

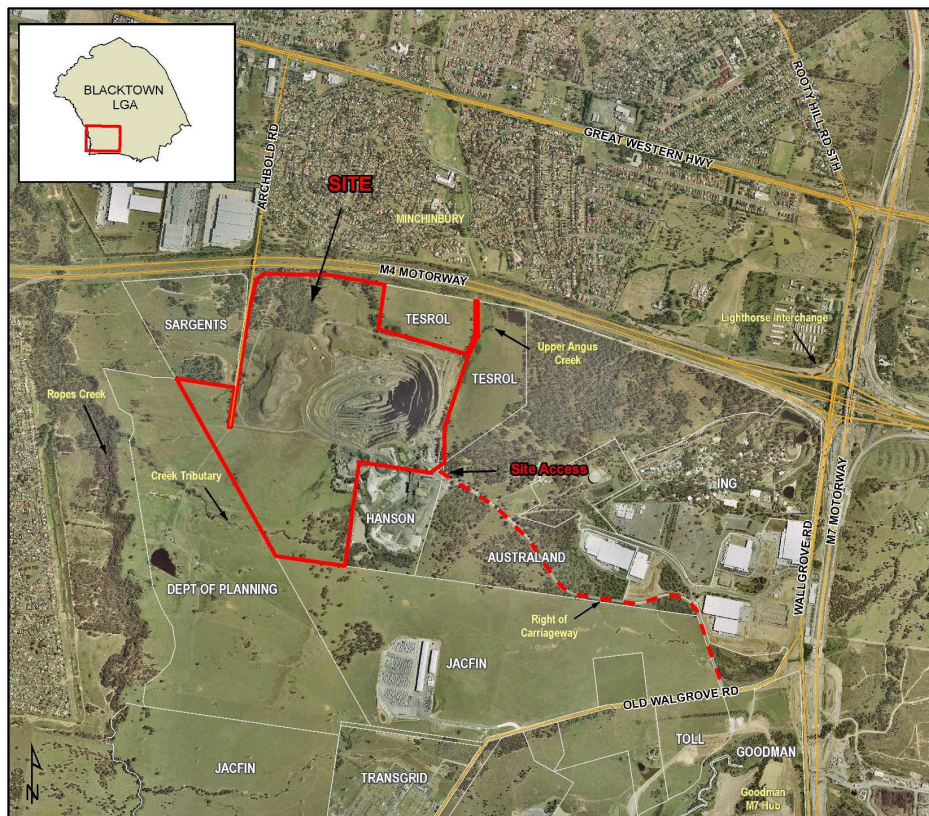
# ASSESSMENT REPORT

## Section 75W Modification Eastern Creek Waste Facility (06\_0239 MOD 1)

### 1. BACKGROUND

In November 2009, the then Minister for Planning approved a major project application submitted by ThaQuarry Pty Ltd and ACN 114 843 453 (ThaQuarry, the Proponent) to construct and operate a resource recovery and non-putrescible landfill facility at the former Pioneer Quarry site, Eastern Creek in the Blacktown local government area (refer Figure 1).

Prior to issuing approval, the project was considered by the Planning Assessment Commission (PAC) who determined the Department's assessment of key issues to be thorough and recommended that stringent measures be incorporated into the project approval to ensure odour impacts from the composting of greenwaste be satisfactorily managed.



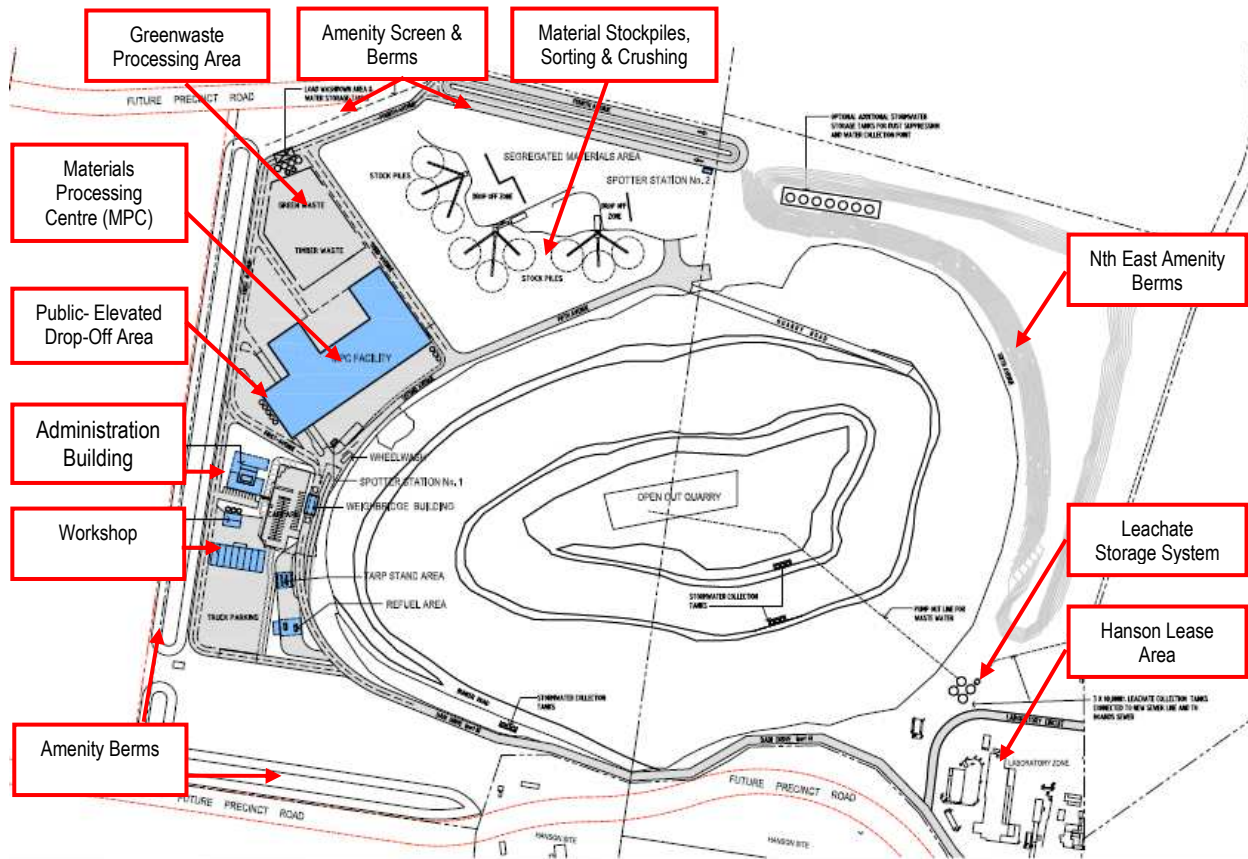
**Figure 1: Site Location**

The project approval provides for:

- a waste recovery facility for recycling building and greenwaste;
- rehabilitation of the quarry void via a Class 2 (non-putrescible) landfill;
- a total throughput of up to 2 million tonnes of materials at the site per calendar year;
- landfilling of up to 700,000 tonnes of non-putrescible waste (including asbestos);
- stockpiling of up to 50 tonnes of tyres on site at any one time; and
- stockpiling of up to 20,000 tonnes of greenwaste on site at any one time.

Other approved site operations include an administration building, materials processing centre (MPC) building, workshop building for site maintenance, amenity berms, material stockpile areas, drop-off zones, internal road network, wheel wash stations, on-site detention basins, leachate collection and treatment system, fuel storage area, and weighbridges. The approved site layout is depicted in Figure 2.

Landfilling is expected to be carried out for 45-65 years based on the upper (700,000 tpa) and lower limits (400,000 tpa) expected. The resource recovery component of the facility is approved to continue to manage recyclable waste loads beyond the life of the landfill.



**Figure 2: Approved Site Layout**

Construction works commenced in March 2010. ThaQuarry received approval from the Director-General to break down construction of the project into the following stages:

- Stage 1 Preconstruction – Site Preparation and Bulk Earthworks;
- Stage 2a Construction – Construction of the MPC building, Greenwaste Area, Workshop & Canteen Area, Access Roads, Stormwater Pipe and Pit Construction, Streetlight installation, and general landscaping and fencing;
- Stage 2b Construction – Leachate Collection, Conveyance, Treatment or Disposal, Quarry Pit and wall liner; and
- Stage 3 Commissioning – testing and commissioning equipment and plant and training operations personnel.

It should be noted, the project approval is currently under appeal by the Blacktown Council. The appeal pertains to infrastructure contributions and has no bearing on this modification.

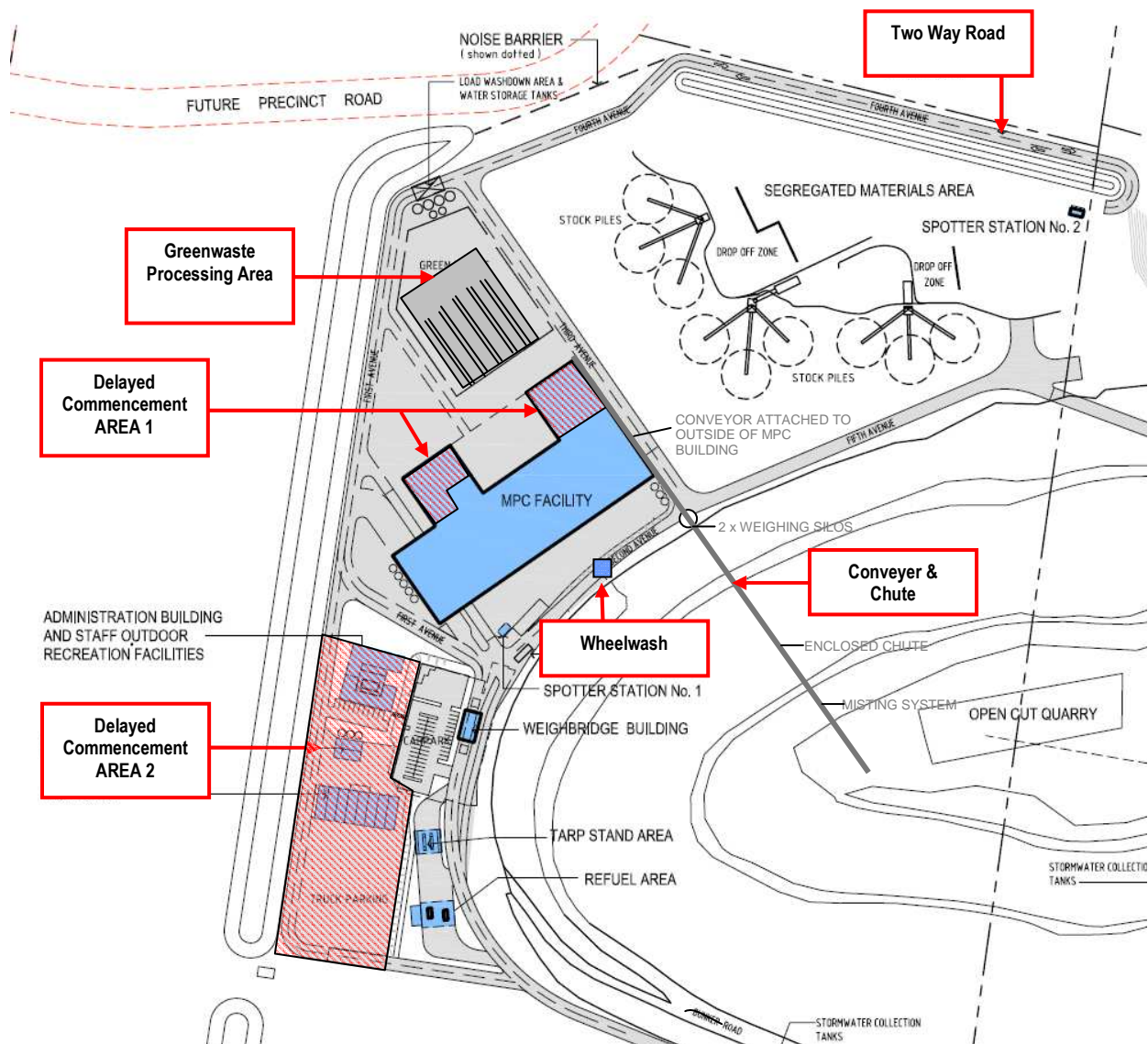
**2. PROPOSED MODIFICATION**

ThaQuarry is now seeking to modify the Minister’s approval (MP06\_0239) to further reduce impacts associated with the project and improve the general operation and efficiency of the facility. The proposed modifications are detailed in Table 1 and depicted in Figure 3. The impacts associated with the proposed modifications are assessed in section 4 of this report.

In addition to the modifications listed in Table 1, minor administrative changes to the project approval are proposed. These include; amending the land to which the to the project approval applies to reflect updated land title details as registered by the Land and Property Management Authority; and amending the major project reference number.

**Table 1: Components of the modified project**

Component	Description
1	<p><b>Electrically Powered Conveyor and Chute</b></p> <ul style="list-style-type: none"> <li>▪ As part of the approved project, waste would be transferred to the base of the quarry pit by dump truck winding down a 3.8 kilometre haulroad.</li> <li>▪ ThaQuarry now propose to construct an electrically powered conveyor and chute for the conveyance of waste directly from the MPC to the base of the landfill.</li> <li>▪ Waste would be transported by an enclosed conveyor directly from a loading hopper within the MPC to the quarry lip passing under the road via a culvert. The waste would enter one of two 10 m<sup>3</sup> weighing silos located side by side. The silos would replace weighbridge 2. When a silo reaches its maximum weight, a weight sensor would trigger the silo to open and gradually feed the waste onto the electrically powered downhill conveyor. The waste would then proceed via conveyor to the mid point of the quarry and be transferred to an enclosed chute which travels to within 6 metres of the quarry base. A canvas sock at the base of the chute would ensure that the actual drop height between the end of the sock and the base of the quarry would be no more than 3 metres.</li> <li>▪ The discharge end of the chute would be equipped with fine mist sprays to minimise dust and the plant would be routinely maintained. However, in the unlikely event of plant failure, waste would be trucked to the base of the quarry in accordance with the current approval.</li> <li>▪ Asbestos waste would be separated prior to it entering the MPC building, bagged and trucked to the base of the quarry for burial.</li> </ul>
2	<p><b>Postponed Commencement of Construction</b></p> <ul style="list-style-type: none"> <li>▪ ThaQuarry proposes to postpone construction of redundant sections of the MPC building (Area 1), the Administration Building; Outdoor Recreation Facility, Washbay, Workshop and Truck Parking area (Area 2) until after commencement of operations.</li> <li>▪ Area 1 - ThaQuarry seeks to reconfigure the internal waste handling operations within the MPC building to accommodate the installation of an automated materials handling process (refer Component 1).</li> <li>▪ This automated process does not require the amount of covered floor space that would otherwise be required for manual sorting and therefore renders the area identified as Area 1 in Figure 3 as redundant.</li> <li>▪ Area 2 - ThaQuarry seek to postpone the commencement of the construction of a number of ancillary structures identified in Area 2 in Figure 3.</li> </ul>
3	<p><b>Two Way Traffic on Fourth Avenue</b></p> <ul style="list-style-type: none"> <li>▪ Fourth Avenue, located to the north of the site, is a roadway 8 metres wide approved to cater for one-way vehicle traffic movements.</li> <li>▪ ThaQuarry seeks to modify the project approval to enable this roadway to cater for two-way vehicle movements as depicted in Figure 3.</li> </ul>
4	<p><b>Concrete Bay Walls within the Greenwaste Processing Area</b></p> <ul style="list-style-type: none"> <li>▪ Construct concrete bay walls within the greenwaste processing area. Each bay would be individually covered and fitted with aerobic equipment.</li> </ul>
5	<p><b>Relocation of Wheelwash</b></p> <ul style="list-style-type: none"> <li>▪ ThaQuarry propose to relocate an approved drive through wheelwash 100 metres to the north along Second Avenue. This presents a better location in terms of the operation and management of the facility.</li> <li>▪ The relocation of the wheelwash would minimise the distance travelled with material build up on tyres which in turn would improve dust management and general cleanliness of the site.</li> </ul>



**Figure 3: Proposed Modification Components**

### 3. STATUTORY CONTEXT

#### Approval Authority

Section 75W of the EP&A Act confers on the Minister an implicit obligation to be satisfied that the modification request falls within this section of the EP&A Act.

The Department notes that:

- the proposed modification does not seek approval for a new and different project for which approval was granted; and
- any potential impacts would be minimal and could be appropriately managed through the existing or modified conditions of approval.

It is therefore recommended that the Executive Director, Major Projects Assessment, under the Ministers delegation of 25 January 2010, agree that the modification request falls within section 75W and the request can be determined.

#### Exhibition and Notification

Under Section 75W of the EP&A Act, the Department is not required to notify or exhibit the application. Following a review of the modification application, the Department determined that the proposed modification should be referred to Blacktown City Council (Council) and the Department of Environment, Climate Change and Water (DECCW). Consultation with other government agencies and neighbouring

sites was considered unnecessary, as the environmental impacts of the proposal would essentially remain unchanged from the approval project.

Council generally supported the project. However, concerns were raised in relation to noise associated with the conveyor/chute and issues associated with the postponed commencement of certain structures. Council requested that a number of conditions addressing these issue be included in the consent should the modification be approved.

The DECCW supported the proposed modification. However, they requested additional information regarding the conveyor/chute system and recommended a number of condition to be included in the consent should the modification be approved.

The Department has considered both Council's and the DECCW's comments in its assessment of the proposed modification.

## **4. ASSESSMENT**

### **KEY ISSUES**

The Department has reviewed the proposed modification and considers the key issue to be noise and air quality associated with the conveyor/chute system, and odour management associated with the greenwaste building. All other issues are considered to be minor and able to be addressed through the existing conditions of approval.

#### **4.1 Noise**

##### *Issue*

That the electrically powered conveyor/chute system could potentially increase noise impacts from the site.

##### *Consideration*

Both Council, the DECCW raised concerns that the proposed electrically powered conveyor/chute system has the potential to increase noise impacts from the site.

No additional noise modelling was undertaken to determine the noise impacts from the modification. However, the Proponent's noise specialist (Pae Holmes) anticipates that the incorporation of the electrically powered conveyor/chute system would reduce potential operational noise impacts at nearby receptors, as the conveyor would replace the need for haul trucks to travel into and out of the pit.

Pae Holmes also advised that while the construction of the conveyor/chute system would result in some short-term noise emissions, these would largely occur within the enclosed area of the MPC building and would therefore be reduced through the building envelop. Further, the MPC building would also provide a noise buffer for the power generation during the operation of the conveyor. Therefore, noise generated from the conveyor activities would be less than those from the haul trucks previously assessed for the project.

##### *Conclusion*

Based on the information provided, the Department and the DECCW consider that the proposed modification would not result in additional noise impacts from those already assessed. The Department considers that potential noise impacts associated with the modification would largely be managed through existing conditions of approval including noise limits and monitoring. Notwithstanding, recommended conditions require the Proponent to:

- ensure that the operating hours of the conveyor/chute system are restricted to the facility's operational hours.

#### **4.2 Air Quality**

##### *Issue*

That the proposed modification could potentially increase air quality impacts from the site.

##### *Consideration*

Air quality emissions associated with construction of the modified components are not anticipated to increase from that already assessed as part of the project.

The main air quality issues associated with the approved project operations related to:

- dust and particulate emissions generated from dumping, loading, sorting, screening and crushing of materials; vehicle movements along unsealed, internal haul roads and wind erosion of the exposed landfill area and stockpiles; and
- odour from small volumes of biodegradable materials in the landfill, active tipping and capped areas, leachate in the pit and composting of greenwaste on site.

The nearest sensitive receivers are the residential properties located at Minchinbury, approximately 490m from the northern edge of the pit on the northern side of the M4 Motorway.

Given the potential for particulate and odour emissions from the approved project, the Department included a number of conditions in the project approval to manage and mitigate any potential impacts. These included air emission limits, implementation of dust and odour control measures and monitoring. The conditions require the Proponent to seal all internal roads, outside of the pit; and construct and maintain vegetated perimeter berms (10m in height) around the main area of operations to provide a barrier for dust emissions. These measures are critical for minimising emissions, as the assessment predicted emissions with mitigation measures in place.

The Department concluded that dust, particulate and odour emissions from the project could be effectively managed through implementation of these conditions. On-going monitoring also forms an important part of effective management of identified air quality impacts.

#### Dust and particulate emissions associated with the conveyor and chute

With regard to the modification, emissions due to the use of the haulage road would be significantly reduced as this would only be utilised for transferring asbestos waste to the base of the quarry pit or during maintenance operations in the event that the conveyor/chute system breaks down.

The haulage of waste by truck to the bottom of the landfill was reported in the Air Quality Impact Assessment (AQIA) for the approved project to contribute an anticipated 92 t/y of dust (approximately 47%) to the total emissions from the site in the initial year of operation. These emissions due to haulage would largely be eliminated by the use of the covered conveyor/chute, reducing the overall site emissions from approximately 195 t/y (with haulage) to approximately 103 t/y (53% of modelled emissions) in the initial year of operations.

The conveyor and chute would be covered and are therefore not expected to be a source of dust emissions. The conveyor loading point would be located within the MPC building and is not considered to be a source of dust. The chute (and canvas sock) release point at the base of the quarry would be fitted with fine mist sprays to minimise dust.

No additional air quality modelling was undertaken to determine the extent of the air quality impacts from the proposed modification. However, given that the predicted levels of annual average deposited dust, TSP and PM due to the project prior to the modification, were determined to be within the DECCW criteria, and that the proposed modification is likely to reduce air quality emissions, it is considered that the modified project would also meet DECCWs criteria.

#### Odour associated with the greenwaste processing facility

The project approval provides for up to 20,000 tonnes of greenwaste to be stockpiled onsite at any one time.

Odour from the greenwaste windrows was estimated in the AQIA for the approved project to be a significant proportion (22 percent) of the total odour emissions from the site. Any improvement in odour emissions from greenwaste composting would therefore cause a further reduction in the likelihood of any unfavourable odour detections at nearby residences, noting that predicted odour contours in the AQIA were already within DECCW criteria. Reducing odour impacts from greenwaste processing would also be consistent with the recommendations of the PAC.

As part of this modification, ThaQuarry proposes to construct concrete bay walls within the area designated for receipt and processing of greenwaste. This is likely to have the effect of reducing odour emissions from the site at nearby residences due to the fact that construction of concrete bay walls would allow the greenwaste composting area to be more easily fitted with equipment to aerate the composting greenwaste and also to install covers over the greenwaste.

No additional modelling was undertaken to quantitatively predict the air quality impacts from the construction of the concrete bay walls in the greenwaste area. However, recent studies on the effectiveness of aeration and covering of greenwaste indicate that these controls, if employed, have the potential to decrease odour emissions. The practice of aeration and covering composting greenwaste is advocated in the relevant best practice standards and guidelines for composting.

*Conclusion*

The Department and DECCW consider that while the installation of concrete bay walls themselves would do little to alter the emissions from the site, the management controls associated with their installation (ie. namely aeration and covering of the greenwaste) could potentially reduce odour levels from the site. Further, the Department considers that potential air quality impacts associated with the conveyor/chute would be minimal and could largely be managed through existing conditions of approval.

Notwithstanding, the Department has recommended conditions of approval that require the Proponent to:

- ensure that the conveyor/chute system is fully enclosed;
- ensure that the waste drop height of no more than 3 metres between the end of the sock and the base of the quarry;
- incorporate fine mist sprays at the discharge end of the chute to minimise dust;
- prepare a conveyor/chute system maintenance and management plan that includes a maintenance schedule;
- detail contingency measures in the event that the system breaks down, or is not coping with the intended quantities of waste; and
- ensure that each greenwaste bay has an individual cover and anaerobic equipment fitted to reduce odour and the generation of leachate.

**4.3 Other Issues**

**Table 2: Other issues**

<b>Component</b>	<b>Assessment</b>	<b>Recommendation</b>
<i>Postponed Commencement of Construction</i>	<ul style="list-style-type: none"> <li>▪ ThaQuarry proposes to postpone construction of a number of approved structures until after the commencement of operations. Refer Table 1 and Figure 3.</li> <li>▪ Council and the DECCW raised no objection. However, concerns were raised with regard to air quality impacts (associated with unsealed areas) and the erection of interim, temporary measures such as demountable structures and the like, thereby remove the Proponent's obligation to provide the permanent structures which form part of the project approval.</li> <li>▪ No additional modelling was undertaken to quantitatively predict the air quality impacts associated with the delayed commencement of construction. However, the Proponent's air quality specialist (Pae Holmes) reported that the area comprising Area 2 is currently inactive and untouched, and would remain this way until the postponed construction begins. This area would therefore not be a source of dust due to wind erosion.</li> <li>▪ The Department has assessed the impacts associated with the postponed commencement of the listed structures and considers that any potential impacts can be effectively managed through the implementation of existing conditions of approval. Ongoing monitoring would continue to form an important part of the effective management of potential impacts.</li> <li>▪ Notwithstanding, the Department has recommended a condition to address Council's concerns.</li> </ul>	<p>Recommended conditions require ThaQuarry to:</p> <ul style="list-style-type: none"> <li>▪ Ensure that no temporary structures such as demountable sheds or shipping containers are to be used as a substitute for any approved permanent structure. This does not prevent the use of demountable structures on site during construction.</li> </ul>
<i>Two Way Traffic on Fourth Avenue</i>	<ul style="list-style-type: none"> <li>▪ Fourth Avenue, located to the north of the site, is a roadway 8 metres wide approved to cater for one-way vehicle traffic movements.</li> <li>▪ ThaQuarry seeks to modify the project approval to enable this roadway to cater for two-way vehicle movements as depicted in Figure 3.</li> <li>▪ There would be no change to the number of vehicles entering and leaving this area of the site so dust, fuel usage, greenhouse gas and noise impacts would not change.</li> </ul>	<p>No additional conditions required.</p>

<b>Component</b>	<b>Assessment</b>	<b>Recommendation</b>
	<ul style="list-style-type: none"> <li>▪ The dominant noise source in the area is from traffic on the M4 Motor Way and the Great Western Highway and so it is unlikely that vehicles travelling on the internal road would be discernible above the existing traffic noise.</li> <li>▪ The Department is satisfied that no additional impacts beyond that assessed and approved would result from this component of the modification.</li> </ul>	

## 5. RECOMMENDED CONDITIONS OF APPROVAL

The Department considered that the proposal represents a minor modification of the project as approved and will not have any impacts beyond that assessed and approved.

The Department has recommended a minor amendment to the current project approval to include the modification application within the terms of the approval (refer Appendix 1).

## 6. CONCLUSION

The Department has assessed the merits of the proposal in accordance with the requirements in Clause 8B of the *EP&A Regulation*.

This assessment has found that the proposed modification is minor and is unlikely to cause any significant impacts beyond that assessed and approved. The proposed modification is supported by Council and the DECCW, and is consistent with the recommendations of the PAC. Further, the proposal has the potential to significantly reduce noise, odour, and air quality impacts associated with project.

Consequently, the Department believes the proposed modification is in the public interest, and should be approved.

## 7. RECOMMENDATION

It is RECOMMENDED that the Executive Director of Major Project Assessment:

- approve of the proposed modification under Section 75W of the EP&A Act; and
- sign the attached instrument (tagged A).

*Felicity Greenway*  
30/9/10

Felicity Greenway  
A/Team Leader - Industry

Christine Chapman  
Major Projects Assessment

*Chris Wilson* 30.9.10

Chris Wilson  
Executive Director  
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