

Northern Interchange Shaft Construction Amendment

1. Introduction

The detailed design phase of the NorthConnex Project has resulted in the identification of a number of necessary amendments to the initial AFMP. The amendments involve alterations to Table 3-1 of the AFMP to correct inconsistencies and to enable the excavation of the shaft located at the Northern Interchange Compound to progress, whilst the access points to the M1 are being established. In order to progress the shaft excavation the delivery of limited amounts of concrete and associated products and the removal of spoil from the shaft excavation is required until the access to the M1 is completed.

2. Amendment & Assessment

The amendments completed to Table 3-1 in this revision (Rev 10) of the AFMP involve the following:

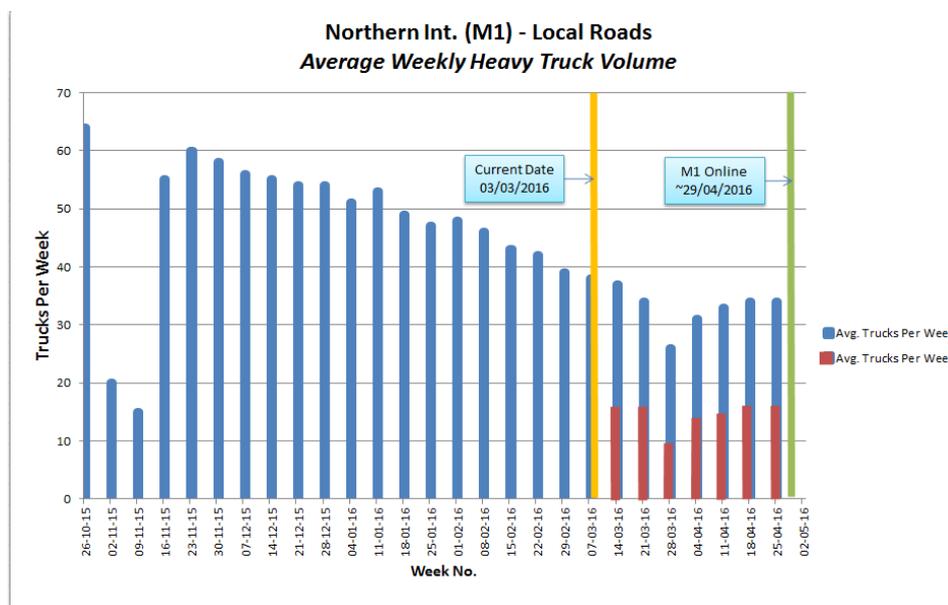
- Consistency between out of hours works permitted under the AFMP and the Environmental Protection Licence (EPL). The EPL facilitates out of hours works opportunities by agreement with the community and works compliant with the Noise Management Level (NML) in addition to out of hours works required for safety and network restrictions. The current drafting of the approved AFMP does not permit out of hours works opportunities by agreement with the community and works compliant with the NML. The proposed amendments will ensure that Table 3-1 of the AFMP is consistent with the Project EPL, notably conditions L5.6 and L5.7;
- The insertion of a new phase titled “**Early Operation Phase**” that involves the delivery of concrete and removal of spoil excavated from the shaft for a defined period using local roads until the M1 access is completed. It is noted that local roads that would be used are those already defined in the Traffic Management and Safety Plan for the site establishment phase. The likely frequencies of heavy vehicles during this time are outlined below.
- This approach is consistent with the information presented within the SPIR (Table 2-88 below) which indicates that shaft excavations would commence while the sites are being established (see below).

Table 2-88 Indicative construction program

Construction activity	Indicative construction timeframe					
	2014	2015	2016	2017	2018	2019
Site establishment						
Shaft excavations						
Tunnelling						
Tunnel lining						
Concrete pavement						
Tunnel mechanical and electrical fit-out						
Southern portal						
Hills M2 Motorway integration works						
Northern portal						
M1 Pacific Motorway tie-in works						
Wilson Road tunnel support facility						
Trelawney Street tunnel support facility						
Southern ventilation facility						
Northern ventilation facility						
Motorway control centre						
Commissioning						

Further:

- The change proposed above will ensure that the limited use of some local roads (identified in the Traffic Management and Safety Plan - TMSP) by heavy vehicles to access the site is adequately covered by the AFMP approval.
- Heavy vehicle movements associated with the proposal will be consistent with the current levels of heavy vehicle movements associated with “establishment” phase of the Northern Interchange Compound (Please refer to extract from Set 1 of Appendix C of the TMSP at the end of this assessment). That is, there will be (on average) 15 - 18 trucks per week, delivering concrete or removing spoil. The graph below shows that the heavy vehicles associated with the site establishment phase (blue) is currently on a downward trend in line with the site establishment phase delivery requirements reducing over time. The proposal will see some of the downward trend being taken up by the inclusion of the heavy vehicles to support the shaft excavation works (red). Combined heavy movements associated with all activities occurring at the site would be well within the 60 heavy vehicle



movements per shift specified for the site establishment phase specified in Table 5-1 of this document.

- In comparison, the amount of shaft spoil (~1400m³) that would be removed using local roads is minor compared to the amount of general spoil that has been removed from site to date and other fill and quarry materials that have been delivered to site using the local roads to facilitate site establishment (up to 9,000m³).
- To minimise potential impacts, these trucks will be programmed to avoid haulage during the School drop off / up periods of 8am – 9:30am and 2:30pm – 4pm and will operate during standard construction hours only.
- The scale (magnitude and duration) of any potential impacts to the local and wider community due to truck movements associated with the delivery of concrete and spoil removal would be consistent with current impacts associated with the facility as documented in the approved AFMP.
- LLBJV is expediting the construction of the M1 access and confirms that:
 - Access to / from the M1 for the **Northern Interchange Compound** is expected to be operational by 29 April 2016. Heavy vehicle access for the shaft works will be removed using the M1 access solely from that time.
 - It should also be noted that due to site constraints and other site activities occurring in close proximity shaft excavation can only occur 60% of the time, limiting associated truck movements.

An assessment against the CoA D51 is provided below:

- (a) a description of the ancillary facility (including a site layout plan), its components and details of the existing environment on and in the vicinity of the site;

The proposed amendments do not require an amendment to the site layout. A description of the ancillary facility its components and details of the surrounding environment remain unchanged from that which is already detailed and approved by DP&E. Please refer also to Section 1.4, Table 3-1 and Appendix B.

- (b) details of the activities to be carried out at the facility, including the hours of operation, staging of operation and predicted date of commissioning;

The additional activities that would occur at the Northern Interchange Compound under the proposed amendment would include a continuation of heavy vehicle movements (on average 15 – 18 per week during standard construction hours) using local roads to facilitate the removal of material excavated from the shaft and concrete deliveries to construct the shaft. Local roads would only be used for these activities until such time as the M1 Motorway access for the site is complete. Once complete, the M1 Motorway access would be used solely for the removal of shaft spoil and associated concrete deliveries. The local roads that would be used are the roads that are currently being used by heavy and light vehicles and to establish the site. The truck movements associated with the delivery of concrete and spoil removal would be consistent with current truck movements associated with the establishment activities as documented in the approved AFMP

- (c) a description of the plant, equipment and materials to be used and/or stored on the site, including dangerous and hazardous goods;

The proposed amendment does not change the details from that currently detailed in the AFMP as approved by DP&E. Please refer to Section 6 and Table 3-1 that responds to these points.

- (d) a summary of the potential environmental impacts associated with the construction and operation of the facility;

The local roads that would be used for shaft spoil removal and concrete deliveries are those that are already identified for access to the Northern Interchange Compound in Table 7-15 of the EIS and also in Appendix C of TMSP during site establishment. No additional local roads would be required.

Heavy vehicles are already using the relevant local roads for spoil removal, delivery of quarry products and concrete deliveries to facilitate establishment of the Northern Interchange Compound. As site establishment is significantly progressed, heavy vehicle movements in and out of the Northern Interchange Compound are now decreasing. The volume of heavy vehicle movements that would be required to remove shaft spoil and for concrete deliveries (average 15 - 18 per week) will be within the volumes anticipated in the EIS during site establishment (20 per day).

The M1 Motorway access will be completed and in use prior to the end of the site establishment phase of the Northern Interchange Compound.

Shaft spoil removal would only occur during standard construction hours and would be restricted during morning and afternoon school drop off and pick up times, minimising potential disruption during those times.

The scale of impacts associated with the facility due to the proposal is not expected to result in a significant increase to the impacts currently described within the existing approved AFMP.

Benefits for the Community

It is noted the excavation of the shafts is on the critical path for the Project, as such any delays to this work will result in project completion delays and protracted impacts to the local community.

In terms of community benefit the above listed amendments will:

- Remove the need to manage large stockpiles on site, which will result in dust management and visual amenity benefits and a decreased risk of water quality impacts.
- In combination with the controlled blasting methodology these amendments will assist in ensuring that shaft excavation can be completed in 2016 rather than in 3rd quarter of 2017 (please refer to SPIR Table 2-88 presented above). This will result in significant impact reduction to the surrounding community.

(e) details of the mitigation, monitoring and management procedures specific to the facility that would be implemented to minimise environmental and amenity impacts or, where this is not possible, feasible and reasonable measures to offset these impacts;

Mitigation, monitoring and management actioned in relation to the proposed amendment will involve the implementation of the current CEMP and Traffic Management Plan actions and requirements. A key component of this is heavy vehicles tracking by way of docket collection at the gate. This will assist in ensuring the frequency of trucks is in accordance with that described above.

In addition to this, and to minimise potential impacts, these trucks will be programmed to avoid haulage during the School drop off / up periods of 8am – 9:30am and 2:30pm – 4pm. Heavy vehicle movements associated with this proposal would be limited to standard construction hours only. Please refer to Table 3-1 and Appendix A that responds to these points.

(f) a description of how the management and mitigation measures set out in the documents listed in condition A2 will be implemented on the site, and if not, justification for any departures from those management and mitigation measures;

The proposed amendment does not change the management and mitigation measures from those detailed in the currently approved Ancillary Facility Management Plan (AFMP).

In relation to the **Condition of Approval (CoA) D35**, the Project team have reviewed the opportunities to stockpile materials on the site or to pump concrete from the M1 to avoid the need to use the local roads for heavy vehicles access. The conclusion of the review concluded that there was not adequate space on the work site to stockpile spoil materials. Any additional clearing on adjacent land to create room for stockpiling would require the further clearing of critically endangered Blue Gum High Forest. Neither of these options were feasible or reasonable. In relation to the pumping of the concrete from the M1 these were deemed not feasible or reasonable due to safety aspects of trucks stopping on the side of the M1 and road occupancy licence restrictions. Given the above, there are no feasible or reasonable alternatives to the use of local roads for heavy vehicles to access the site to support the construction of the shaft until the access off the M1 is completed.

In relation to the **Condition of Approval (CoA) D39**, the access roads proposed in our amendment involve the ongoing use of existing routes to the site. Therefore the dilapidation reports along these routes have already been completed. A post construction road assessment and subsequent dilapidation survey will be completed in accordance with the requirements of D39.

In relation to the **Condition of Approval (CoA) D42**, the heavy vehicle use associated with the proposal is to only occur during standard construction hours, therefore CoA D42 does not apply. Please refer to Table 3-1 that responds to these points.

(g) identification of the timing for the completion of site establishment activities at the facility and how the site will be decommissioned (including any necessary rehabilitation); and

The proposed amendment does not change the details from that detailed in the currently approved Ancillary Facility Management Plan (AFMP). Please refer to Table 3-1 that responds to these points.

(h) mechanisms for the monitoring, review and amendment of this plan.

The proposed amendment does not change the details from that detailed in the currently approved Ancillary Facility Management Plan (AFMP). Please refer to Section 8 that responds to these points.

Further in relation to the Condition of Approval (CoA) D51, consultation of the proposed amendment has occurred with both Hornsby and Ku-ring-gai Shire Councils noting that the haul route crosses over the two local Council areas. Both of the Councils do not object to this amendment.

Construction Ancillary Facilities Management Plan



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