

Ms Naomi Moss  
Senior Planning Officer  
Transport Assessments  
NSW Department of Planning, Industry and Environment  
320 Pitt Street  
SYDNEY NSW 2000

Dear Ms Moss

### **M12 Motorway (SSI 9364) – Comments on Environmental Impact Statement**

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Thank you for inviting the Heritage Council of NSW to provide comment and recommended conditions of approval for the M12 Motorway project. I am responding as the delegate of the Heritage Council.

The M12 Motorway will provide direct access between the Western Sydney Airport at Badgerys Creek and Sydney's motorway network. The M12 Motorway would run between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham for a distance of about 16 kilometres and would be opened to traffic prior to opening of the Western Sydney Airport.

A review of the Environmental Impact Statement (EIS) documentation for SSI 9364 has been undertaken, in particular:

- Section 7.6 - Non-Aboriginal heritage;
- Appendix J - Non-Aboriginal heritage assessment report; and
- Appendix K - Noise and Vibration assessment report.

It is understood from the EIS that after mitigation measures, the project will have heritage impacts on the following heritage items:

- **Upper Canal System** (currently on the State Heritage Register) – **Negligible** heritage impact;
- **McGarvie Smith Farm** (not currently on the State Heritage Register but assessed as of State significance) – construction and operational impacts – **Major** heritage impact;
- **McMaster Field Station** (not currently on the State Heritage Register but assessed as of State significance) – construction and operational impacts – **Major** heritage impact; and
- **Fleurs Radio Telescope Site** (not currently on the State Heritage Register but assessed as of State significance and potentially of National significance) – **Minor** heritage impact.

Based upon this review, the following comments are provided.

#### General Comments

It is noted that McGarvie Smith Farm and Fleurs Radio Telescope Site are listed as local heritage items under the *Penrith Local Environmental Plan 2010* (LEP). To avoid any

duplication or conflict of opinion, Heritage Council will defer to the comments and recommended conditions from Penrith City Council for **McGarvie Smith Farm**.

McMaster Field Station, however, does not currently have heritage protection under any environmental planning instrument.

The M12 motorway project will require the removal of one element of the Shain Cross (SC01) from the **Fleurs Radio Telescope Site**, which will reduce the intactness of the Shain Cross array. However, the rest of the remaining elements of the overall Fleurs Radio Telescope Site will not be impacted by the project. The overall significance of the Fleurs Radio Telescope Site, including its historical significance, principal characteristics and potential to yield information, will be retained. In addition to recommended conditions for the **Upper Canal System** and **McMaster Field Station**, the Heritage Council recommends specific conditions for the Fleurs Radio Telescope Site because the latter is potentially also of National significance and therefore should be afforded a higher level of heritage consideration.

#### Recommended Conditions

If approved, the following conditions are recommended.

#### **Heritage - general**

- Suitably qualified and experienced **heritage specialists** must be integrally involved in the detailed design development of the proposed project's components to avoid, minimise or mitigate heritage impacts on Aboriginal, Non-Aboriginal, archaeological, landscape and urban design values along the M12 corridor.
- Construction and operation of the M12 motorway should aim not to diminish the potential of the following heritage items for nomination to the State Heritage Register: **McGarvie Smith Farm, McMaster Field Station** and **Fleurs Radio Telescope Site**.
- Identified impacts to heritage items should be minimised through both detailed design and construction. The measures for ensuring this are to be detailed in the **Construction Cultural Heritage Management Plan**.
- The Proponent should engage a suitably qualified and experienced heritage specialist to prepare a **Heritage Interpretation Plan** that identifies and interprets the key heritage values and stories of the heritage items impacted by the project. The Heritage Interpretation Plan must include but not be limited to:
  - (a) Integration of heritage themes and values;
  - (b) Collaboration with other design elements and themes for the project, including those associated with Western Sydney Airport and Sydney Metro Greater West, to develop an integrative design approach with surrounding development; and
  - (c) Opportunities for design responses for Aboriginal and Non-Aboriginal heritage.

This framework should be prepared in accordance with the *Interpreting Heritage Places and Items Guidelines* (NSW Heritage Office, 2005).

- The Proponent must engage a suitably qualified and experienced heritage specialist to prepare an **Archival Photographic Digital Recording** of listed heritage items and sites of potential heritage significance affected by the proposed works, to be recorded prior to the commencement of any works.

The archival recording to be prepared in accordance with NSW Heritage Office's *How to Prepare Archival Records of Heritage Items* (1998) and *Photographic Recording of Heritage Items Using Film or Digital Capture* (2006).

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Within 12 months of completing the archival recording, the Proponent must submit the **Archival Photographic Digital Recording** to the Secretary, Heritage NSW, relevant councils, relevant local libraries and local historical societies in the respective local government areas.

- Where State significant archaeology and substantially intact archaeological resources would be affected by the project, the impacts should be mitigated through the following measures.

An **Historical Archaeological Research Design and Excavation Methodology** to guide the approach to any archaeological excavation should be prepared by a suitably qualified and experienced excavation director who fulfils the Heritage Council's Excavation Director Criteria.

- The **Historical Archaeological Research Design and Excavation Methodology** be submitted to the Heritage Council of NSW (or its delegate) for review and comment prior to finalisation. The Historical Archaeological Research Design and Excavation Methodology must:
  - (a) be consistent with the NSW Heritage Council's *Archaeological Assessments Guideline* (1996) or as updated;
  - (b) provide for the detailed analysis of any heritage items discovered during the investigations;
  - (c) include management options for discovered heritage items, whether known or unexpected finds (including options for avoidance, salvage, relocation and display);
  - (d) for unexpected finds that are determined to be relics, set out the assessment process that will determine an appropriate archaeological response to managing their significance;
  - (e) include procedures for notifying the Heritage Council of NSW (or its delegate) and Secretary of any relic findings; and
  - (f) if the findings of the investigations are significant, provide for the preparation and implementation of a **Heritage Interpretation Plan**.
- Where excavation works are required in the vicinity of potential archaeological sites, the Excavation Director must be consulted to advise on how the works are to be managed and any archaeological impact minimised. The Excavation Director must be given the authority to advise on the duration and extent of oversight required during excavation.
- Works within the vicinity of the find must not recommence until the relevant requirements of the **Historical Archaeological Research Design and Excavation Methodology** or advice on unexpected finds from the Excavation Director have been met.
- The Proponent must prepare an **Archaeological Excavation Report** containing the findings of any excavations, including artefact analysis and the identification of a final repository of any finds. The report must be submitted to the Secretary within 12 months of completing all archaeological investigations. The **Archaeological Excavation Report** must also be submitted to the Heritage Council of NSW, relevant local libraries and local historical societies in the respective local government areas. A copy of the **Archaeological Excavation Report** must be retained with the relics at all times.
- Preparation of final reporting shall be required to include the following:
  - (a) An executive summary of the archaeological programme;

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- (b) Due credit to the client paying for the excavation, on the title page;
- (c) An accurate site location and site plan (with scale and north arrow);
- (d) Historical research, references, and bibliography;
- (e) Detailed information on the excavation including the aim, the context for the excavation, procedures, treatment of artefacts (cleaning, conserving, sorting, cataloguing, labelling, scale photographs and/or drawings, location of repository) and analysis of the information retrieved;
- (f) Nominated repository for the items;
- (g) Detailed response to research questions (at minimum those stated in the Department of Planning, Industry and Environment approved Research Design);
- (h) Conclusions from the archaeological programme. This information must include a reassessment of the site's heritage significance, statement(s) on how archaeological investigations at this site have contributed to the community's understanding of the Site and other Comparative Site Types and recommendations for the future management of the site;
- (i) Details of how this information about the excavations have been publicly disseminated (for example, include copies of press releases, public brochures and information signs produced to explain the archaeological significance of the sites).
- The Proponent must ensure that if unexpected archaeological deposits or relics not identified and considered in the supporting documents are discovered, work must cease in the affected area(s) and the Heritage Council of NSW must be notified. Additional assessment and approval may be required prior to works continuing in the affected area(s) based on the nature of the discovery.
- An **Unexpected Heritage Finds Procedure** must be prepared:
  - (a) to manage unexpected heritage finds in accordance with any guidelines and standards prepared by the Heritage Council of NSW or Heritage NSW; and
  - (b) by a suitably qualified and experienced heritage specialist.

The Procedure must be included in the **Construction Cultural Heritage Management Plan**.

*Note: Human remains that are found unexpectedly during works are under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately.*

- Should any Aboriginal 'objects' be uncovered by the work, excavation or disturbance of the area is to stop immediately and the Chief Executive is to be notified in accordance with Section 89A of the *National Parks and Wildlife Act 1974* (as amended). Works affecting Aboriginal 'objects' on the site must not continue until Heritage NSW has been informed. Aboriginal 'objects' must be managed in accordance with the *National Parks and Wildlife Act 1974*.

## Upper Canal System

- A suitably qualified and experienced heritage specialist should be involved in guiding the heritage protection of the Upper Canal System.

- Upper Canal System must be managed according to *Upper Canal Pheasants Nest to Prospect Reservoir Conservation Management Plan* (NSW Public Works Government Architect's Office, 2016).
- The **Construction Cultural Heritage Management Plan** should be consistent with and require implementation of relevant conservation policies in the *Upper Canal Pheasants Nest to Prospect Reservoir Conservation Management Plan* (NSW Public Works Government Architect's Office, 2016) to ensure the heritage fabric of the canal system is not impacted or damaged by the project.
- The **Construction Cultural Heritage Management Plan** should be consistent with and require implementation of relevant measures outlined in *The Guidelines for development adjacent to the Upper Canal and Warragamba Pipelines* (Sydney Catchment Authority, 2012) to ensure the heritage fabric of the canal system is not impacted or damaged by the project.
- A safe working distance exclusion zone be established around the exposed tunnel air shaft (Tunnel Shaft 4) in the M7 Motorway median in accordance with the process outlined in noise and vibration management measures NV09 - NV10. The Proponent must not destroy, modify or otherwise cause direct or indirect damage during construction and operation to Tunnel Shaft 4 of the Upper Canal System.
- The condition of the canal to be confirmed by TfNSW (Roads and Maritime) during or prior to the detailed design stage of the project in order to determine appropriate vibration criteria. In-situ monitoring should be used to establish site laws to confirm the site-specific vibration propagation to assess the impact of vibration on the canal.

### Fleurs Radio Telescope Site

- The Proponent should engage a suitably qualified and experienced heritage consultant to prepare an **Archival Photographic Digital Recording** of the entire property, in accordance with Heritage NSW guidelines (Heritage Council of NSW, 2006).
- Prior to any ground disturbance, **ground penetrating radar, or other remote sensing survey techniques**, could be undertaken (within the heritage curtilage of Fleurs Radio Telescope Site included in the construction footprint) under the supervision of a suitably qualified and experienced archaeologist, to detect sub-surface cables that connected the antenna elements to the signal processing units. Roads and Maritime to provide a copy of this report to the University of Sydney.
- A **dilapidation survey** should be carried out to confirm the sensitivity of the item to vibration-induced damage and the appropriate criteria applied. The vibration criteria should be reviewed with respect to the condition of the structural item (e.g. footing, frame, beams or fabric). Vibration monitoring of relevant Fleurs Radio Telescope structures nearby must be performed during construction. The management measures must be included in the **Construction Cultural Heritage Management Plan** to describe how the heritage values of the Fleurs Radio Telescope Site will be conserved and managed during the construction of the motorway.
- Contractors and subcontractors working in the area must be informed of the exclusion zones, the elements and their significance, to prevent accidental damage or encroachment.
- All extant elements of the radio telescopes and associated infrastructure, including rubbish mounds (outside of the construction footprint) must be left intact.

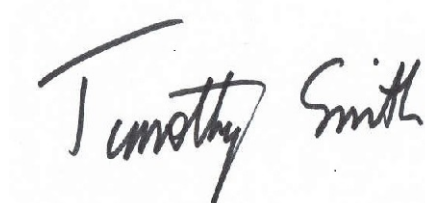
- Historic heritage interpretation and improvement of community awareness of the significance of the Fleurs Radio Telescope Site must be included in a **Heritage Interpretation Plan**. Further investigation by Roads and Maritime during detailed design should be undertaken to investigate where and how the heritage interpretation could be presented near the site in an area accessible by the public.

### McMaster Field Station

- The Proponent to engage a suitably qualified and experienced heritage specialist to prepare an **Archival Photographic Digital Recording** of the impacted area, in accordance with Heritage NSW guidelines (Heritage Council of NSW, 2006). This should include both buildings and landscape features such as dams and earthworks. The recording shall include a detailed map showing the location of the features.
- A **potential use zone** be established around the McMaster Farm group of buildings, including a suitable buffer zone, and construction activities must not take place within this zone. This zone should be incorporated into the **Construction Cultural Heritage Management Plan**. The potential use zone to include safe working distances to be adhered to for heritage structures as outlined in Appendix K (Noise and Vibration assessment report).
- Before occupying or utilising the buildings, a **dilapidation survey** should be carried out and the heritage specialist shall advise on proposed modifications and management measures to avoid and minimise impact on the buildings.

If you have any questions regarding the above matter, please contact Hendry Wan, Senior Heritage Officer - Major Projects at Heritage NSW, Department of Premier and Cabinet, on (02) 8837 6090 or at [Hendry.Wan@environment.nsw.gov.au](mailto:Hendry.Wan@environment.nsw.gov.au)

Yours sincerely



**Tim Smith OAM**  
Director, Heritage Operations  
Heritage NSW  
Department of Premier and Cabinet  
**As Delegate of the Heritage Council of NSW**

26 November 2019