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Aerial photograph captured 1 September 2006

Figure 5 - Vibration Management (Buffer) Zone

Accordingly, the Department believes that the Applicant should be required to:

- continue its program of regular dilapidation surveys of the Poplars Complex and McCarthy's Cemetery;
- comply with building damage vibration criteria at all receivers, including complying with the 3mm/sec criteria at the Poplars Complex and McCarthy's Cemetery;
- maintain a buffer of at least 95 metres to the Poplars Complex and McCarthy's Cemetery unless it is demonstrated that the development would comply with vibration criteria within the buffer; and
- repair any damage to buildings or the cemetery caused by the development.

With regard to human comfort, the Department believes that the proposal has the potential to cause some discomfort to residents at the Poplars Complex, with a slight risk of causing discomfort to Cranebrook residents. The Department believes that the impacts are justified, given:

- that the vibration impacts are able to be mitigated, managed or minimised;
- the residents of the Poplars Complex have agreed to accept the proposed vibration impacts, including in the vicinity of the residence;
- the finite nature of the proposed works (about 2 years, but impacts at any one location would be in the order of a few months); and
- that the proposal would enable the site to be rehabilitated to SREP 11 standards, and thereby facilitate its subsequent development for urban landuse.

The Department has recommended conditions requiring the Applicant to:

- comply with DEC's recommended vibration limits at all sensitive receivers, unless a written agreement exists between the applicant and the tenant and/or landowner to allow the exceedence of human comfort vibration criteria;
- comply with strict hours of operation;
- establish and implement a comprehensive vibration management plan, that includes provisions and procedures to:
 - continuously monitor the vibration impacts of the operation;

- implement additional monitoring and operational procedures within vibration management zones;
- cease works if building damage criteria are exceeded or complaints received;
- undertake mitigation measures, such as excavating a trench between the works and a sensitive receiver or adopting increased buffer distances;
- keep residents informed of the works;
- receive, handle and respond to complaints effectively; and
- report any exceedences of vibration criteria to the DEC and the Department.

5.2.3 Protection of Heritage Items

The only potential impact of the proposal on heritage items is likely to be ground vibration impacts. These impacts have been assessed in section 5.2.2, against the vibration criterion of 3mm/s applicable to sensitive structures.

Both Council and the Heritage Office expressed concerns about the potential for inadvertent damage of structures at the Poplars Complex and McCarthy's Cemetery, and that repair of damage would be a far inferior option to protection of these structures from damage.

Council recommended a range of measures for McCarthy's Cemetery and the Poplars Complex, including *"full archival recording of both heritage items"*. The Heritage Council did not request archival recording and the Applicant argues that the request is excessive, given that the Scheme has a conservation management plan, currently being updated, encompassing these 2 sites.

Prior to works entering the respective vibration management zone (see Figure 5) the Applicant proposes to undertake studies to determine the appropriate conservation protection measures for both sites.

The proposed McCarthy's Cemetery study would involve:

- identification of vulnerable monuments and structures;
- identification of potential protective measures for these monuments and structures (such as temporary stabilisation of structures to make them resistant to vibration impacts); and
- recommended actions to implement the protective measures (such as how to effect temporary stabilisation works in a manner that does not of itself cause any damage).

The proposed Poplars Complex study involves identification of measures to secure the existing fabric of the buildings and restore the render of the pise (rammed earth) walls of the dwelling.

The Applicant would ensure that any restoration or protective measures would be carried out in accordance with appropriate heritage conservation guidelines, including the:

- NSW Heritage Manual;
- Burra Charter;
- Site Conservation Plan;
- NSW National Trust Guidelines for Cemetery Conservation; and
- NSW Heritage Council's Cemeteries Guidelines for Care and Conservation.

The Department is satisfied with the measures proposed by the Applicant to protect heritage items and manage vibration impacts (see section 5.2.2), and does not believe full archival recording of the cemetery is justified as it would not reduce or manage the potential impacts of the proposal. Other recommendations of the Heritage Council and Penrith Council have been incorporated into the recommended conditions of consent.

5.2.4 Air Quality

There is the potential for dust to be generated by ground disturbance associated with the proposal and from the dynamic compaction process itself. Air quality monitoring conducted by the Applicant during the DC trial demonstrated that all relevant DEC air quality criteria were

easily met. The Applicant expects the DC extension area works would similarly comply with these criteria.

The Department is satisfied that the proposal is unlikely to substantially increase the air quality impacts of the approved development, particularly in comparison to alternate forms of land rehabilitation that could have been used on site (such as earthworks involving excavation and layered compaction, which are already approved under the existing development consent). However, the Department believes that the Applicant should be required to demonstrate continued compliance with contemporary dust criteria at Cranebrook Village, through the implementation of its existing approved dust monitoring program.

5.2.4 Surface Water

There are no direct hydrological connections between the site and the Scheme's recreational surface water facilities. The Applicant proposes to construct drainage swales to direct surface runoff away from the DC extension site and prevent accumulation of water within the DC craters. The Department is satisfied that the proposal includes appropriate operational and emergency measures for erosion and sediment control and spill management.

5.2.5 Other

The proposal would be located on cleared and disturbed land that has previously been excavated and reshaped. The Department is therefore satisfied that the proposal would have negligible impacts on ecology and Aboriginal heritage. The Applicant has also assessed the potential impacts of the proposal on European heritage, visual amenity, traffic and transport, soils and waste management. The heritage impacts of the proposal are largely related to vibration, which has been addressed in sections 5.2.2 and 5.2.3 above. The Department is satisfied with the Applicant's assessment of other issues and its proposed measures to manage and mitigate potential impacts.

5.3 Suitability of the Site

The proposal would be undertaken within the Penrith Lakes Scheme. Land rehabilitation for the purposes of implementing the Scheme is permissible and is already an approved landuse within this site. The Applicant seeks approval to extend the area of an alternate method of land rehabilitation within the site. Based on its assessment, the Department is satisfied that this alternate method would not significantly increase the impacts of the total development. Consequently, the Department is satisfied that the site is suitable for the proposal.

5.4 The Public Interest

The Department believes that the proposal is in the public interest, as it would:

- not substantially increase the environmental impacts of the existing approved development;
- enable the subject site to be rehabilitated to appropriate geotechnical standards, thereby facilitating its re-development for urban and residential land use;
- enable the economic and social objectives of the Penrith Lakes Scheme, which is a site of State Significance, to be met; and
- alleviate the need for the land to be rehabilitated via more intrusive means.

6. RECOMMENDED CONDITIONS OF CONSENT

The Department has prepared a draft notice of modification for the proposal. The conditions in this draft notice are required to:

- ensure the Applicant implements the environmental management and monitoring measures proposed in its SEE;
- ensure that the Applicant negotiates a private agreement with the residents of the Poplars (and/ or the Department) and the owners of the Whitewater Stadium in relation to predicted noise and vibration impacts at these receivers;

- develop and subsequently implement a detailed noise and vibration management plan for the proposal; and
- monitor vibration impacts and protect the Poplars Heritage Complex and McCarthy's Cemetery from any damage attributable to the proposal.

The Applicant does not object to these conditions.

7. CONCLUSION

The proposed modification involves the use of dynamic compaction as a method of compacting land that has not previously been rehabilitated to appropriate geotechnical standards. Based on its assessment, the Department is satisfied that the use of dynamic compaction would not substantially increase the environmental impacts of the existing approved development. The use of dynamic compaction would alleviate the need for the subject site to be rehabilitated via more intrusive means.

The Applicant was required to carefully monitor the impacts of the DC trial on a 10.8 hectare site adjacent to the 39 hectare DC extension area. This monitoring demonstrated the accuracy of the Applicant's impact predictions and provides confidence that, provided recommended mitigation measures are implemented, the works in the DC extension area can be conducted with minimal impact to residents or the environment.

The proposal is required to ensure that future urban re-development of the site takes place as planned in accordance with the economic and social objectives of the Penrith Lakes Scheme and SREP 11.

The Department has assessed the environmental impacts of the proposal and is satisfied that the proposed modification is substantially the same as the development for which consent was originally granted and can be implemented in an environmentally sustainable manner.

Consequently the Department believes that the Executive Director, as the Minister's delegate, should approve the modification application subject to conditions.

8. RECOMMENDATION

It is RECOMMENDED that the Executive Director exercise the powers and functions delegated to him in the Instrument of Delegation from Minister Sartor, dated 5 April 2006, and:

- consider this report;
- determine that the development as modified would be substantially the same development to which consent was originally granted;
- approve the proposed modification under section 96(2) of the EP&A Act; and
- sign the attached notice of modification (Tag A).

Howard Reed

Howard Reed
A / Manager
Mining and Extractive Industries

18.12.06.

Michael Young

Mike Young
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Major Development Assessments

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Chris Wilson

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APPENDIX A: ASSESSMENT OF ENVIRONMENTAL PLANNING INSTRUMENTS

A.1 State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33)

SEPP 33 aims to define 'Hazardous' and 'Offensive' development so that consent authorities can recognise such development when determining development applications. The Department has assessed the environmental impacts of the proposal and is satisfied that the proposal includes sufficient controls and management measures so as to not constitute a development that would 'pose a significant risk to the biophysical environment or to human health, life or property', or one that would 'emit a polluting discharge which would have a significant adverse impact on the locality'.

A.2 State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)

SEPP 55 aims to provide for a State-wide planning approach to the remediation of contaminated land. The site was excavated for sand and gravel resources and backfilled prior to commencement of the Applicant's operations. The SEE states that the fill material used at the site was most probably sourced from other areas within the Scheme, which was historically used as farmland. The SEE notes that the geotechnical investigation undertaken on site identified no visual or olfactory sign of contamination. The Department is satisfied that the risk of contaminated material being present on the site is low.

A.3 Sydney Regional Environmental Plan No. 11 – Penrith Lakes Scheme (SREP 11)

SREP 11 aims to coordinate sand and gravel extraction operations and subsequent rehabilitation operations within the area identified in clause 3 of SREP 11 as the 'Penrith Lakes Scheme' on the Penrith-Castlereagh floodplain. Development for the purposes of implementing the Penrith Lakes Scheme (including sand and gravel extraction, and rehabilitation) are permissible within the Scheme area with the Minister's consent.

Clause 8(3) of SREP 11 requires that a consent authority shall not consent to the carrying out of development for the purposes of implementing the Penrith Lakes Scheme unless the Applicant has submitted a SEE for the proposed modification addressing the matters specified in Schedule 2 of SREP 11. The Department has reviewed the Applicant's SEE and is generally satisfied that it has met the relevant provisions and requirements of Schedule 2.

Under Clause 15 of SREP 11, a consent authority may not consent to the carrying out of development in the vicinity of an item of the environmental heritage as defined in Schedule 3 of SREP 11, unless an assessment has been made of the effect that the development will have on the historic, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance of the item and its setting.

McCarthy's Cemetery is an item of environmental heritage listed under Schedule 3 of SREP 11). The potential vibration impacts of the proposal on the cemetery were assessed by the Applicant as part of its SEE. The assessment concluded that with the implementation of a 'Vibration Management Zone', the use of temporary protection measures for headstones, and frequent monitoring, the proposal was unlikely to adversely impact the cemetery. The Department is satisfied with the Applicant's assessment and supports its conclusions.

A.4 Penrith Local Environmental Plan 1991 (Environmental Heritage Conservation) (Penrith LEP – Heritage)

The aim of the Penrith LEP – Heritage is to assist in the conservation and enhancement of the heritage items and heritage conservation areas of the City of Penrith. Under Clause 9, a consent authority must not grant consent to an application to carry out development on land in the vicinity of a heritage item listed in Schedule 2 unless it has made an assessment of the impact of that development on the heritage significance of the item and its setting.

The Poplars Complex and McCarthy's Cemetery are both listed as items of environmental heritage in Schedule 2 of the Penrith LEP – Heritage. The Department is satisfied that, subject to conditions as proposed, the proposal can be implemented without significant impacts to McCarthy's Cemetery or The Poplars Complex.

