Chapter 8
Conclusions

8. Conclusions

The Moorebank Intermodal Terminal Project (the Project) has been subject to an extensive and ongoing public assessment process since 2012, beginning with the public exhibition of the Environmental Impact Statement (EIS) between 8 October and 8 December 2014, followed by the Response to Submissions report (incorporating a change in concept layout) between 28 May and 26 June 2015 and culminating in this Supplementary Response to Submissions report (this report).

Various amendments to the Project have been made in response to community and government agency consultation. This consultation has resulted in the refinement and strengthening of management and mitigation measures to ensure that the environmental and amenity impacts are balanced against the economic and social benefits of the Project.

This report relates to the Project approvals sought by Moorebank Intermodal Company (MIC) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and development consent under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). This report should be read in conjunction with the Response to Submissions report (dated May 2015) and the EIS (dated October 2014).

8.1 An integrated intermodal precinct

A whole of precinct masterplan has been developed as part of the agreement between MIC and SIMTA. Both MIC and SIMTA have committed to an integrated single intermodal precinct as the most efficient sustainable development outcome at Moorebank.

The agreement between MIC and SIMTA to achieve an integrated intermodal precinct is conditional on MIC obtaining development consent for its concept plan. The precinct will be developed in stages over time; concept approval has already been granted for the SIMTA land, and MIC also requires its concept approval to allow the precinct development to proceed. The current planning applications also reflect the cap of 500,000 TEU a year placed by the PAC on the IMEX terminal on the SIMTA land, and SIMTA's and MIC's desire to ensure the total precinct throughput is 1.55 million TEU (i.e. 1.05 million TEU of IMEX freight and 500,000 TEU interstate freight).

The cap on the SIMTA planning approval resulted from PAC concerns about the capacity of the road network and a view that a 500,000 TEU terminal would be sufficient to meet NSW Government rail freight objectives for Port Botany. MIC has demonstrated in the revised traffic impact assessment (refer to Chapter 7 – *Proposed amendments to the development of the Response to Submissions report*) that with suitable modification of key intersections and other supplementary measures, the road network can be progressively improved to ensure that, allowing for background traffic growth, it can be maintained at a level of service (LoS) commensurate with forecast 2030 conditions without the Project, up to a level of 1.55 million TEU.

The Moorebank precinct needs to be developed to a total intermodal capacity of 1.55 million TEU (comprising 1.05 million TEU in IMEX capacity and 500,000 TEU in interstate freight capacity) to achieve the NSW Government's rail share target for Port Botany, maximise the terminal's benefit for Sydney's road network, and meet market demand for an efficient rail freight alternative to road. Development of the Moorebank precinct to this volume is the most economically efficient option. No other site has been identified that could be delivered in the same timeframe and with the same advantages of size and proximity to existing transport corridors. As such, the Moorebank precinct creates the best opportunity to meet Sydney's current need to increase metropolitan container movements on rail.

8.2 Overview of submissions received for the Response to Submissions report

The Response to Submissions report (incorporation the proposed amendments to the development) was placed on public exhibition between 28 May and 26 June 2015. During this period government agency, local councils, key business/infrastructure stakeholders and the community were invited to make written submissions on the Project to NSW DP&E.

A total of 109 submissions were received during the Response to Submissions exhibition period. Of these submissions, 8 were provided by government agencies and local councils, with the remaining 101 provided by community members.

Eight submissions were received from government agencies and local councils. These included submissions from Liverpool City Council (LCC), Campbelltown City Council (CCC), Transport for NSW (TfNSW), Office of Environment and Heritage (OEH), Environment Protection Authority, NSW Department of Primary Industries, NSW Office of Water and Fisheries and NSW Health.

8.3 Assessment of submissions

The community and stakeholder submissions from both exhibition periods raised a number of key issues, with most submissions raising multiple issues. The top five issues raised by the community were:

- Project site alternatives and justification;
- Traffic, transport and access;
- Noise and vibration impacts;
- Local and regional air quality; and
- Human health risks and impacts.

Justification for a 1.55 million TEU throughput capacity at the site (given the PAC decision to cap the SIMTA project initially at 250,000 TEU), relationship to the SIMTA approval and cumulative impact considerations were also raised by submitters and are key issues to be considered.

The agreement between MIC and SIMTA for a single integrated terminal and the extensive assessment of the cumulative impacts of various stages of construction and operation are presented further in this report.

8.3.1 Issues raised by councils

A number of councils made submissions during the EIS; Liverpool City Council (LCC) and Campbelltown City Council also made submissions on the Response to Submissions report.

The main issues raised by councils included:

- traffic impacts;
- site alternatives such as Badgerys Creek;
- alternative site uses, such as residential; and
- precinct master planning.

Concerns about a number of these issues were also shared by community members and have been discussed further below.

In relation to traffic impacts, councils expressed concern about the adequacy of the traffic modelling in relation to existing and predicted congestion of local intersections and the M5 Motorway, and the timing of upgrades for intersections. MIC acknowledges the particular concern, raised by LCC, about traffic impacts and the limitations of the current modelling activities. MIC is currently undertaking more extensive modelling (which will be reported as part of the Stage 2 SSD application) to assess the impact of Project traffic on the wider Liverpool area. This will involve wide ranging mesoscopic modelling, with microsimulation of key elements such as the M5 Motorway over the Georges River. New AM and PM models will be based on 24 hour traffic data collection. Following this additional modelling, MIC will be able to provide council with more certainty regarding the management and mitigation measures proposed for intersection upgrades and the M5 Motorway, including timing of these activities.

A number of councils made submissions during the EIS and Liverpool City Council and Campbelltown City Council also made submissions on the Response to Submissions report.

8.3.2 Project site alternative considerations and justification

The Project site was selected because it provides good access to existing major freight road and rail corridors (SSFL, M5 Motorway, M7 Motorway and Hume Highway) and its central location relative to major existing and future 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 metres 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, including up to 1.05 million TEU 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 from those 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, nor the expected demand for an efficient rail freight alternative to road (see further discussion below).

No other known site in Sydney has the same characteristics to efficiently accommodate the type of activities being proposed in the timeframe required. The availability of the site for development represents a once-in-a-generation opportunity for a transformational freight infrastructure project. Alternative additional 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 potential future passenger line, for which a corridor is being reserved. It is not practical for freight trains to share the passenger network, 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 were 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 would take years. Given the growing demand for intermodal facilities in western and south western Sydney, the Moorebank IMT site is considered the most appropriate to service this demand.

Given the clear suitability of the Project site for an IMT and the lack of economically efficient alternatives, it would be inappropriate to use the site for an alternative purpose (e.g. residential or commercial). Residential or commercial land uses would also have greater impacts on the local environment and community. For example, during peak hours, residential development would generate around seven or eight times more traffic than an IMT (in equivalent passenger car unit terms). In addition, the extent of contamination on the Project site means that remediating the site to residential standards could be prohibitively expensive.

The comprehensive site assessment undertaken in the EIS and Response to Submissions report conclusively demonstrated the suitability of the proposed site for the proposed intermodal activities – the essential requirement for decision making.

8.3.3 Response to Project specific impacts

Many community and council 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 impacts (specifically, direct impacts on the local roads and major arterial roads, as well as associated social, environmental and economic impacts).

The EIS and Response to Submissions report demonstrated that the IMT would have some impacts on the local community and environment. These impacts would 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 – would 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 would be well within air quality guidelines;
- the IMT would have no measurable impact on human health;
- the performance of local intersections would be maintained at the level that would be experienced in the future without the IMT; and
- noise from the IMT and its rail connection would 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.

8.4 Assessment of impacts

The impacts associated with the Project were presented in the EIS and the subsequent Response to Submissions report. A summary of the key impacts, specifically in relation to traffic, visual, noise, air quality and health, are presented below:

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.

Traffic

The traffic impacts associated with the Project 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 in 2030 are slightly worse than 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 (D or worse) 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. MIC is in ongoing discussions with Transport for NSW and Roads and Maritime Services to agree on the nature and extent of the intersection upgrade measures;
- Table ES.3 identifies the treatments that would be required, and by what date, for affected intersections. Mitigation treatments would only be applied if an intersection were operating at LoS E or worse as a result of the Project traffic (above the background growth and cumulative impacts from other activities). 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 ES.3, 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 (outlined in column 1 of Table 8.1) had been achieved;
    - That it can be further demonstrated (as part of any subsequent planning approval stage) that the intersection performance would have deteriorated to LoS E or worse (where previously operating at a LoS D or above) were it not for the implementation of the upgrades outlined in Table 8.1;

- The impact of traffic from the Project site, when fully developed and operating at full capacity, 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; and

- 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.

Table 8.1 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 I-06 – Newbridge Road/ Moorebank Avenue I-11 – Newbridge Road/Nuwarra Road	2023
	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	

Noise

During peak construction (2016), when piling, excavation and compaction works would be undertaken adjacent to the nearest residential receptors, the predicted worst case noise levels exceed the daytime criteria by up to 12 dB(A) $L_{Aeq(15minute)}$. For concreting works, predicted noise levels exceed the daytime criteria by 3 dB(A) $L_{Aeq(15minute)}$ 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.

Operational noise impacts include the following:

- The container handling area at the IMEX terminal would be automated and so would not require audible alarms or beepers. Measured noise levels provided by the manufacturer of the rail mounted gantries (RMGs) are 10 dB(A) lower when operated without the audible warning alarms. This has resulted in some improvements in noise impact relative to the EIS predictions.

- The removal of a rail loop to manage the entry and departure of trains within the site has reduced 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 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

The predictive dispersion modelling demonstrates that concentrations of pollutants (TSP, PM10, NOx, 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 PM2.5 advisory reporting goal at R33 (which is located on the SIMTA land in the precinct) was predicted because of cumulative concentrations during Full Build activities. While this receptor was relocated in 2014, it has been retained in the assessment for completeness. The elevated ambient background at this receptor (due to its location on the SIMTA site) is the key contributor to these exceedances.

Human health

Predicted impacts on human health have been demonstrated to be minor. 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 and would be implemented to reduce the identified environmental impacts associated with the construction and operation of the Project with amendments.

8.5 Cumulative assessment

In recognition of changes to the terminal layout to take into consideration a whole of precinct master plan, MIC completed a comprehensive whole of precinct cumulative assessment as part of assessing the proposed amendments to the development. This assessment considered four possible cumulative scenarios for the precinct development:

- Scenario A – all terminal facilities to be built on the Moorebank land, with only warehousing (300,000 sq. m) constructed on the SIMTA land;
- Scenario B – an IMEX facility (1.0 million TEU capacity) plus 300,000 sq. m of warehousing on the SIMTA land and an interstate terminal (500,000 TEU capacity) plus 300,000 sq. m warehousing on the Moorebank land. (Scenario B is the cumulative scenario that aligns to the current masterplan layout);
- Scenario C1 – a potential Stage 1 development in 2020 that matches the current SIMTA Stage 1 DA (250,000 TEU IMEX, 200,000 sq. m of warehousing) in conjunction with a likely first stage of development of the Moorebank site (250,000 TEU IMEX; 250,000 TEU interstate and 100,000 sq. m of warehousing); and
- Scenario C2 – Full Build (2030) with 500,000 TEU on the SIMTA site (reflecting the cap placed on SIMTA's concept approval) and the remaining 1.05 million TEU capacity (consisting of 550,000 TEU IMEX and 500,000 TEU interstate) on MIC's site.

All the assessed cumulative scenarios recognise there is a maximum of 1.55 million TEU (IMEX plus interstate) across the precinct and that all the IMEX capacity (1.05 million TEU) will either be built all on the SIMTA site, all on the Moorebank site, or shared across both, but not increased beyond the 1.05 million TEU total.

The results of the cumulative impact assessment demonstrate that noise, air quality, health and traffic impacts – the key issues of concern for community members – would be within acceptable levels, as described below. A series of management and mitigation measures have also been developed for the cumulative impacts and are presented in Table 7.1 of this report. The cumulative whole of precinct assessment and associated mitigation measures should provide an appropriate basis for future development applications, which will be subject to detailed technical investigations at the time.

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 dB(A) (with Scenario B representing the worst case scenario). During adverse weather conditions, the predicted cumulative noise levels would be exceeded by up to 5 dB(A) (for Scenario B), with exceedances at some receptors for all scenarios. The results are outlined in Table 8.2 below.

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

Table 8.2 Predicted cumulative noise levels – all scenarios

Residential receptor	Predicted Noise Levels, L_{Aeq}, dB(A)			
	Scenario A		Scenario B	
	Neutral weather	Adverse weather	Neutral weather	Adverse weather
Casula	27–**42**	29–**44**	27–**43**	29–**45**
Wattle Grove	35–40	39–**44**	38–**43**	40–**45**
Glenfield	29–32	29–33	31–34	31–34
Liverpool	32–34	38–40	33–33	38–38
Non-residential noise sensitive receptors (refer to Technical Paper 2, Volume 3 of the EIS for locations of these receptors)	21–**43**	25–**44**	26–**43**	26–**44**
	Scenario C1		Scenario C2	
Casula	25–40	26–**42**	27–**41**	28–**43**
Wattle Grove	35–39	38–**42**	35–40	37–**42**
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–**42**	24–41	26–**43**

Traffic, transport and access

By 2030 a number of intersections will be operating at an unacceptable LoS as a result of background traffic growth (despite the planned upgrades by RMS), in conjunction with traffic generated by the Moorebank IMT and the SIMTA site. Table 8.3 identifies the treatments required, and by what date, for affected intersections to offset the impact of traffic from the integrated Moorebank freight precinct under cumulative scenarios A, B and C. Mitigation treatments would only be applied if an intersection were operating at LoS E or worse as a result of the precinct (i.e. cumulative) traffic. Treatments would not be recommended where a resulting LoS of D or better is achieved, even where performance has deteriorated as a result of the Project.

The upgrades required as a result of background traffic growth combined with traffic generated by the MIC Project and the SIMTA project are presented as potential road network solutions, but are not nominated for delivery as part of the Project, as they are based on a number of assumptions that will not be tested until operation in the period 2018–2030. The funding and mechanisms for delivery of network upgrades will be subject to further assessment in consultation with the NSW Government during future DA stages. Intersections I-0B and I-0C shown in Table 8.3 would only be constructed if the SIMTA site were developed (i.e. they would not exist under a scenario where only the MIC land in the precinct is developed).

Table 8.3 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 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 scenarios;

- An exceedance of the NSW EPA 24-hour average PM_{10} criterion and NEPM advisory reporting goal for 24-hour average $PM_{2.5}$ is predicted at R33 (which is located within the SIMTA site). Receptor R33 assumed commercial workers would occupy this portion of the SIMTA site; however, R33 is the location of the IMEX terminal and would therefore be relocated to another portion of the SIMTA site where workers would be located;

- Cumulative annual average (for Scenario B) $PM_{2.5}$ concentrations exceed the NEPM advisory reporting goal at receptor R33. The exceedance at R33 is attributable to the location of R33 directly within the SIMTA site; and

- No other exceedances for cumulative scenarios were predicted 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 at commercial/industrial properties on Moorebank Avenue currently within the SIMTA site boundary. Mitigation measures are required to minimise workplace exposure to particulates at those sites. However, all the identified receptors would be relocated with the development of the SIMTA site (i.e. this site would no longer be considered a receptor as it would be part of the intermodal development), so these receptors have been discounted from further consideration in the cumulative assessment.

8.6 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. For example:

- The Project layout maintains a substantial conservation area along the banks of the Georges River, which has substantial benefits in terms of biodiversity conservation and preservation of the amenity of the Georges River and creates 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.

- 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 and east, minimising traffic impacts on local communities.

- Water quality in the Georges River would 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 would require further mitigation and management. 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 the NSW OEH and the Commonwealth Department of Environment (DoE) to establish a package of offsets that would 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 would continue to work with the NSW Government to evaluate the impacts of the Project on the surrounding road network and would 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 7 – *Revised environmental management measures* of this report.

8.7 Next steps

This Supplementary 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:

- 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, the Response to Submissions report and this 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 NSW 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 2.4 of this report.