

Intermodal Logistics Centre at Enfield Environmental Assessment

CHAPTER 16

VISUAL IMPACTS AND LANDSCAPE

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16. Visual Impacts and Landscape

This chapter addresses the Director-General's requirement to describe the potential visual impacts of the proposal on private residences and publicly accessible places, and to outline proposed measures to reduce or screen impacts from the proposal. It also addresses the requirement to identify residences and businesses most likely to be affected by light spill from the site and the management of any light spill impacts identified. The chapter provides a summary of the Visual Assessment and the Landscape and Urban Design Report, both prepared by EDAW Gillespies and attached in Appendix I.

The Visual Assessment evaluated the changes to the landscape and visual environment in the study area. Key viewpoints from which the proposed ILC could be viewed were identified and the sensitivity of the receptors and significance of impact was used to develop mitigation measures. A light spill assessment was also conducted to determine the impact of glare to the surrounding development. A Landscape and Urban Design Masterplan was prepared based on the assessment findings with the key aim of screening the site, providing visual amenity benefits and re-establishing native species. A key part of this is the Community and Ecological Area proposed for the southern section. This includes provision of habitat and movement corridors in the design for the Green and Golden Bell Frog.

16.1 Introduction and Methodology

The development of the proposed ILC at Enfield would have an effect on the visual environment of the area in which it is located. Therefore, the visual impacts caused by the proposed development were assessed with respect to potential effects on private residences and publicly accessible places. The visual impacts of the site were assessed and a landscape plan for the proposed ILC prepared. These documents are provided in Appendix I – Visual Assessment and Appendix I - Landscape and Urban Design Report.

The visual impact assessment included the following key stages:

- A preliminary viewshed analysis to identify which parts of the surrounding area could potentially view the site;
- Site inspection to follow up on the results of the viewshed analysis;
- Visualisation of the development, including the preparation of a digital three-dimensional model to generate simulated views of the proposal from key viewpoints; and
- Assessment of visual impact, in which views from the key viewpoints were assessed qualitatively, along with longer distance views during construction and operation.

Light spill at the edge of the site was assessed by digital modelling, allowing the level of light spill to be referenced against other types of light to assist in determining the level of significance.

The information from the visual and light spill assessments was used to develop measures to reduce or screen impacts which were then included in a concept masterplan. The masterplan also considered protection of ecologically sensitive components.

16.2 Visual Character

16.2.1 Visual Character of the Site

The existing character of the site of the proposed ILC at Enfield is predominantly industrial, comprising a predominantly derelict site with a series of disused industrial buildings and a number of existing operations including the Toll lease area, the DELEC service centre and Australian Temporary Fencing (ATF) area. In the derelict and unused areas, there are large areas of open grassland and other vegetation that have colonised since the rail marshalling yard activities ceased. The site is mostly flat, with several large areas of mounding up to 15m high on the southern and western parts of the site. These mounds screen much of the site from some surrounding areas.

The flora and fauna assessment carried out as part of the EIS (discussed in Chapter 13 – Flora and Fauna) identified very little original vegetative habitat surviving on the site. The vegetation is dominated by invasive weed species.

16.2.2 Visual Character of the Surrounding Area

The site lies within a mosaic of industrial and residential development located on flat to undulating topography close to the geographic centre of Sydney. A wide rail corridor comprising the new Enfield Marshalling Yards borders the site immediately to the west. The scale of this rail corridor makes it a prominent landscape feature in the area.

A large complex of light industrial and commercial warehousing occurs between Roberts Road and the rail corridor to the west and south west of the site, while the area west of Roberts Road is predominantly residential development. These residential areas are mostly low in density, but also include some medium density development immediately west of Roberts Road to the north west of the site. Small sports fields and neighbourhood parks are scattered through these residential areas.

A small number of properties in the suburb of Greenacre near the former brick pit are also found close to the site, beyond the new Enfield Marshalling Yards. The area to the south of the site comprises a mix of residential, commercial and industrial development. It includes the arterial road corridor of Punchbowl Road.

Adjacent to the south east corner of the site is low density residential development south of Blanche Street along Cosgrove Road. These residential properties face directly onto the site. The Coxs Creek corridor and an associated open space corridor (comprising both passive recreation facilities and sports fields) separates this residential area from a large industrial area in Strathfield South, which occurs along the eastern perimeter of the site between Coxs Creek and the Hume Highway.

Mature street tree planting along Cosgrove Road forms a well-vegetated edge to the south, although the treed avenue becomes less consistent with some large gaps in the northern section of the road.

16.2.3 Visibility of the Site

A viewshed analysis was undertaken where 19 viewpoints within 1km of the site into the proposed ILC were identified and assessed. The analysis showed that the pattern of development surrounding the site screens it from much of the surrounding area. Potential views do occur, however, along viewing corridors created by streets near the site and where topography provides some elevation above potential obstructions to views.

16.3 Proposed Intermodal Logistics Centre

16.3.1 Visual Character of the Proposal

The proposal involves redevelopment of the site. The main elements of the proposed ILC are detailed in Chapter 4 – Project Description. Details of the visual implications of these elements are summarised below:

- Intermodal Terminal, an open area for the loading and unloading of containers. Shipping containers would be stacked up to five containers high (approximately 13m). Up to three gantry cranes would be constructed in this area to move containers from rail cars;
- Warehousing, comprising a series of warehouses of various sizes, but all approximately 12m in height and of a steel construction. These are likely to be of a plain colour;
- Light industrial/commercial development on Cosgrove Road which will function separately to the ILC but would be developed on the Cosgrove Road frontage as part of this proposal. It is likely the architectural form of this development would be of a similar scale and form to existing modern light industrial development that occurs along Cosgrove Road;
- Empty container storage facilities, an open area for the storage of shipping containers. Containers in this area will be stacked up to 6 containers high (approximately 16m);
- Lights, with the main light poles in the empty container and intermodal areas about 25m tall and spaced at distances of about 80m;
- Rail sidings;
- Internal roads;
- LPG fuel storage tanks;
- Container washdown area and maintenance shed; and
- Community and Ecological Area at the southern end of the site, along with other landscaped areas.

The topography of the site would be subject to change associated with the levelling of the existing earth mounds.

16.3.2 Design Strategy for the Site

A landscape design strategy developed for the site aims to integrate the site into the wider environment. This is achieved through the following:

- Integration, that is the use of colours and textures which integrate with the landscape;

- Mitigation, which responds to the needs for visual and acoustic buffering;
- Connection, which allows for accessibility, coordinated traffic and directional signage to complement the overall site network. Internal road-scape is also included in the overall design;
- Identification, that is character of the site to be expressed in a consistent and contemporary design style including edge and gateway treatments; and
- Amenity, that is provision of local amenity through effective landscape treatment, open space provision, ecological habitat and linkages.

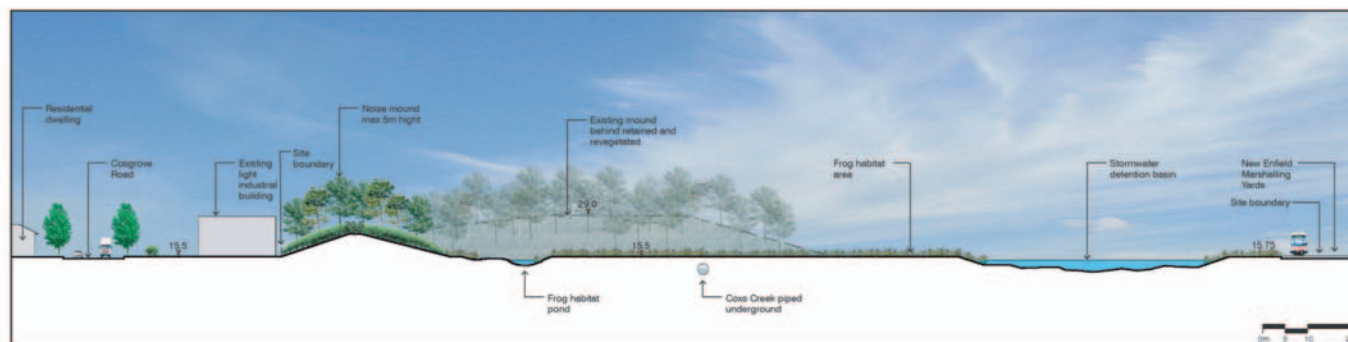
16.3.3 Landscape Masterplan

Figure 16-1 provides the landscape masterplan for the site and **Figure 16-2** shows the proposed cross sections through the site from east to west. The landscape structure comprises five distinct areas. These include:

- The Community and Ecological Area which would include existing and proposed mounding, new pedestrian walkways with access possible from near the Tarpaulin Factory and planting of native woodland species. A Frog Habitat Area would be provided for the Green and Golden Bell Frog, comprising foraging areas as well as designed ponds. Potential connection will be provided to the frog pond located at Juno Parade (brick pit site) and the new Enfield Marshalling Yards Frog Pond. Access to this area is to be managed;
- Visual screening planting at the northern and southern ends of the site to mitigate visual and light spill impacts;
- Noise attenuation. An acoustic mound would run parallel to Cosgrove Road on the eastern and south eastern edge of the site, including a noise wall which would be required over the Cocks Creek culvert. Planting on the mound would reduce visual impacts from the surrounding roads and provide ecological habitat. In addition, a 320m long (approximately) noise wall is required parallel to the north west site boundary, along part of Roberts Road and the new Enfield Marshalling Yards. It will be placed behind a belt of existing vegetation. The noise attenuation mounds and walls would be 4-5m in height;
- Landscape planting within the site, comprising species endemic to the area, would be located within car parks, along internal roads and used to screen buildings and embankments; and
- Landscape treatment of the site entrance at Cosgrove Road. This would include deciduous or flowering trees with bold, understorey planting in conjunction with signage.

Weed species are to be removed from the site. Species to be planted on site would be low maintenance, hardy species which are endemic to the area. Any existing indigenous vegetation would be retained wherever possible.





A-A SECTION SCALE: 1:500@A1



B-B SECTION SCALE: 1:1000@A1



C-C SECTION SCALE: 1:500@A1

16.4 Visual Impacts and Mitigation Measures

16.4.1 Construction

Limited visual impacts during the construction of the proposal would occur over approximately 27 months. Construction cranes would be the most visible element, as these would potentially be seen from many viewpoints. Construction fencing and hoarding would produce only very localised visual impacts.

16.4.2 Operation

Impacts

As noted above, the pattern of development around the site would screen the proposed ILC from much of the surrounding area. The changes to the existing views and the sensitivity of the receptor were the criteria used to determine the significance of impacts from defined viewpoints during operation of the site. Simulations of the views from these locations were prepared and are provided in Appendix I – Visual Assessment. The viewpoints where potential visual impacts were moderate or low-moderate were those in the vicinity of residential development or where a large number of short-duration viewers would be evident. These were considered to be:

- Jean Street, Greenacre, looking east (moderate);
- Angophora Grove, Greenacre, looking east (low-moderate);
- McDonald Way, Greenacre, looking east (low-moderate);
- Wentworth Street, Greenacre, looking north (moderate);
- Corner of Cecily and Blanche Streets, Strathfield South, looking north west (low-moderate);
- Punchbowl Road rail overpass, looking north west (low-moderate).

All other views were considered to have low visual impact. The existing and proposed view from a moderate impact area (Jean Street) is shown in **Figure 16-3**, a low-moderate impact area (Punchbowl Road) is shown in **Figure 16-4**, and a low impact area (Norfolk Road, Greenacre, near Maiden Street, looking east) is shown in **Figure 16-5**.

Mitigation Measures

Measures to reduce visual impacts from key viewpoints will be undertaken.

To mitigate the visual impacts from Punchbowl Road overpass it is proposed to plant a 50m wide belt of screening vegetation, comprising trees, shrubs and groundcover, within the Community and Ecological Area at the southern end of the site as shown in **Figure 16-4**. In addition, a belt of vegetation is to be located adjacent to the north western side of the site, running approximately 320m from the northern tip of the site and the existing tree planting along Roberts Road will screen views from Roberts Road.

Moderate Visual Impacts



Before



After

Figure 16-3
View from Jean Street

Low - Moderate Visual Impacts



Before



After

Figure 16-4
View from Punchbowl Road

Low Visual Impacts



Before



After

Figure 16-5
View from Norfolk Road

There is also a substantial belt of planting proposed behind the proposed light industrial and commercial area running parallel to Cosgrove Road. This will provide some screening of the proposed warehouses for users of Cosgrove Road. Opportunities will also be taken, if appropriate, for planting in front of the proposed light industrial and commercial areas on Cosgrove Road.

16.4.3 Light Spill

The impacts of light spill were investigated to determine, in particular, the impacts at night. A preliminary lighting concept was developed for the purposes of modelling light spill. This concept comprised:

- Light poles spaced 80 m apart in the empty container and intermodal terminal areas, with fittings placed 25 m high;
- Illuminance levels set for safe operating procedures on the site; and
- Configuration of lights to direct onto the site and obtain minimum spillage into surrounding areas.

Light spill was modelled from the empty container areas at the northern and southern ends of the site as these would be the closest parts of the ILC to residences. The modelled light spill at a series of points (shown in **Figure 16-6**) correlating with the closest residences are:

- Location 1 0.02 lux;
- Location 2 0.01 lux;
- Location 3 0.01 lux;
- Location 4¹ 0.02 lux; and
- Location 5 0.00 lux.

The light modelling indicated that the proposed lighting would be successful in containing light within the site. The light levels predicted at the nearest residential levels would be virtually imperceptible to people in those areas. The modelling showed that anywhere beyond approximately 140m from the site boundary would be subject to no measurable light spill.

Light fittings would be visible at night from most of the key viewpoints assessed. However, these would not be expected to change the night landscape as the lights would be focussed downwards and would be part of a landscape already containing a large number of light sources.

¹ The light model did not extend to Location 4. The reading was taken from the nearest available point (approximately 90m closer to the proposal). Light spill levels at Location 4 would therefore be likely to be less than the level shown.



16.5 Conclusions

The proposed ILC would be located on a site that has been traditionally subject to industrial activities and which has become generally derelict in appearance. The immediate surrounds are also largely industrial, with some residential areas in Greenacre, Belmore and the Strathfield South bordering the site. The proposed development would generally be in keeping with the existing character of the area. Some relatively high and/or bulky structures would increase visibility of the site beyond its current levels, but with low or moderate visual impacts.

Those areas subject to low-moderate or moderate visual impacts would be those in residential areas that have prominent views of site elements. There are few locations where this occurs. However, parts of Greenacre to the immediate north west of the site may be subject to visual impacts where some light poles and container stacks may be prominent. Most of the residential areas with potential views to the site would be subject to low visual impacts because the change to the landscape created by the development would be minimal.

The most prominent views of the development would occur from some of the industrial areas on the eastern and western sides of the site. The visual impacts in these areas are regarded as low, due to the low visual sensitivity and the compatibility of additional industrial elements with the existing industrial landscape.

A range of landscape measures has been proposed to reduce the visibility of the development and improve landscape amenity. The most notable of these is the establishment of a Community and Ecological Area on the southern part of the site. This would provide a large area with improved amenity that would be prominent from Punchbowl Road and properties along the southern part of Cosgrove Road.

The light assessment identified that the light spill on the neighbouring areas would be virtually undetectable. Lateral light spill and glare is minimised as the light fittings focus illumination downwards.