



## **Metro North-West Joint Development Assessment Panel Agenda**

**Meeting Date and Time:** Wednesday 12 March 2014; 3.30pm  
**Meeting Number:** MNWJDAP/50  
**Meeting Venue:** Department of Planning  
140 William Street Perth  
Meeting Room L3.22

### **Attendance**

#### **DAP Members**

Karen Hyde (Presiding Member)  
Paul Drechsler (Deputy Presiding Member)  
Mr Fred Zuideveld (Specialist Member)  
Cr John Chester (Local Government Member, City of Joondalup)  
Cr Mike Norman (Local Government Member, City of Joondalup)

#### **Officers in attendance**

Ms Melinda Bell (City of Joondalup)

#### **Department of Planning Minute Secretary**

Ms Fiona Sze (Development Assessment Panels)

#### **Applicant and Submitters**

Mr Daniel Walton (Walton Architects)

#### **Members of the Public**

Nil

#### **1. Declaration of Opening**

The Presiding Member declares the meeting open and acknowledges the past and present traditional owners and custodians of the land on which the meeting is being held.

#### **2. Apologies**

Nil

#### **3. Members on Leave of Absence**

Nil



**4. Noting of Minutes**

The Minutes of the Metro North-West JDAP Meeting No.49 held on 6 March 2014 were not available at time of Agenda preparation.

**5. Disclosure of Interests**

Nil

**6. Declarations of Due Consideration**

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

**7. Deputations and Presentations**

- 7.1 Mr Daniel Walton (Walton Architects) presenting for the application at Item 8.1. The presentation will request changes to the proposed responsible authority report conditions.

**8. Form 1 - Responsible Authority Reports – DAP Application**

- 8.1
- |                        |  |
|------------------------|--|
| Property Location:     | Lot 11 (485) Beach Road, Duncraig  |
| Application Details:   | Additions to and refurbishment of existing shopping centre (Carine Glades) |
| Applicant:             | Walton Architects  |
| Owner:                 | Carine Glades Shopping Centre Pty Ltd                                      |
| Responsible authority: | City of Joondalup  |
| Report date:           | 6/03/2014  |
| DoP File No:           | DP/13/00976  |

**9. Form 2 – Responsible Authority Reports - Amending or cancelling DAP development approval**

**10. Appeals to the State Administrative Tribunal**

Nil

**11. Meeting Closure**



## Form 1 - Responsible Authority Report (Regulation 12)

<b>Property Location:</b>	Lot 11 (485) Beach Road, Duncraig
<b>Application Details:</b>	Additions to and refurbishment of existing shopping centre (Carine Glades)
<b>DAP Name:</b>	Metro North-West JDAP
<b>Applicant:</b>	Walton Architects
<b>Owner:</b>	Carine Glades Shopping Centre Pty Ltd
<b>LG Reference:</b>	DA13/1576
<b>Responsible Authority:</b>	City of Joondalup
<b>Authorising Officer:</b>	Dale Page Director Planning and Community Development
<b>Department of Planning File No:</b>	DP/13/00976
<b>Report Date:</b>	5 March 2014
<b>Application Receipt Date:</b>	16 December 2013
<b>Application Process Days:</b>	90 days
<b>Attachment(s):</b>	1: Location plan 2: Development plans and perspective 3: Environmentally Sustainable Design Checklist 4: Comments from Department of Planning 5: Transcore Traffic Report dated 14 February 2014 6: Transcore Traffic Report dated 27 February 2014

### Recommendation:

That the Metro North-West JDAP resolves to:

**Approve** DAP Application reference DP/13/00976 and accompanying plans A1.01 (Revision 2), A2.01 (Revision 1), A2.02 (Revision 4), A2.03 (Revision 2), A2.04 (Revision 4), A2.05 (Revision 4), A3.01 (Revision 4) and A5.01 (Revision 1) in accordance with Clause 6.9 of the City of Joondalup District Planning Scheme No. 2, subject to the following conditions:

### Conditions

1. This decision constitutes planning approval only and is valid for a period of 2 years from the date of approval. If the subject development is not substantially commenced within the 2 year period, the approval shall lapse and be of no further effect.
2. A Construction Management Plan being submitted and approved prior to the commencement of development. The management plan shall detail how it is proposed to manage:
  - (a) all forward works for the site;
  - (b) the delivery of materials and equipment to the site;
  - (c) the storage of materials and equipment on the site;

- (d) the parking arrangements for the contractors and subcontractors;
  - (e) the management of sand and dust during the construction process;
  - (f) the management of noise during the construction process; and
  - (g) other matters likely to impact on the surrounding properties.
3. Any proposed external building plant, including air conditioning units, piping, ducting and water tanks, being located so as to minimise any visual and noise impact on surrounding landowners, and screened from view from the street, and where practicable from adjoining buildings, with details of the location of such plant being submitted for approval by the City prior to the commencement of development.
  4. An onsite stormwater drainage system, with the capacity to contain a 1:100 year storm of 24-hour duration, is to be provided prior to the development first being occupied, and thereafter maintained to the satisfaction of the City. Plans showing the proposed stormwater drainage system are to be submitted to the City for approval, prior to the commencement of development.
  5. The car parking bays, driveways and access points shown on the approved plans are to be designed, constructed, drained and marked in accordance with the Australian Standard for Off-street Car Parking (AS/NZS2890.1 2004), Off-street Parking for People with Disabilities (AS/NZS2890.6 2009) and Off-street Commercial Vehicle Facilities (AS2890.2:2002), prior to the occupation of the development. These bays are to be thereafter maintained to the satisfaction of the City.
  6. Bicycle parking facilities shall be provided in accordance with the Australian Standard for Offstreet Carparking – Bicycles (AS2890.3-1993 as amended) prior to the development first being occupied. Details of bicycle parking area(s) shall be provided to the City for approval prior to the commencement of development.
  7. Detailed landscaping plans shall be submitted to the City for approval prior to the commencement of development. These landscaping plans are to indicate the proposed landscaping treatment(s) of the subject site and the adjoining road verge(s), and shall:
    - Be drawn at an appropriate scale of either 1:100, 1:200 or 1:500;
    - Provide all details relating to paving, treatment of verges and tree planting in the car park;
    - Show spot levels and/or contours of the site;
    - Indicate any natural vegetation to be retained and the proposed manner in which this will be managed;
    - Be based on water sensitive urban design principles to the satisfaction of the City;
    - Be based on Designing out Crime principles to the satisfaction of the City; and
    - Show all irrigation design details.
  8. Landscaping and reticulation shall be established in accordance with the approved landscaping plans, Australian Standards and best trade practice prior to the development first being occupied and thereafter maintained to the satisfaction of the City.

9. The variable messages displayed by the LED panels contained within the pylon signs and wall signage shall not incorporate animation or movement in their design or structure. They shall not change at a frequency of more than once per every 24 hours.
10. Low level illumination signage is to be used.
11. The illumination to the signage must not flash, pulsate or chase.
12. The signage must not include fluorescent, reflective or retro reflective colours.
13. The signage is to be established and thereafter maintained to a high standard to the satisfaction of the City.
14. Modifications required to existing legal agreements pertaining to reciprocal parking and vehicle access shall be completed in conjunction with affected parties and relevant documentation evidencing this shall be provided to the City prior to the commencement of development.

**Advice Notes**

1. Further to condition 1, where an approval has so lapsed, no development shall be carried out without the further approval of the DAP having first being sought and obtained.
2. Toilet facilities shall be made available to all tenancies, including those located with external entry points, at all times they are available for trade.
3. The bin store facility is required to be provided with a concrete floor that grades to an industrial floor waste that is connected to sewer. A hose cock is also required to facilitate wash down. All bins are required to be kept within the dedicated bin area.

**Background:**

Insert Property Address:	Lot 11 (485) Beach Road, Duncraig
Insert Zoning	MRS: Urban
	TPS: Commercial
Insert Use Class:	Shop
Insert Strategy Policy:	N/A
Insert Development Scheme:	City of Joondalup District Planning Scheme No. 2
Insert Lot Size:	9.81 ha
Insert Existing Land Use:	Shop
Value of Development:	\$3.05 million

The subject site is a shopping centre located within the existing neighbourhood centre, with the centre itself commonly known as 'Carine Glades'. The site is bound by Beach Road to the south, existing commercial developments to the west and north and Carine Tavern to the east. Access to the site is available from both Beach Road and Davallia Road located to the west and through shared access from the adjoining commercial sites (Attachment 1 refers).

The site is zoned 'Urban' under the Metropolitan Region Scheme (MRS) and 'Commercial' under the City's District Planning Scheme No. 2 (DPS2). The sites to the west, north and east of the subject site are also zoned 'Commercial' under DPS2 and contain existing commercial developments.

In addition to the general development provisions of DPS2, due regard is also given to Amendment 65 to DPS2 which was adopted by Council at its meeting of 25 June 2013 and is currently with the West Australian Planning Commission (WAPC) for consideration. This omnibus amendment proposes to change some of the existing car parking standards, including the standard for 'shop'.

The site has been identified as a neighbourhood centre under *State Planning Policy 4.2 Activity Centres for Perth and Peel* (SPP4.2) and recently reviewed as part of the draft Local Commercial Strategy which was endorsed by Council at its meeting of 10 December 2013. As a part of that review, Carine Glades was identified as being capable of increased NLA from the previous cap of 2,500m<sup>2</sup> to a threshold of 4,500m<sup>2</sup>.

### **Details: outline of development application**

The proposed development is for additions to and refurbishment of the existing Carine Glades shopping centre (refer to Attachment 2). The development consists of:

- An extension to the building footprint in the south west and north east corners of the centre with an increase in NLA from 3,000.4m<sup>2</sup> to 3,349.6m<sup>2</sup>;
- Removal of 16 car bays across the site reducing the total available from 184 bays to 168 bays;
- Refurbishment of existing facades, entries and internal mall areas;
- Two (2) pylon signs and new wall signage to the shopping centre facades; and
- New landscaping.

No changes to existing vehicle access points and driveways within the site are proposed with the majority of parking and landscaping areas remaining unchanged.

### **Legislation & policy:**

#### Legislation

*Planning and Development Act 2005*  
*Metropolitan Region Scheme (MRS); and*  
*City of Joondalup District Planning Scheme No. 2*

#### State Government Policies

*State Planning Policy 4.2 Activity Centres for Perth and Peel*

### **Local Policies**

*Environmentally Sustainable Buildings within the City of Joondalup*

Encouraging the integration of environmentally sustainable design principles rather than mandating them, the policy requires applicants to complete the City's Environmentally Sustainable Checklist demonstrating that the development has been

designed and assessed against a national recognised rating tool. A copy of the applicant's checklist is provided as Attachment 3.

### *Signs Policy*

The policy outlines governing principles and guides the placement of signs in the City of Joondalup. The policy seeks to protect the quality of streetscapes and the amenity of adjoining and nearby properties by limiting the visual impact of signs whilst still supporting business activities in the City of Joondalup. The policy is intended to be read in conjunction with DPS2 and the City's Signs Local Law.

### **Consultation:**

#### Public Consultation

The proposed development was advertised for a period of 28 days ending on the 14 February 2014. A total of 78 surrounding owners and occupiers were advised in writing of the proposed development.

A total of two responses were received during the consultation period being two objections. The objections and the City's response to these concerns are discussed within the planning assessment section of this report.

#### Consultation with other Agencies or Consultants

In accordance with the Notice of Delegation under the *Planning and Development Act 2005*, referral to the Department of Planning was required as Beach Road is identified as an 'Other Regional Road' under the MRS and development adjoining such roads requires referral where the cost of construction exceeds \$10,000.

Comments from the Department of Planning (Infrastructure and Land Use Coordination) are attached (Attachment 4 refers). The Department advised that it has no objections to the proposal on regional transport planning grounds subject to the following:

- Relocation of the trolley bay from the southern mall entrance to allow for a wider pedestrian path in accordance with Austroads Guide to Road Design Part 6A: Pedestrian and Cycle Paths (Table 6.1: Width requirements for footpaths); and
- Cycle parking spaces be provided in accordance with the relevant standards outlined in Austroads Guide to Traffic Management Part 11: Parking.

The applicant has subsequently amended the plans removing the trolley bay from the southern entrance and relocating this to the east of the southern mall entrance. This amended plan has been reviewed by Department of Planning which has no further comments.

The development proposes a total of 10 bicycle bays for the site which meets the general requirements as contained within Part 11 of Austroads Guide to Traffic Management. The bays in addition are conveniently located within close proximity to the shopping centre entrances to ensure maximum use for visitors and employees to the centre.

### Planning assessment:

The proposed development is for additions to and refurbishment of the existing Carine Glades Shopping Centre. The works seek to increase the NLA of the site by 349.2m<sup>2</sup> to a total of 3,349.6m<sup>2</sup>.

The subject site is bound by commercial developments to the north, east and west with a number of easements in place pertaining to reciprocal parking and access. The proposed development is not considered to conflict with those agreements with vehicle access crossovers and general driveways remaining unchanged as part of the proposed works. However, the proposed reduction in car bays may have a potential impact on the developments, which currently have reciprocal parking arrangements with the centre. Any changes required to those legal agreements should be made in conjunction with the affected parties prior to the commencement of development.

Development of the subject site is guided by the provisions of DPS2 with particular regard given to the 'Commercial' zone. The objectives of the 'Commercial' zone are to:

- (a) Make provision for existing or proposed retail and commercial areas that are not covered by an Agreed Structure Plan;
- (b) Provide for a wide range of uses within existing commercial areas, including retailing, entertainment, professional offices, business services and residential.

### Land Use

The application proposes additional retail NLA to the shopping centre with the intention of accommodating additional tenancies compatible with both the existing land use and surrounding developments. 'Shop,' 'take away food outlet' and 'restaurant' are all permitted land uses within the 'Commercial' zone.

### DPS2 assessment

The proposed development is subject to the general development provisions as contained within Part 4 of DPS2. The following table summarises the proposal's compliance with those provisions:

Requirement	Proposed	Complies
Building setbacks		
4.7.1 Building shall be setback as follows:	Proposed additions setback as follows:	
9.0 metres from a street boundary	Beach Road: 14.5 metres	Yes
3.0 metres from a side boundary	Eastern Boundary: 11.8 metres	Yes
6.0 metres from a rear boundary	Northern Boundary <b>3.0 metres (entry statement)</b> <b>5.0 metres</b>	<b>No</b>

<p>4.7.2 Where a lot has a boundary with more than one street, Council shall designate one such street as the frontage and the other street boundaries as side boundaries, it is it satisfied that there will be no adverse effect on traffic safety or the amenity of the area.</p>	<p>Western Boundary 23.5 metres</p>	<p>Yes</p>
<p>Car parking</p> <p>4.8.2 The number of on-site car parking bays shall be in accordance with Table 2 of DPS2.</p> <p>Table 2 of DPS2: Shopping Centres under 10,000m<sup>2</sup> - 7 per 100m<sup>2</sup> NLA</p> <p>3,349.6m<sup>2</sup> requires 234.4 (235) bays</p>	<p><b>168 bays provided</b></p> <p>66.4 (67) bay or 28.3% shortfall</p>	<p><b>No</b></p>
<p>Landscaping</p> <p>4.12.1 A minimum of 8% of an area of a development site shall be designed, developed and maintained as landscaping.</p> <p>4.12.2 When a proposed development includes a car parking area abutting a street, an area no less than 3m wide shall be designed, developed and maintained as landscaping.</p> <p>4.12.3 Landscaping shall be carried out on all those areas of a development site which are not approved for buildings, accessways, storage purposes or car parking with the exception that shade trees shall be planted and maintained by the owners in car parking areas at the rate of one tree for every four (4) car parking bays.</p>	<p><b>504.8m<sup>2</sup> or 5.1%</b></p> <p>No change to existing car parking abutting Beach Road</p> <p>Existing 37 trees to be retained plus an additional five trees to the Beach Road frontage.</p> <p>One tree for every four bays provided</p>	<p><b>No</b></p> <p>N/A</p> <p>Yes</p>
<p>Storage and Rubbish Accumulation</p> <p>4.14.1 All storage, including</p>	<p>No change to existing storage</p>	<p>N/A</p>

rubbish, shall be confined within a building, or a suitable enclosed area screened from view from its immediate surrounds.	area. Applicant proposes the provision of new slab and drainage points as per the Health Local Law 1999.	
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**Building Setbacks**

The development proposes to generally maintain existing boundary setbacks. A reduced building setback is sought to the northern boundary, with the additional tenancies to the north-west corner of the shopping centre aligning with the existing building setback of 5.0 metres. This portion of the addition replaces an existing alfresco dining area and has been designed so as to maintain the existing facade treatment of concrete recessed panels.

The proposed development incorporates the addition of an entry canopy to the northern entrance of the centre. The canopy is proposed to be set back 2.0 metres from the northern boundary and will tie in with the aesthetics proposed as part of the general upgrade of the centre. The open design of the structure ensures that minimal building bulk impacts will result to the adjoining northern commercial developments.

**Car Parking**

Car parking to the site has been calculated in accordance with clause 4.8 of DPS2 for shopping centres under 10,000m<sup>2</sup>. Based on this standard a total of 235 car bays is required, with 168 bays proposed as a part of this application, being a 67 bay or 28.3% shortfall.

Whilst the above car parking shortfall fails to meet the car parking requirements of DPS2, due regard must be given to Amendment 65 adopted by Council at its meeting of 25 June 2013. Amendment 65 proposes modifications to the City’s DPS2, including the car parking standard for the use class ‘Shopping Centre under 10,000m<sup>2</sup>’ being modified to read ‘Shop/Shopping Centre under 30,000m.’ In addition, the standard itself has been modified from seven car bays per 100m<sup>2</sup> NLA to five car bays per 100m<sup>2</sup> NLA in line with the car parking standards set out in SPP 4.2. Upon applying the car parking provisions proposed within Amendment 65, the following results:

	<b>Parking Standard</b>	<b>Required</b>	<b>Proposed</b>
<b>DPS2</b>	Shopping Centres under 10,000m <sup>2</sup>  7 per 100m <sup>2</sup> NLA	3,349.6m <sup>2</sup> NLA 234.4 (235) car bays	168 car bays
<b>Amendment 65</b>	Shop/Shopping Centre under 30,000m  Five (5) bays per 100m <sup>2</sup>	3,349.6m <sup>2</sup> NLA 167.48 (168) car bays	168 car bays

Based on this standard sufficient car parking is provided to accommodate the development on the site. Whilst the revised standard reflects a reduced car parking requirement, due regard must be given to the location of the centre along a high frequency bus route and in close proximity to the Warwick Train Station.

A traffic report has been provided by the applicant (Attachment 5 refers) confirming that sufficient car parking is provided to accommodate the proposed increase in NLA to Carine Glades. A parking survey undertaken at the site during the peak Saturday morning period indicated that at least 18% of bays to the site were unoccupied. The report in addition identified that traffic increases to the site would be minor, being in the order of 2% to 5% of existing traffic flows.

It is noted that the Transcore traffic report dated 27 February 2014 also addresses concerns raised by the City in regards to sightline issues with vehicles exiting the site at Davallia Road. The report provided is considered to address these issues to the satisfaction of the City.

#### Landscaping

DPS2 requires a minimum of 8% landscaping across the site. The applicant proposes soft landscaping to 5.1% of the site, an increase of 0.2% or 20.4m<sup>2</sup> from the existing 4.9% provided. The site itself is substantially developed, with a reduction to the overall landscaping requirement approved as part of additions to the centre in 1997.

Landscaping to the site is mainly along Beach Road consisting of a 3.0 metre wide landscaping strip containing a number of existing mature trees in conjunction with an additional 8.0 metre wide landscaped verge. The orientation of landscaping toward Beach Road which is the main road frontage of the development ensures that any bulkiness associated with the development is offset, creating an attractive setting for the development as viewed from the public realm.

#### Signs

The development proposes a combination of wall, monolith and pylon signs for the development which generally comply with the provisions for the 'Commercial' zone contained within Council's "Sign's Policy."

Two pylon signs are proposed to the Beach Road frontage where the policy only allows for one pylon sign per frontage. Both pylon signs comply with the requirements pertaining to height and area and will replace three existing pylon signs along this boundary.

Having due regard to the objectives of the policy it is considered that the pylon signs are well designed and appropriate to the development's location and significant frontage (108.5m) along Beach Road. The signs limit advertising by primarily incorporating the name of the centre and consolidating advertising onto the LED screen. The signs are modern in design and will enhance the aesthetics proposed as a part of the centre upgrade. A distance of 90 metres separates the two signs ensuring minimal clutter along the Beach Road frontage.

Wall signage to the site is proposed in accordance with the provisions contained within the 'Sign's Policy' and will advertise the names of tenancies within the centre, with proposed signage panels consistent with existing wall signs at the site.

In addition to the two pylon signs which incorporate LED text components, a 13.5 square metre LED illuminated sign is proposed to the Beach Road facade of the centre which will display shopping centre advertising on a rotational moving graphic basis. The Transcore traffic report dated the 27 February 2014 (Attachment 6 refers) suggests that a change rate of one image per every five minutes would give drivers enough time to pass the sign under normal driving conditions.

At its meeting of 21 August 2012, Council adopted a modified signs policy which was revised to contain provisions pertaining to variable message boards among other modifications. Council considered the message boards to be potentially distracting and hazardous to passing motorists and limited these boards to use for the purposes of traffic management and the advertising of significant community events only.

The LED signage proposed to both the pylon signs and as part of the wall signage differs to the definition of variable message boards as contained within the policy, however the change rate proposed of one image rotation every five minutes may still present a hazard to passing vehicular traffic. Taking this into account, the City recommends that the erection of such signage is approved on the basis that only one image rotation be permitted to occur per 24 hours. This approach is consistent with recent approvals granted by the City, with the limitation considered appropriate in ensuring that safety is maintained and that the quality of the streetscape is not visually impacted.

#### Public Consultation

Advertising of the proposed development was undertaken as outlined in the 'Consultation' section of this report. The following concerns were raised by objectors:

- *Inadequate parking provided.*

City Response: Although the proposal does not meet the current car parking provisions as contained within DPS2, car parking complies with the standard adopted by Council as part of Amendment 65. In addition, the report provided from Transcore indicates sufficient parking will be provided at the site during peak periods to accommodate the increase in NLA.

- *Impacts on customer, client and tenancy safety, access and amenity*

City Response: The proposed additions will result in an upgrade to the centre, providing better pedestrian access to the development from Beach Road and the adjoining commercial developments and allowing the building to be brought into line with current Building Code of Australia provisions and Local Laws.

- *New food tenancies and ATM bunker will create greater foot and vehicle traffic in the most congested part of the centre.*

City Response: The application proposed that the south west corner of the site be 'redesigned to provide a wider covered footpath and safer pedestrian access paths around the building.' The modifications ensure that foot traffic within this area is adequately addressed. Amended parking within this area along the frontage of the building also aims at reducing congestion within this area of the development with the replacement of car bays with drop off bays ensuring that high vehicular demand in this area is appropriately managed.

- *Odour and rubbish disposal from the proposed food tenancies*

City Response: Adequate provision has been made within the site to accommodate rubbish disposal in accordance with the City's local laws. No recent complaints have been lodged within the City in regards to odours from

existing food tenancies within the centre with it noted that the nearest residential property is located at a distance of approximately 100 metres from the subject site.

- *Breach of easement*

City Response: As outlined within the planning assessment of this report, a number of easements apply to the site, specifically pertaining to vehicular access and reciprocal parking. The City considers that any necessary modifications to these easements should be addressed prior to the commencement of development and subsequently recommends a condition of approval requiring such.

### **Conclusion:**

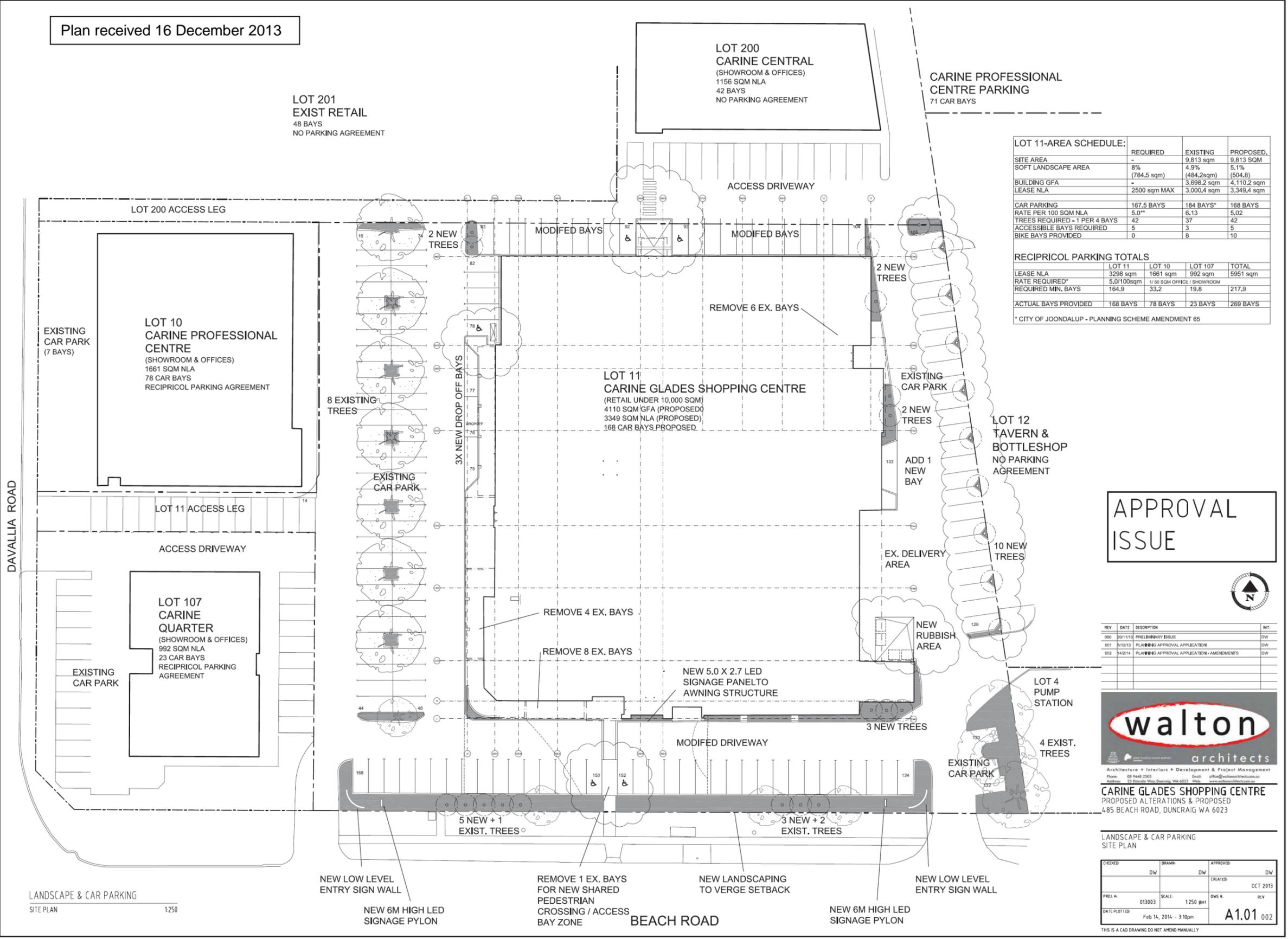
As outlined above, the development proposes a number of variations to the development provisions contained within DPS2 and the City's Signs Policy. However, the development demonstrates that those elements are appropriate when taken into context.

The additions and refurbishment of the centre are considered to reinforce the centres hierarchy as a neighbourhood centre whilst meeting local community demands.

It is recommended that the application be approved subject to conditions.



Plan received 16 December 2013



**LOT 11-AREA SCHEDULE:**

	REQUIRED	EXISTING	PROPOSED
SITE AREA	-	9,813 sqm	9,813 SQM
SOFT LANDSCAPE AREA	8% (784.5 sqm)	4.9% (484.2sqm)	5.1% (504.8)
BUILDING GFA	-	3,698.2 sqm	4,110.2 sqm
LEASE NLA	2500 sqm MAX	3,000.4 sqm	3,349.4 sqm
CAR PARKING	167.5 BAYS	184 BAYS*	168 BAYS
RATE PER 100 SQM NLA	5.0**	6.13	5.02
TREES REQUIRED - 1 PER 4 BAYS	42	37	42
ACCESSIBLE BAYS REQUIRED	5	3	5
BIKE BAYS PROVIDED	0	8	10

**RECIPROCAL PARKING TOTALS**

	LOT 11	LOT 10	LOT 107	TOTAL
LEASE NLA	3298 sqm	1661 sqm	992 sqm	5951 sqm
RATE REQUIRED*	5.0/100sqm	1/50 SQM OFFICE / SHOWROOM		
REQUIRED MIN. BAYS	164.9	33.2	19.8	217.9
ACTUAL BAYS PROVIDED	168 BAYS	78 BAYS	23 BAYS	269 BAYS

\* CITY OF JOONDALUP - PLANNING SCHEME AMENDMENT 65

APPROVAL ISSUE



REV.	DATE	DESCRIPTION	INT.
000	20/11/13	PRELIMINARY ISSUE	DW
001	14/12/13	PLANNING APPROVAL APPLICATION	DW
002	14/02/14	PLANNING APPROVAL APPLICATION - AMENDMENTS	DW



**CARINE GLADES SHOPPING CENTRE**  
PROPOSED ALTERATIONS & PROPOSED  
485 BEACH ROAD, DUNCRAIG WA 6023

LANDSCAPE & CAR PARKING  
SITE PLAN

CHECKED	DRAWN	APPROVED
DW	DW	DW
PROJ #	SCALE	DWG #
013003	1:250 @A1	
DATE PLOTTED	Feb 14, 2014 - 3:10pm	A1.01 002

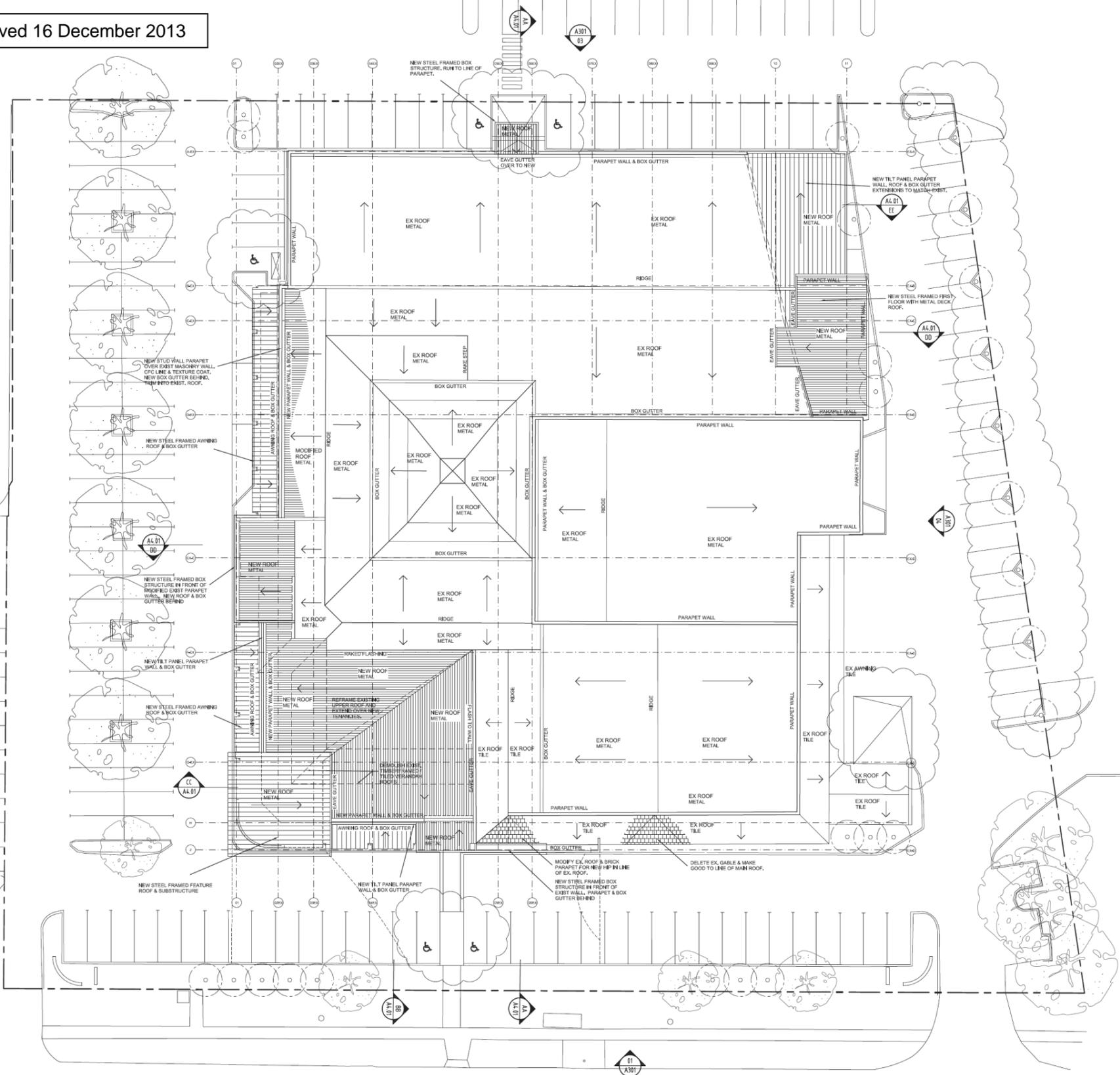
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LANDSCAPE & CAR PARKING  
SITE PLAN 1:250





Plan received 16 December 2013



APPROVAL  
ISSUE



REV	DATE	DESCRIPTION	INT.
000	20/11/13	PRELIMINARY ISSUE	DW
001	6/12/13	PLANNING APPROVAL APPLICATION	DW
002	14/2/14	PLANNING APPROVAL APPLICATION - AMENDMENTS	DW



Architecture + Interiors + Development + Project Management  
 Phone: 08 9448 2303 Email: office@waltonarchitects.com.au  
 Address: 23 Edwards Way, Duncraig, WA 6023 Web: www.waltonarchitects.com.au

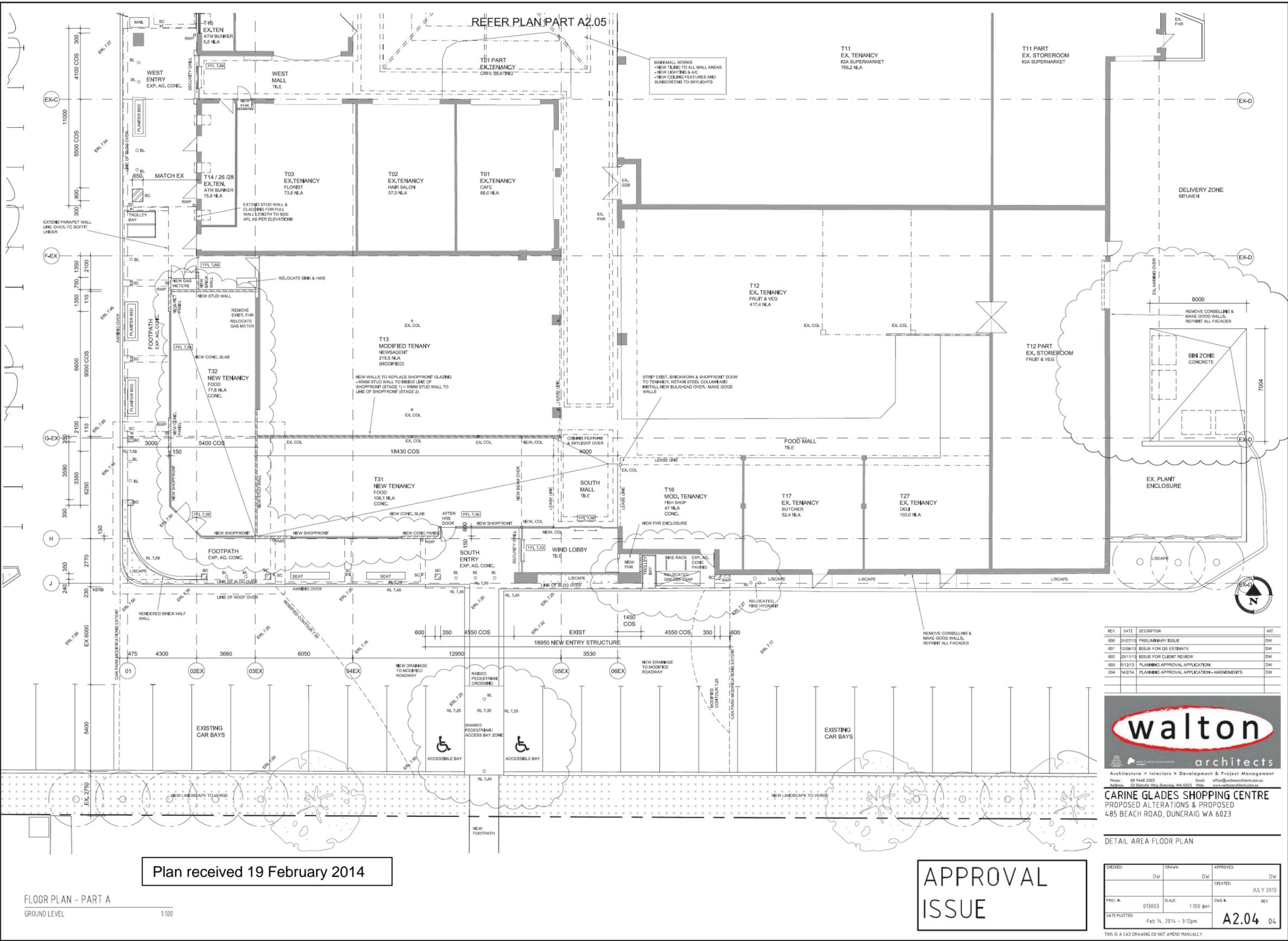
**CARINE GLADES SHOPPING CENTRE**  
 PROPOSED ALTERATIONS & PROPOSED  
 485 BEACH ROAD, DUNCRAIG WA 6023

GENERAL ARRANGEMENTS - PROPOSED WORKS  
 ROOF PLAN

CREATED	ISSUED	APPROVED
DW	DW	DW
	CREATED	OCT 2013
PROJ. #: 013003	SCALE: 1:200 (B1)	DWG. #: REV
DATE PLOTTED: Feb 14, 2014 - 3:11pm	<b>A2.03</b> 002	

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PROPOSED ROOF WORKS  
 SITE PLAN 1:200



REV	DATE	DESCRIPTION	INT.
000	31/07/13	PRELIMINARY ISSUE	DW
001	12/06/13	ISSUE FOR QS ESTIMATE	DW
002	20/11/13	ISSUE FOR CLIENT REVIEW	DW
003	11/12/13	PLANNING APPROVAL APPLICATION	DW
004	14/2/14	PLANNING APPROVAL APPLICATION - AMENDMENTS	DW



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**CARINE GLADES SHOPPING CENTRE**  
 PROPOSED ALTERATIONS & PROPOSED  
 485 BEACH ROAD, DUNCRAIG WA 6023

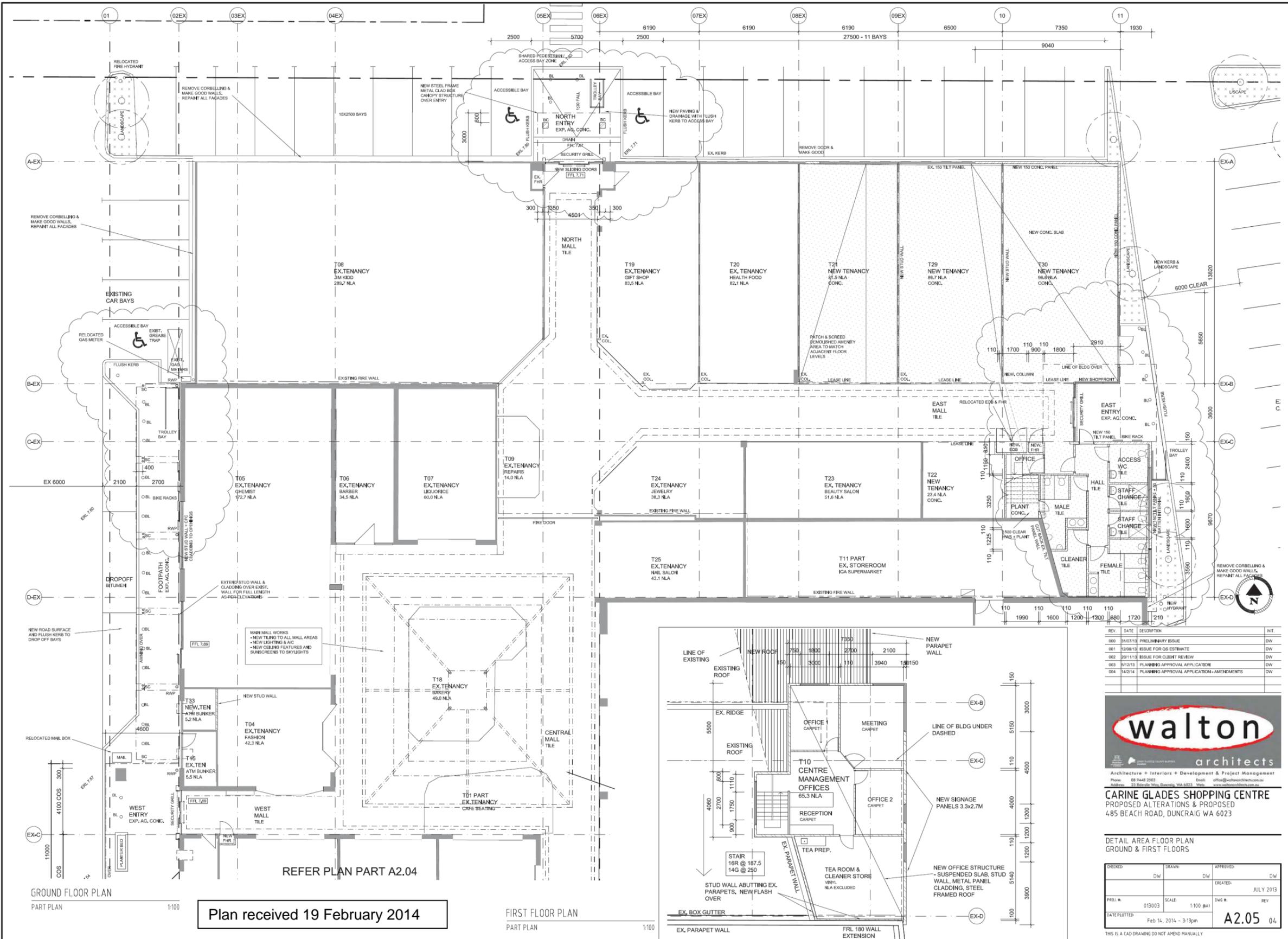
DREW: DW SCALE: 1:100 @A1 DATE PLOTTED: Feb 14, 2014 - 3:12pm	DRAWN: DW CREATED: JULY 2013 DWG #: A2.04 REV: 04
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Plan received 19 February 2014

**APPROVAL  
ISSUE**

FLOOR PLAN - PART A  
GROUND LEVEL 1:100



REV	DATE	DESCRIPTION	INT.
000	31/07/13	PRELIMINARY ISSUE	DW
001	12/08/13	ISSUE FOR QS ESTIMATE	DW
002	20/11/13	ISSUE FOR CLIENT REVIEW	DW
003	01/12/13	PLANNING APPROVAL APPLICATION	DW
004	14/2/14	PLANNING APPROVAL APPLICATION - AMENDMENTS	DW



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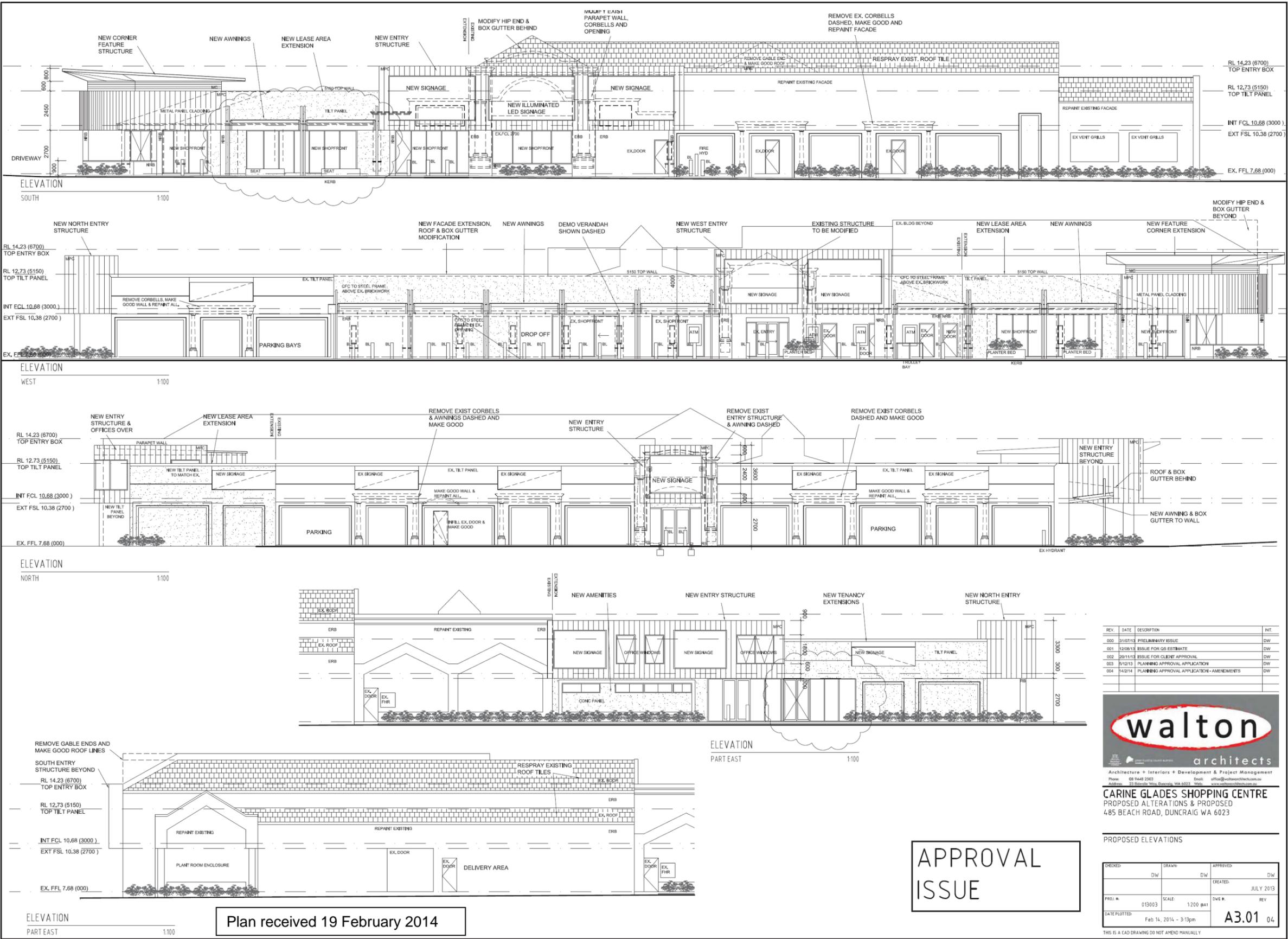
**CARINE GLADES SHOPPING CENTRE**  
 PROPOSED ALTERATIONS & PROPOSED  
 485 BEACH ROAD, DUNCRIG WA 6023

DETAIL AREA FLOOR PLAN  
 GROUND & FIRST FLOORS

CREATED	DRAWN	APPROVED
DW	DW	DW
013003	1:100 (B4)	04
Feb 14, 2014 - 3:13pm		

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REV.	DATE	DESCRIPTION	INT.
000	21/07/13	PRELIMINARY ISSUE	DW
001	12/08/13	ISSUE FOR QS ESTIMATE	DW
002	20/11/13	ISSUE FOR CLIENT APPROVAL	DW
003	01/12/13	PLANNING APPROVAL APPLICATION	DW
004	14/02/14	PLANNING APPROVAL APPLICATION - AMENDMENTS	DW



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**CARINE GLADES SHOPPING CENTRE**  
 PROPOSED ALTERATIONS & PROPOSED  
 485 BEACH ROAD, DUNCRAIG WA 6023

PROPOSED ELEVATIONS

CHECKED	DRAWN	APPROVED
DW	DW	DW
PROJ. #	SCALE	DWG. #
013003	1:200 (A1)	REV
DATE PLOTTED	Feb 14, 2014 - 3:13pm	<b>A3.01</b> 04

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**APPROVAL  
ISSUE**

Plan received 19 February 2014





## Environmentally Sustainable Design – Checklist

Under the City's planning policy, *Environmentally Sustainable Design in the City of Joondalup*, the City encourages the integration of environmentally sustainable design principles into the construction of all new residential, commercial and mixed-use buildings and redevelopments (excluding single and grouped dwellings, internal fit outs and minor extensions) in the City of Joondalup.

Environmentally sustainable design is an approach that considers each building project from a 'whole-of-life' perspective, from the initial planning to eventual decommissioning. There are five fundamental principles of environmentally sustainable design, including: siting and structure design efficiency; energy efficiency; water efficiency; materials efficiency; and indoor air quality enhancement.

For detailed information on each of the items below, please refer to the *Your Home Technical Manual* at: [www.yourhome.gov.au](http://www.yourhome.gov.au), and *Energy Smart Homes* at: [www.clean.energy.wa.gov.au](http://www.clean.energy.wa.gov.au).

This checklist must be submitted with the planning application for all new residential, commercial and mixed-use buildings and redevelopments (excluding single and grouped dwellings, internal fit outs and minor extensions) in the City of Joondalup.

The City will seek to prioritise the assessment of your planning application and the associated building application if you can demonstrate that the development has been designed and assessed against a national recognised rating tool.

Please tick the boxes below that are applicable to your development.

### Siting and structure design efficiency

Environmentally sustainable design seeks to affect siting and structure design efficiency through site selection, and passive solar design.

Does your development retain:

- existing vegetation; and/or
- natural landforms and topography

Does your development include:

- northerly orientation of daytime living/working areas with large windows, and minimal windows to the east and west
- passive shading of glass
- sufficient thermal mass in building materials for storing heat
- insulation and draught sealing
- floor plan zoning based on water and heating needs and the supply of hot water; and/or
- advanced glazing solutions

**Energy efficiency**

Environmentally sustainable design aims to reduce energy use through energy efficiency measures that can include the use of renewable energy and low energy technologies.

Do you intend to incorporate into your development:

- renewable energy technologies (e.g. photo-voltaic cells, wind generator system, etc); and/or
- low energy technologies (e.g. energy efficient lighting, energy efficient heating and cooling, etc); and/or
- natural and/or fan forced ventilation

**Water efficiency**

Environmentally sustainable design aims to reduce water use through effective water conservation measures and water recycling. This can include stormwater management, water reuse, rainwater tanks, and water efficient technologies.

Does your development include:

- water reuse system(s) (e.g. greywater reuse system); and/or
- rainwater tank(s)

Do you intend to incorporate into your development:

- water efficient technologies (e.g. dual-flush toilets, water efficient showerheads, etc)

**Materials efficiency**

Environmentally sustainable design aims to use materials efficiently in the construction of a building. Consideration is given to the lifecycle of materials and the processes adopted to extract, process and transport them to the site. Wherever possible, materials should be locally sourced and reused on-site.

Does your development make use of:

- recycled materials (e.g. recycled timber, recycled metal, etc)
- rapidly renewable materials (e.g. bamboo, cork, linoleum, etc); and/or
- recyclable materials (e.g. timber, glass, cork, etc)
- natural/living materials such as roof gardens and "green" or planted walls

**Indoor air quality enhancement**

Environmentally sustainable design aims to enhance the quality of air in buildings, by reducing volatile organic compounds (VOCs) and other air impurities such as microbial contaminants.

Do you intend to incorporate into your development:

- low-VOC products (e.g. paints, adhesives, carpet, etc)

**'Green' Rating**

Has your proposed development been designed and assessed against a nationally recognised "green" rating tool?

- Yes
- No

If yes, please indicate which tool was used and what rating your building will achieve:

---



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If yes, please attach appropriate documentation to demonstrate this assessment.

If you have not incorporated or do not intend to incorporate any of the principles of environmentally sustainable design into your development, can you tell us why:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Is there anything else you wish to tell us about how you will be incorporating the principles of environmentally sustainable design into your development:

The proposed works consist of an approximate 10% increase in the building area, mainly focused on North East & South West corners of existing building. All new works will meet BCA Section J requirements for building envelope materials and insulation. Included in these works, the centre will undertake refurbishment of all mall areas including

- replacement of existing lighting with energy efficient LED fixtures with daylight monitoring to reduce operation times and usage.
- replacement of existing Distribution boards and digital metering to allow better monitoring and reporting of tenant power consumption which will enable greater control of energy use in the centre.
- New mall air conditioning system with increased outside air component and modern energy technology to minimise energy use.
- New amenities feature low water use fixtures and waterless urinals.

The centre is also revising its tenancy guidelines to ensure that all new and refurbished tenancies are brought up to current environmental standards at the centre.

When you have checked off your checklist, sign below to verify you have included all the information necessary to determine your application.

Thank you for completing this checklist to ensure your application is processed as quickly as possible.

Applicant's Full Name: Daniel Walton Contact Number: 0414 737 555

Applicant's Signature: [Signature] Date Submitted: 21/2/14

Accepting Officer's Signature: \_\_\_\_\_

Checklist Issued: March 2011

Government of **Western Australia**  
Department of **Planning**

11 February 2014

City of Joondalup  
PO Box 21  
Joondalup WA 6919

Your ref: DA13/1576

Our ref: 808/2/34/3

Enquiries: Mark O'Brien (Ph: 6551 9751)

Attention: Emma Bracknell, Urban Planner

Dear Emma,

**Re: Development Application (addition and refurbishment to existing shopping centre)  
– Lot 11 (No. 485) Beach Road, Duncraig**

I refer to your letter dated 13 January 2014 regarding the above application. In accordance with the Western Australian Planning Commission's (WAPC) Notice of Delegation dated 23 December 2011, the following comments are provided with respect to this proposal.

**Proposal**

The applicant seeks approval to expand and refurbish the existing Carine Glades shopping centre. An addition of approximately 300m<sup>2</sup> net lettable area (NLA) is proposed. The proposal would see the NLA for the centre increase to a total of 3298.6m<sup>2</sup>.

The following comments have been provided in response to the Notice of Delegation and relate directly to impacts on the regional transport network. Comments should not be taken as endorsement of several draft planning proposals currently with the WAPC for consideration, including:

- Amendment 65 to the City of Joondalup's District Planning Scheme (DPS) No.2
- City of Joondalup's draft Policy 3-3 Centres Strategy
- City of Joondalup's draft Local Planning Strategy (LPS)

The City is to note that the proposal may be affected by any modifications which may result following the WAPC's consideration of the abovementioned planning proposals.

**Land Requirements**

The subject site abuts Beach Road, which is reserved as an Other Regional Road (ORR) in the Metropolitan Region Scheme (MRS) and a Category 2 Road (access subject to approval) as per Plan Number SP694/3. The site is not affected by the ORR reservation for Beach Road as per WAPC Land Requirement Plan number 1.1089.

**Access**

Vehicular access to Lot 11 is currently gained from two existing left in / left out crossovers to Beach Road. As part of the larger neighbourhood centre site, full movement access is also shared to Beach Road via Lot 12 to the east and Davalia Road via Lots 107 & 200 to the west.

No changes are proposed to the existing access arrangements. This is in accordance with the WAPC's Regional Roads (Vehicular Access) Policy D.C 5.1, which seeks to minimise the number of new crossovers onto regional roads.

**Transport Assessment**

A transport statement has been prepared by Transcore (December 2013) and submitted with the proposal in accordance with the WAPC's *Transport Assessment Guidelines for Developments*.

Transcore's statement indicates that the proposed extension will result in an increase of approximately 360 vehicles per day. The Saturday morning peak is said to increase by approximately 49 vehicles per hour. Additional trips will be spread relatively evenly across many access points to the neighbourhood centre site.

The Department accepts that the level of traffic increase associated with the proposed extension would not significantly affect existing traffic operations.

**Pedestrian Access**

*Austrroads Guide to Road Design Part 6A: Pedestrian and Cycle Paths* (Table 6.1: Width requirements for footpaths) states that it is not adequate for paths servicing commercial or shopping environments to be provided with a 1.2m wide pedestrian path. Locating a trolley bay in the proposed location on the southern mall entrance will result in an effective path width of 1.2m. This is not acceptable, particularly as the southern entrance provides direct access to Beach Road and nearby public transport servicing the centre.

Therefore, in order to improve pedestrian access to the centre, it is strongly recommended that the proposed trolley bay be relocated.

**Cycle Parking**

The proposal indicates the location of several existing cycle parking areas to be retained, although it is not clear how many cycle parking spaces are provided. It is recommended that cycle parking spaces be provided in accordance with the relevant standards outlined in *Austrroads Guide to Traffic Management Part 11: Parking*.

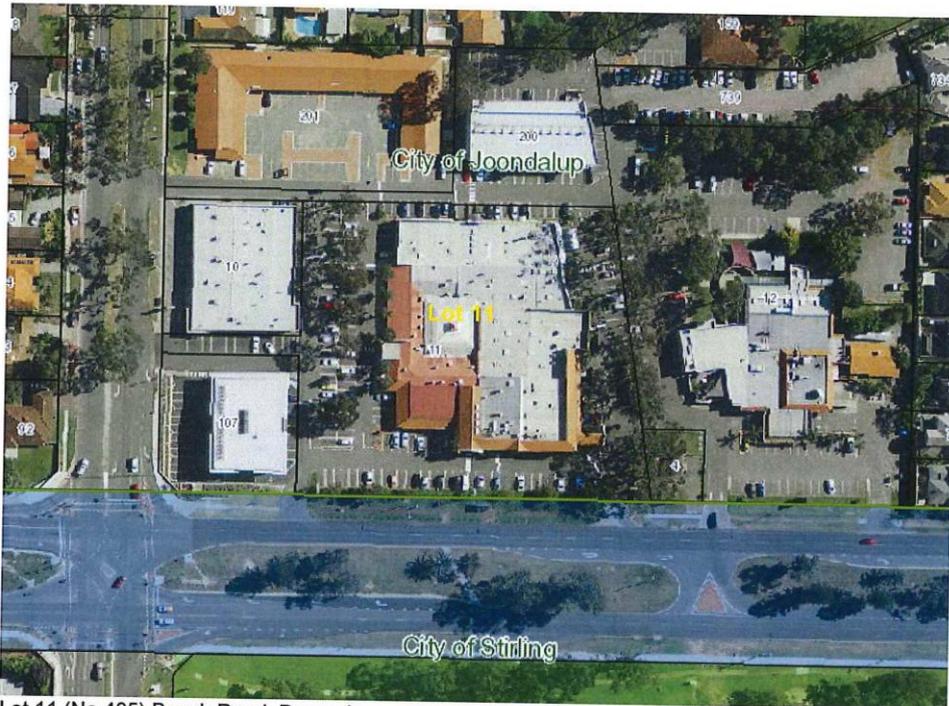
**Summary of Recommendations**

The Department has no objection to the proposal on regional transport planning grounds subject to the following recommendations:

- The City is to note that the proposal may be affected by draft Amendment 65 to the DPS, draft Policy 3-3 Centres Strategy and the draft LPS; all currently with the WAPC for consideration.
- The proposed trolley bay at the southern mall entrance is to be relocated.
- Cycle parking should be provided in accordance with Austroads standards.

Yours sincerely,

Mohsin Muttaqui  
Planning Manager  
Department of Planning



Lot 11 (No.485) Beach Road, Duncraig



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14 February 2014

Mr Daniel Walton  
Walton Architects  
23 Elderslie Way  
Duncraig WA 6023

Dear Daniel,

### **RE: CARINE GLADES SHOPPING CENTRE EXTENSIONS – TRAFFIC AND PARKING**

Further to your email of 9 December 2013 it is our understanding that some relatively minor extensions and car park changes are proposed at the Carine Glades Shopping Centre and that the City of Joondalup Infrastructure Management Services section has requested that advice be provided by a traffic engineering consultant in relation to traffic generation, trip distribution and parking requirements associated with these proposed works. Transcore provided traffic engineering advice dated 13 December 2013.

Subsequent feedback from the City asked about a number of issues including usage of the existing northern driveway crossover on Davalia Road and existing car park utilisation during the Saturday peak period. The following sections of this letter expand upon the original traffic engineering advice to address these items. Further advice on other issues raised will follow in a separate letter.

#### **1. PROPOSED DEVELOPMENT**

The existing shopping centre has a Net Lettable Area (NLA) of 3000.4m<sup>2</sup> and the proposed extensions will increase this to 3349.4m<sup>2</sup> NLA.

The existing shopping centre has 184 parking bays on site but 18 parking bays will be removed as a result of the proposed extensions, reducing the total parking on site to 168 parking bays, as shown on the attached Walton Architects plan number A1.01.

The existing shopping centre has two driveway crossovers onto Beach Road on the south side of the site providing left in / left out access directly to the site. However, as part of the larger neighbourhood centre site it also shares full movement access to Beach Road via the tavern site on the eastern side and to Davalia Road on the western side via right of carriageway over the Lot 200 access leg, as well as left in / left out access to Davalia Road via the Lot 11 access leg shown on the attached plan. The proposed extensions will not alter the existing access arrangements.

## 2. TRAFFIC GENERATION AND DISTRIBUTION

The traffic volume that will be generated by the proposed development has been estimated using trip generation rates derived from the Roads and Traffic Authority of New South Wales *Guide to Traffic Generating Developments* (2002), as summarised in Table 1.

**Table 1: Traffic generation of proposed shopping centre extensions**

Period	Trip rate	Increase in traffic flows
Thursday PM peak hour	12.3vph/100m <sup>2</sup> NLA	+43vph
Friday PM peak hour	12.5vph/100m <sup>2</sup> NLA	+44vph
Saturday peak hour	16.3vph/100m <sup>2</sup> NLA	+57vph
Thursday (full day)	121vpd/100m <sup>2</sup> NLA	+422vpd

The distribution of this traffic has been evaluated by considering the local catchment area of this shopping centre defined by the location of other competing shopping centres in this area. The resultant trip distribution is summarised in Table 2.

**Table 2: Trip distribution**

Approach road	Proportion of trips
Davalia Road (north)	30%
Beach Road (east)	40%
Okely Road (south)	20%
Beach Road (west)	10%

The resultant increase in traffic flows in and out of the site during the Saturday mid-morning peak hour (the highest hour of traffic flows at this type of development) is illustrated in Figure 1.



Figure 1: Saturday morning peak hour traffic increase

Existing traffic movements at the northern driveway crossover on Davalia Road have been counted by Transcore during the 11-12 Saturday morning peak period on 8 February 2014. The recorded existing traffic movements are shown in Figure 2.



Figure 2: Existing Saturday morning peak hour traffic flows

Comparison of the existing traffic flows at this northern driveway crossover in Figure 2 and the anticipated traffic increases in Figure 1 indicates that the increase will only be in the order of 2% to 5% of existing traffic flows. Therefore the level of traffic increase associated with the proposed shopping centre extensions is minimal and would not significantly affect the existing driveway operations or internal traffic circulation within the site. No further analysis is considered to be warranted.

### 3. PARKING

The *Carine Glades Shopping Centre Proposed Refurbishment & Extensions Development Application Report* (November 2013) presented the case for reduction of the required parking provision down to 5 bays per 100m<sup>2</sup> NLA as that is the parking rate identified in proposed Amendment 65 to City of Joondalup District Planning Scheme No. 2.

We can add further support for applying this lower parking rate. Transcore undertook Saturday peak period parking surveys at three IGA stores (Hilton, Shenton Park and Applecross) on Saturday 9 November 2013. These surveys recorded Saturday peak parking accumulation of 3.1, 2.7 and 3.9 cars / 100m<sup>2</sup> NLA, respectively. The two lowest figures cannot be relied upon as an accurate estimate of demand as the available parking was at 94% and 100% occupancy during the peak period but for the Applecross store the car park was only 60% full when the peak parking ratio of 3.9 cars / 100m<sup>2</sup> NLA was recorded. Therefore this result does offer support for reduction of the required parking ratio for reduction of the required parking ratio at Carine Glades Shopping Centre to 5 bays per 100m<sup>2</sup> NLA as currently proposed.

Existing parking demand at this shopping centre has been surveyed by Transcore during the 11-12 Saturday morning peak period on 8 February 2014. The parking zones surveyed are shown in Figure 3 and parking survey results are presented in Table 1.

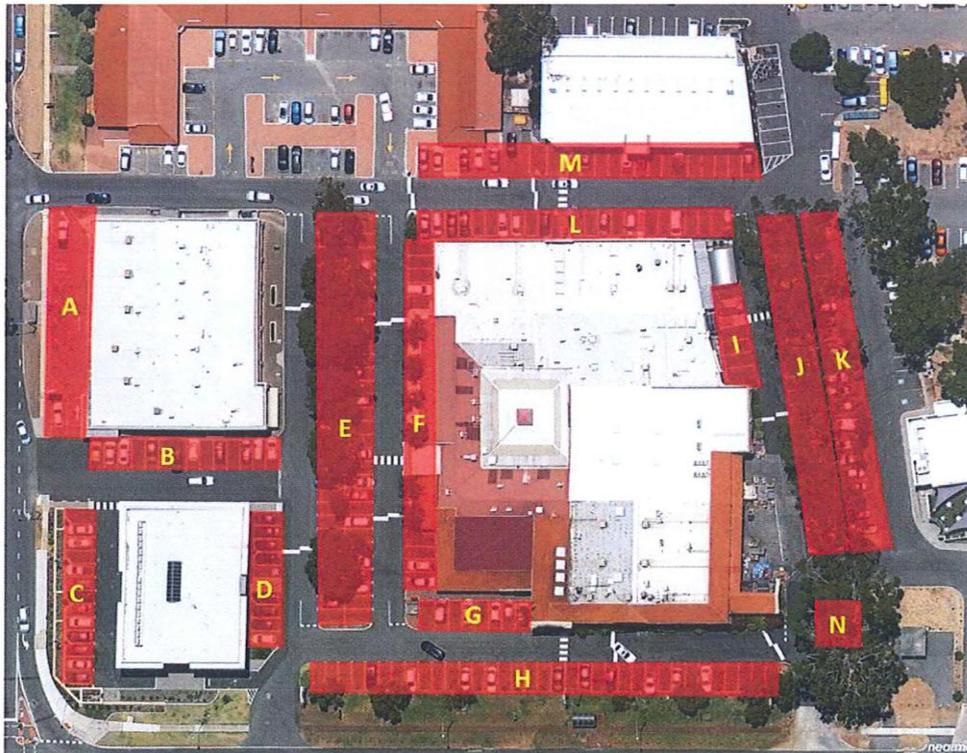


Figure 3: Parking survey zones

Table 1: Saturday peak parking demand

Parking Zone	Parking Bays	Occupied bays				
		11.00	11.15	11.30	11.45	12.00
A	6	3	4	1	3	2
B	14	13	13	10	12	12
C	13	4	5	5	4	3
D	9	8	7	6	7	8
E	60	53	47	53	54	56
F	9	7	5	7	6	8
G	8	8	8	8	6	8
H	35	28	33	35	22	35
I	6	5	3	3	2	2
J	24	22	16	19	20	18
K	24	12	18	21	22	24
L	19	15	16	19	17	12
M	20	19	17	17	18	16
N	2	0	1	0	0	0
Total	249	197	193	204	193	204
Occupied		79%	78%	82%	78%	82%

The parking survey demonstrates that there were at least 45 unoccupied bays (18% of the total parking spaces in the surveyed area) during the surveyed Saturday peak period.

The proposed shopping centre extensions will reduce existing parking supply by 18 bays and at 5 bays per 100m<sup>2</sup> NLA the proposed additional 349m<sup>2</sup> NLA is anticipated to generate a parking demand increase of 17 bays. Therefore the available parking in this area is anticipated to be sufficient to accommodate the proposed development.

Yours sincerely,



Robin White  
Senior Traffic & Transport Engineer



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t13279pg103.doc

27 February 2014

Walton Architects  
23 Elderslie Way  
DUNCRAIG WA 6023

Attention: Mr Daniel Walton

Dear Daniel,

**RE: Carine Glades Shopping Centre Extensions – Sight Line Assessment**

Further to your email of 9 December 2013 it is our understanding that some relatively minor extensions and car park changes are proposed at the Carine Glades Shopping Centre and that the City of Joondalup Infrastructure Management Services section has requested that advice be provided by a traffic engineering consultant in relation to traffic generation, trip distribution and parking requirements associated with these proposed works. Transcore provided traffic engineering advice dated 13 December 2013 and subsequently provided further advice including detailed parking utilisation surveys in a follow up letter dated 14 February 2014.

The issue of sight distance at the existing northern driveway crossover on Davalia Road has been raised by the City for investigation. The City have also provided comments regarding a proposed LED display sign above the southern site entry, requiring that the frequency of display image change be limited to one per 24 hours.

Accordingly, Transcore has undertaken an assessment of the sight lines and sight distance at the existing driveway crossover on Davalia Road based on detailed Landgate geo-referenced cadastral and aerial imagery and Austroads relevant guidelines. Transcore have also provided advice regarding the frequency of LED display sign image changes.

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Page 1 of 10

The Austroads Guide to Road Design – Part 4a: Unsignalised and Signalised Intersections (2009) provides guidance on sight distance requirements at property entrances. Austroads recommends that: “..desirably, sight distances at accesses should comply with the sight distance requirements for intersections, i.e. that approach sight distance (ASD), safe intersection sight distance (SISD), and minimum gap sight distance (MGSD) are achieved”.

#### APPROACH SIGHT DISTANCE (ASD)

ASD is the minimum level of sight distance which must be available on the minor road approaches to all intersections to ensure that drivers are aware of the presence of an intersection. When applied to the existing driveway approach to Davalia Road, it was assumed that the design speed for the driveway is 50kph (which is considered to be conservative for a car park circulation driveway). Using the sight distance tables as set out in Austroads, the sight distance requirement was established as 55m for ASD.



**Figure 1: Required ASD at the existing northern driveway crossover approaching Davalia Road**

As shown in Figure 1, the existing driveway alignment is straight for well over the 55m required for ASD to Davalia Road. Therefore adequate horizontal ASD is available on approach to Davalia Road. As can be seen in the photograph in Figure 2, the driveway is on a slight incline on approach to Davalia Road, however it is evident that more than adequate vertical sight distance is available (in excess of the required 55m).



Figure 2: Vertical ASD at the existing driveway crossover approaching Davalia Road

### SAFE INTERSECTION SIGHT DISTANCE (SISD)

Using the sight distance tables for SISD and MGSD as set out in Austroads, the longest sight distance requirement was established as being 123m for SISD, for a design speed of 60kph and a reaction time of 2 seconds. As described in Austroads, SISD *"...provides sufficient distance for a driver of a vehicle on the major road to observe a vehicle on a minor road approach moving into a collision situation (e.g. in the worst case, stalling across the traffic lanes) and to decelerate to a stop before reaching the collision point...."*

SISD is the ideal distance which should be provided on the major road at any intersection. Ideally 123m sight distance should be provided on Davalia Road approaching the existing driveway crossover.

However Austroads recognizes that brownfield sites and existing intersections may not achieve the desirable Austroads requirements for new intersections in green field locations.

The extended design domain (EDD) values for intersection design criteria provide values for sight distance outside of the normal design domain (NDD) that through research and/or operating experience, particular road authorities have found to provide a suitable solution in constrained situations (typically at brownfield sites) such as at the existing driveway northern crossover intersection with Davalia Road.

Application of the EDD values indicates that a minimum **SISD** of 106m should be provided on approach to the driveway crossover.

As shown in Figure 3, the geometry of Davalia Road is straight for more than 106m on either side of the intersecting driveway crossover. It is therefore

considered that there is more than adequate horizontal SISD for traffic on Davalia Road to meet the EDD values set out in Austroads.

However, horizontal SISD for vehicles exiting the existing northern driveway into Davalia Road is currently obstructed by vehicles parked in the kerbside on-street parking bays in the southbound carriageway of Davalia Road and to the immediate north of the driveway. Figure 4 shows a photograph of the horizontal SISD for vehicles exiting the existing northern driveway.

It is important to note that the sight line issue created by the on-street parking is an existing issue irrelevant to the proposed minor extensions to the shopping centre and car park changes.

Accordingly, if City wishes to satisfy the requirement of Austroads for the northern Davalia Road crossover, then the on-street parking bays as shown in Figure 5 should be removed.



Figure 3: Minimum SISD for the northern driveway crossover



Figure 4: Example of parked vehicle obstructing SISD at the existing northern driveway



Figure 5: Extent of on-street parking to be removed to achieve SISD

Horizontal SISD for both northbound and southbound traffic on Davalia Road is adequate as shown in Figure 3 and Figures 6 and 7.



Figure 6: Sight distance on Davalia Road looking north



Figure 7: Sight distance on Davalia Road looking south

Vertical SISD is viewed between two points to provide inter-visibility between drivers and vehicles on the major road and minor road approaches. It is measured from a driver eye height of 1.1 m above the road to points 1.25 m above the road which represents drivers seeing the upper part of cars.

Based on visual inspection of the site via available maps and Landgate aerial photographs, and measurements taken from land contour data, it is estimated that the northbound carriageway on Davalia Road is 0.7m higher than the southbound carriageway in the vicinity of the northern driveway crossover.

As demonstrated in Figure 8 and can be seen in Figure 9, the height difference between the northbound and southbound carriageways does not

impact the vertical SISD at the northern driveway crossover intersection with Davalia Road.

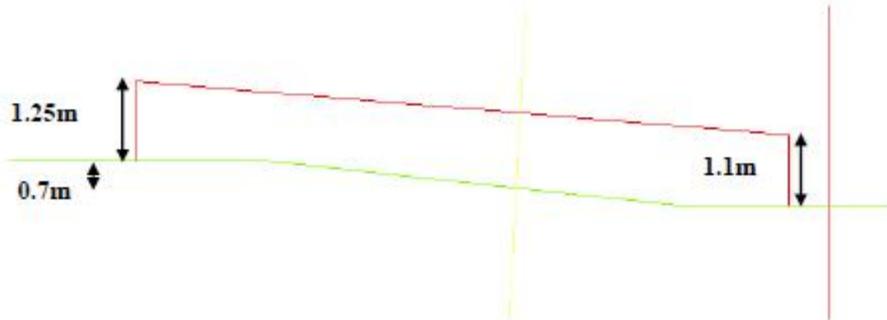


Figure 8: Vertical sightline between carriageways



Figure 9: Photo demonstrating change of grade across both Davalia Road carriageways

Visual inspection of Davalia Road via the available maps and Landgate aerial photographs, and measurements taken from land contour data indicates that Davalia road is fairly flat longitudinally with around 1% gradient. This can also be seen in Figures 6 & 7. Therefore vertical sight distance is adequate on Davalia Road on approach to the northern driveway crossover.

#### FREQUENCY OF LED DISPLAY SIGN IMAGE CHANGES

The City has requested that LED display sign image changes be limited to one change per 24 hours.

An Austroads Research Report – *Impact of Roadside Advertising on Road Safety*, (Austroads AP-R420-13) provides up to date research and reporting of existing policies for dwell times of digital LED advertising signs.

The research report found that minimum dwell time ranged from 2.5 seconds to 30 seconds. The report also cited research undertaken by Outdoor Media Association, which recommended a dwell time of 8 seconds. Two jurisdictions, including Main Roads WA, require that a driver does not see more than a single message in the period of exposure under normal driving conditions. This requirement is not strictly in line with the results of the research undertaken by Austroads and it is assumed to apply to high speed major roads and highways which is not the case in this instance.

Nevertheless, in consideration of the available research and requirements of Main Roads WA, it is considered that the digital advertising sign may be changed more frequently than once every 24 hours.

To comply with the current Mainroads WA requirements, it is recommended that a minimum dwell time of at least 5 minutes be set for the LED sign. This will give drivers more than enough time to pass the sign under normal driving conditions.

Consideration should also be given to other elements of the LED signage including:

- ✦ Transition time: Should be as short as possible i.e. 1-2seconds max.
- ✦ Brightness: If possible the brightness should be adjusted in response to changes in light levels.
- ✦ Images: Should ideally be static without movement such as animations, flashing, scrolling or video.

In conclusion, upon assessment of the sight lines required at the existing driveway crossover, it has been determined that Davalia Road is of sufficiently straight and flat geometry to provide adequate sight distance for vehicles on Davalia Road. In order to adhere to full Austroads requirements, it is suggested that the City should consider removal of 6 existing on-street

parking bays in the southbound carriageway of Davilia Road immediately north of the northern driveway crossover.

The grade difference between the northbound and southbound Davalia Road carriageways is around 0.7m in the vicinity of the northern driveway crossover and does not impact the vertical sight distance.

It is considered that a minimum LED display dwell time of 5 minutes is reasonable, is in line with available research results and known requirements and does not undermine traffic operations or road safety. It is recommended that each image should ideally be static with short transitions time of 1-2 seconds.

Yours truly,

A handwritten signature in blue ink, appearing to read 'Paul Ghantous', is positioned above the printed name.

**Paul Ghantous**  
Traffic & Transport Engineer