



Intermodal Logistics Centre at Enfield

MODIFICATION APPLICATION

ILC –E – PT3A – Modification Application No. 3
REV A

31 August 2009

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Abbreviations

CEMP	Construction Environmental Management Plan
CLM Act	<i>Contaminated Land Management Act 1997</i>
DECC	Department of Environment and Climate Change
DoP	Department of Planning
EA	Environmental Assessment: Intermodal Logistics Centre at Enfield (prepared by SKM on behalf of Sydney Ports and dated October 2005)
ECS	Empty Container Storage
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
ILC	Intermodal Logistics Centre
IMT	Intermodal Terminal
LIC	Light Industrial Commercial
PPR	Preferred Project Report prepared for the Intermodal Logistics Centre by SKM and dated June 2006
RAP	Remedial Action Plan
SAS	Site Audit Statement
TEU	Twenty foot equivalent unit – one TEU equals one twenty foot container
WSUD	Water Sensitive Urban Design

1 INTRODUCTION

Sydney Ports submits this application to the Department of Planning (DoP) to modify the Project Approval granted by the Minister for Planning on the 5 September 2007 under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the development of an Intermodal Logistic Centre (ILC) at Enfield (Application Number 05_0147).

This application, submitted under Section 75W of the EP&A Act, applies to some project changes resulting from the detailed design phase and to a number of conditions related to the construction phase of the project. The detailed design of the project was carried out for Sydney Ports by Maunsell AECOM.

In this document, the site is defined as the land to be developed as part of the ILC project and defined in the project approval as the land to which Major Project Application 05_0147 applies.

2 NOISE WALLS

2.1 Approved Development

Noise barriers/walls were originally proposed as follows:

- to the north-west of the Site;
- on the south-eastern boundary of the Site; and
- on the eastern boundary of the Site, west of the Light Industrial and Commercial (LIC) area.

The location of the approved noise barriers/walls is shown on Figure 1 (originally Drawing SEDP017F, contained in SKM Project Notes dated 14 July 2007 and 6 August 2007 which are referred to in Condition of Approval 1.1.). The description of the approved noise barriers/walls provided in the approval documentation is summarised below.

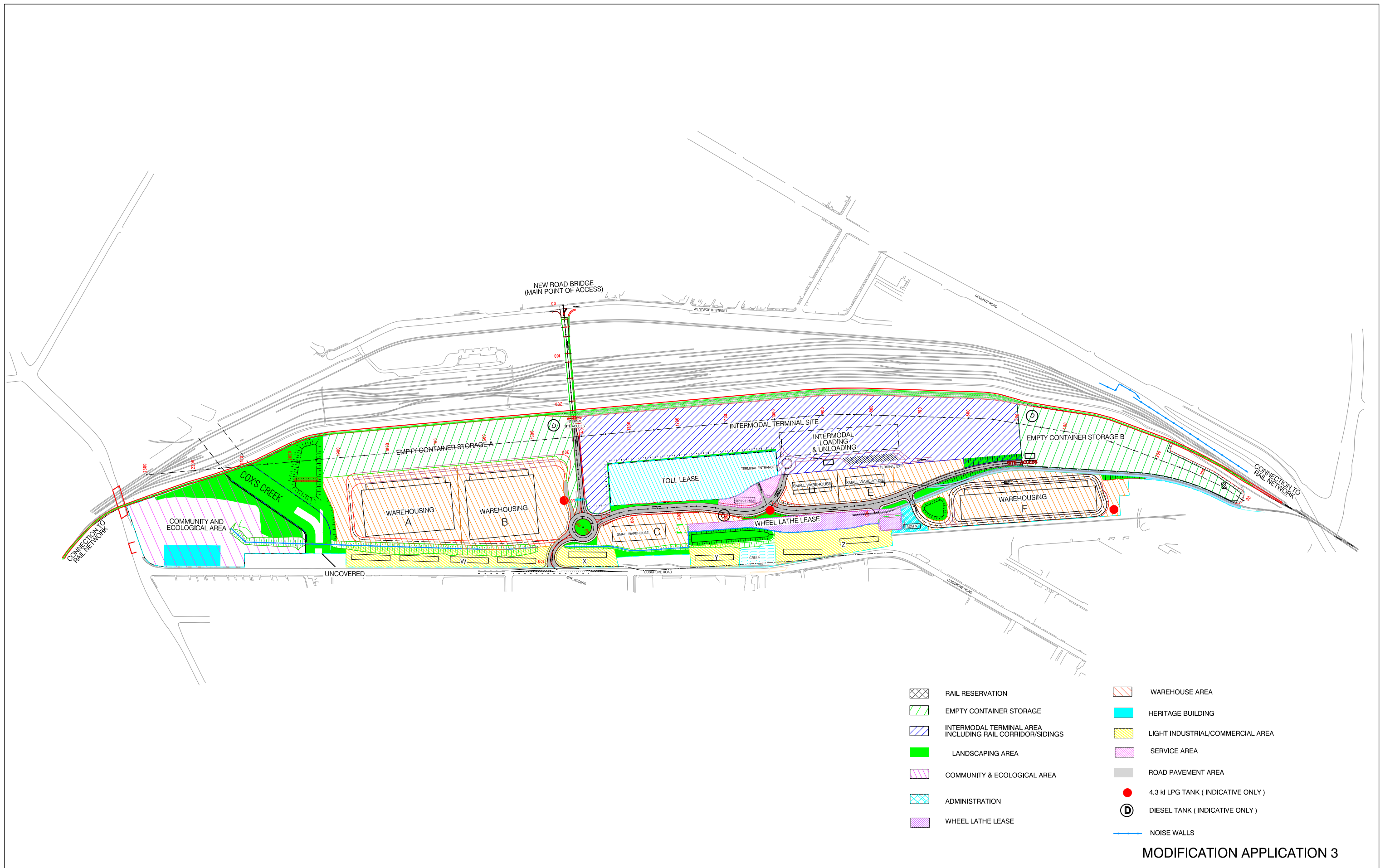
The Statement of Commitments in the Preferred Project Report (PPR) (SKM, June 2006) stated that the final height and length of the barriers would be determined during the detailed design stage of the development.

Northern Noise Wall

A noise wall, around 5 m high, was proposed north-west of RailCorp's Marshalling Yard, within a narrow strip of land next to Roberts Road. The wall was to be approximately 375 m in length and located mainly within RailCorp land and partially within Strathfield Council land.

South-Eastern Noise Wall

A noise barrier/mound, around 5 m high, was proposed within the south-eastern boundary of the Site. The barrier was to extend approximately from Coxs Creek to "Mt Enfield", the mound in the south of the Site.



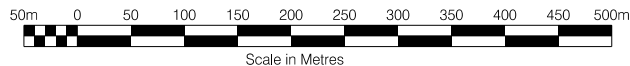
PLAN LIMITATION STATEMENT

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SYDNEY ILC ENFIELD

FIGURE 1 APPROVED SITE LAYOUT

DRAFTED BY: J.T.	DATE: 28/08/2009	PLAN SCALE: AS PER SCALE BAR
PROJECT CODE: ILC-E-C FIG 1 MOD 3	DWG NO: SEDP128A	

Eastern Wall near the Light Industrial Commercial Area

A 2 - 5 m high mound was proposed west of the LIC area within the ILC Site. A fence structure approximately 350 m long and 2 m high, comprising double sided metal cladding, was to be located on the top of the mound. The exact location of the fence was not defined in the approval documentation.

2.2 Proposed Development

In accordance with the requirements of the Statement of Commitments in the PPR, the final height and length of the proposed noise barriers was determined as part of the detailed design. The performance of the noise barriers was assessed by noise modelling of the final ILC design. The noise modelling report is contained in Appendix A to this report. Sydney Ports has also consulted with RailCorp regarding the location of the northern noise wall (refer Appendix B).

Northern Noise Wall

Sydney Ports proposes to relocate the northern noise wall east of the approved location to a location on the boundary of the ILC Site and RailCorp's New Marshalling Yards, as shown in Figure 2.

As for the approved noise wall, the proposed noise walls would be 5 m in height above the existing ground level. It would involve two overlapping noise wall sections totalling no less than 375m in length and would be located along the western boundary of Empty Container Storage (ECS) B within the ILC Site. One section will run approximately 195 m south from the northern-most point of ECS B and other section would run a further 178 m to the south. Each section will be contiguous and free from openings and gaps.

South-Eastern Noise Wall

A noise wall 1.8 m high on top of an earth mound approximately 2.5 m high (total noise barrier heights of 4.3 m) is proposed in the south-east of the ILC Site, as shown in Figure 2. The proposed noise barrier would extend from the southern part of Coxs Creek towards the Tarpaulin Shed.

It is noted that since the ILC project was approved in 2007, additional light industrial commercial development has occurred between the ILC Site and the residential area located to the south-east of the site. This includes the construction of a large warehouse, about 10 m in height, between the Tarpaulin Shed and LIC Area W, immediately south of Coxs Creek. This building provides additional noise protection to the residences located south-east of the Site.

Eastern Noise Walls/Barriers

The noise barriers in the east of the Site, north of Coxs Creek, have been modified to include the following (refer also to Figure 2):

- A 5 m high L-shaped (in plan) noise wall 80 m in length at the south-eastern corner of the Warehouse A hardstand area. The barrier will be located 60 m to the north and

20 m to the west of the corner of the hardstand area. The barrier will be contiguous and free from openings and gaps.

- Stacked shipping containers (10 containers long by 4 containers high) at the south-eastern and south-western perimeters of ECS A, whenever reach stacker operations are occurring in ECS A.

These noise barriers are designed to protect the residential areas to the south-east of the site.

It is noted that the area to the east of the ILC site (north of Cox Creek) includes Cosgrove Road and Industrial landuses. There are no residential or other sensitive landuses in this location. Consequently, except for the noise barriers described above, no noise walls/barriers are proposed along the eastern part of the site (north of Warehouse A).

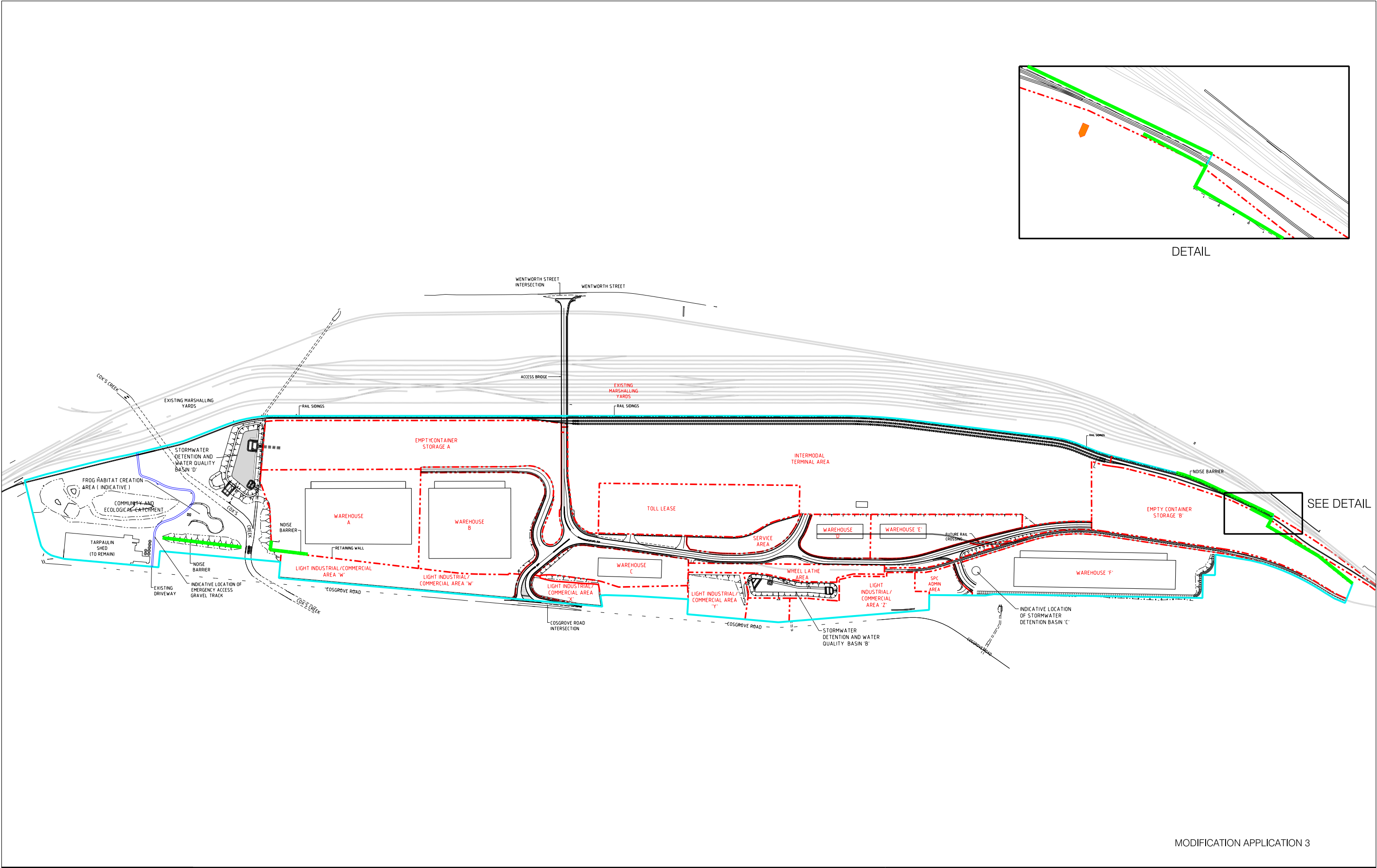
2.3 Assessment

Northern Noise Wall

The justification for the relocation of the northern noise wall is as follows:

- RailCorp advised Sydney Ports that it favours the relocation of the wall to the ILC Site (refer Appendix B);
- Access to the construction area for the approved northern noise wall next to the operational Marshalling Yard would have to be undertaken from the north (ie via Centenary Drive and Roberts Road underbridge, or Hume Highway and Roberts Road underbridge). Roberts Road carries around 60,000 vehicles per day and the Hume Highway about 44,000 vehicles per day near Cosgrove Road. The strip of land next to Roberts Road is small, it is vegetated and would require clearing. There could be potentially significant traffic issues associated with construction trucks and machinery accessing the strip of Council land from Roberts Road.
- The visual amenity of the residential areas west of Roberts Road and people travelling along Roberts Road could be impacted by the (approved) noise wall near Roberts Road. By relocating the noise wall, the trees in the strip of land next to Roberts Road will be retained and the existing south-easterly district views from the area north-west of the Site will be maintained.

Quantitative noise modelling was carried out to assess the performance of the relocated noise wall. The noise modelling report is contained in Appendix A. The results of the modelling showed that the proposed noise wall arrangement will perform to a similar standard as the original Roberts Road noise wall arrangement and will meet the noise criteria specified in Condition 2.17 during daytime operation. Marginal exceedances of the noise criteria (of 1 – 3 dB(A)) could occur at full ILC operations at the eastern end of Jean Street during evening and night operations, largely associated with adverse meteorological conditions. These minor exceedances are the same as those experienced with the EA stage Roberts Road barrier of the same height and length but different location and would be difficult to perceive under field conditions. Moreover, the noise criteria for this region of receivers were derived from unattended noise logging conducted at a shielded location in



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ILC Boundary

Location of Noise Walls/Barriers

Scale in Metres

20m 0 20 60 100 160m

SYDNEY ILC ENFIELD

FIGURE 2 SITE LAYOUT

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PROJECT CODE: ILC-E-C FIG 2 MOD 3	DWG NO: SEDP127D	

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the rear yard of 6 Jean Street, so their application to receivers exposed to road traffic noise and existing industrial sources is conservative. The marginal exceedances of the criteria under infrequent adverse wind conditions and full ILC operations are considered negligible and inconsequential.

The noise modelling indicated that sleep disturbance noise events during the night-time period from 'clangs' (associated with picking up and putting down containers at height; ie. 10.4 m above ground) and certain meteorological conditions could result in exceedances above the established 'background plus 15 dB(A)' criterion at the eastern end of Jean Street. The predicted noise levels do not, however, exceed the existing maximum average noise levels in this location. In addition no LA1 noise levels exceeded 65 dB(A), which is the screening criterion provided by the DECC Environmental Criteria for Road Traffic Noise (ECRTN) (which represents the most recent NSW DECC advice on the subject of sleep disturbance due to noise events). The noise modelling report concludes that it is unlikely that sleep disturbance would occur. Further, the source and nature of the potential exceedance (ie. night time clangs at height during certain meteorological conditions) make such potential exceedance easily manageable through the implementation of the Operational Noise Management Plan, in accordance with Condition 6.5.

Noise modelling also indicated that any reflected noise from rail noise sources within RailCorp's existing Marshalling Yard on the proposed noise wall would not cause a noticeable increase in noise levels at the receivers west of Roberts Road.

Eastern Noise Barrier

The noise modelling showed that the original noise barrier proposed along the eastern part of the Site is redundant. This conclusion was based on modelling full Site operation and the latest understanding of likely operations in the context of the site design as it has developed since the time of the EA assessment.

All receivers adjacent to the Site frontage in the east are classified as 'Industrial' receivers according to the *NSW Industrial Noise Policy, 2000*. They would therefore be subject to an industrial noise criterion of 70 dB(A) 'when in use'. The noise modelling results suggest daytime amenity noise levels of no greater than 55 dB(A) from the predicted ILC operation at these receivers. The noise levels at receivers further to the east (St Anne's School and western end of Gregory Street) would be below the respective criteria.

Consequently, noise barriers along the eastern part of the site (see above and Figure 2) have been modified to protect the residential area located to the south-east of the ILC site, with no noise walls proposed along the eastern part of the site to the north of Warehouse A.

South-Eastern Noise Barrier

The quantitative noise modelling showed that the proposed noise wall arrangement at the south-east of the Site will enable compliance with the amenity and intrusive noise criteria during day, evening and night operation.

The noise modelling indicated that sleep disturbance noise events during the night-time period from 'clangs' (associated with picking up and putting down containers) could result in small exceedances above the established criterion at the western end of Blanche Street. The predicted noise levels do not, however, exceed the existing night-time maximum noise levels in this location. Therefore it is unlikely that sleep disturbance would occur to residents in this location.

Residual operational noise issues at the Site will be managed by the implementation of an Operational Noise Management Plan, in accordance with Condition 6.5.

Conclusion

The modelling shows that the proposed noise barrier/wall arrangement allows the established intrusive and amenity noise criteria to be met in all assessment periods and locations, with some marginal exceedances at full ILC operations (maximum throughput) which are considered negligible and inconsequential.

The modelling report also concludes that the potential for sleep disturbance is minimal. Although some exceedances of the sleep disturbance criteria (ie. Background plus 15 dB(A)) were modelled at some sites and under certain meteorological conditions due to metal-on-metal 'clangs' at height (ie. 10.4 m above ground), the noise modelling report concludes that no LA1 noise levels are shown to exceed 65 dB(A), which is the screening criterion provided by the DECC Environmental Criteria for Road Traffic Noise (ECRTN) (which represents the most recent NSW DECC advice on the subject of sleep disturbance due to noise events). It has also been concluded that the source and nature of any potential exceedance (ie. night time clangs at height during certain meteorological conditions) make such potential exceedance easily manageable through the implementation of the Operational Noise Management Plan, in accordance with Condition 6.5.

Further, the noise modelling report also concludes that an analysis of existing maximum noise levels at residential receivers A1 to A6 revealed that existing maximum night-time noise levels exceeded both the predicted maximum noise levels due to ILC operation and the adopted sleep disturbance criteria for each location. In addition, the frequency of potential 'clangs' during night-time is low, or even nil when considering the hours commencing 3am to 4am. The period during which the prevalence of container 'clangs' would be greater is the night-time 'shoulder' period (ie. 6am to 7am) during which there is a corresponding increase in background noise levels in the order of 5-10 dB(A). This has the corresponding effect of diminishing the impact of 'clang' events by 5 to 10 dB(A).

Sydney Ports will implement the additional measures to manage any potential residual noise issues:

- Preparation and implementation of an Operation Noise Management Plan in accordance with Condition of Approval 6.5;
- On-going noise monitoring/auditing at different annual throughput stages (50,000 TEU, 150,000 TEU and 250,000 TEU) in accordance with Conditions of Approval 2.18 and 3.3; and

- Implementation of any additional measures required by the Director-General to address any issues identified during noise monitoring/auditing as required in Condition of Approval 3.4.

2.4 Proposed Modification

Sydney Ports requests that Condition 1.1 of the Project Approval refer to the modified noise wall arrangement discussed in this document and shown in Figure 2.

3 IMPROVEMENTS IN INTERNAL ROAD LAYOUT

3.1 Approved Development

The approved internal road layout for the ILC Site is shown on Figure 1 (originally Drawing SEDP017F, contained in SKM Project Notes dated 14 July 2007 and 6 August 2007).

The approved internal road layout comprised new road infrastructure within the ILC Site to enable vehicle movements between the Intermodal Terminal, warehouses and empty container storage areas, without vehicles having to travel off-site.

The primary site access road was designed to run east-west across the ILC Site connecting to both Wentworth Street (main entry point) and Cosgrove Road. The Wentworth Street access would connect to the ILC Site via an overbridge across RailCorp's Marshalling Yard. The secondary access from Cosgrove Road was configured to ensure that heavy vehicles were only able to enter or leave the Site from/to the northern end of Cosgrove Road.

The primary access road included a two lane circulating roundabout located approximately 50 m into the Site from Cosgrove Road. The roundabout provided access to all parts of the Site via internal access roads.

The internal access road heading north from the roundabout provided new access to the existing leased areas (Toll and Wheel Lathe area) and access to the Intermodal Terminal, northern container area and northern warehouse facilities. This road would also be used to depart from the Intermodal Terminal after container transfer/pick up. It was to be constructed as a two-way paved road.

The internal access road heading south from the roundabout provided access to the southern warehouse areas.

3.2 Proposed Development

The detailed design has resulted in improvements in the internal road layout as shown in Figure 2. In general, changes in the internal road are considered minor and generally consistent with the approved layout. The internal road improvements are listed below.

Cosgrove Road site access intersection

The Cosgrove Road exit lane has been split from the entry lane via a concrete median and a merge taper to the north created for the exit lane. This allows exiting vehicles to be parallel with Cosgrove Road prior to merging, which will allow them to use their rear view mirrors to check for northbound traffic.

Central Roundabout

The originally approved central roundabout has been replaced with a combined Y and T intersection. The new 'T' junction (Cosgrove Road access and IMT/Overbridge access)

clearly defines the main through route between ILC and the overbridge, with traffic entering from Cosgrove Road required to give way to these through movements.

Other minor road improvements

Other improvements include:

- Minor changes in the internal road layout routes as shown in Figure 2. For example, a section of the main intermodal access road has been moved marginally to the east so that it is located adjacent to the existing Wheel Lathe lease.
- Driveway access for the existing Toll lease area has been changed. The original access road to the north of the lease area has been deleted and two new driveway accesses have been added to connect to the existing southern-most driveways.
- Changes have been made to the widths of the internal roads and to the radii of the kerb returns to allow for B-Double turning movements throughout the Site. This will ensure that B-Double swept paths for left hand turns do not cross the oncoming traffic lane.
- A driveway for Sydney Ports' Administration Area has been added and the location of the driveway for the wheel lathe area has been relocated to the south.

RailCorp/ARTC Access Track

There are currently three access points to the south end of the Enfield site which are used by vehicles and workers for maintenance and emergency access to rail and land infrastructure for Sydney Port's Enfield site (Lot 14 DP. 1007302) and the adjacent New Marshalling Yards (Lot 3 DP. 1006861). Although Sydney Port's wishes to retain all three access points, and following agreement between rail stakeholders, there is a desire to designate the Cosgrove Road access point north of the Tarpaulin Shed as the primary means of access for maintenance and operational/ emergency purposes for authorised rail stakeholders wishing to gain access to the eastern side of the New Marshalling Yards.

The existing access track will be gravelled (Figure 2). Sydney Ports and its rail stakeholders (namely Australian Rail Track Corporation and RailCorp) are currently preparing a Development Deed which will identify the terms and operational protocols for use of the access track.

3.3 Assessment

As discussed above, changes in the internal road layout are considered minor and generally consistent with the approved layout. The design changes will result in improvements in road layout which will improve the internal road traffic circulation. As per the approved development, the internal road infrastructure has been designed to enable vehicle movements between the Intermodal Terminal, warehouses and empty container storage areas without vehicles having to travel off-site. Further details are provided below.

Cosgrove Road site access intersection

During detailed design, the approved design was found to be inadequate due:

- 140 degree observation angle of trucks exiting the site exceeds the maximum allowable 120 degree angle as defined in the RTA Road Design Guide; and
- adverse cross fall on the exit lane and a small radius bend of 22 m. This is a safety concern, particularly for trucks entering Cosgrove Rd.

To address the above issues, the detailed design incorporates the following:

- The exit lane is split from the entry lane via a concrete median and created a merge taper for the exit lane to the north. This allows vehicles to exit parallel with Cosgrove Road prior to merging, which will allow them to use their rear view mirrors to check for northbound traffic.
- The cross fall on the exit ramp remains at a constant 3%, acting as superelevation around the enlarged 33 m radius bend.
- Pedestrian movements have been catered for in the design.

Central Roundabout

During detailed design it was found that the approved concept roundabout design was sub-standard due to the proximity of a T intersection, used for the access to Warehouses A and B, to the eastern leg of the roundabout. Attempts at integrating this warehouse access into the roundabout were unsuccessful due to B-Double turning requirements and the constraints associated with moving the access bridge and Cosgrove Road access. The original dual lane roundabout was also considered inadequate as it did not cater for two circulating B-Double trucks. The roundabout concept also had the following disadvantages:

- Roundabout operation tends to equalise priority between approaches, so that favouring movements between the ILC access road and the overbridge/ Wentworth Street access may require intervention, such as signals or manual site supervision/ traffic control.
- The alignment for semi-trailers and B-Doubles exiting the ILC Site requires a difficult 270 degree turn through the roundabout to proceed toward the overbridge. The adverse cross fall, although minor, on the circulating roadway, will increase the difficulty of the turn for large trucks.

These factors may increase delays and contribute to increased use of the Cosgrove Road access by trucks.

Consequently, the roundabout was replaced with a combined Y and T intersection. The 'T' junction (Cosgrove Road access and IMT/Overbridge access) clearly defines the main through route between ILC Site and the overbridge. Traffic entering from Cosgrove Road is required to give way to these through movements. Under the proposed arrangement there may be a slight deterrent to through traffic using the internal road network, due to the deviation of the road alignment indicating that the Cosgrove Road to Wentworth Street alignment is not the priority route.

Other minor road improvements

Other improvements discussed above are minor and consistent with the approved internal road layout. These improvements provide better access to operational areas and existing leases, and will improve the internal circulation for heavy and non-heavy vehicles.

RailCorp/ARTC Access Track

The existing driveway access from Cosgrove Road, immediately north of the Tarpaulin Factory, to the access track will be maintained, and the existing access track across the ILC site will be gravelled. Sydney Ports will continue providing access for maintenance and operational/emergency purposes to the RailCorp's Marshalling Yards via this existing driveway and gravelled access (Figure 2).

The driveway and access for maintenance and operational/emergency purposes will be formalised via Development Deed which will identify the terms of ARTC and RailCorp's use of the access track.

It should be noted that historically the most desirable and convenient access point for rail stakeholders is the access point north of the Tarpaulin Shed, and is the one that Sydney Port's proposes as the primary means of access for rail stakeholders for maintenance and operational/emergency purposes.

The predicted cumulative traffic usage along the access track will be between 2 to 6 vehicle movements per day. Except for emergency purposes, the gross vehicle mass of vehicles accessing the track is predominantly less than 5 tonnes.

On this basis there are no significant change to traffic impact arising from the desire to make one of the existing gates the primary means of access for rail stakeholders.

3.4 Proposed Modification

Sydney Ports requests that Condition 1.1 of the Project Approval refer to the improved ILC Site layout, including the internal road layout, presented in this document and on Figure 2.

4 STORMWATER DETENTION AND STORMWATER QUALITY TREATMENT

4.1 Approved Development

Stormwater Detention

The approved development incorporated three detention basins as shown on Figure 1 (originally Drawing SEDP017F, contained in SKM Project Notes dated 14 July 2007 and 6 August 2007). The basins were designed to ensure that peak discharges from the Site did not increase as a result of the development for each recurrence interval assessed (2, 10 and 100 years ARI). The site catchment areas and basins volumes from the EA are summarised in Table 4.1. The catchments modelled in the EA (SKM, 2005) are shown in Figure 13 of Appendix D of the EA.

Table 4.1: Site Catchment Areas and Basin Volumes

Catchment	Area	Basin Volume
	(ha)	(m³)
A	2.6	N/A
B	16.9	8,000
C	7.1	700
D	29.1	16,600
Total	55.7	25,300

In addition, the approved development allowed for each individual precinct within the LIC area to develop and maintain appropriate detention systems in accordance with Strathfield Council's On-Site Detention Policy.

Water Quality Treatment

Water quality investigations carried out for the EA recommended that development capture and treat the first 10 mm of runoff (Appendix D of the EA). The Statement of Commitments in the PPR indicated that this runoff would be contained within a water quality detention basin located adjacent to the proposed peak flow detention basin at the southern end of the Site. The proposed stormwater treatment would include medium filtration and separation of sediments and oil and grease.

Spill Containment

The Statement of Commitments indicated that the on-site drainage system would be designed so that a chemical spill of up to 20,000 L could be contained within the first flush containment basin.

4.2 Proposed Development

Stormwater Detention

Some adjustments have been made to the detention basin catchment areas, locations and sizes (refer drawings MA-MD-CI-DR-170001 to 170003 in Appendix C) as part of the detailed design. The modified detention basin arrangement remains consistent with the approved development, comprising three above ground basin storages located downstream

of the internal catchment areas (B, C and D) with similar storage capacities to those provided in SKM's Project Note dated 14 July 2007. As for the approved development, the detention systems have been designed so that the post-development peak discharges do not exceed the pre-development peak discharges.

The changes to the stormwater detention system include:

- The volume of Basin B has increased from 8,000 m³ to 8,582 m³.
Basin B has been relocated to a position approximately 100 m to the north of its approved location to avoid encroachment on the existing central stormwater culvert and to improve access to the basin for maintenance. This has resulted in an increase in the area of the Light Industrial Commercial (LIC) precinct Y and a reduction in LIC Precinct Z (further described in Sections 5 and 6).
- The volume of Basin C has increased from 700 m³ to 1,400 m³.
- The volume of Basin D has reduced from 16,600 m³ to 14,760 m³.

For basin details, refer to Drawings MA-MD-CI-DR-172001 to 172003 in Appendix C.

As for the approved development, individual precincts within the LIC area will develop and maintain appropriate on-site detention systems in accordance with Strathfield Council's On-Site Detention Policy.

Water Quality Treatment

The proposed stormwater quality treatment train is described below.

Primary treatment of stormwater will be provided through proprietary gross pollutant traps (GPT) and sediment traps to capture and remove gross pollutants, coarse and fine sediment, suspended solids, particulate bound phosphorus, and oil and grease.

The GPTs will be installed at the end of the pipe outlets prior to discharging into the detention basins. The GPTs have been designed to capture 11% of pollutants with a diameter greater than 0.15 mm to 91% of gross pollutants with a diameter greater than 19 mm.

Coarse sediments (defined as particles greater than 125 microns in diameter) not retained in the GPT will enter the detention basin sediment trap and spill containment forebay area. The inlet forebay will be concrete lined and sized to retain coarse sediment and to contain accidental spills. The forebay will also provide energy dissipation to ensure a slow and distributed delivery of stormwater to the downstream bioretention area.

Secondary treatment of the stormwater will be provided using bioretention basins integrated within the stormwater detention basins. The stormwater will pass through a vegetated filter bed of sandy loam that traps fine sediment and dissolved nutrients and heavy metals. The bioretention basin will be driven by gravity and has been designed with a free draining zone and an anoxic (or anaerobic) zone to improve total nitrogen removal.

The filtration rate through the media is approximately 100 mm/hour, ensuring the captured runoff is drained from the basin within several hours. Treated runoff is collected through a network of underlying perforated pipes and discharged to the downstream stormwater system or any storage facilities for reuse. Each basin outlet pipe will be at least 1.1 m below the basin floor level to allow effective drainage of the bio-retention layers within the basin.

The bioretention basins have been designed to the following specifications:

- 300 mm extended detention depth (to be maintained below detention depth);
- 600 mm filter media depth;
- 400 mm submerged layer (anoxic/anaerobic zone depth).

The basin areas were sized to achieve the required water quality improvements using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC).

Bioretention will enable the removal of fine particles, hydrocarbons, heavy metals and dissolved pollutants to a standard beyond that achieved by non-vegetated filter systems. Vegetation within the system will ensure that the conductivity of the filtration media is maintained so that frequent replacement of media is avoided. Removal of suspended solids will result in a reduction in heavy metal and hydrocarbon loads.

The bio-retention system achieves the Best Practice Stormwater Targets adopted by the Cooks River Sustainability Initiative, of which Strathfield Council is a member, for the South Strathfield catchment and the targets set by the NSW DECC (2008) in the draft *Managing Urban Stormwater Guidelines*. These targets are the reduction of the following pollutant levels:

- Gross Pollutants 90%
- Total suspended solids (TSS) 85%
- Total phosphorus (TP) 65%
- Total nitrogen (TN) 45%.

The overall treatment performance of the water quality system comprising bioretention basin areas, inlet forebay areas and GPTs, is summarised in Table 4.2.

Table 4.2: Water Quality System Performance				
Catchment	Bioretention Basin	% Load Reduction		
Basin	Area (m²)	TSS	TP	TN
Target Reduction¹		85	65	45
B	1,500	92	74	47
C	600	90	73	45
D	3,000	92	74	47

¹ Best Practice Stormwater Targets Cooks River Sustainability Initiative & NSW DECC (2008)

The system will also achieve a 90% reduction in gross pollutants and no visible oil or hydrocarbon contamination. It can be seen that the proposed water quality system achieves reduction in pollutant levels better than the current best practice targets.

Spill Containment

Although chemical spills are unlikely to occur on the ILC Site because of the nature of operations, the onsite drainage has been designed to contain at least 20,000 L spillages.

Spill containment facilities of that capacity will be located within the three stormwater detention basins, which are downstream of the intermodal terminal, container storage areas and warehouse sites, where there is potential for accidental spillages to occur.

4.3 Assessment

Stormwater Detention

On-site detention systems are required to offset increases in runoff and peak discharge from the Site resulting from the increase in impervious and hardstand areas associated with the development.

Hydrologic and hydraulic modelling of pre- and post-development conditions was undertaken by Maunsell as part of the detailed design to identify the required basin sizes. Consistent with the approved development, the detention systems were designed such that the post-development peak discharges do not exceed the pre-development peak discharges. The 2, 10 and 100 year ARI events were assessed.

The catchment areas modelled for the detailed design are shown in drawings attached in Appendix C. Pre- and post-development catchment areas are provided in Table 4.3.

Table 4.3: Pre- and Post-Development Catchment Areas

Catchment	Sub-Catchment	Catchment Area (ha)	
		Pre-Development	Post-Development
A	A1 (area W)		1.6
	A2 (Cosgrove Rd entrance)	4.2	1
	A3 (area X)		0.6
	A4 (area Y)	0.5	1
	A5 (area Z)	0.8	1.3
B	Area B	9.4	13.3
C	Area F	15.8	5.4
D	D1 (Intermodal area)	21.2	27.6
	D2 (Rail siding)		0.4
Community and Ecological Catchment		7.3	7.3
TOTAL		59.2	59.5

Note that the slight increase in the post-development is due to additional catchments from the main access road (0.1 ha) and the Cosgrove Road intersection catchment (0.1 ha)

As for the approved development, the developers/owners of the LIC areas within Catchment A for Areas W, X, Y and Z will be required to incorporate on-site detention within their stormwater drainage systems. Note that under Condition 1.11, final designs and layouts of each LIC area will be reported to the Director-General prior to the commencement of construction of each precinct.

A portion of Catchment A (sub-catchment A2 in Appendix C) includes the site entrance road from Cosgrove Road comprising approximately 1.04 ha. Stormwater runoff from this area drains to the Cosgrove Road drainage system. A comparison of pre- and post-development peak flows, obtained using the DRAINS model, from Catchment A2 are provided in Table 4.4.

Table 4.4: Catchment A2 - Cosgrove Road Entrance Area

		Pre-Development	Post-Development
Catchment Area	(ha)	1.7	1.03
Percentage impervious	(%)	20%	80%
2 year ARI Peak Discharge	(m ³ /s)	0.24	0.22
10 year ARI Peak Discharge	(m ³ /s)	0.39	0.38
100 year ARI Peak Discharge	(m ³ /s)	0.73	0.67

It can be seen that post-development flows are less than the pre-development flows. Therefore no on-site detention is required for Catchment A2.

Peak discharges for catchments B, C and D were modelled using the DRAINS model. The modelled catchment boundaries are shown in drawings attached in Appendix C. The performance of the basins is summarised in Table 4.5.

Table 4.5: Performance of Detention Basins

Catchment	Area (ha)		Basin Vol (m ³)	Basin Discharges (m ³ /s)					
	Pre	Post		2 year ARI		10 y ARI		100 y ARI	
				Pre	Post	Pre	Post	Pre	Post
B	9.4	13.3	8,582	0.7	0.52	1.5	0.60	2.3	0.70
C	15.8	5.4	1,400	0.9	0.6	1.5	0.8	2.3	1.8
D	21.2	27.6	14,760	1.3	1.1	2.3	1.3	3.9	3.3

As shown in Table 4.5, the proposed basins will result in post-development peak discharges lower than the pre-development peak discharges.

As noted above, Basin B has been moved to a position approximately 100 m to the north of its original location to avoid encroachment on the existing central stormwater culvert and to improve access to the basin for maintenance. Basin B is located north of Warehouse C and west of the existing Wheel Lathe lease area. The low level outlet of this basin will discharge into the existing open channel downstream of the Central Culvert outlet headwall.

As for the approved development, Basin C will be located to the south of area F. The low level outlet in this basin will discharge into the existing reinforced box outlet headwall prior to discharging to the stormwater system beneath Cosgrove Road to the east.

As for the approved development, Basin D will be located downstream of catchment D immediately to the north-west of Cox's Creek. Outflow from the basin will drain into Cox's Creek via the low level outlet pipe.

The proposed changes to the detention basins are consistent with the approved detention basin arrangement (ie above ground basin storages located downstream of the internal catchment areas and with similar storage capacities). Basin sizes and locations have been adjusted to take into account final catchment areas and site constraints. As shown in Table 4.5, the modified detention basins will result in post-development peak discharges that are less, in some cases significantly, than the pre-development peak discharges for the modelled events.

Water Quality

The main differences to the water quality system proposed in the concept design in the EA are:

- that a vegetated, rather than non-vegetated, treatment system has been adopted;
- that the detention basin and water quality treatment system are integrated, that is the capture and treatment of runoff within the vegetated biofiltration basin is proposed to be co-located within the stormwater detention basins.

The MUSIC model was run to compare the performance of the proposed design with the performance of the Concept Design for Basin D. The Concept Design was modelled by adopting a filtration system without a vegetated surface layer. The comparison of results is presented in Table 4.6.

Table 4.6: Comparison of Performance of Vegetated vs Non-Vegetated Water Quality System

Pollutant	Adopted Water Quality Targets	Percentage load reductions	
		Non-vegetated system (Concept Design)	Vegetated system (Detailed Design)
TSS	85%	58%	92%
TP	65%	43%	74%

TN	45%	5%	47%
----	-----	----	-----

The results in Table 4.6 indicate a better reduction in TSS, TP and TN for the bioretention basin than achieved by the Concept Design. Vegetated treatment systems are also considered effective in removing heavy metals and PAHs. A large proportion of heavy metals are particulate bound, and will be removed through sedimentation. Furthermore, a vegetated system also provides for chemical sorption of dissolved heavy metals, improving the overall performance of the system in removing heavy metals.

In conclusion, the proposed stormwater quality treatment will be better able to meet the State Government and Cooks River Sustainability Initiative water quality targets and perform better compared with the previously proposed system. In addition, the integration of the stormwater detention basin and the stormwater water quality system has the following advantages over the concept design:

- separate drainage infrastructure is not required to direct flows to stormwater detention and water quality treatment;
- separate Site areas do not need to be provided to achieve reductions in peak discharges and water quality management objectives; and
- aesthetic benefits can be gained from a planted treatment system compared to a grassed or concrete lined basin.

4.4 Proposed Modification

Sydney Ports requests that Conditions 1.1 and 2.31 of the Project Approval refer to the modified basin arrangement discussed in this document.

5 AREAS OF ILC SITE PRECINCTS

5.1 Approved Development

SKM's Project Note dated 14 July 2007 identified the approximate areas of operational precincts at the ILC Site including the Intermodal Terminal (IMT) Area, Empty Container Storage (ECS) Area B (North), ECS Area A (South) and warehouses. The Light Industrial Commercial (LIC) Areas were identified in SKM's Project Note dated 6 August 2007. These areas are provided in Table 5.1.

5.2 Proposed Development

Revised operational areas, resulting from adjustments made during detailed design, and approved operational areas are shown in Table 5.1.

Table 5.1: Operational Areas within the ILC Site

Operational Area	Approved Operational Areas (Project Notes SKM 14 July 2007 and SKM 6 August 2007)	Proposed Detailed Design Operational Areas
IMT	12 ha (approx)	13 ha (approx) (including rail line and 2 sidings)
ECS A (South)	4.7 ha (approx)	4.5 ha (approx)
ECS B (North)	3.8 ha (approx)	3.7 ha (approx)
ECS Total	8.5 ha	8.2 ha
Warehouse A	41,186 m ² land area (building footprint 20,500 m ²)	41,174 m ²
Warehouse B	39,624 m ² land area (building footprint 20,500 m ²)	38,990 m ²
Warehouse C	14,526 m ² land area (building footprint 4,000 m ²)	13,232 m ²
Warehouse D	7,792 m ² land area (building footprint 3,000 m ²)	8,418 m ²
Warehouse E	13,650 m ² land area (building footprint 4,500 m ²)	14,534 m ²
Warehouse F	38,551 m ² land area (building footprint 13,500 m ²)	39,434 m ²
Warehouse Total	155,329 m² land area (building footprint 66,00 m²)	155,782 m² (no change in building footprint proposed)
LIC W (land area)	16,750 m ²	16,491 m ²
LIC X (land area)	5,250 m ²	4,114 m ²
LIC Y (land area)	4,800 m ²	7,791 m ²
LIC Z (land area)	13,200 m ²	12,678 m ²

LIC Total	40,000 m²	41,074 m²
Service Area (adj to Toll Lease)	3,527 m²	6,148 m²

The warehouse buildings will be designed later in the project by the developer in accordance with Conditions 1.6 and 1.8. Similarly buildings in the LIC area will be designed at a later stage by the developer in accordance in Conditions 1.9 and 1.11.

The detailed design site layout retains the existing site driveway access immediately north of the Tarpaulin Shed, as shown in Figure 2. This driveway will provide access to the Heritage Interpretation Area and the Frog Habitat Creation Area for maintenance purposes, and will provide access to the access track through the Site to the RailCorp Marshalling Yard for RailCorp and ARTC (refer to discussion in Section 3).

5.3 Assessment

The detailed design has resulted in some minor adjustments in the final layout of the ILC Site. The design changes resulted from the need to accommodate adjustment in the general layout (eg. avoid construction over the existing high pressure Qenos pipeline, consideration of existing site conditions, etc) and improve site operability (eg. improve access to stormwater detention basins).

The changes in the areas of the operational portions of the Site are not significant and do not change the impact assessment carried out for the EA (SKM, 2005) and in subsequent documents. Furthermore, it is considered that these changes are generally consistent with the Project Approval.

5.4 Proposed Modification

Sydney Ports requests that Conditions 1.1, 1.6, 1.9 and 1.11 of the Project Approval be reworded to refer to this document and attached drawings.

6 LAYOUT OF LIGHT INDUSTRIAL COMMERCIAL PRECINCTS

6.1 Approved Development

The approved layout of the LIC area is provided in SKM's Project Note dated 6 August 2007. The drawings attached to the Project Note identified the following buildings, incorporating office space, warehousing and loading docks, in each LIC Area:

LIC Area W

Three buildings were to be located in Area W (refer dwg no G01 in SKM's Project Note dated 6 August 2007). The two buildings located in the southern portion of Area W were positioned on the eastern and western side of the Qenos pipeline. The third building was located in the north of Area W over the Qenos pipeline.

LIC Area X

One building was to be located in Area X (refer dwg no G02 in SKM's Project Note dated 6 August 2007), north of the Cosgrove Road access to the ILC Site.

LIC Area Y

Two buildings were to be located in Area Y (refer dwg no G03 in SKM's Project Note dated 6 August 2007). The buildings were to be located to the east and west of the Qenos gas pipeline.

LIC Area Z

Two buildings were to be located in Area Z (refer dwg no G04 in SKM's Project Note dated 6 August 2007). The buildings were to be located to the east and west of the Qenos gas pipeline.

6.2 Proposed Development

The detailed design has resulted modifications to the layout and floor areas of the buildings within the LIC Areas. The revised layout is shown in the following drawings, which are contained in Appendix C:

- MA-MD-CI-SK-0101 - Area W
- MA-MD-CI-SK-0102 - Area X
- MA-MD-CI-SK-0103 - Area Y
- MA-MD-CI-SK-0104 - Area Z.

The concept design layout is also shown on these drawings.

Modification to the land area of the LIC is described in Table 5.1 above. The proposed floor space, building footprint and car spaces to be provided is summarised in Table 6.1 below.

Table 6.1: LIC Floor Space Areas and Building Footprints

LIC Area	Floor Space Area (m ²)		Bldg Footprint (m ²)	Car spaces Provided
	Concept Design	Detailed Design		

W	16,750	18,010	9,005	90
X	5,250	4,749	2,374	24
Y	4,800	6,996	3,498	33
Z	13,200	10,859	5,429	65
Total	40,000	40,614	20,306	212

Overall, there is only a minor increase in the gross floor space area to be provided as part of the detailed design. Variations have occurred in the distribution of the floor space areas between the LIC Areas to make allowance for the location of the Qenos gas line, Detention Basin B and improvements in sight lines. The proportion of the floor space area allocated to office space, warehousing and loading dock has not been altered. Specifically, the changes are as follows:

LIC Area W

The detailed design proposes four buildings in Area W. The location of the two buildings in the southern portion of Area W has not altered. The original building in the north of Area W has been split into two buildings, located on the eastern and western side of the Qenos gas pipeline, to avoid construction of the building over this pipeline.

LIC Area X

One building of similar layout is retained in Area X. The south-eastern corner of the building has been modified to improve sight lines for site safety purposes.

LIC Area Y

The two buildings to the east and west of the Qenos pipeline are retained. The land area and buildings building footprint in LIC Area Y have increased, and the area of Area Z has decreased, to make allowance for the location of Detention Basin B, which has been moved north from the position proposed in the concept design.

LIC Area Z

The two buildings to the east and west of the Qenos pipeline are retained. The land area and buildings building footprint in LIC Area Z have decreased, and the area of Area Y has increased, to make allowance for the location of Detention Basin B.

6.3 Assessment

The new layout of the LIC areas is required to avoid construction above the high pressure gas pipeline, to allow for the location of Detention Basin B, to improve sight lines for traffic and to adjust the buildings to the changes in land area for each precinct (as discussed in Section 5 above).

The changes in the layout of the LIC areas do not change the impact assessment carried out for the EA documentation. The increase in Gross Floor Area of the ILC (from 40,000 to 40,614 m²) is not considered significant. As required under Condition 1.11, final designs and layouts of the LIC area will be submitted to the Director-General prior to the commencement of construction of the LIC precincts.

6.4 Proposed Modification

Sydney Ports requests that Condition 1.9 reflects the new maximum gross floor areas identified in this document.

7 CONSTRUCTION CONDITIONS AND MODIFICATION APPLICATION

Sydney Ports has identified a number of construction related conditions that are requested to be updated or reworded as outlined below.

7.1 Condition 2.3

Current Status

Condition 2.3 states *“The Proponent shall design, construct and maintain all internal road works, including the associated **300 parking facilities** and loading bays....”*.

Reason for Modification

The documentation submitted by Sydney Ports for the Part 3A Project Approval and referred to in Condition 1.1 b) (EA) and Condition 1.1 e) (SKM Project Note dated 6 August 2007) identified the following site parking requirements:

- **300 car park spaces** for the operational areas associated with the Intermodal Terminal, warehouses and empty container storage areas (refer Section 4.10.2 and Figure 4-2a of the EA) for the estimated workforce of the Intermodal Terminal and warehouse sites; and
- **204 car park spaces** for the LIC area (refer Table 1 of SKM's Project Note dated 6 August 2007).

Figure 4-2a of the EA shows the indicative location of the 300 IMT car park spaces and the drawings attached to SKM's Project Note dated 6 August 2007 show the location of car park spaces for the LIC.

The intent of Condition 2.3 is to reflect the requirement for 300 car parking spaces for the Intermodal Terminal, warehouses and empty container storage areas described in the EA, but **not** the LIC car parking.

Following completion of the LIC detailed design and prior to commencement of construction of this area, final designs and layouts, including car parking spaces, for the LIC will be submitted to the Director-General in accordance with Condition 1.11.

Proposed Modification

Sydney Ports requests that Condition 2.3 be reworded to clarify that the 300 parking facilities apply to the Intermodal Terminal, warehouses and empty container storage areas, but **not** the Light Industrial Commercial area.

7.2 Condition 2.25

Current Status

Condition 2.25 states *“The Proponent shall seal and maintain all internal haulage roads with bitumen, gravel or other material agreed to by the Director-General”*.

Reason for Modification

Condition 2.25 is located under the heading “Dust Emissions”. It is therefore assumed that the intention of the condition is to prevent dust emissions due to trucks using internal haulage roads during construction.

All roads within the ILC Site will be sealed during operation.

Figure 4.12 of the EA (SKM, 2005) shows the notional haul roads at the construction site.

Sealing haulage roads on construction sites is not a common practice as it is impractical and costly. The ILC Site will be subject to cut and fill activities and the layout of internal roads will constantly change during the construction phase of the project. In addition, these internal roads will be used by various types of machinery (excavators, bulldozers, etc) and equipment which would damage sealed roads and cause them to become muddy during wet weather. Gravel roads also require intensive maintenance as the gravel gets muddy and silty during wet weather and requires regular replacement.

Dust emissions from unsealed internal haul roads would only occur if road disturbance (eg. truck movement) occurs during dry weather and if the surface conditions of the road were dry. Furthermore, any dust emissions from internal haulage roads would only impact on adjacent landuses if there is adverse wind speed and direction conditions during the dry weather and the internal haulage are not managed to prevent such dust emissions (eg. no dust controls in place such as the use of water carts, speed limits on trucks, etc).

The two main access roads to the Site during construction are from Cosgrove Road: (i) via the DELEC area and (ii) via the access located west of Hope Street. Sealed sections of these access roads extend for more than 100 m within the Site and there is a 1.3 km long sealed central internal road. These roads will remain sealed for as long as practicable within the cut and fill program of the construction phase.

Sydney Ports will require all construction contractors working on the Site to apply and enforce a 25 km/h speed limit at the Site in accordance with Condition 2.26. Sydney Ports will also require all construction vehicles and equipment to pass through a wheel wash prior to leaving the Site in accordance with Condition 2.27.

Sydney Ports maintains two real-time dust monitors at the NW and SE boundaries of the Site, near the most affected residential receptors, to continuously monitor dust levels in accordance with Condition 3.2. Sydney Ports also maintains an on-site meteorological station that provides real time continuous weather information in accordance with Condition 3.1. Dust Management Plans are required to be prepared as part of all Site CEMPs, in accordance with Conditions 6.2 and 6.3.

Proposed Modification

Sydney Ports requests that Condition 2.25 be reworded to a less prescriptive requirement which focuses on the required outcome, that is to prevent dust emissions from the use of haulage roads. Proposed wording:

The Proponent shall manage, maintain and use all internal haulage roads in order to prevent dust emissions. The measures for the management of potential dust emissions from internal roads during construction shall be incorporated in the CEMP required under Condition 6.3 for construction works at the site.

7.3 Condition 2.30

Current Status

Condition 2.30 states “*All stockpiled construction materials shall be adequately stabilised and covered to prevent erosion or dispersal of the materials*”.

Reason for Modification

Condition 2.30 is located under the heading “Water Quality and Hydrological Impacts” and therefore it is assumed that the intention of the condition is to prevent water quality impacts from stockpiles.

The wording of the condition does not make clear what is meant to be covered. Many construction materials are not dispersible (eg. bricks, ballast) and do not create water quality issues. On the other hand, excavated material may not be considered a construction material.

Covering stockpiles of dispersible construction materials (eg. fill, cement, etc) or excavated materials is impractical and is not a standard practice on construction sites. Stabilisation, location of stockpiles in designated areas away from waterways or drainage lines and installation of sediment and erosion controls are standard and appropriate measures to prevent water quality impacts from the erosion of stockpile material.

Construction at the ILC Site will involve relatively large earth movement activities. Covering stockpiles of excavated material or dispersible construction materials would be logistically unfeasible, costly and impractical.

Sydney Ports will require the construction contractor to employ soil and water management controls to minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters during construction in accordance with Condition 2.29. The CEMP required for the ILC construction phase under Conditions 6.2 and 6.3 will include water management controls developed in accordance with Conditions 2.28 and 2.29.

Proposed Modification

Sydney Ports requests that Condition 2.30 be reworded to a less prescriptive requirement which focuses on the required outcome, that is to prevent water quality impacts from stockpiles. Proposed wording:

All stockpiled construction materials shall be adequately located, stabilised and maintained to prevent erosion or dispersal of the materials.

7.4 Condition 2.40

Current Status

Condition 2.40 states that “*The Proponent shall ensure that all liquid and/ or non-liquid waste generated and/ or stored on the site is assessed and classified in accordance with the EPA’s*

Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes (Waste Guidelines) in force as at 1 July 1999.

Reason for Modification

In April 2008 DECC replaced the *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes* with the *Waste Classification Guidelines* (DECC, April 2008).

Proposed Modification

Sydney Ports requests that Condition 2.40 be reworded to reflect new guideline updates.

7.5 Condition 2.42

Current Status

Condition 2.42 states *“The Proponent shall ensure that contaminated areas of the site are remediated prior to the commencement of site preparation and construction works associated with the project that may directly disturb those areas. All remediation works shall be undertaken in accordance with the requirements of the Contaminated Land Management Act 1997 and Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (EPA, 1997).”*

Reason for Modification

Condition 2.43 was modified by the delegate for the Minister for Planning on 30 March 2009 under Section 75W of the EP&A Act. The modification allowed the commencement of construction activities with either a Section A or Section B Site Audit Statement (SAS) verifying that the area *has been* (Section A SAS) or *can be* (Section B SAS) remediated to a standard consistent with the intended land use. The modified condition required the final SAS (Section A) to be submitted to the Director-General prior to operation of the remediated site(s). The modified condition provides flexibility in the remediation/ project program process, consistent with Guidelines prepared under the CLM Act.

The modified condition 2.43 specifically states *“Prior to the commencement of site preparation and construction works associated with the project that may directly disturb known contaminated areas of the site, the Proponent shall submit to the Director-General a Site Audit Statement(s), prepared by an accredited Site Auditor under the Contaminated Land Management Act 1997, verifying that the area of the site on which construction is commencing has been or can be remediated to a standard consistent with the intended land use. A final Site Audit Statement(s), prepared by an accredited Site Auditor, certifying that the contaminated areas have been remediated to a standard consistent with the intended land use is to be submitted to the Director-General prior to operation of the remediated site(s).”*

In accordance with Condition 2.43, a SAS dated 2 July 2009 was submitted to the Director-General on the 14 July 2009 verifying that the site can be remediated to a standard consistent with the intended land use. The SAS was based on the implementation of the Site Remedial Action Plan (RAP) (dated 23 June 2009) prepared by Sydney Ports' Environmental Consultant, Coffey Environments, and endorsed by the Site Auditor in the

SAS. The endorsed remediation strategy includes a combination of approaches, depending on the nature and extent of contamination. These remediation approaches include excavation and disposal of material, landfarming and containment of contaminated materials, with the final cap in some areas being the approximately 0.5 m thick paving, such as bitumen or concrete or a mix of both, over the clean-fill capped areas.

Based on the above, the current Condition 2.42 is inconsistent with Condition 2.43. Under Condition 2.42 remediation must be completed prior to commencement of construction, while under Condition 2.43 commencement of construction is allowed subject to a SAS verifying that the area can be remediated to a standard consistent with the intended land use. Under the RAP, construction of parts of the ILC final surface may be considered part of the remediation strategy and therefore remediation would not technically be completed until part of the cap, including pavement, has been constructed over some areas.

Proposed Modification

Sydney Ports requests that Condition 2.42 be modified to make it consistent with Condition 2.43 and to allow the undertaking of some construction activities that are part of the remediation strategy (ie. pavement capping over some contaminated areas). Proposed wording:

The Proponent shall ensure that contaminated area(s) of the site are remediated prior to the commencement of site operations at these area(s). All remediation works shall be undertaken in accordance with the requirements of the Contaminated Land Management Act 1997 and Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (EPA, 1997).

7.6 Land Applicable to Conditions 2.42 and 2.43

Current Status

As discussed above, Conditions 2.42 and 2.43 require the remediation of contaminated areas of the Site and the preparation of Site Audit Statement (s) (SAS) by an accredited auditor under the CLM Act for those areas subject to remediation.

The approval defines the “site” as the Land to which the project application applies, identified in Schedule 1 of the Project Approval. Schedule 1 includes land where relatively minor construction works outside the ILC Site will be carried out, including land owned by RailCorp, for:

- road bridge foundations (Lot 3 DP1006861 and Lot 15 DP1007302);
- northern noise wall (as currently approved) and northern rail connection (Lot 15 DP1007302);
- southern rail connection (Lot 1 DP950438 and Lot 15 DP1007302).

Schedule 1 also identifies a small area of land owned by Strathfield Council, where freight rail connection works will be carried out (DP242426).

Under current Conditions 2.42 and 2.43, remediation and preparation of SASs are required for remediation works at the Site. Under the Project Approval these requirements may apply to the land not owned by Sydney Ports, as listed above. Works outside the land not owned by Sydney Ports are generally minor. Excavation works for the road and rail connections will be negligible.

Although there is no known contamination in the land not owned by Sydney Ports, it is possible that excavated material may be contaminated. Contamination studies at the ILC Site undertaken as part of the EA (SKM 2005) detected no contamination above industrial/commercial criteria, except for some hot spots largely at former operational areas. The off-site areas where project works are proposed are adjacent to the ILC Site and therefore it is likely that soil quality would be similar to that found in previous investigations at the ILC Site.

Reason for Modification

The intent of the Part 3A Project Approval and assessment documentation was to address contamination and remediation requirements at the ILC Site, where the majority of the works are to occur. Any material from minor excavation works occurring outside the ILC Site were not intended to be subject to statutory SASs and remediation programs, but managed in accordance with current waste management guidelines.

In addition, there are no real benefits in having SASs for small and isolated areas associated with minor excavation works within larger lots and operational areas.

Waste generated by minor excavation activities for bridges, road or rail works are generally managed in accordance with the current Waste Classification Guidelines (ie. sampling, waste classification and management of the waste in accordance with the classification). A similar approach is proposed for the minor project works outside of the ILC Site.

Proposed Modification

Sydney Ports requests that the Project Approval be modified to exclude the application of Conditions 2.42 and 2.43 to minor works areas outside Sydney Ports' ILC Site. Sydney Ports proposes to manage excavated material for works off-site in accordance with the waste classification guidelines. This will involve the sampling of excavated material, classification and off-site disposal in accordance with DECC requirements. Off-site disposal from these areas may involve reuse of soils at the ILC Site, in accordance with the RAP and any DECC requirements.

7.7 Condition 6.2

Current Status

Condition 6.2 i) refers to "*the issue-specific management plans listed under condition 6.5 of this approval.*"

Reason for Modification

This is a typographical error. This item should cross-reference to the issue specific management plans listed under Condition 6.3.

Proposed Modification

Sydney Ports requests that Condition 6.2 i) be reworded as follows: "*the issue-specific management plans listed under condition 6.3 of this approval.*"

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Appendix A

DETAILED DESIGN ACOUSTIC ASSESSMENT



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Appendix B:
CONSULTATION



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RailCorp

Network Access: GPO Box 47 Sydney 2001
Level 15, 55 Market Street, Sydney NSW 2000
Tel: 02 9224 2311 Fax: 02 9224 3984
www.railcorp.info

29 April 2009

Letter Ref: D2009/27722
File Ref: F2008/20465

Mr Steve Zaczekiewicz
Senior Development Manager
Sydney Ports Corporation
Level 8, 207 Kent Street
SYDNEY NSW 2000

Dear Steve

Subject: Enfield Intermodal Logistics Centre (ILC)

I am writing in relation to the SPC ILC development at Enfield and in particular the construction of an acoustic wall on RailCorp property in the Roberts Road area.

I understand that following discussions in the ILC Rail Co-ordination Group (attended by ARTC, SPC and RailCorp) an alternative option has been developed by SPC which locates the acoustic wall within the ILC environs.

It is RailCorp's preference and we support in principle the relocation of the acoustic wall to the ILC subject to appropriate measures being undertaken to mitigate any potential noise reflectivity from operations in RailCorp's Enfield Yard or the Metropolitan freight main lines within the footprint of the proposed acoustic wall.

It would be appreciated if, at the appropriate design stage, advice can be provided that outlines the actions taken to mitigate any reflection noise.

It should be noted that RailCorp's response to Department of Planning on SPC's Environmental Assessment Report October 2005 included numerous conditions associated with the proposed Roberts Road noise mitigation.

RailCorp would consider those conditions being superseded if this option was pursued subject to a satisfactory resolution of any reflective noise issues that arise.

Yours sincerely

TONY GAUSDEN
General Manager, Network Access

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Appendix C

DRAWINGS

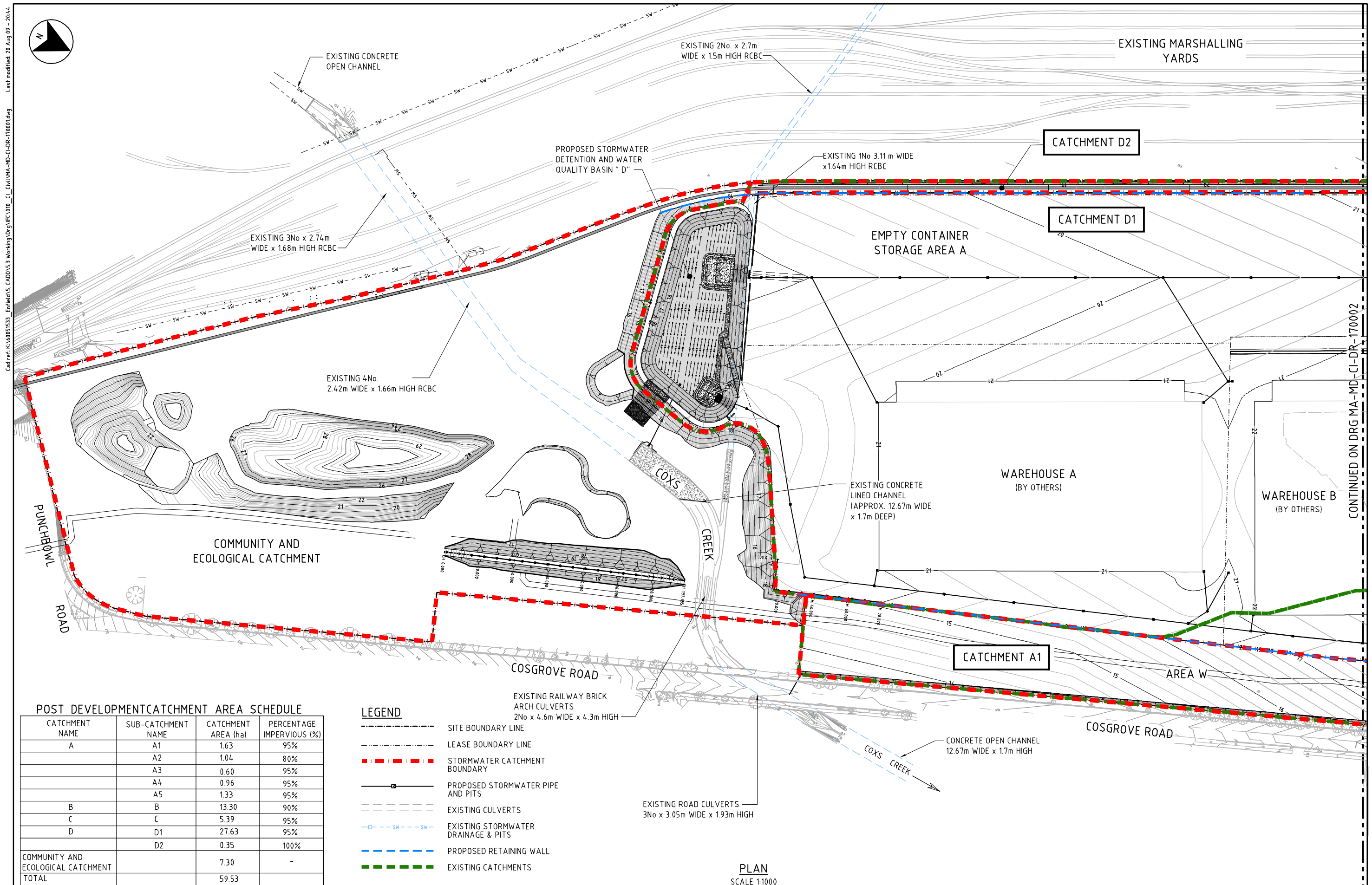
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	MA-MD-CI-DR-170002	
	MA-MD-CI-DR-170003	
SEDIMENT BASINS	MA-MD-CI-DR-172001	BASIN
	B	
	MA-MD-CI-DR-172003	BASIN
LAYOUT OF LIC AREA	MA-MD-CI-SK-0101	AREA W
	MA-MD-CI-SK-0102	AREA X
	MA-MD-CI-SK-0103	AREA Y
	MA-MD-CI-SK-0104	AREA Z



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Cad ref: K:\60051533_Enfield\5. CADD\5.3 Working\Drawings\CI-DR-170001.dwg
Last modified: 20 Aug 09 - 20:44



POST DEVELOPMENT CATCHMENT AREA SCHEDULE

CATCHMENT NAME	SUB-CATCHMENT NAME	CATCHMENT AREA (ha)	PERCENTAGE IMPERVIOUS (%)
A	A1	1.63	95%
	A2	1.04	80%
	A3	0.60	95%
	A4	0.96	95%
	A5	1.33	95%
B	B	13.30	90%
C	C	5.39	95%
D	D1	27.63	95%
	D2	0.35	100%
COMMUNITY AND ECOLOGICAL CATCHMENT TOTAL		59.53	-

LEGEND

- SITE BOUNDARY LINE
- LEASE BOUNDARY LINE
- - - - - STORMWATER CATCHMENT BOUNDARY
- - - - - PROPOSED STORMWATER PIPE AND PITS
- - - - - EXISTING CULVERTS
- - - - - EXISTING STORMWATER DRAINAGE & PITS
- - - - - PROPOSED RETAINING WALL
- - - - - EXISTING CATCHMENTS

PLAN
SCALE 1:1000

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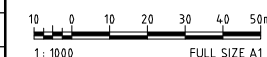
This drawing is confidential and shall only be used for the purposes of this project.

DESIGNED	A. KIELNIAZ	CHECKED	B. WITHNALL
DRAWN	T. TORJINSKI	CHECKED	P. STUART
APPROVED	CS	DATE	20.08.09
01	MT	20.08.09	ISSUED FOR CONSTRUCTION
01	BY	DATE	DESCRIPTION

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DRAWN	T. TORJINSKI	CHECKED	P. STUART
APPROVED	CS	DATE	20.08.09

SCALES:



CLIENT:



DESIGNER:

MAUNSELL | AECOM

Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

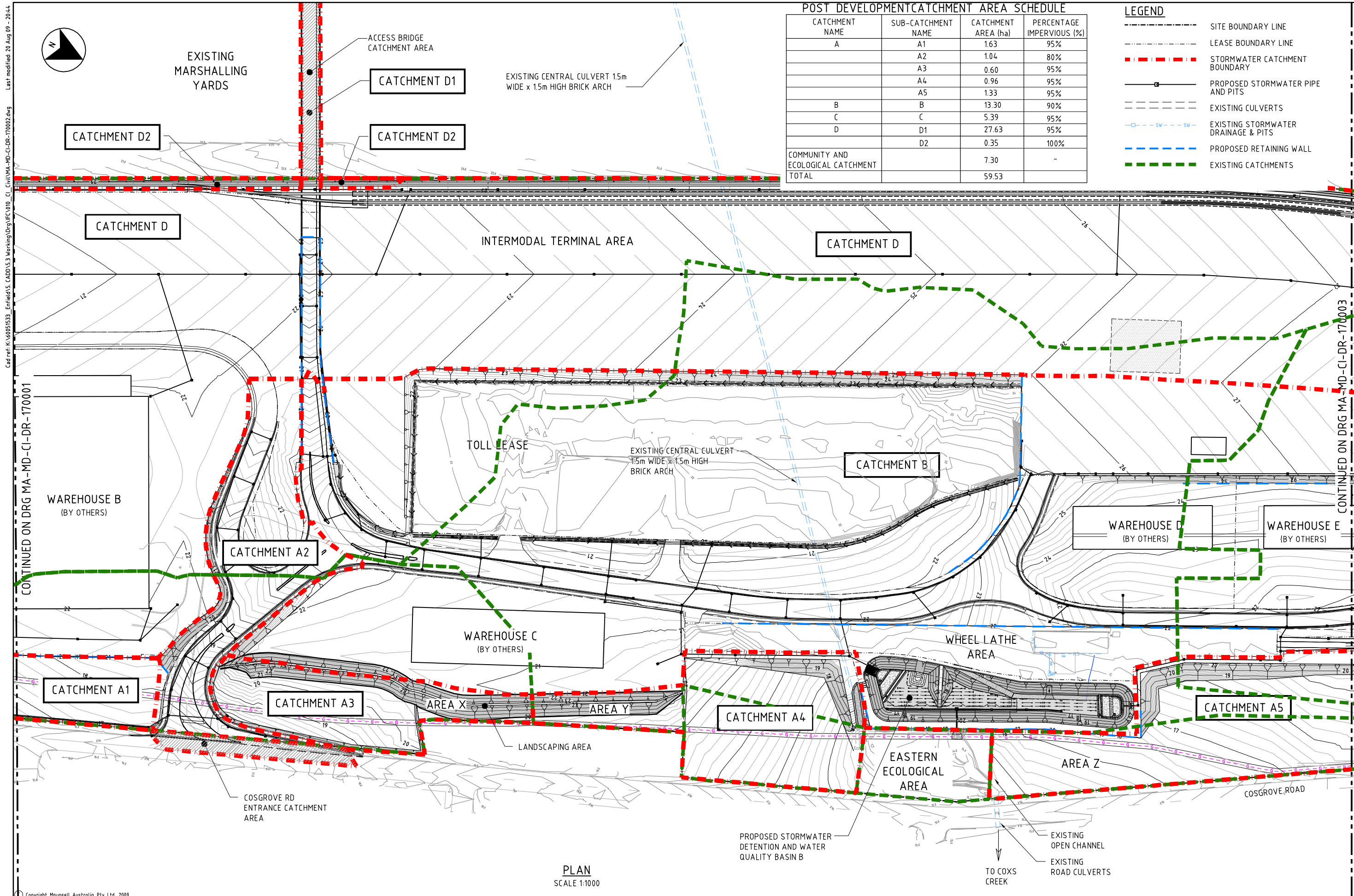
ILC AT ENFIELD

CIVIL WORKS PACKAGE
DRAINAGE CATCHMENT AND
OVERALL SITE PLAN

STATUS: FOR CONSTRUCTION
DRAWING NO: MA-MD-CI-DR-170001
REV: 01

SHEET 1

Cad ref: K:\6005933_Enfield\5_CADD\53_Working\Org\FCV00_Civil\MA-MD-CI-DR-170002.dwg
Last modified: 20 Aug 09 - 20:44



POST DEVELOPMENT CATCHMENT AREA SCHEDULE			
CATCHMENT NAME	SUB-CATCHMENT NAME	CATCHMENT AREA (ha)	PERCENTAGE IMPERVIOUS (%)
A	A1	1.63	95%
	A2	1.04	80%
	A3	0.60	95%
	A4	0.96	95%
	A5	1.33	95%
B	B	13.30	90%
C	C	5.39	95%
D	D1	27.63	95%
	D2	0.35	100%
COMMUNITY AND ECOLOGICAL CATCHMENT TOTAL		7.30	-
		59.53	

- LEGEND**
- SITE BOUNDARY LINE
 - LEASE BOUNDARY LINE
 - STORMWATER CATCHMENT BOUNDARY
 - PROPOSED STORMWATER PIPE AND PITS
 - EXISTING CULVERTS
 - EXISTING STORMWATER DRAINAGE & PITS
 - PROPOSED RETAINING WALL
 - EXISTING CATCHMENTS

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No	BY	DATE	DESCRIPTION	APPD

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DESIGNED	A. KIELNIAZ	CHECKED	B. WITHNALL
DRAWN	T. TORJINSKI	CHECKED	P. STUART
APPROVED	CS	DATE	20.08.09

SCALES:

1:1000 FULL SIZE A1

CLIENT:

SYDNEY PORTS
FIRST PORT, FUTURE PORT

DESIGNER:

MAUNSELL | AECOM
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

ILC AT ENFIELD

CIVIL WORKS PACKAGE
DRAINAGE CATCHMENT AND
OVERALL SITE PLAN

STATUS: FOR CONSTRUCTION
DRAWING NO: MA-MD-CI-DR-170002
REV: 01

SHEET 2

Cad ref: K:\60059533_Enfield\53_CADD\53_Working\Org\NFC\010_C\Civil\MA-MD-CI-DR-170003.dwg
Last modified: 20 Aug 09 - 20:44

CONTINUED ON DRG MA-MD-CI-DR-170001

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No	BY	DATE	DESCRIPTION	APPD

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DESIGNED	A. KIELNIAZ	CHECKED	B. WITHNALL
DRAWN	T. TORJINSKI	CHECKED	P. STUART
APPROVED	CS	DATE	20.08.09

SCALES:

10

0

10

20

30

40

50m

1: 1000

FULL SIZE A1

PLAN
SCALE 1:1000

CLIENT:



SYDNEY PORTS
FIRST PORT, FUTURE PORT

DESIGNER:



MAUNSELL | AECOM

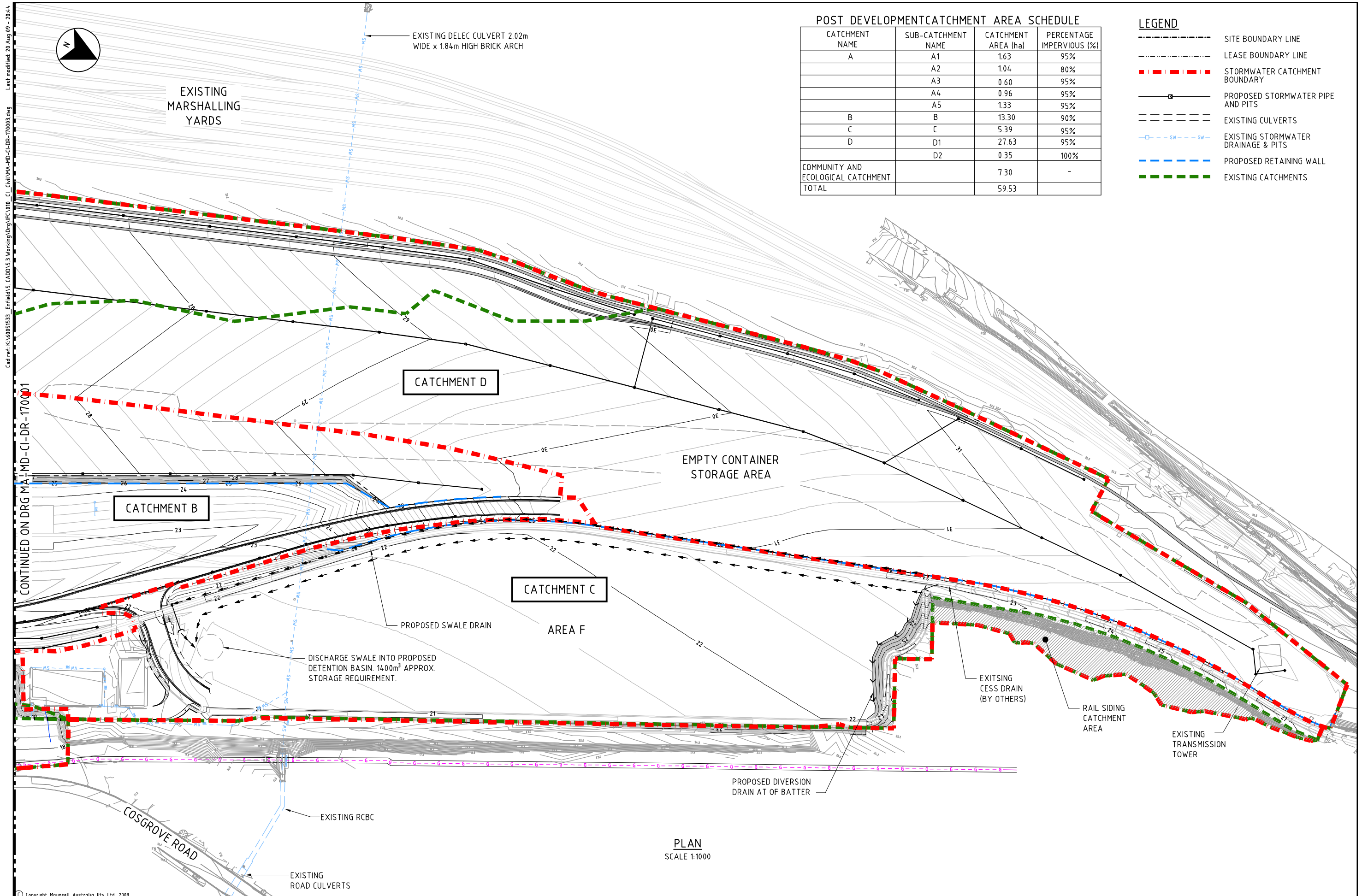
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

ILC AT ENFIELD

CIVIL WORKS PACKAGE
DRAINAGE CATCHMENT AND
OVERALL SITE PLAN

STATUS: FOR CONSTRUCTION
DRAWING NO: MA-MD-CI-DR-170003
REV: 01

SHEET 3

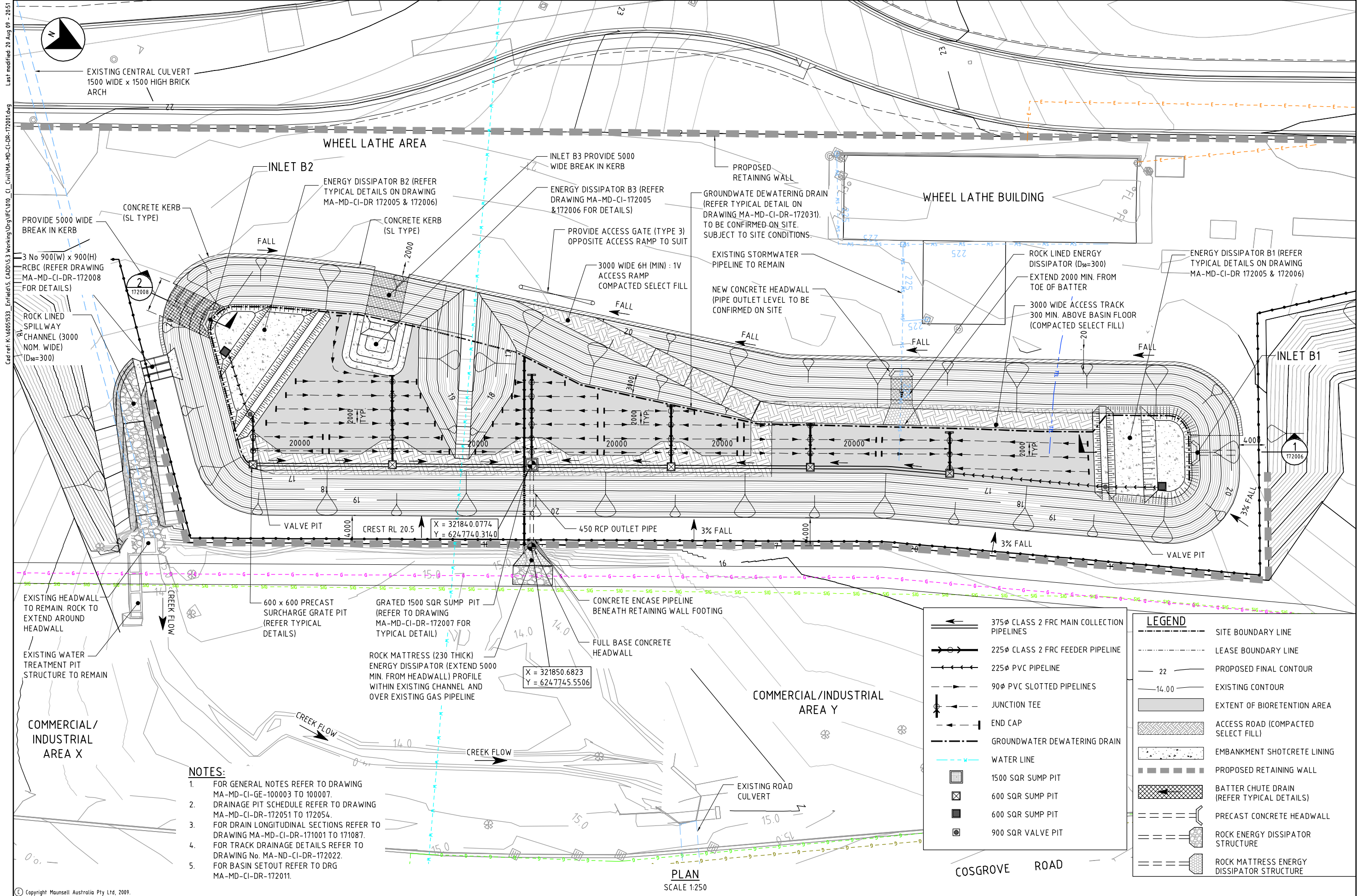


POST DEVELOPMENT CATCHMENT AREA SCHEDULE

CATCHMENT NAME	SUB-CATCHMENT NAME	CATCHMENT AREA (ha)	PERCENTAGE IMPERVIOUS (%)
A	A1	1.63	95%
	A2	1.04	80%
	A3	0.60	95%
	A4	0.96	95%
	A5	1.33	95%
B	B	13.30	90%
C	C	5.39	95%
D	D1	27.63	95%
	D2	0.35	100%
COMMUNITY AND ECOLOGICAL CATCHMENT TOTAL		7.30	-
		59.53	

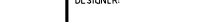
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- SITE BOUNDARY LINE
 - LEASE BOUNDARY LINE
 - STORMWATER CATCHMENT BOUNDARY
 - PROPOSED STORMWATER PIPE AND PITS
 - EXISTING CULVERTS
 - EXISTING STORMWATER DRAINAGE & PITS
 - PROPOSED RETAINING WALL
 - EXISTING CATCHMENTS

533 - Enfield's CADD/S3 Working/Drain/CI-DR-172001.dwg
Last modified: 20 Aug 09 - 2051



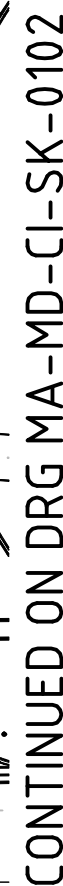
Copyright Maunsell Australia Pty Ltd, 2009.					The signing of this title block confirms the design and drafting of this project have been prepared and checked in accordance with the MAUNSELL QUALITY ASSURANCE SYSTEM TO ISO 9001:2000				SCALES:		CLIENT:		DESIGNER:		ILC AT ENFIELD		
This drawing is confidential and shall only be used for the purposes of this project.					DESIGNED A. KIELNIAZC				1: 250		SYDNEY PORTS		MAUNSELL AECOM		CIVIL WORKS PACKAGE		
					DRAWN T. TORJINSKI				FULL SIZE A1		FIRST PORT, FUTURE PORT				STORMWATER DETENTION AND		
					APPROVED CS										WATER QUALITY BASIN B		
					DATE 20.08.09										STATUS: FOR CONSTRUCTION		
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															REV: 01		



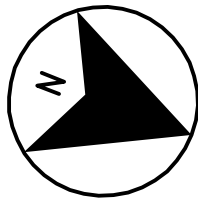
This drawing is confidential and shall only be used for the purposes of this project.				THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE MAUNSELL QUALITY ASSURANCE SYSTEM TO ISO 9001:2000				CLIENT:  SYDNEY PORTS FIRST PORT, FUTURE PORT		DESIGNER:  MAUNSELL AECOM MunSELL Australia Pty Ltd A.B.N. 20 093 846 925		ILC AT ENFIELD CIVIL WORKS PACKAGE STORMWATER DETENTION AND WATER QUALITY BASIN D	
				DESIGNED: A. KIELNIA CZ CHECKED: B. WITHNALL DRAWN: T. TORJINSKI CHECKED: P. STUART APPROVED: CS DATE: 20.08.09				SCALE: 1:250 		STATUS: FOR CONSTRUCTION DRAWING NO: MA-MD-CI-DR-172003		REV: 01	
01	MT	20.08.09	ISSUED FOR CONSTRUCTION										
No.	BY	DATE	DESCRIPTION	APPD									



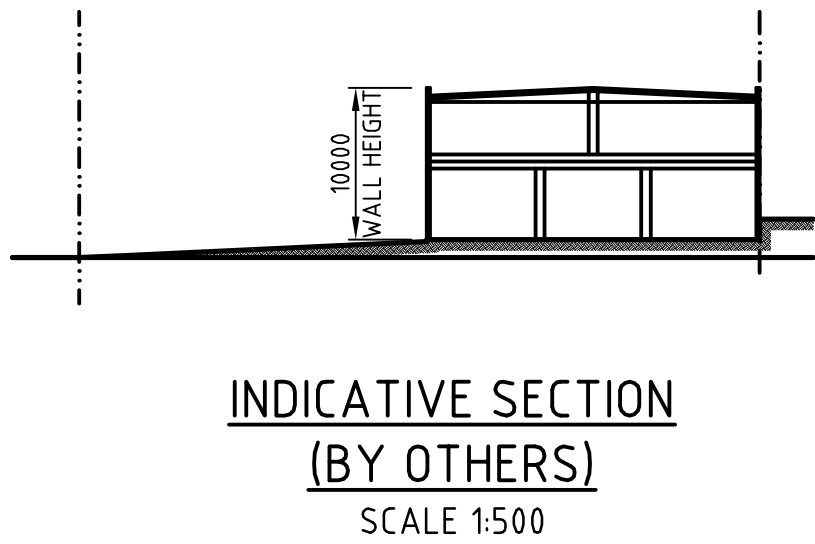
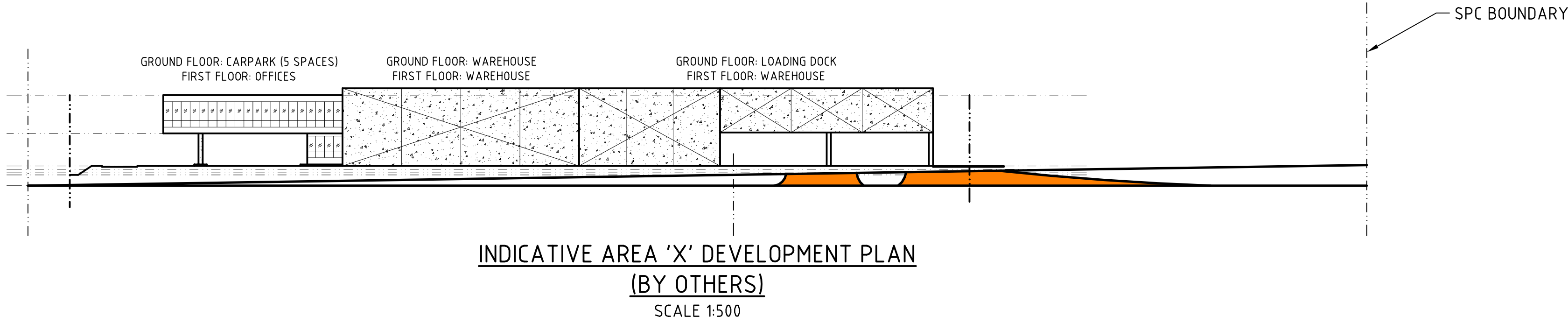
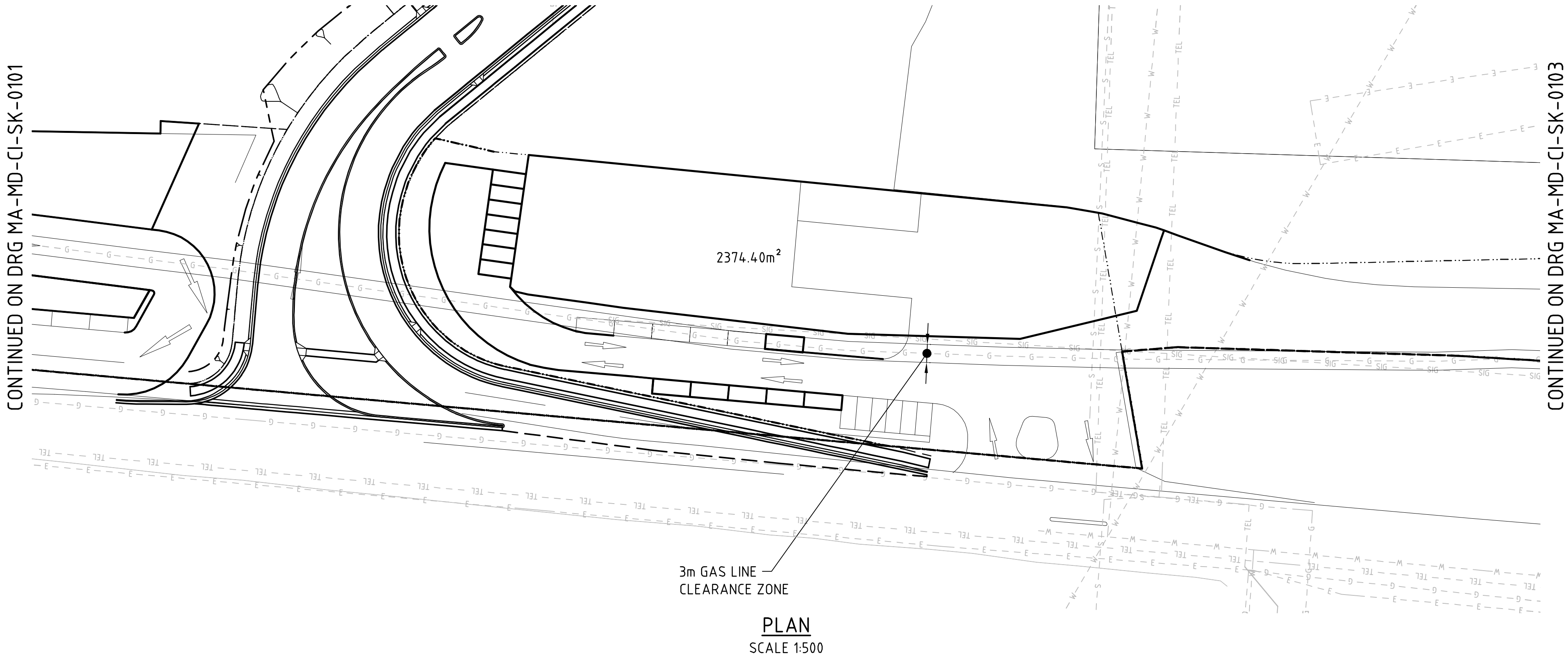
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FLOOR SPACE PROVIDED = 18010m²
BUILDING FOOTPRINT = 9005m²
CAR SPACE REQUIRED = 1 SPACE PER 200m² (90)
CAR SPACE PROVIDED = 90 SPACES
FRONT SET BACK = MIN. 10m



1. DRAWING TO BE REVIEWED IN CONJUNCTION WITH ORIGINAL CONCEPT LAYOUT DRAWINGS COMPLETED BY SKM (COSGROVE ROAD LIGHT INDUSTRIAL DEVELOPMENT DATED 27.07.07).
2. PLAN VIEW BOLD LINES INDICATE MODIFICATIONS TO BUILDING, PARKING AND SITE LAYOUT REVISIONS.
3. BUILDING AND PARKING MODIFICATIONS ARE BASED ON IMPACTS FROM EXISTING GENOS GAS LINE THAT RUNS THROUGH THE SITE.
4. LAYOUT AS PREVIOUSLY PROVIDED BY OTHERS HAS NOT BEEN VERIFIED FOR CODE COMPLIANCE (I.E. TURNING PATHS, DRIVEWAY LOCATIONS, SET BACKS). PLAN IS CONCEPT ONLY.



FLOOR SPACE ALLOWED = 5250m²
FLOOR SPACE PROVIDED = 4749m²
BUILDING FOOTPRINT = 2374m²
CAR SPACE REQUIRED = 1 SPACE PER 200m² (26)
CAR SPACE PROVIDED = 24 SPACES
FRONT SET BACK = MIN. 10m

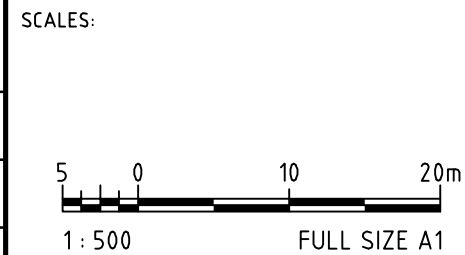


- NOTES:**
- DRAWING TO BE REVIEWED IN CONJUNCTION WITH ORIGINAL CONCEPT LAYOUT DRAWINGS COMPLETED BY SKM (COSGROVE ROAD LIGHT INDUSTRIAL DEVELOPMENT DATED 27.07.07).
 - PLAN VIEW BOLD LINES INDICATE MODIFICATIONS TO BUILDING, PARKING AND SITE LAYOUT REVISIONS.
 - BUILDING AND PARKING MODIFICATIONS ARE BASED ON IMPACTS FROM EXISTING GENOS GAS LINE THAT RUNS THROUGH THE SITE. LAYOUT AS PREVIOUSLY PROVIDED BY OTHERS HAS NOT BEEN VERIFIED FOR CODE COMPLIANCE (I.E. TURNING PATHS, DRIVEWAY LOCATIONS, SET BACKS). PLAN IS CONCEPT ONLY.

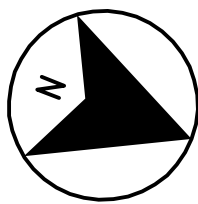
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C	JS	17.08.09	RE-ISSUE TO SPC-SPC COMMENTS	LD	
B	JS	07.07.09	RE-ISSUE TO SPC-SPC COMMENTS	LD	
A	SS	25.04.09	ISSUE TO SPC	CF	
No.	BY	DATE	DESCRIPTION	APPD	

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DESIGNED	CF	CHECKED	CS
DRAWN	JS	CHECKED	JA
APPROVED	LD	DATE	17.08.09



ILC AT ENFIELD		
CONCEPT LAYOUT COSGROVE ROAD LIGHT INDUSTRIAL DEVELOPMENT AREA X		
STATUS:	DRAWING NO:	REV:
SKETCH	MA-MD-CI-SK-0102	C

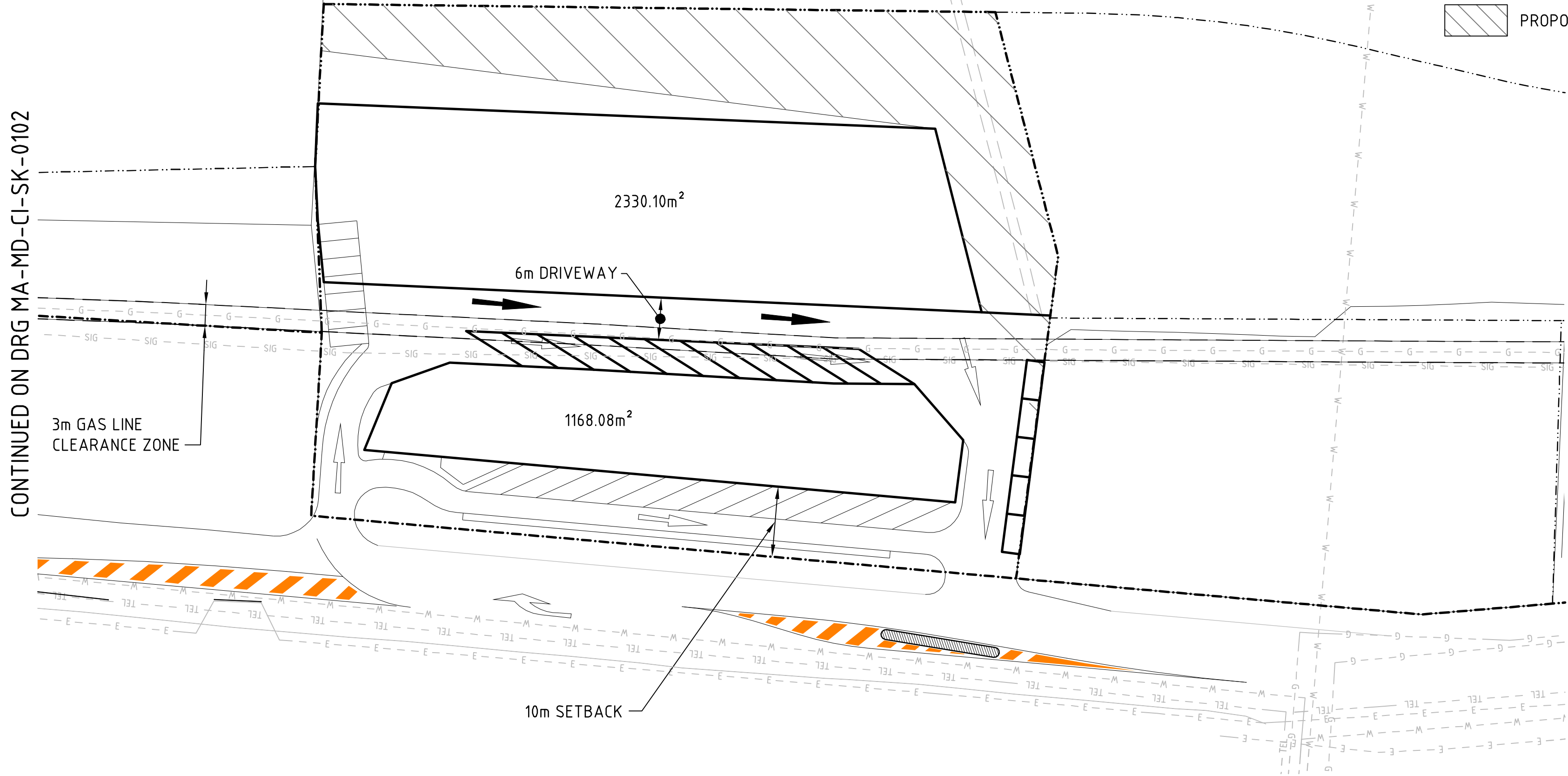


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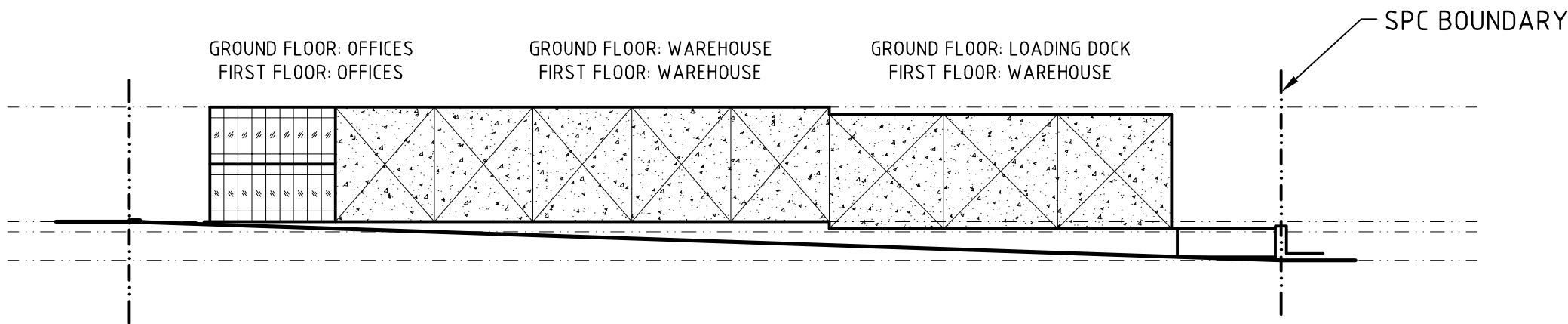
CONTINUED ON DRG MA-MD-CI-SK-0104

FLOOR SPACE ALLOWED = 4800m²
FLOOR SPACE PROVIDED = 6996m²
BUILDING FOOTPRINT = 3498m²
CAR SPACE REQUIRED = 1 SPACE PER 200m² (35)
CAR SPACE PROVIDED = 33 SPACES
FRONT SET BACK = MIN. 10m

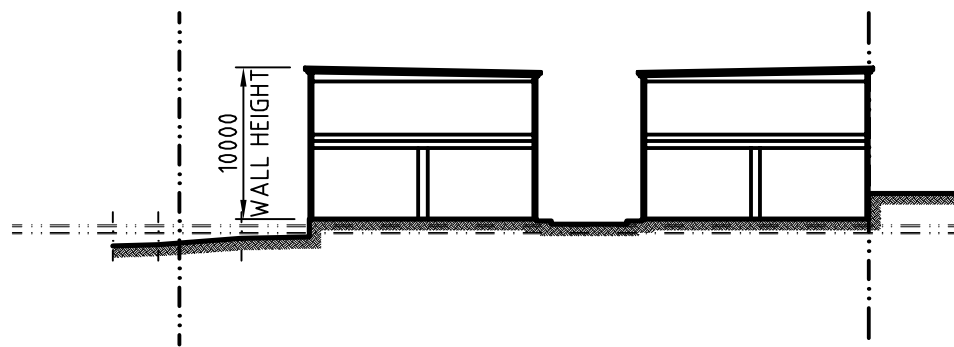
 PROPOSED BATTER SLOPES



PLAN
SCALE 1:500



INDICATIVE AREA 'Y' DEVELOPMENT PLAN
(BY OTHERS)
SCALE 1:500



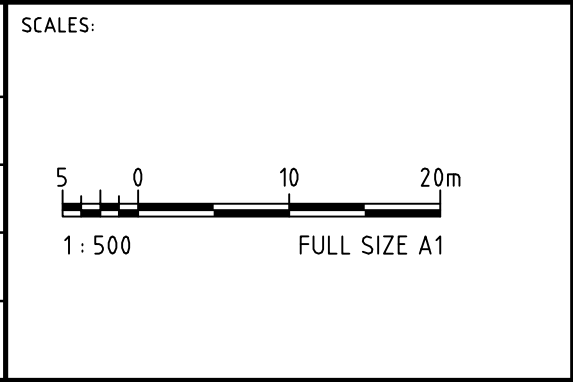
INDICATIVE SECTION
(BY OTHERS)
SCALE 1:500

- NOTES:**
- DRAWING TO BE REVIEWED IN CONJUNCTION WITH ORIGINAL CONCEPT LAYOUT DRAWINGS COMPLETED BY SKM (COSGROVE ROAD LIGHT INDUSTRIAL DEVELOPMENT DATED 27.07.07).
 - PLAN VIEW BOLD LINES INDICATE MODIFICATIONS TO BUILDING, PARKING AND SITE LAYOUT REVISIONS.
 - BUILDING AND PARKING MODIFICATIONS ARE BASED ON IMPACTS FROM EXISTING GENOS GAS LINE THAT RUNS THROUGH THE SITE. LAYOUT AS PREVIOUSLY PROVIDED BY OTHERS HAS NOT BEEN VERIFIED FOR CODE COMPLIANCE (I.E. TURNING PATHS, DRIVEWAY LOCATIONS, SET BACKS). PLAN IS CONCEPT ONLY.

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C	JS	17.08.09	RE-ISSUE TO SPC-SPC COMMENTS	LD
B	JS	07.07.09	RE-ISSUE TO SPC-SPC COMMENTS	LD
A	SS	25.04.09	ISSUE TO SPC	CF
No.	BY	DATE	DESCRIPTION	APPD

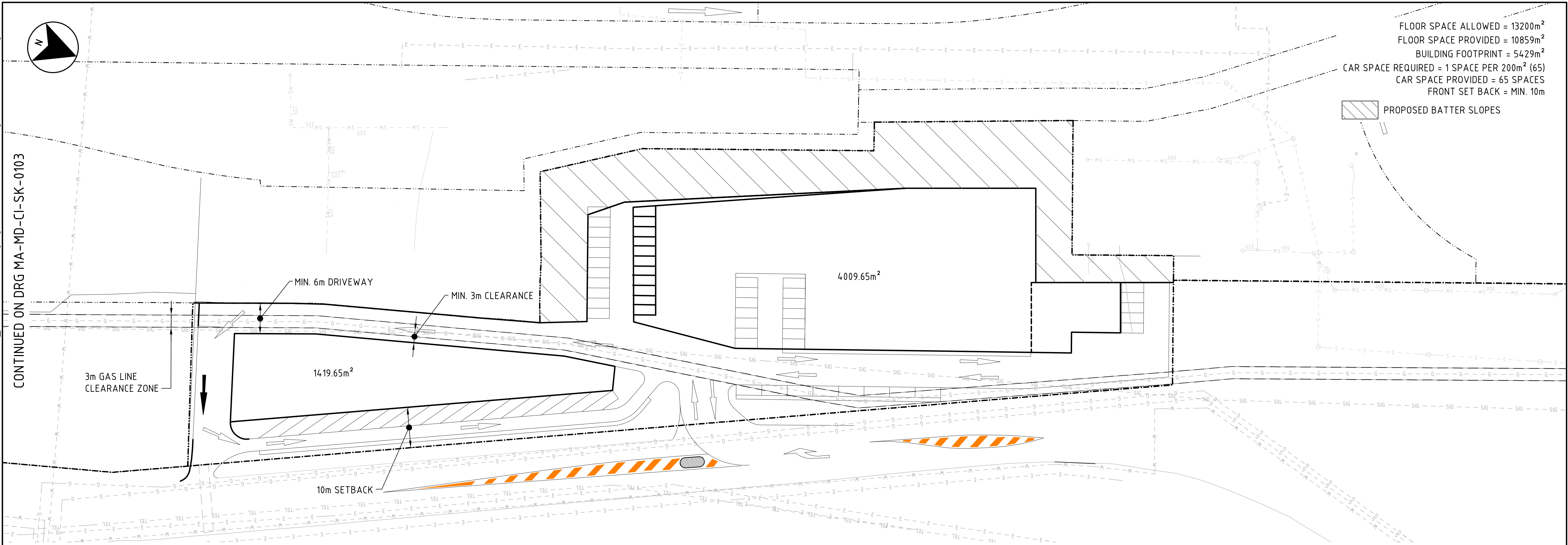
THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE MAUNSELL QUALITY ASSURANCE SYSTEM TO ISO 9001-2000			
DESIGNED	CF	CHECKED	CS
DRAWN	JS	CHECKED	JA
APPROVED	LD	DATE	17.08.09



ILC AT ENFIELD		
CONCEPT LAYOUT COSGROVE ROAD LIGHT INDUSTRIAL DEVELOPMENT AREA Y		
STATUS:	DRAWING NO:	REV:
SKETCH	MA-MD-CI-SK-0103	C

Cad ref: K:\60051533_Enfield\5_CADD\5.3 Working\Org\Sketches\MA-MD-CI-SK-0104.dwg
Last modified: 21 Aug 09 - 14:10

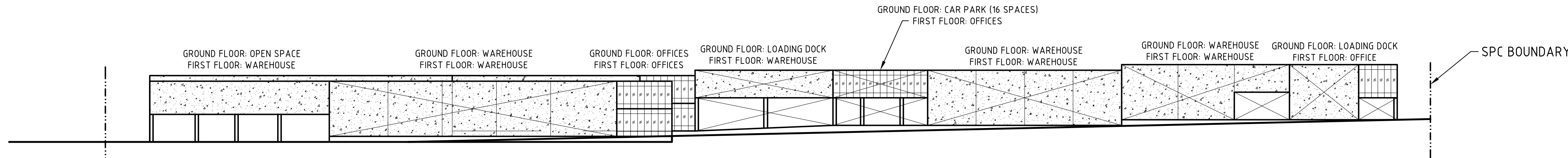
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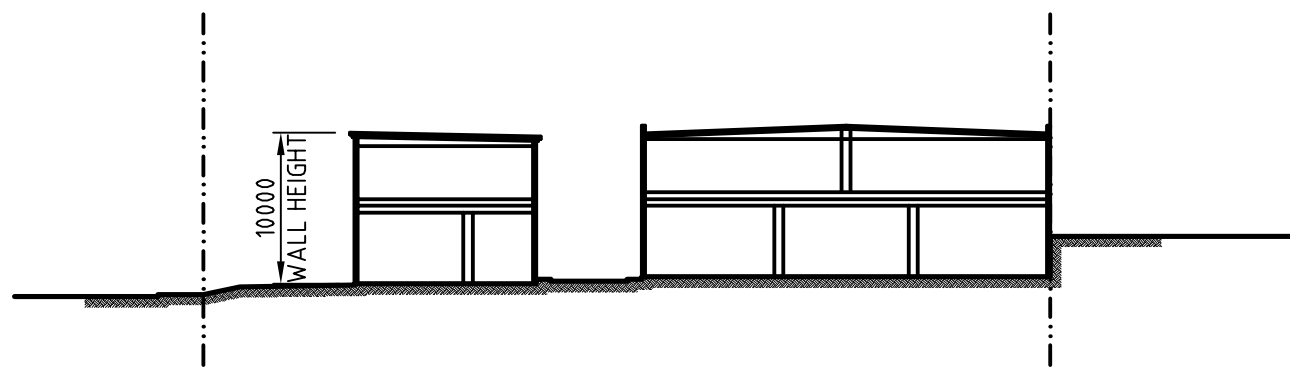
FLOOR SPACE ALLOWED = 13200m²
FLOOR SPACE PROVIDED = 10859m²
BUILDING FOOTPRINT = 5429m²
CAR SPACE REQUIRED = 1 SPACE PER 200m² (65)
CAR SPACE PROVIDED = 65 SPACES
FRONT SET BACK = MIN. 10m

PROPOSED BATTER SLOPES

PLAN
SCALE 1:500



INDICATIVE AREA 'Z' DEVELOPMENT PLAN
(BY OTHERS)
SCALE 1:500



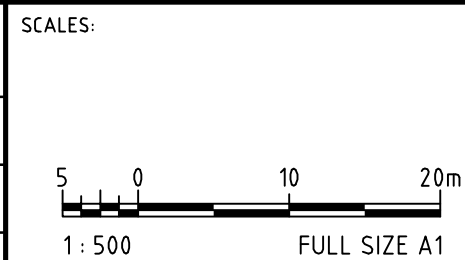
INDICATIVE SECTION
(BY OTHERS)
SCALE 1:500

- NOTES:**
- DRAWING TO BE REVIEWED IN CONJUNCTION WITH ORIGINAL CONCEPT LAYOUT DRAWINGS COMPLETED BY SKM (COSGROVE ROAD LIGHT INDUSTRIAL DEVELOPMENT DATED 27.07.07).
 - PLAN VIEW BOLD LINES INDICATE MODIFICATIONS TO BUILDING, PARKING AND SITE LAYOUT REVISIONS.
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 -

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C	JS	17.08.09	RE-ISSUE TO SPC-SPC COMMENTS	LD	
B	JS	07.07.09	RE-ISSUE TO SPC-SPC COMMENTS	LD	
A	SS	25.04.09	ISSUE TO SPC	CF	
No.	BY	DATE	DESCRIPTION	APPD	

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE MAUNSELL QUALITY ASSURANCE SYSTEM TO ISO 9001-2000			
DESIGNED	CF	CHECKED	CS
DRAWN	JS	CHECKED	JA
APPROVED	LD	DATE	17.08.09



Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

ILC AT ENFIELD		
CONCEPT LAYOUT COSGROVE ROAD LIGHT INDUSTRIAL DEVELOPMENT AREA Z		
STATUS:	DRAWING NO:	REV:
SKETCH	MA-MD-CI-SK-0104	C