



24-26 Bowden Street  
Alexandria NSW 2015 Australia  
Tel: (61 2) 9698 2899  
Fax: (61 2) 9698 2877  
mail@siteimage.com.au

**www.siteimage.com.au**  
*Site Image NSW Pty Ltd ABN 66 072 950 719*

## **Proposed Retail Development 31- 45 Princes Highway & 78-96 Arncliffe Street Wolli Creek**

### **LANDSCAPE DESIGN STATEMENT**

Prepared by:      Site Image (NSW) Pty Limited – Landscape Architects  
Prepared for:     Nahas Constructions Pty Ltd  
Project number:   SS09-1956  
Date:                September 2009  
Issue:               C

# TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>1.1</b>	<b>Scope .....</b>	<b>1</b>
<b>1.2</b>	<b>Landscape Architectural Statement .....</b>	<b>1</b>
<b>2.0</b>	<b>LANDSCAPE DESIGN PROPOSALS.....</b>	<b>1</b>
<b>2.1</b>	<b>Existing Site.....</b>	<b>1</b>
<b>2.2</b>	<b>Development Site Landscape Improvements.....</b>	<b>2</b>
<b>2.3</b>	<b>Arncliffe Street Landscape Improvements.....</b>	<b>3</b>
<b>2.4</b>	<b>Brodie Sparks Drive Landscape Improvements.....</b>	<b>4</b>
<b>2.5</b>	<b>Princes Highway Landscape Improvements .....</b>	<b>5</b>
<b>3.0</b>	<b>SAFER BY DESIGN .....</b>	<b>6</b>
<b>3.1</b>	<b>Pedestrian/ Street Design .....</b>	<b>6</b>
<b>3.2</b>	<b>Vegetation/ Landscaping .....</b>	<b>6</b>
<b>3.3</b>	<b>External Lighting .....</b>	<b>6</b>
<b>3.4</b>	<b>General Amenities .....</b>	<b>6</b>
<b>4.0</b>	<b>LANDSCAPE IMPLEMENTATION.....</b>	<b>6</b>
<b>4.1</b>	<b>Landscape Construction Issues .....</b>	<b>6</b>
<b>4.2</b>	<b>Landscape Management and Maintenance .....</b>	<b>7</b>
<b>4.3</b>	<b>Resources, Energy and Water Efficiency .....</b>	<b>7</b>
<b>5.0</b>	<b>CONCLUSION .....</b>	<b>7</b>

# 1.0 INTRODUCTION

## 1.1 Scope

This report describes the landscape design intent of the proposed retail development at 78-96 Arncliffe Street and 31-45 Princes Highway, Wolli Creek. This report addresses the landscape elements of the public domain areas of Arncliffe Street, Brodie Sparks Drive and Princes Highway as well as the proposed retail development bounded by these three streets. The report is to be read in conjunction with related architectural and consultants' documents describing the allied aspects of the works.

The following documents were also referred to in the preparation of this report:

- Rockdale City Council DCP No. 71 – Landscape Design Principles & Guidelines,
- Draft Wolli Creek & Bonar Street Precinct Public Domain Plan (PDP) 2009 – prepared by *Jane Irwin Landscape Architecture Pty Ltd* for Rockdale City Council,
- Rockdale City Council LEP 2000,
- Rockdale City Council DCP No. 62 – Wolli Creek (2006),
- SEPP (Infrastructure) 2007, and
- Dept. of Planning NSW – Director-General's Requirements (issued 15.09.09)

The landscape proposals are described by the Site Image design documentation, including the following:

- |       |   |       |
|-------|---|-------|
| • 101 | Landscape Plan  | Rev B |
| • 102 | Colour Landscape Plan                                   | Rev B |
| • 501 | Landscape Details                                       | Rev B |
| • 502 | Landscape Details, Plant Schedule & Specification Notes | Rev B |

## 1.2 Landscape Architectural Statement

The landscape and external design of this site has been proposed for the first stage of a proposed mixed commercial/residential development already approved for this site. Stage one of this development will now consist of approximately 4835m<sup>2</sup> of retail space which comprises of a proposed 3565m<sup>2</sup> supermarket, 965m<sup>2</sup> loading dock and a retail store consisting of approximately 600m<sup>2</sup> (Stage 2). A car park consisting of 184 car spaces (including four handicapped and six staff car spaces) and motorcycle parking spaces is also proposed for this site.

The landscape design for this site aims to achieve the following goals;

- Improve and up-grade the existing public 'street-scapes' of Arncliffe Street, Brodie Sparks Drive and Princes Highway as a development contribution of the proposed works,
- Use of landscape finishes & materials that respect the local context & enhances the visual amenity,
- Use of planting material that will enhance and soften the existing urban fabric and compliment the proposed development,
- Implement water sensitive urban design (WSUD) initiatives and to promote stormwater harvesting & filtration for the site,
- Adhere to local council control plans and long term outcomes for the site,
- Adhere to relevant Australian Standards and Council Codes.

In general the landscape and external design will create viable external streetscapes as well as providing shade and visual amenity to the proposed development. The intent of the landscape design is to dramatically improve and enhance the existing conditions as well as providing a valuable asset to the Wolli Creek residents.

# 2.0 LANDSCAPE DESIGN PROPOSALS

## 2.1 Existing Site

The existing site is bounded by Arncliffe Street to the west, Brodie Sparks Drive to the north and Princes Highway to the south. The site currently occupies a number of industrial style warehouse buildings that contain a number of varying small commercial businesses. There is no significant existing vegetation on

the existing site with only 4 no. *Magnolia sp.* street trees and these are located on Brodie Sparks Drive. These trees were installed with tree guards and grates as part of the civil construction works of the roads and entry to the Wolli Creek precinct approximately 9 years ago.

The site is relatively flat with the high point of the site being located near the corner of Princes Highway and Brodie Sparks Drive with the low point being located near the western corner near Arncliffe Street. We understand that with this development proposal the existing site levels will be maintained as much as possible to maintain 100 year flood events and existing stormwater & hydrology conditions.

The existing public domain areas around the site have little or no engagement with the current businesses on site and the width of the public domain areas vary with narrow concrete footpaths and steep cross falls particularly along the Princes Highway frontage. There is currently a broad expanse of asphalt concrete paving along the Brodie Sparks Drive frontage and a concrete footpath in poor condition along the Arncliffe Street frontage.

## 2.2 Development Site Landscape Improvements

The design intent of the stage 1 development is to demolish all the existing buildings whilst retaining the brick facades of the warehouse style buildings along Arncliffe Street and Brodie Sparks Drive. A new 4000m<sup>2</sup> supermarket is proposed to go behind these brick facades with the supermarket frontage facing Princes Highway for maximum exposure. A small retail store is proposed near the supermarket main entry and an additional retail store is proposed along the Brodie Sparks Drive. The car park will be located to the east and south of the supermarket and will include a new access road as part of the Rockdale City Council LEP 2000.

As this first stage of the overall development is to have a life expectancy of 10-15 years the landscape treatment within the site has been separated into two parts; Permanent Landscape Improvements & Interim Landscape Improvements.

### Permanent Landscape Improvements:

The permanent Landscape Improvements within the development site include the planting of trees and mass planting of shrubs and grasses/groundcovers along the southern boundary adjacent to the existing commercial vehicle sales yards.

In order to reduce the extent of hard paved surfaces associated with car parks and to improve stormwater quality before it enters the local waterways an extensive 'rain-garden' has been proposed to assist with the filtration of any run-off pollutants, and to reduce the reliance on irrigation for these garden beds.

In order to achieve this the standard concrete kerb & lip along the edge of the car park is replaced with a concrete edge to the asphalt concrete paving and a series of pre-cast wheel stops is installed allowing effective overland flow and also to prevent cars from entering the rain gardens.

Proven species such as *Melaleucas*, *Tristaniopsis*, *Juncus*, *Baekeas* & *Poas* have been selected for these rain gardens and will be planted in filtration media soils and gravels to assist in trapping stormwater pollutants.

Permanent tree plantings and extensive grasses and groundcovers are proposed at the entries from Princes Highway & Arncliffe Street and have been selected to ensure visibility into the site. There are opportunities for signage for the retail stores in this area and although details of this signage would be part of a separate development application the proposed planting will be under-pruned and with low groundcovers/grasses so as not to inhibit the visibility of advertising signage and to maintain clear sight lines for vehicles exiting the site..

These plant species have also been chosen in accordance to the recommended species lists as indicated in the *Rockdale City Council DCP No. 71 – Landscape Design Principles & Guidelines* and have been selected for their hardiness and low water requirements.

### Interim Landscape Improvements:

Interim tree planting for the car park is for principally for shade with trees spaced approximately every ten metres in diamond shaped tree pits and to assist in softening the hard surfaces associated with the car park.

As with the rain gardens mentioned above these tree pits will also have no concrete kerb & lip but also precast wheel stops to prevent vehicle intrusion and to promote overland flow. The trees specified for these pits are *Tristanopsis laurina* 'Luscious' with grasses/sedges to also filtrate any pollutants before the stormwater enters the drainage system.

The planting within these pits will only have a life expectancy of ten years as they will be removed as part of the future stages of development works for the site. As with all trees for this development, root barrier control will be used in pavement areas to prevent pavement up-lift and to protect any existing services. The use of root barrier will also enable ease of transplanting of the interim tree planting to other more permanent landscape areas when the future development of the site occurs.

Along the Princes Highway boundary interim tree planting of *Angophora costata* species will be planted approximately every 4 car spaces (approx. 10.4 metres) to provide shade amenity to the adjacent car park. As with the carpark trees in the tree pits as mentioned above these trees will also have root barrier control to enable ease of future transplanting. Low shrub mass planting, groundcovers and grasses will be planted within the Princes Highway boundary and with the under-pruning of the canopies of the trees will ensure clear visibility into the site as well as providing some screening of parked cars from Princes Highway.

As with the permanent planting all the plant species for the interim landscape areas have been chosen in accordance to the recommended species lists as indicated in the *Rockdale City Council DCP No. 71 – Landscape Design Principles & Guidelines* and have also been selected for their hardiness and low water requirements.

## Materials & Finishes

The selections of pavement treatments for around the proposed supermarket and retail store will be similar to and will compliment the paving treatments in the public domain areas. These will include the following materials and finishes:

- 400 x 400 x 40mm Stylestone - Unit Paving Banding
- 300 x 300 x 40mm Stylestone - Unit Paving (Feature body Unit Paver)
- Recycled Aggregate Concrete Paving – colour oxidized to reduce new concrete glare

Furniture such as bench seats with arm rests, bin enclosures at designated entry & exit areas and semi hoop bike racks will be installed and will be similar in appearance to what has been specified for the following public domain areas.

## 2.3 Arncliffe Street Landscape Improvements

### Generally

The Rockdale City Council has recently commissioned a new public domain manual for the Wolli Creek & Bonar Street Precinct. The proposed landscape improvements for Arncliffe Street are consistent with the draft Wolli Creek & Bonar Street Precinct Public Domain Plan 2009 by *Jane Irwin Landscape Architecture Pty Ltd*.

As already mentioned the proposed retail development is the first stage of further development and will have a limited life expectancy so the proposed Arncliffe Street improvements to the development site have considered the long term up-grade of Arncliffe Street as proposed in the draft public domain plan. Paving materials & finishes, street tree plantings and proposed kerb ramps and pedestrian crossings have been selected to compliment the opposite side of Arncliffe Street with respect that the kerb alignment, installation of a cycle lane and parallel parking will occur once further development of the subject site commences.

Generally the long term upgrade to Arncliffe Street as identified in the draft 'Wolli Creek & Bonar Street Precinct Public Domain Plan 2009' are as follows:

- Reinforce pedestrian access through pedestrian crossings which are aligned with stair access to the upper terrace of the existing residential/commercial development on the opposite side of Arncliffe Street
- Restrict planting to street trees in tree grates with detailed banding of banding of granite unit pavers,

- Ensure the upper terrace of the existing residential/commercial development on the opposite side of Arncliffe Street remains one single space, with equitable access produced by ramping from street level on Brodie Sparks Drive to the upper terrace level on Arncliffe Street,
- Define corner nodes with contrast paving to the general paving fields and widened pedestrian zones,
- Mediate level change between the upper terrace of the existing residential/commercial development on the opposite side of Arncliffe Street and street level through wide steps which also provide seating
- Balance scale of building to public space through large street trees providing human scale spaces along the street
- Ensure a clear cycle lane is provided from Arncliffe to Brodie Sparks Drive, connecting to the Wolli Creek station precinct.

## Planting Design

The proposed Street tree planting for Arncliffe Street is *Pyrus ussuriensis* (Manchurian Pear) which has been used as on neighbouring streets within the Wolli Creek precinct. The trees are to be installed in tree pits with structural soil, root barrier control, tree grates and to spaced approximately every twenty metres as indicated on Drawing 101.

On the prominent corner of Arncliffe Street & Brodie Sparks Drive, a proposed raised planter bed with a steel perforated screen using climber planting such as *Pyrostegia venusta* (Orange Trumpet Creeper) or *Bougainvillea glabra* (Bougainvillea) is to cover the expanse of brick wall.

## Materials & Finishes

As identified in the draft public domain plan; 'A range of paving treatments is proposed that responds to the overall hierarchy of streets, and to define special places in the commercial centre of Wolli Creek. Simple finishes are proposed for streets, with trim used to highlight focal points in the street system, rather than the use of banding on all pavements'.

The selection of pavement treatments for Arncliffe street are as follows:

- 400 x 400 x 40mm Stylestone - Unit Paving Banding
- 300 x 200 x 40mm United Stone Diamond Series – Feature Body Unit Paver
- Asphalt Concrete Paving – all paving elsewhere

The selection of paving and materials has been based on robustness, longevity, lifecycle costs, maintenance requirements and colour. Generally, the paving materials have been selected from a range that is in use through the Rockdale LGA, to promote consistency of maintenance.

Stainless steel semi-hoop bike racks from *Leda Products*, rubbish bin enclosure from *Street Furniture Australia* have been selected for the prominent street corner area of Arncliffe Street & Brodie Sparks Drive as specified in the draft Wolli Creek PDP 2009.

## 2.4 Brodie Sparks Drive Landscape Improvements

### Generally

The existing streetscape works on Brodie Sparks Drive was installed approximately 9 years ago at the time of construction of the new street and includes small *Magnolia spp.* street trees with tree guards and tree grates, some unit paver banding and predominantly asphalt paving.

As identified in the public domain plan 2009 by *Jane Irwin Landscape Architecture Pty Ltd*, by the objectives for Brodie Spark Drive are to 'promote this location as the heart of the precinct with high quality streetscapes, active building edges, high quality pedestrian environment and good access to transport links'.

The proposed Brodie Sparks Drive public domain area will include an upgrade of the existing streetscape which will provide a more lively retail street and to encourage social interaction as well as providing opportunities for the proposed retail premises fronting Brodie Sparks Drive.

This upgrade of Brodie Sparks Drive will involve the removal of the existing *Magnolia sp.* street trees, tree grates, tree guards and existing paving and to replace with more appropriate street tree species such as

*Platanus x hispanica* (London Plane) which match the trees on the opposite side and further up the street. By removing the existing tree guards and spacing the trees more evenly at approximately every ten metres along with a new improved pavement treatment is to engage the public domain at street level with the proposed buildings.

## Materials & Finishes

The selections of pavement treatments for Brodie Sparks Drive are as follows:

- 600 x 400 x 40mm United Stone Diamond Series - Unit Paving Banding
- 300 x 200 x 40mm United Stone Diamond Series – Feature Body Unit Paver
- Asphalt Concrete Paving – all paving elsewhere

As with Arncliffe Street the selection of paving and materials has been based on robustness, longevity, lifecycle costs, maintenance requirements and colour. Generally, the paving materials have been selected from a range that is in use through the Rockdale LGA, to promote consistency of maintenance.

Street furniture such as bench seats from *Town & Park Furniture* and cast iron tree grates for the street tree pits have been selected for the Brodie Sparks Drive as specified in the draft Wolli Creek PDP 2009.

## 2.5 Princes Highway Landscape Improvements

### Generally

As identified in the draft public domain manual the corner of Princes Highway and Brodie Sparks Drive is to provide not only a entry statement to the Wolli Creek Precinct but also *'a fitting entry into the St Georges region and the City of Rockdale'*.

As mentioned above the existing concrete pavement areas are narrow with steep cross falls that do not comply with Australian Standards AS1428.1. As an important link to cycle and pedestrian networks to Cahill Park on the opposite side of Princes Highway there an opportunity with the proposed development to upgrade existing paving, levels and cross falls to ensure the safety of pedestrians and cyclists and to provide equitable access to disabled persons.

We understand that there may be the future widening of Princes Highway to allow for the extension of the existing slipway lane into Brodie Sparks Drive and this has been considered in the design of the upgrade to the Princes Highway frontage.

This stage of the development is expected to have a limited life expectancy as a landmark building has been proposed as future development for this corner of the site. With the future stages of development there will be additional landscape works for this corner of the site and the proposed landscape works as indicated on Drawing 101 are interim landscape works as already mentioned above.

## Materials & Finishes

The selections of pavement treatments for Princes Highway are as follows:

- 400 x 400 x 40mm Stylestone - Unit Paving Banding
- 300 x 300 x 40mm Stylestone - Unit Paving (Feature body Unit Paver to corner of Brodie Sparks Drive & Princes Highway)
- Recycled Aggregate Concrete Paving – Footpath along Princes Highway

A retaining wall may be required along the partly along boundary of Princes Highway due to the regarding of existing levels of the new footpath and streetscape works on the corner of Princes Highway and Brodie Sparks Drive.

If this retaining wall is required we would propose that it be a low formed insitu concrete wall with sandstone capping to match the existing wall on the opposite side of the Brodie Sparks Drive entry.

There is no street furniture proposed for the Princess Highway frontage with only stainless steel tactile indicators at the kerb ramps located corner of Brodie Sparks Drive and to comply with AS1428.4.

## 3.0 SAFER BY DESIGN

In general the landscape and open space design aim to adhere to general principals of *Safer by Design* and *Crime Prevention Through Environmental Design* – the main objectives being that of increase usability and decreasing anti-social opportunities. The following aspects were considered in the development proposal's external spaces;

### 3.1 Pedestrian/ Street Design

In general the streets are all equitably accessible by both able and non able bodied persons and are to comply with AS1428.1 Access & Mobility.

In particular to this development all paths will maintain good sightlines and passive surveillance and will be adequately lit by external lighting for safety at night and to assist in preventing any occurrences of anti-social behaviour.

### 3.2 Vegetation/ Landscaping

In general landscaping vegetation will aim to achieve the following;

- Avoidance of species that create hiding spaces, in general clear canopied trees, low shrubs and groundcovers will achieve this.
- Ensure vegetation will not or in the future potentially obscure lighting
- Ensure sightlines for both vehicles and pedestrians are maintained – in particular at pedestrian crossings, vehicular entry/ exit points.
- Add to the visual and functional amenity (shade) of spaces increasing their use.

### 3.3 External Lighting

There is existing street lights to Princes Highway & Brodie Sparks Drive and adequate street lighting to the Arncliffe Street frontage will be provided as post top lights as specified in the draft Wolli Creek PDP 2009. External lighting whether it be mounted from the proposed buildings and or from post top lights will be provided along pedestrian routes and car park areas within the development area.

### 3.4 General Amenities

The inclusion of such features in this development as shade, seating, bike racks, external ATMs, street level shops will encourage users to the area, and in directly raise surveillance of such areas, discouraging anti social activities. Longevity and maintenance of external materials will ensure this development has an appearance of upkeep and well used.

## 4.0 LANDSCAPE IMPLEMENTATION

### 4.1 Landscape Construction Issues

All materials are to be installed new and or of the best quality and fit for purpose. The whole of the landscape works is to be carried out by a competent Contractor who is experienced in horticultural practice, landscape construction, and planting techniques. All work shall be faithfully carried out in the most tradesmen-like and substantial manner in accordance with accepted superior trade standards and applicable Australian Standards.

Finishes to the walls and pavements are to remain in keeping with the quality and appearance of the built elements. Pavement finishes are to be of a type that has adequate slip resistance and does not present an uneven surface to avoid trip hazards.

Site soils are to be improved using stockpiled topsoil (wherever practical) and imported mixes or composted material to improve the existing. Soil improvements or imported soils shall be tested to ensure a low



Phosphorus content and are suitable in other aspects for the growth and development of Australian native plants. Gardens are to be mulched with a forest fines bark.

## 4.2 Landscape Management and Maintenance

Landscape maintenance is fundamental to fulfilling the maturity and functionality of the landscape design.

The installation of the works shall be subject to a 52 weeks defects liability period. The landscape contractor shall be required to undertake for regular maintenance inspections and works during this period and replace any failed plants / finishes / equipment as determined to be defective. As a part of the Construction Documentation, the landscape specification shall describe a full Maintenance Schedule.

A landscape maintenance contract will be entered into to provide suitable regular landscape maintenance and management activities. Alternatively this same work will be fulfilled by staff employed directly by the site management. A detailed schedule of maintenance activities will be submitted as part of the construction certificate documentation, including the full range of activities such as mowing, weeding, trimming, pruning, fertilising, irrigation adjustment, replacement planting and the like.

## 4.3 Resources, Energy and Water Efficiency

Landscape materials such as hardwood timbers are to be sourced from either plantation or regrowth supplies. Hardwood stakes used for trees establishment are to be recycled when no longer required.

The landscape is designed in a manner that respects the use of natural resources, and is efficient in terms of energy for installation and on-going operation.

The garden areas are to be mulched to reduce water transpiration from the soil. Imported mulch and soil products are to incorporate recycled and or composted materials where possible.

## 5.0 CONCLUSION

The proposed retail development at 31-45 Princes Highway & 78-96 Arncliffe Street, Wolli Creek will not only include landscape improvements within the site development area but also encompasses some of the proposed streetscape upgrades of Arncliffe Street, Brodie Sparks Drive and Princes Highway as outlined in the *draft Wolli Creek & Bonar Street Precinct PDP 2009*.

The landscape design for this proposed retail development have used landscape finishes & materials that respect the local context & enhances the visual amenity, used planting material that is consistent with the Rockdale DCP's and complies with BASIX low water use plants, adhered to the Rockdale City Council's long term outcomes for the site as well as fitting in with our clients intent to stage the development of this site.

The landscape design also adheres to the relevant Australian Standards in terms of minimum safety by design and access and mobility codes. With these improvements this development will be an important asset to the Wolli Creek residents and business community but also for the greater Rockdale City area.