

# Chapter 10 Conclusion





## 10. Conclusion

The Environmental Impact Statement (EIS) for the Moorebank Intermodal Terminal (IMT) (the Project) provides details of the Project and presents the findings of the comprehensive impact assessments (i.e. traffic, noise, air etc.), which predict the potential impacts of the Project on the environment. The EIS document identifies a range of management and mitigation measures to be implemented during the detailed design or pre-construction, Early Works, construction and operational phases of the Project to avoid and minimise the impacts of the Project.

The EIS was placed on public exhibition between 8 October and 8 December 2014. During the exhibition period government agencies, interest groups, business/industry organisations and the community were invited to make a written submission. A comprehensive engagement program was undertaken during the exhibition period to encourage feedback on the proposal. This included advisements, letter drops, community information sessions (three sessions), emails, briefings and letters. Members of the community were able to view the EIS on Moorebank Intermodal Company's (MIC) Project website, on NSW Department of Planning and Environment (DP&E's) website. Hard copies of the document were also available for viewing at a number of locations within Liverpool, Campbelltown, Newtown and in NSW DP&E offices in Sydney central business district.

### 10.1 Submissions reporting

A total of 1,793 submissions were received, of which 1,779 were from community members and 14 were from government agencies and local councils. Liverpool City Council (LCC) completed a letter drop to 183,000 residents in 78 suburbs across south-west Sydney, which included a completed submission form that the community was encouraged to sign and send to the Minister for Planning. A total of 1,538 submissions were received through this process. Submissions received from government agencies included Liverpool City Council (LCC), Campbelltown City Council (CCC), Fairfield City Council (FCC), Hurstville City Council (HCC), Bankstown City Council (BCC), Transport for NSW (TfNSW), NSW Office of Environment and Heritage (OEH), NSW Environment Protection Authority, Fire and Rescue NSW, NSW Rural Fire Service, Sydney Catchment Authority, NSW Department of Primary Industries (including comments from NSW Office of Water and Fisheries NSW), NSW Health and NSW Ports.

The content of each community submission was reviewed and categorised according to key issues (e.g. traffic, noise, air quality) and sub-issues (e.g. traffic impacts on the M5 Motorway). Due to the number and diversity of issues raised in community submissions, these matters raised in the submissions were grouped based on their assigned key issue and sub-issue categories. This means that while the exact wording of the submission may not be captured in this Report, the intent and the issues raised has been identified.

A large number of community submissions raised concerns related to Project alternatives, with many submissions expressing the view that alternative sites should be considered for the IMT; including expansion of existing facilities (Chullora, Enfield and other smaller sites) or greenfield site development (Badgerys Creek). In addition, many submissions questioned the suitability of the Moorebank site for an IMT and made suggestions for alternatives uses of the School of Military Engineering (SME) site.

Other issues that were of most concern to the community included: traffic, transport and access; strategic context and need for the Project; noise and vibration impacts; local and regional air quality impacts; and human health impacts.

### 10.1.1 Project site alternative considerations and justification

The Project site was selected for its good access to existing major freight and rail corridors (SSFL, M5 Motorway, near the M7 Motorway and Hume Highway) and its central location relative to major freight markets in the west and south west of Sydney. The size of the site was also a significant factor in its selection, with the requirement to accommodate interstate trains (which can be up to 1,800 m long) and the need for the site to be large enough to handle the number of containers expected (a total throughput capacity of 1.55 million TEU a year, including up to 1.05 million TEU a year of IMEX). The site also has space for onsite warehousing, which increases the efficiency of the freight service offered and therefore increases the attractiveness of the terminal and its potential to get more freight onto the rail network.

A number of submissions suggested the demand could be accommodated within Sydney's existing IMT facilities; however, IMTs serve a defined geographic catchment and there is clear demand for Moorebank from a catchment area that is different to that served by existing IMTs. Also, Sydney's estimated total future IMEX intermodal capacity at existing terminals is not sufficient to meet government rail freight targets or expected rail freight demand at Port Botany. This includes the potential future capacity provided by the Yennora, MIST (Minto) and Villawood terminals approved capacity at the Enfield IMT and the recently announced new IMEX capacity at Chullora.

No other known site in Sydney has the same unique characteristics to efficiently accommodate the type of activities being proposed. The availability of the site for development represents a once-in-a-generation opportunity for a transformational freight infrastructure project. Alternative IMTs would be significantly less economically efficient than the Moorebank IMT and not practically achievable in the timeframes required. In particular:

- There is no land set aside for an IMT at Eastern Creek and a new freight rail line to the area would be needed with substantial investment implications.
- Land would also be required for an IMT at Badgerys Creek as the new airport site is unlikely to have spare space for this purpose. A new freight rail line would also need to be constructed in addition to the planned passenger line. It would not be practical for freight trains to share the planned passenger line to the new airport since passenger trains receive priority on the passenger network, which would undermine the efficiency and reliability of a rail freight service via Badgerys Creek.
- Even if land was available at Eastern Creek or Badgerys Creek, the planning and environmental approval process to assess the sites' suitability from an environment, social and economic perspective can take years. Given the demand for intermodal facilities in western Sydney the Moorebank IMT site is considered the most appropriate to service the current demand.

Given the clear suitability of the Project site for an IMT and the lack of economically efficient alternatives, it would be inappropriate and mostly inefficient to use the site for an alternative purpose (e.g. residential or commercial), as these land uses would have greater impacts on the local environment and community. For example, during peak hours:

- residential development would generate up to 25 times more traffic than an IMT; and
- a business park would generate up to three times more traffic than an IMT.

The comprehensive site assessment undertaken in the EIS conclusively demonstrated the suitability of the proposed site for the proposed intermodal activities - the essential requirement for decision making.



### 10.1.2 Response to Project specific impacts

Many community submissions raised concerns relating to human health impacts (specifically noise, sleep disturbance, wheel squeal, air quality impacts and diesel fumes/emissions) and traffic and transport (specifically impacts on the local roads and major arterials and the associated social, environmental and economic impacts).

The EIS demonstrates that the IMT will have some impacts on the local community and environment. These impacts will be addressed through a raft of mitigation measures (e.g. local intersection upgrades, noise walls and locomotive standards to reduce noise and diesel emissions). The residual impact on the local community and environment – accounting for mitigation measures – will be small and manageable within established regulatory requirements and criteria. For example, the EIS and Response to Submissions Report demonstrate that:

- the concentration of air borne pollutants in the area will be well within air quality guidelines;
- there will be no measurable impact of the terminal on human health;
- the performance of local intersections will be maintained at the level that would be experienced in the future without the IMT; and
- noise from the IMT and its rail connection will be within government guidelines.

MIC has also been working with the NSW Government to assist its decision making on some major road upgrades that will be needed in the area, regardless of whether the IMT proceeds. These road upgrades are needed to handle growth in background traffic, but would also benefit the IMT. These possible road upgrades were identified in the 2014 NSW State Infrastructure Strategy and are currently being considered by the NSW Government for implementation.

MIC notes that the community and government agencies have a number of concerns about the Project, particularly related to the potential impacts. MIC is committed to avoiding and minimising impacts of the Project through the implementation of mitigation measures described in Chapter 28 – *Environmental Management Framework* of the EIS. Assuming approval of the Stage 1 SSD, further detailed environmental assessments would be undertaken as part of the Stage 2 SSD applications and additional mitigation would be identified (if required), the outcomes of which would be provided as part of the Stage 2 SSD application documentation. Further community and stakeholder consultation would also be undertaken at this time.

## 10.2 Proposed amendments to the proposal

Prior to the EIS exhibition, MIC developed the Moorebank IMT proposal as a stand-alone project. The Sydney Intermodal Terminal Alliance (SIMTA) proposal for an intermodal terminal on the site immediately east of the Project site was also being pursued separately, with its own planning and environmental approvals being sought. However, since the exhibition of the EIS, an agreement has been reached between MIC and SIMTA for an integrated precinct-wide intermodal facility and associated warehousing across both the MIC and SIMTA sites. This has resulted in a change in concept layout on the Moorebank intermodal site and the selection of the southern rail access option as the preferred rail connection from the SSFL to the site.

Under this agreement MIC will continue with its existing application for Stage 1 SSD concept approval (incorporating early works) for the Moorebank IMT site and SIMTA will be responsible for obtaining all other approvals required under the EP&A Act, to build all stages of the Project.

Rehabilitation Works involving the removal of asbestos containing buildings, removal of underground storage tanks, stabilisation of the 'dust bowl' and stabilising site fencing are now included in the Early Works, for which the Project is seeking full approval to commence these activities.

### 10.2.1 Elements of the Project layout and built form that have changed

Amendments to the Project layout and built form comprise:

- changes to the layout and operation of the IMT, including the location of the warehousing, working tracks and storage tracks, IMT freight village precinct, IMEX and interstate equipment storage and repair area and detention ponds;
- confirmation that the southern rail access into the site will be required (the EIS sought flexibility to build either a southern, central or northern rail access into the site from the SSFL);
- changes to access and circulation including heavy and light vehicle access to the facility via the Moorebank Avenue and Anzac Road intersection, along a dedicated road at the north and along the western boundary of the Project site;
- changes to the upgrade of Moorebank Avenue, which will be upgraded between Anzac Road and the M5 Motorway into a four-lane dual carriageway. No upgrades are proposed south of the Anzac Road intersection since traffic from the terminal will not use the southern section of Moorebank Avenue; and
- an increase in the size of the conservation area.

Figure 10.1 shows the components of the EIS and the proposed amendments to the development and illustrates how they have changed. The amendments are being proposed to facilitate the integration of the Moorebank and SIMTA site operations, should contractual arrangements be formalised for a single site.

KEY PROJECT COMPONENTS	EIS	REVISED PROJECT
IMEX FREIGHT TERMINAL	<p>Designed to handle 1.05 million TEU per year of IMEX containerised freight.</p> <p>Located in the centre of the Project site.</p>	<p>Designed to handle 1.05 million TEU per year of IMEX containerised freight.</p> <p>Located in the southern section of the Project site, adjacent to Moorebank Avenue.</p>
INTERSTATE TERMINAL	<p>Designed to handle up to 500,000 TEU per year of interstate containerised freight.</p> <p>Located in the centre of the Project site.</p>	<p>Designed to handle up to 500,000 TEU per year of interstate containerised freight.</p> <p>Located along the eastern section of the Project site, adjacent to Moorebank Avenue.</p>
WAREHOUSE FACILITIES	<p>Capacity of up to 300,000 sq m.</p> <p>Located on the eastern boundary of the Project site, adjacent to Moorebank Avenue.</p>	<p>Capacity of up to 300,000 sq m.</p> <p>Located along the western boundary of the Project site, adjacent to a dedicated access road.</p>
RAIL ACCESS AND LAYOUTS	<p>Project connected to the Southern Sydney Freight Line (SSFL) via a new rail access. Three rail access options assessed in EIS (northern, central and southern rail access).</p>	<p>Project connected to the Southern Sydney Freight Line (SSFL) via a new southern access from the SSFL. Northern and central rail access options not considered further.</p>
VEHICLE ACCESS	<p>Vehicles to access the Project site from Moorebank Avenue via the M5 Motorway. Modification to the M5 Motorway intersection, widening and upgrade of Moorebank Avenue to East Hills Railway Line. Upgrade of Anzac Road and relocation and upgrade of Bapaume Road.</p>	<p>Vehicles to access the Project site from a new Moorebank Avenue/Anzac Road intersection via the M5 Motorway. Modification to the M5 Motorway intersection, widening and upgrade of Moorebank Avenue to the new intersection only.</p>
INTERNAL ROAD LAYOUT	<p>Vehicles to access IMEX, IMT terminals and warehouses via access points off the upgraded Moorebank Avenue.</p>	<p>Vehicles to access IMEX, IMT terminals and warehouses via a dedicated access road (open to the public), leading from the new Moorebank Avenue/Anzac Road intersection, located on the western boundary of the site adjacent to the conservation area.</p>
CONSERVATION AREA	<p>Located along Georges River on the western boundary of the Project site.</p>	<p>Located along Georges River on the western boundary of the Project site.</p>
ON-SITE STORMWATER DETENTION BASIN	<p>Multiple detention basins along western edge of development area.</p> <p>Detention basin locations differ for each rail access option.</p>	<p>Multiple detention basins along western edge of development area. Currently four detention basins proposed; two adjacent (western site) to dedicated access road, one in northern corner (adjacent to ABB land) and one in the southern end of the site.</p> <p>Final locations will be determined during detailed design.</p>

Figure 10.1 Comparison of the key project components of the EIS and revised

### 10.2.2 Assessment of amendments

To determine the impacts associated with the changes to the concept design, a scoping exercise was conducted against the findings and conclusions of the impact assessment presented in the EIS. This qualitative exercise determined that the proposed amendments to the development only affected a small number of studies. A summary of the revised impact assessments are:

- Biodiversity impacts – Changes to the Project footprint, specifically the alignment and width of the southern rail access corridor, required a revised assessment of the Project's impacts on biodiversity and the biodiversity offset strategy. The revised assessment also included some minor changes in the quantification of credits generated from the credit calculator which changed the requirement for securing offsite offsets for some species. MIC is committed to undertaking all reasonable steps to secure the matching ecosystem credits and provide an offset package that meets the quantum of the offset requirement. The Project is being assessed under the NSW Government Framework for Biodiversity Assessment calculator.
- Visual – The greatest visual impact of the Project will be on the public parks (Leacock and Carroll Parks in Casula) and associated residential properties that are situated on the elevated topography sloping west from the Georges River. These will have clear views over the site and the taller project elements such as lighting towers and rail mounted gantry cranes. Overall, when compared to the EIS layout, the visual impacts are consistent, recognising that the southern rail access option is the favourable option from a visual impact perspective.
- Traffic – The changed site layout changes the traffic impacts on the surrounding road network. The changes in Project development phasing have also resulted in amendments to the 'ramp up' of traffic generation associated with the revised conversion factors between site uses/activities and trip generation. Adopting the truck generation rates used by SIMTA in its traffic studies (undertaken for its EIS) has resulted in modifications to some of the underlying assumptions about the rates of traffic generation, generally resulting in lower traffic generation rates. Traffic impacts associated with the amendments include the following:
  - > A requirement to upgrade Moorebank Avenue north of Anzac Road, and the upgrading of the Anzac Road intersection to a major signalised intersection. This location would be the site entry point for all vehicles, with separation of light and heavy vehicles occurring within the site.
  - > For the key intersections, while the traffic impacts at in 2030 are slightly worse relative to the predictions made in the EIS, the analysis continues to show that by 2030, all intersections will have experienced a reduced level of service as a result of background traffic growth. A number of intersections will have deteriorated to an unacceptable level of service (Level D or below) without mitigation, due to background traffic alone.
  - > Mitigation measures in the form of intersection treatments are proposed to ensure the intersections' performance is returned to 'base level' at any point in time i.e. the performance of an intersection remains no worse than under background (without Moorebank) conditions. Table 10.1 below identifies the treatments that would be required, and by what date, for affected intersections. Mitigation treatments would only be applied if an intersection is operating at level of Service (LoS) E or worse as a result of the Project. Treatments would not be recommended where the resulting LoS of D or above is achieved, even where performance has deteriorated as a result of the Project.
  - > Indicative timing of these upgrades is provided in Table 10.1, based on current projections for background traffic growth and anticipated increases in container throughput (or 'ramp up') over time. However, in recognition of the uncertainties in actual throughput increases (due to factors such as future economic growth rates), any funding contribution of the IMT towards these upgrades would be based on the following circumstances:



- That certain throughput levels at the terminal had been achieved. These throughputs are outlined in column 1 of Table 10.1.
- That it can be further demonstrated (as part of any subsequent planning approval stage) that the intersection performance would have deteriorated to a level of service E or worse (where previously operating at a LoS D or above) were it not for the implementation of the upgrades outlined in Table 10.1.

Table 10.1 Summary of key intersection upgrade requirements as a result of the Project

Throughputs triggering IMT contributions to upgrades	Upgrade description	Intersections	Indicative upgrade year
Construction of Phase A (no operational throughput)	Signal timing changes, change bus lane on Heathcote Road to general traffic lane (combined left and right turn lane) and second lane to right turn lane.	I-07 – Heathcote Road/ Moorebank Avenue	2016
	Ban right turn on Church Road	I-09 – Moorebank Avenue/ Church Road	
	Signal timing changes	I-12 – Newbridge Road/ Governor Macquarie Drive	
Operation of 250,000 TEU	Signal timing changes	I-08 – Moorebank Avenue/ Industrial Access	2019
Operation of 750,000 TEU	Signal timing changes	I-01 – Hume Highway/ Orange Grove Road	2023
		I-06 – Newbridge Road/ Moorebank Avenue	
		I-11 – Newbridge Road/Nuwarra Road	
	Signal timing changes, extend short right turn lane on M5 East to 230 m in length.	I-14 – Hume Highway/M5 Motorway	
Operation of 1 million TEU	Signal timing changes, changed layout on Governor Macquarie Drive to include a combined through and right turn lane, and dedicated right turn lane of 200 m lengths.	I-12 – Newbridge Road/ Governor Macquarie Drive	2025
	Provide a left, through and right lane and dedicated right turn lane on Canterbury Road.	I-15 – Cambridge Avenue/ Canterbury Road	
Operation of 1.3 million TEU	Signal timing changes.	I-13 – Moorebank Avenue/ M5 Motorway	2028
Operation of 1.55 million TEU	Signal timing changes, 60 m approach and 60 m departure lanes on Hume Highway in the northbound direction.	I-01 – Hume Highway/ Orange Grove Road	2030
	Signal timing changes, additional 60 m right turn lane on the Hume Highway in the northbound direction.	I-03 – Hume Highway/Memorial Avenue	
	Signal timing changes.	I-04 – Hume Highway/ Hoxton Park Road	

- > The impact of traffic from the project site represents less than 3.3% of the total traffic already on the M5 Motorway during peak periods. The Project would therefore not have a substantial impact on the motorway operation.
- > The mid-block capacity analysis (examining the flow of traffic along the roads between intersections) shows that ratios for all mid-block road sections would continue to perform at similar levels to the base condition with the addition of Moorebank IMT traffic.
- Construction noise impacts are similar to those identified in the EIS. The deletion of the northern rail option removes some of the most severe noise impacts (at Casula). During peak construction (2016), when piling, excavation and compaction works are undertaken adjacent to the nearest residential receptors the predicted worst case noise levels trigger the requirement for construction noise mitigation to reduce potential levels by up to 12 dBA  $L_{Aeq(15minute)}$ . For concreting works, predicted noise levels trigger the daytime criteria by 3 dBA  $L_{Aeq(15minute)}$  at the nearest receptors in Wattle Grove. Potential noise levels from heavy vehicles operating within the onsite haul roads are within the daytime criteria and would not require specific noise mitigation to reduce the predicted noise levels.
- Operational noise impacts associated with the amendments include:
  - > The container handling area at the IMEX terminal will be automated and so will not require audible alarms or beepers. Measured noise levels provided by the manufacturer of the rail mounted gantries (RMGs) are 10 dBA less when operated without the audible warning alarms. This has resulted in some improvements in noise impact relative to the EIS predictions.
  - > In the revised Project the need for a rail loop to manage the entry and departure of trains within the site has been removed, which will reduce the likelihood of wheel squeal noise from trains.
  - > During operation (Full Build), predicted noise levels comply with the daytime and evening noise criteria at all assessed receptors. Noise levels in the night-time are predicted to comply with the noise criteria at the majority of receptors. Exceedances of up to 4 dB are predicted at the northern extent of Casula and of 2 dB at the western extent of Anzac Road.
  - > During adverse weather conditions, predicted noise levels comply with the daytime and evening noise criteria at all assessed receptors in Casula, Glenfield and Wattle Grove with the exception of the western extent of Anzac Road, where noise levels are up to 2 to 3 dB above the daytime and evening noise criteria.
  - > Adopting the proposed noise mitigation measures would reduce predicted noise levels by at least 5 dB and would achieve compliance at all assessed receptors.
- Air quality – Predicted local air quality impacts show minor variances in modelled results compared to impacts predicted in the EIS. The predictive dispersion modelling demonstrates that concentrations of pollutants (TSP,  $PM_{10}$ ,  $NO_x$ , CO,  $SO_2$ , benzene, toluene, xylene, 1,3-butadiene, acetaldehyde and polycyclic aromatic hydrocarbons) emitted would be below acceptable ambient air quality criteria and would not adversely affect the receiving environment. An exceedance of the annual average  $PM_{2.5}$  advisory reporting goal at R33 was predicted to occur due to cumulative concentrations during Full Build activities. While this receptor was relocated in 2014, it has been retained in the assessment for completeness. The likely future land use at R33 would be associated with the SIMTA project. The elevated ambient background is the key contributor to these exceedances.

- Human health – Predicted impacts on human health of the local community show very minor variation from impacts predicted in the EIS. In addition, the recommendations presented in the EIS in relation to mitigating impacts or enhancing health benefits remain unchanged. Some additional noise mitigation measures have been outlined and these should be considered in conjunction with other mitigation measures outlined in the relevant assessments.

Revised environmental management measures have been proposed to address the impacts associated with the project amendments. These measures will be implemented to reduce the identified environmental impacts associated with the construction and operation of the Project.

There are no additional impacts associated with the Rehabilitation Works included in the Early Works phase of the Project.

### 10.2.3 Cumulative impact assessments

Based on the agreement with SIMTA for an integrated IMT across both the SIMTA and Moorebank sites, a revised approach to the cumulative assessment of the entire Moorebank precinct has been undertaken. In summary the cumulative impact scenarios are as follows:

- Continue to recognise there is a maximum of 1.55 million TEU (IMEX plus interstate freight) for the entire Moorebank precinct.
- Continue to consider alternate scenarios whereby all IMEX capacity is built on the SIMTA site or the Moorebank site but not both.
- Introduce a new cumulative scenario (C1) reflecting a potential Stage 1 development that matches the current SIMTA Stage 1 DA (250,000 TEU) in conjunction with a likely first stage of development of the Moorebank site (500,000 TEU).
- Introduce a new cumulative scenario (C2) reflecting a Full Build (2030) with 500,000 TEU on the SIMTA site (reflecting the cap placed on SIMTA's concept approval) and with the remaining 1.05 million TEU capacity (consisting of 550,000 TEU IMEX and 500,000 TEU interstate) on MIC's site.

The results of the cumulative impact assessment demonstrate that the key issues of concern of noise and traffic would be within acceptable levels, as described below:

#### *Noise and vibration*

For all scenarios assessed, the predicted cumulative noise levels during both neutral and adverse conditions comply with the daytime, evening and night-time amenity noise criteria at all assessed receptors in Glenfield and Liverpool. The predicted cumulative noise levels in Casula and Wattle Grove comply with the daytime and evening amenity noise criteria but exceed the night-time amenity noise criteria during neutral weather conditions by up to 3 dBA (with Scenario B representing the worst-case scenario). During adverse weather conditions, the predicted cumulative noise levels would be exceeded by up to 5 dBA (for scenario B) with exceedances at some receptors for all scenarios. The results are outlined in Table 10.2 below.

Cumulative traffic noise impacts are only marginally greater than the background levels (by 1 dBA), which is below the level at which specific mitigation measures are required.

Table 10.2 Predicted cumulative noise levels – all scenarios

Residential Receptor	Predicted Noise Levels, $L_{Aeq}$ , dBA			
	Scenario A		Scenario B	
	Neutral weather	Adverse weather	Neutral weather	Adverse weather
Casula	27– <b>42</b>	29– <b>44</b>	27– <b>43</b>	29– <b>45</b>
Wattle Grove	35–40	39– <b>44</b>	38– <b>43</b>	40– <b>45</b>
Glenfield	29–32	29–33	31–34	31–34
Liverpool	32–34	38–40	33–33	38–38
Non-Residential Noise Sensitive Receptors	21– <b>43</b>	25– <b>44</b>	26– <b>43</b>	26– <b>44</b>
	Scenario C1		Scenario C2	
Casula	25–40	26– <b>42</b>	27– <b>41</b>	28– <b>43</b>
Wattle Grove	35–39	38– <b>42</b>	35–40	37– <b>42</b>
Glenfield	29–32	30–32	31–33	31–34
Liverpool	30–30	35–35	30–32	34–34
Non-Residential Noise Sensitive Receptors	22–40	24– <b>42</b>	24–41	26– <b>43</b>

### *Traffic, transport and access*

By 2030 a number of intersections will be operating at an unacceptable LoS, under cumulative scenarios A, B and C as a result of background traffic growth (and planned upgrades by RMS) in conjunction with traffic generated by the Moorebank IMT and the SIMTA site. Table 10.3 identifies the treatments required, and by what date, for affected intersections under cumulative scenarios A, B and C. Mitigation treatments would only be applied if an intersection is operating at level of Service (LoS) E or worse as a result of the precinct (i.e. cumulative) traffic above the background growth and cumulative impacts by others. Treatments would not be recommended where a resulting LoS of D or above is achieved, even where performance has deteriorated as a result of the Project.

- Indicative timing of these upgrades is provided in Table 10.1, based on current projections for background traffic growth and anticipated increases in container throughput (or ‘ramp up’) over time for the IMT. However, in recognition of the uncertainties over actual throughput increases (due to factors such as future economic growth rates), any funding contribution of the IMT towards these upgrades would be based on the following circumstances:
  - > That certain throughput levels at the terminal had been achieved. These throughputs are outlined in column 1 of Table 10.1.
  - > That it can be further demonstrated (as part of any subsequent planning approval stage) that the intersection performance would have deteriorated to a level of service E or worse (where previously operating at a LoS D or above) were it not for the implementation of the upgrades outlined in Table 10.1.



The upgrades required as a result of background traffic growth combined with traffic generated by the Project and the SIMTA project are presented as potential road network solutions but are not nominated for delivery by the Project as they are based on a number of assumptions which will be proven or otherwise during operations in the period 2018–2030. The delivery funding and mechanisms for delivery network upgrades will be subject to further assessment in consultation with the NSW Government during future DA stages. Intersections I-0B and I-0C in Table 10.3 are intersections that would be constructed in the event that the SIMTA site is developed (i.e. they would not exist under an IMT-only scenario).

Table 10.3 Summary of key intersection upgrade requirements taking account of cumulative traffic

Throughputs triggering IMT contributions to upgrades	Cumulative scenario	Upgrade description	Intersections	Upgrade year
750,000 TEU	C1	Signal timing changes (brought forward from 2023 for IMT-only)	I-01 – Hume Highway/ Orange Grove Road  I-06 – Newbridge Road/ Moorebank Avenue	2020
		Signal timing changes, extend short right turn lane on M5 east Motorway to 230 m (brought forward from 2023 for IMT-only).	I-14 – Hume Highway/ M5 Motorway	
1.55 million TEU	C2	Signal timing changes, additional 70 m right turn lane on Elizabeth Drive in the westbound direction.	I-02 – Hume Highway/ Elizabeth Drive	2030
	A, B and C2	Signal timing changes for an additional 75 m right turn lane on the Hume Highway in the southbound direction.	I-04 – Hume Highway/ Hoxton Park Road	
	A, B and C2	Signal timing changes, extend left turn lane on Newbridge Road to 150 m in the westbound direction.	I-06 – Newbridge Road/ Moorebank Avenue	
	A, B and C2	Signal timing changes, short left turn lane of 100 m to Moorebank Avenue slip lane (dual signalised slip lane westbound).	I-13 – Moorebank Avenue/ M5 Motorway	
	A and C2	Signal timing changes; provide a dedicated left turn lane on Moorebank Avenue north.	I-0A – Moorebank Avenue/ Anzac Road	
	B	As for A and C2 plus additional right turn lane on Moorebank Avenue South.		
	B	Provide dual right-turn lanes on SIMTA central access.	I-0B – Moorebank Avenue/ new DNSDC access/ SIMTA northern access.	
	B	Provide dual right-turn lanes on SIMTA southern access.	I-0C – Moorebank Avenue/ SIMTA central access	

*Local air quality*

The following key points are taken from the cumulative modelling results generated for the operations at the Moorebank IMT site and SIMTA site:

- Cumulative incremental impacts (Moorebank IMT and SIMTA only) of all pollutants are below NSW EPA and National Environment Protection Measure (NEPM) advisory reporting goals at all surrounding receptor locations, for all assessed site configurations;
- Additional exceedance of the NSW EPA 24-hour average PM<sub>10</sub> criterion and NEPM advisory reporting goal for 24-hour average PM<sub>2.5</sub> is predicted to occur at R33 (which is located on the SIMTA site);
- Cumulative annual average (Moorebank IMT and SIMTA (only increment) plus background) PM<sub>2.5</sub> concentrations exceed the NEPM advisory reporting goal at receptor R33. The exceedance at R33 is attributable to the location of R33 directly among SIMTA site emission sources.
- No other cumulative (Moorebank IMT and SIMTA (only increment) plus background) pollutant exceedances are predicted for any scenario at any of the surrounding receptor locations.

*Human health*

In relation to the assessment of cumulative impacts from the operation of both the Moorebank and SIMTA sites, the predicted health impacts are generally considered to be low (not significant). The human health risk assessment has identified risks to commercial/industrial properties on Moorebank Avenue currently within the SIMTA site boundary. Mitigation measures are required to minimise exposure to particulates at those sites, however, as all the identified receptors would be relocated with the development of the SIMTA site, these receptors have been discounted from further consideration in the cumulative assessment.

## 10.3 Managing residual impacts

The Project as proposed incorporates a range of mitigation and management measures to ensure it operates within acceptable limits. Many of the impacts have already been reduced through the application of technology or design optimisation:

- The development of the Project layout to maintain a substantial conservation area along the banks of the Georges River, has substantial benefits in terms of biodiversity conservation and preservation of the amenity of the Georges River as well as creating a buffer between the site and residents of Casula.
- The Project layout places warehousing on the western area of the site to provide a buffer between Casula residents and rail operations on site.
- A range of noise mitigation measures, including a noise barrier at the western boundary of the site has been allowed for to protect residents of Casula. In addition, the use of automated cranes has eliminated the need for warning alarms, resulting in a significant reduction in noise levels.
- The on-site operations include the use of Liquefied Petroleum Gas (LPG) generated plant and equipment in place of diesel to minimise impacts on local air quality.

- The rail crossing from the SSFL into the site has been located at the south of the site to minimise noise and visual impacts on residential receivers and to minimise flood risk to surrounding land.
- Traffic access arrangements are designed to prevent truck traffic from entering or leaving the site from the south minimising traffic impacts on local communities.
- Water quality in the Georges River will be maintained or improved through the application of effective water quality management throughout construction and operation of the Project.

Even with these measures in place, a number of residual impacts remain that will require further mitigation and management. Key residual impacts are summarised in Chapter 7 – *Proposed amendments to development* of this report. Strategies to manage residual impacts include the following:

- Minimising native vegetation clearing through careful detailed design. For unavoidable impacts, MIC is currently working closely with NSW OEH and the Commonwealth Department of Environment (DoE) to establish a package of offsets that will ensure that biodiversity values for the affected vegetation communities and species are maintained.
- Other measures to reduce noise emissions (such as rail noise damping and quieter gantry cranes) will be explored with a view to further reducing at-source noise impacts. Once all reasonable and feasible at-source measures have been applied, boundary treatments (such as additional noise walls) would be applied to the satisfaction of the regulators.
- MIC and the future Project operator will continue to work with the NSW Government to evaluate the impacts of the Project on the surrounding road network and will contribute proportionally to upgrading the affected intersections to ensure that the road network functions at an acceptable level into the future.
- Landscaping and urban design treatments would be applied to minimise the visual impact and light spill from the Project.

A detailed schedule of mitigation and management measures to manage residual impacts is outlined in Chapter 9 – *Revised environmental management measures* of this report.

## 10.4 Next steps

This Response to Submissions Report has been provided NSW DP&E for consideration. The approval process under the EPBC Act (Commonwealth) and the EP&A Act (NSW) are to proceed in parallel, as follows:

- NSW approval process under the EP&A Act:
  - > The Response to Submissions Report will be made publicly available for a minimum of 30 calendar days during which the community and stakeholders will be invited to make written submissions on the report to NSW DP&E.
  - > MIC will review submissions received and prepare a Supplementary Response to Submissions Report which addresses issues raised relating to proposed amendments to the development. The Supplementary Response to Submissions Report will be provided to NSW DP&E for consideration.

- > NSW DP&E will prepare an Assessment Report to assist the NSW Minister for Planning in making a determination on the staged SSD application for the Project. The Assessment Report will be made publicly available.
- > The NSW Minister for Planning (or the Planning Assessment Commission by delegation) will decide whether to approve the staged SSD application and any conditions of the approval.
- > The staged development consent (if received) would provide consent at a concept level for the development, for which detailed proposals for separate parts of the site would be the subject of subsequent DAs. The exception would be for the Early Works package, for which MIC is seeking development consent without the need for further applications.
- Commonwealth approval process under the EPBC Act:
  - > MIC will provide a formal request to the DoE to vary the EPBC referral (EPBC number 2011/6086) to reflect the proposed amendments to the development.
  - > MIC will provide final EIS documentation (incorporating the draft EIS, this Response to Submissions Report and the Supplementary Response to Submissions Report) to DoE to reflect changes to the Project since exhibition of the draft EIS.
  - > DoE will consider the final EIS documentation and the variation to the EPBC referral and will prepare an Assessment Report to assist the Commonwealth Minister (or delegate) in making a determination on the Project.
  - > The Assessment Report will be made publicly available for a minimum of 30 calendar days.
  - > The Commonwealth Minister for the Environment (or delegate) will decide whether to approve the Project and any conditions on such approval.

Consultation with key stakeholders and the community will continue during the next stages of the Project from detailed design, to construction and operation. If staged development consent is received, a Community Engagement Plan (CEP) will be prepared and implemented by the contractor selected for the construction and operation of the Project. This will outline the consultation and notification processes during the pre-construction, construction and operation phases of the Project. Further details of future consultation activities are provided in section 3.4 of this report.