any conditions issued in a planning approval	Minor	Rare	Negligible

¹ Risk 4 has been assessed assuming PSA C101 is gazetted in its current form. If HO41 is not extended this risk is redundant – this is not certain at the time of writing this report, and so a conservative approach has been adopted.

Table 7: Heritage Management Measures

Risk No.	Risk Description	Management Measures	Responsibility
1	Construction encounters previously unregistered and unassessed historical heritage site	Obtain Consent to Disturb the heritage site pursuant to the Victorian Heritage Act 1995 and the NSW Heritage Act 1977 from the Executive Director of Heritage Victoria or the Executive Director of the Office of Environment and Heritage in NSW. Conduct salvage works on the site in accordance with the conditions on the Heritage Victoria or NSW Heritage Office Consents	VicRoads / Contractor
2	Construction encounters HO79 stand of Murray pine trees north of former Echuca College (unlikely)	Works to be carried out to comply with any conditions issued in a planning approval. This applies only if Amendment C101 is gazetted.	Contractor
3	Alignment encounters heritage listed area of the Old Echuca township and Victoria Park (HO1) (unlikely)	Adopt sympathetic materials / colours for the bridge in this location and or complementary landscaping	VicRoads / Contractor
4	Alignment encounters H041 at 33 Crofton Street (unlikely)	Ensure design of the alignment does not impact on the property within the boundary of HO 41. Works to be carried out to apply with any conditions in a planning approval if Amendment C101 is gazetted prior to the commencement of the project.	VicRoads
5	Alignment encounters HO 68 at 279-281 Campaspe Esplanade (unlikely)	Works to be carried out to comply with any conditions issued in a planning approval	Contractor

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Unpublished Sources:

Alan Brennan, Senior Ecologist, Brett Lane and Associates, email to David Rhodes, 11/2/2015

Brett Lane and Associates (2015) Letter to Emily Lodder, VicRoads, 28/1/2015 re. mapping of Murray Pines

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Andrew Ward & Associates (1992) *City of Echuca Heritage Conservation Study*.

Coulson, Helen (1995) *Echuca-Moama on the Murray*. Hyland House, South Melbourne.

Priestley, Susan (1965) *Echuca, A Centenary History*. The Jacaranda Press Pty Ltd, Queensland.

Shire of Campaspe (2014^a) *Heritage Review Part A: Review Methodology*.

Shire of Campaspe (2014^b) *Heritage Review Part B: Heritage Precincts*

Shire of Campaspe (2014^c) *Heritage Review Part C: Individual Heritage Places*

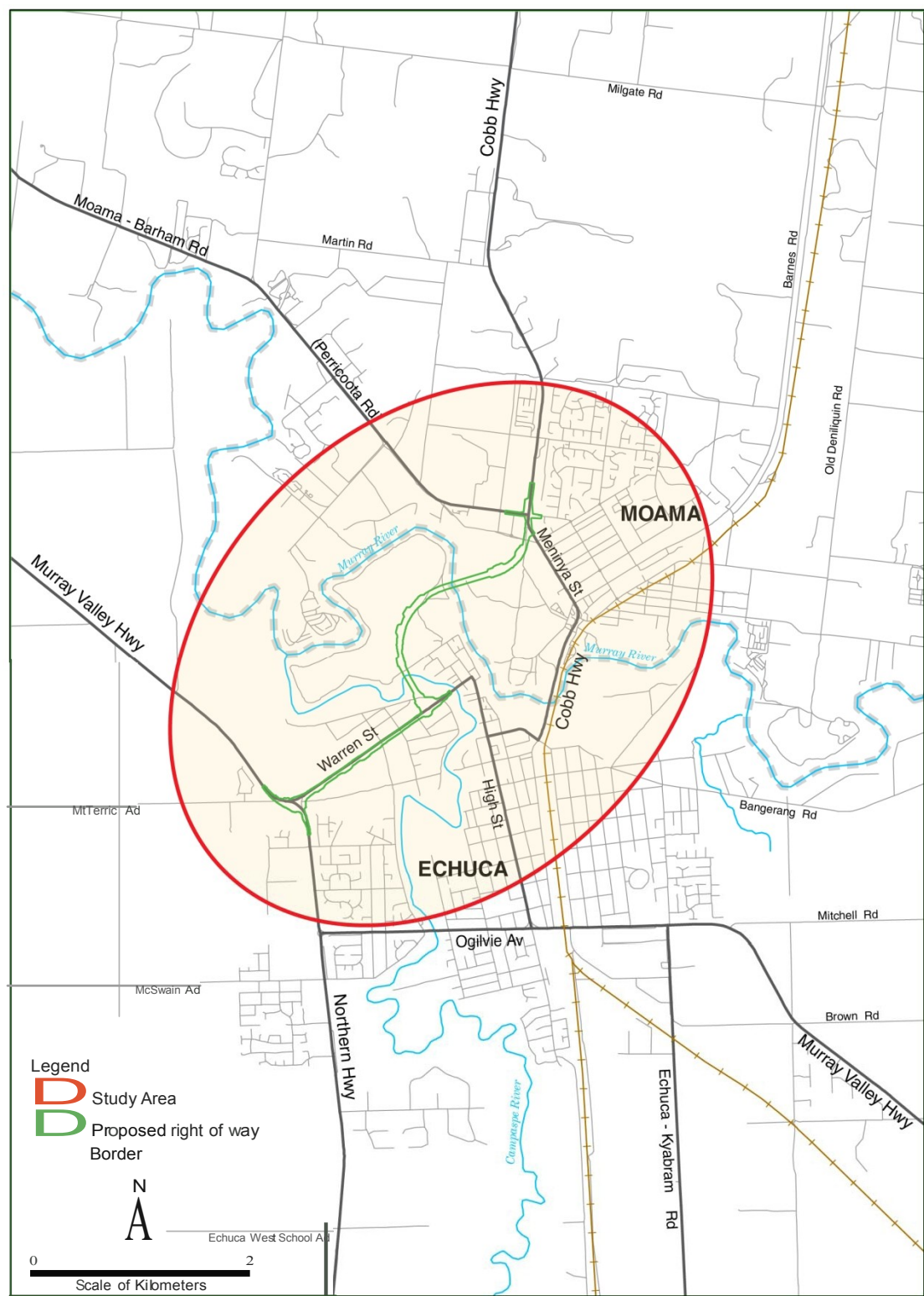
Terra Culture Pty Ltd 2000 *Murray River Crossing at Echuca-Moama Planning Study: Revised Stage 1 Report with an Addendum Report on the Results of a Stage 2 Investigation of the Central Options*. Report to VicRoads. Terra Culture Pty Ltd, Melbourne.

Maps

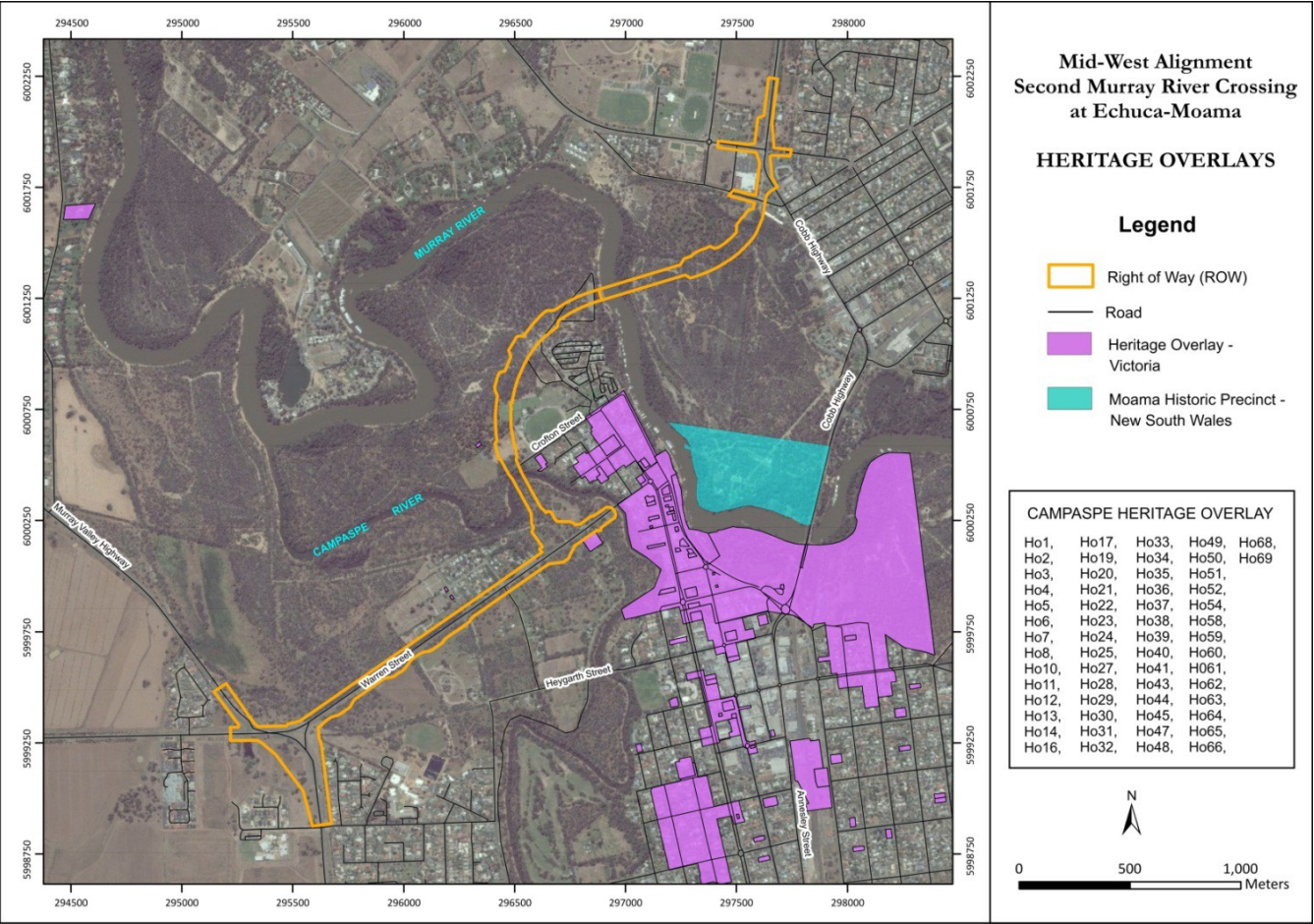
Map 1-a: Location of the preferred alignment



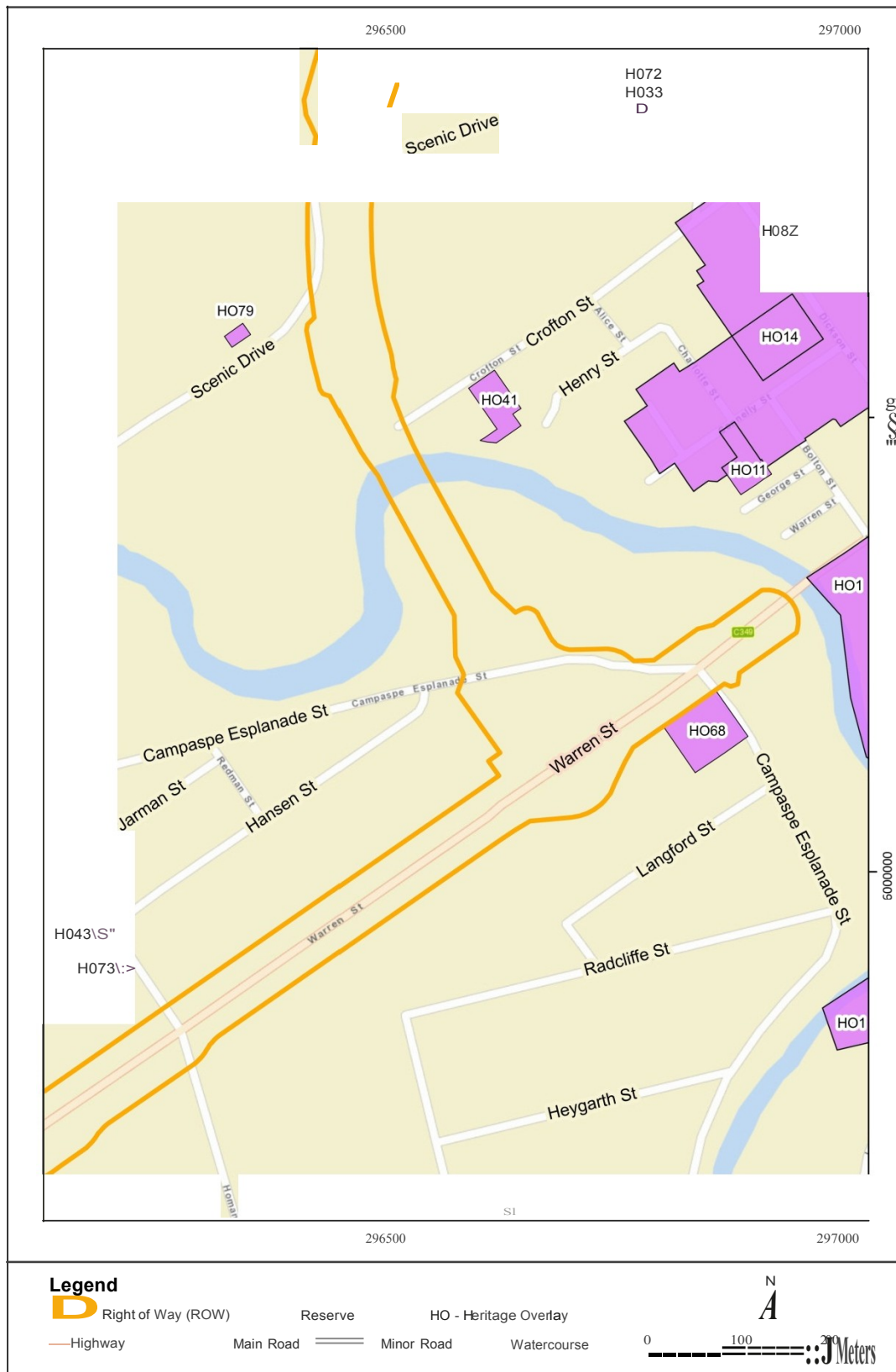
Map 1-b: Study Area



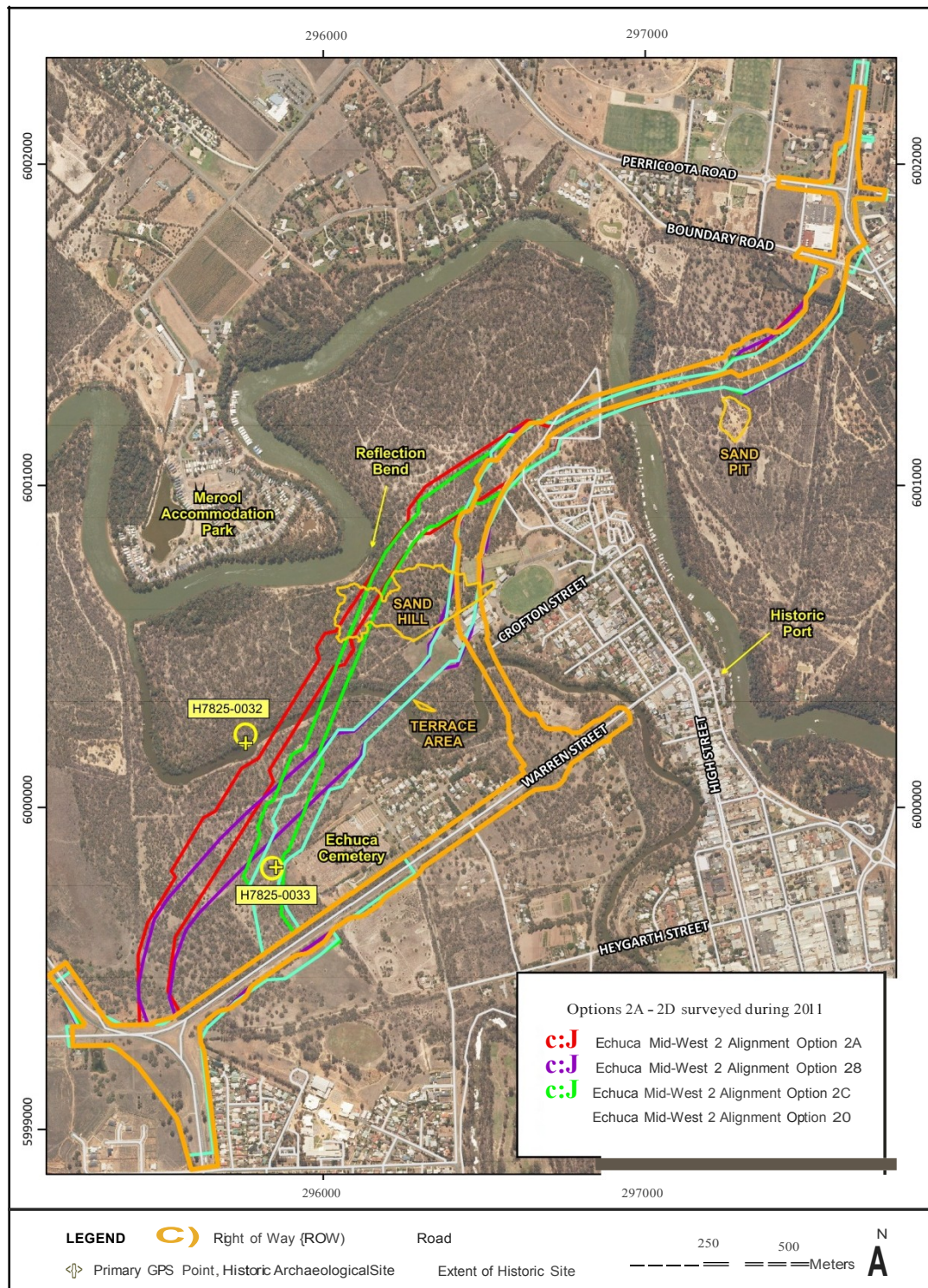
Map 2: Location of the Moama heritage precinct listed on the NSW heritage register and in Schedule 5 of the Shire of Murray Local Environment Plan



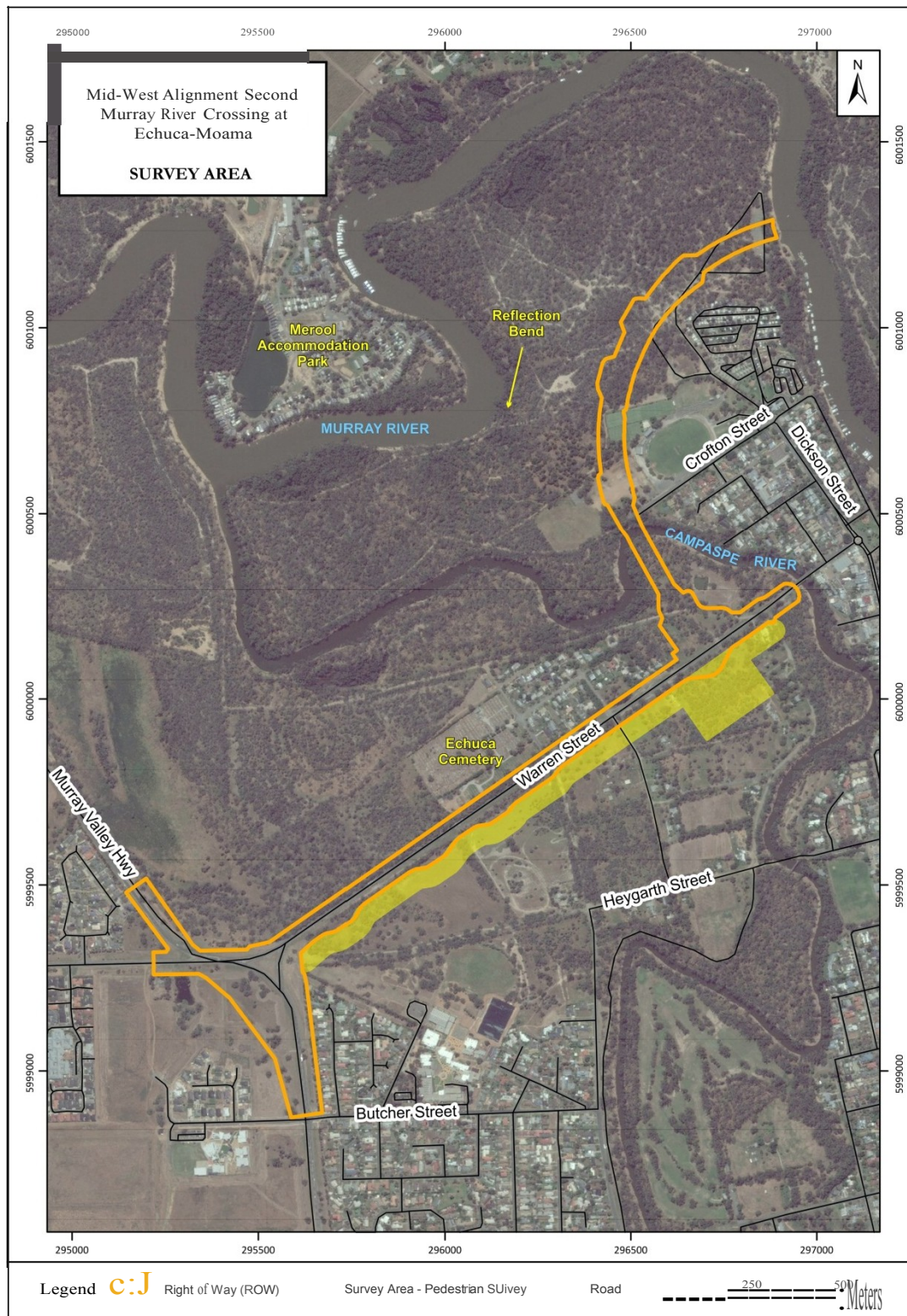
Map 3: Detail of places listed on the Campaspe Heritage Overlay and situated on or near the alignment



Map 4: Location of historic archaeological sites identified during surveys of Options 2A - 2D during 2011

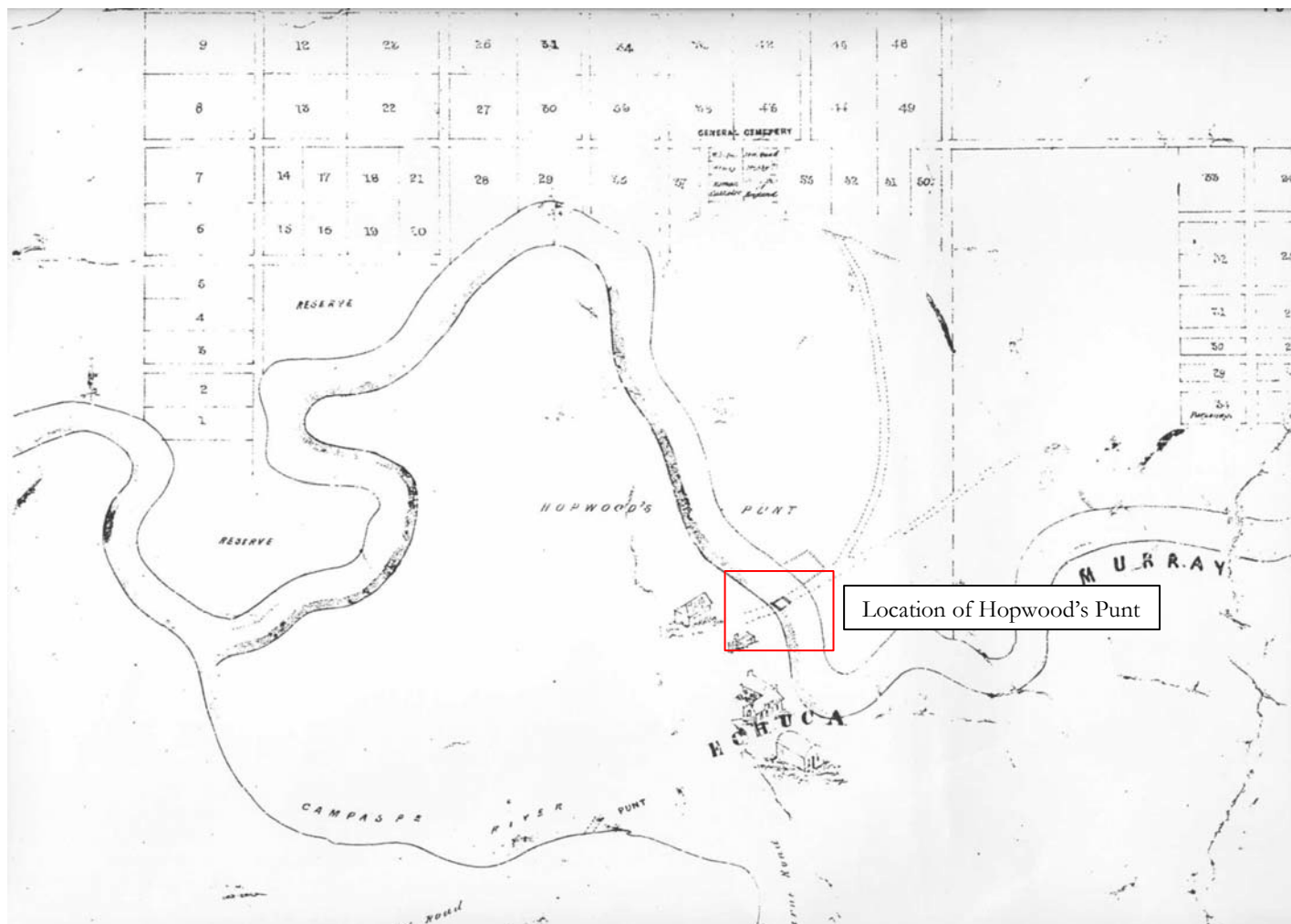


Map 5: Survey area for the 2014 field survey



Figures

Figure 1: 1857 plan of Echuca-Moama showing the location of Hopwoods Punt and Inn and present day Warren Street



Plates



Plate 1: Looking along the Right of Way in Warren Street, facing west



Plate 2: View of the Echuca cemetery from Warren Street, facing north-west



Plate 3: Looking north-east along the study corridor between Warren Street and Campaspe Esplanade



Plate 4: Looking north-east along the Right of Way from Campaspe Esplanade towards the Campaspe River)



Plate 5: Looking south-west along the Right of Way near Meninya Street in Moama



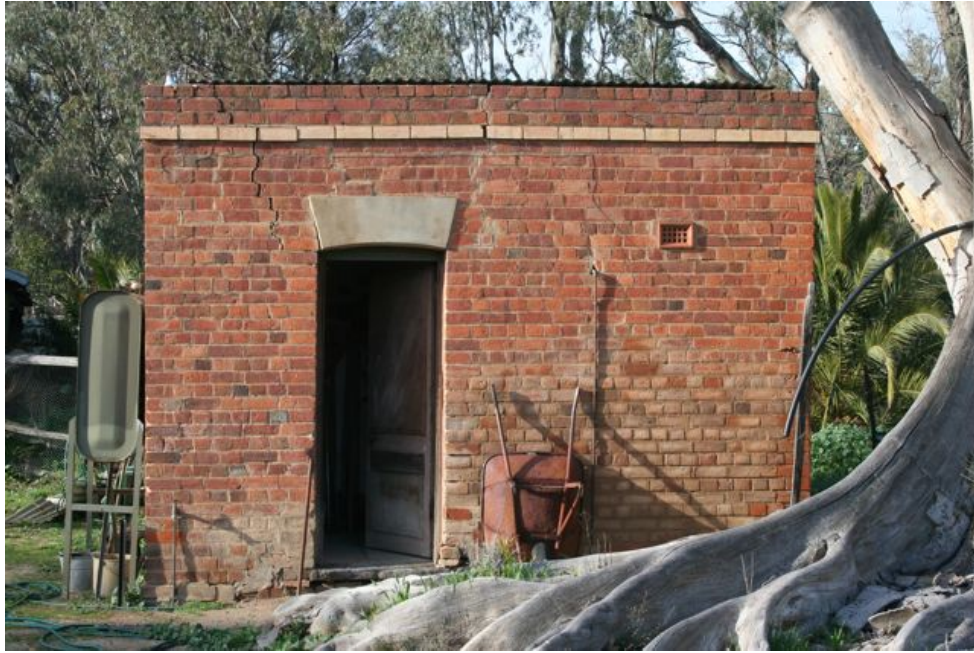
Plate 6: Front view of the St Leonards homestead, facing south-east (photographed in 2008)



Plate 7: Dome well at the rear of the St Leonards homestead (photographed in 2008)



Plate 8: Interior of shed to the rear of St Leonards homestead, showing hand-adzed uprights and log bearers plus recent additions (photographed in 2008. The building has since modified and adapted for use as a dwelling)



**Plate 9: Brick outbuilding at the rear of the St Leonards homestead
(photographed in 2008, since demolished)**



Plate 10: View along the alignment of the Right of Way in NSW, showing recently regenerated red gum woodland in an area which has been heavily logged in the past, facing north-east

Appendix 1: HV Survey Notification

Appendix O

Office of the Minister
to carry out an Archaeological Survey



Heritage

1. Details of notifier
Name David Rhodes

1/2 O:JwA g Gd!,V-.wJ!c,:J- V,c,

30...>6

(r3) 94176803
Vic Roads

94177215

2. Survey location

Warren Street, Echuca

Map

7825 N

Map name

Echw:q

3. Dates of survey

3/9/2014
D.P.

3/9/2014

1 7 2014-

**Appendix 2: Map showing extensions to places on the
Heritage Overlay near the ROW proposed by Amendment
C101**

CAMPASPE PLANNING SCHEME - LOCAL PROVISION

