

9.6 Access, circulation and parking

A graphic presentation of the access, circulation and parking arrangements is shown below. In summary, the proposal features:

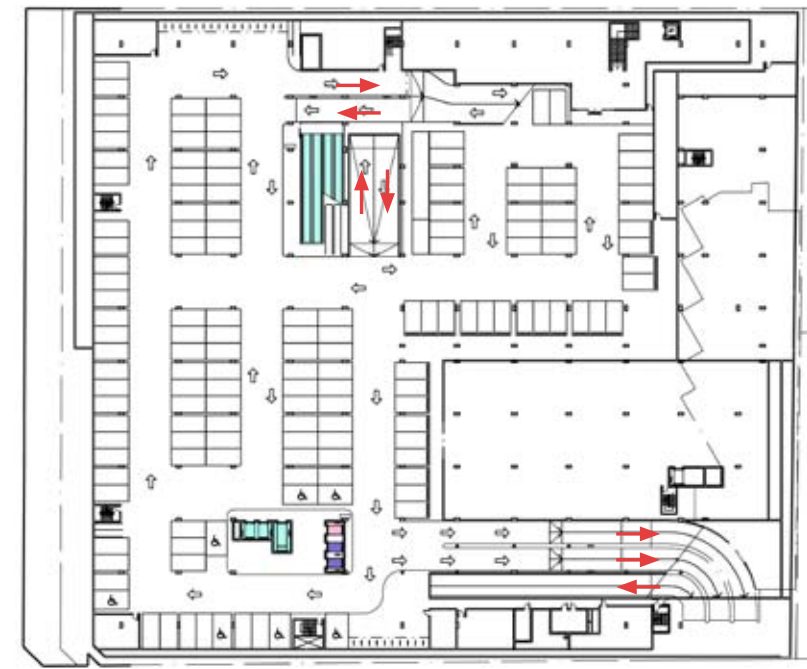
- Four levels of basement parking on both the Dwyers and Oxford sites. Car parking numbers of 1052 on the Dwyers site and 369 on the Oxford site provides for the total prescribed by the City Centre DCP or otherwise justified by the traffic expert. The prescribed number of accessible spaces, bicycle parking and motorcycle parking is also provided.
- Vehicle access to the Dwyers site is via an entry off Crown Street and another off Burelli Street. Internal circulation within the car park has been refined to ensure legibility and ease of circulation through all levels of the basement, noting that the entrance off Burelli Street takes vehicles directly to Basement Level 2.
- There is also vehicle egress points on both Burelli and Crown Street. Traffic analysis (also undertaken in the context of the existing Part 4 approval) revealed that two access points were necessary to ensure smooth operation. The width of the vehicle access driveway on Crown Street has been reduced to minimise conflict to passing pedestrians at footpath level. Paving has been designed to give pedestrians right of way.
- Access for loading and unloading is designed to ensure one-way movement through the site with access off Crown Street and egress via Burelli Street. The width of driveway and manoeuvring within the loading dock has been designed to cater for semi-trailers. Although preferable in a pedestrian/vehicle conflict sense, it was difficult to design loading circulation such that it only has access off Burelli Street.
- The vehicle entries to the Oxford site is off Town Hall Place; the only legitimate alternative where access to Corrimal, Crown and Burelli Street would not be encouraged. Vehicle access for users of the site is separated from the loading dock which is directly adjacent. Internal circulation has been reviewed by traffic experts Parsons Brinkerhoff and suggested improvements have been made to ensure smooth operation. The 76 parking spaces for the residential component (calculated on 6 x 1 bed, 6 x 3 bed and 43 x 2 bed units plus visitors), would be catered for at the lower basement car parking level. Further details will be provided with the future Project Application for the Stage
- Provision has been made for loading and unloading on the Oxford site. The dock is designed to cater for large rigid trucks to manoeuvre on site without disrupting the flow of vehicles along Town Hall Lane.
- Pedestrian circulation is such that all frontages to the main streets, Crown Street, Corrimal Street and Burelli Street are activated with entries and shop frontages. Crown Street features a number of cafes/restaurants and associated outdoor seating to allow alfresco dining and expand the café character of Crown Street. The Burelli Street frontage features a drop-off porte-cochere arrangement associated with the Hotel, designed in a way that is sensitive to anticipated pedestrian movements.
- To also encourage flow of pedestrians throughout the retail components of the development, entrances are located on the north-west and south-west corner of the Dwyers site which will complement the pedestrians flow along the main thoroughfares of Crown Street and Burelli Street. On the Oxford site, a short arcade is proposed to go through the retail component extending diagonally from Crown Street to Corrimal Street.
- Separate secure entrances are proposed off Corrimal Street to each of the commercial office space and residential tower.

The arrangements are discussed in detail in the reports of Parsons Brinkerhoff at **Appendix Q1 and Q2**.

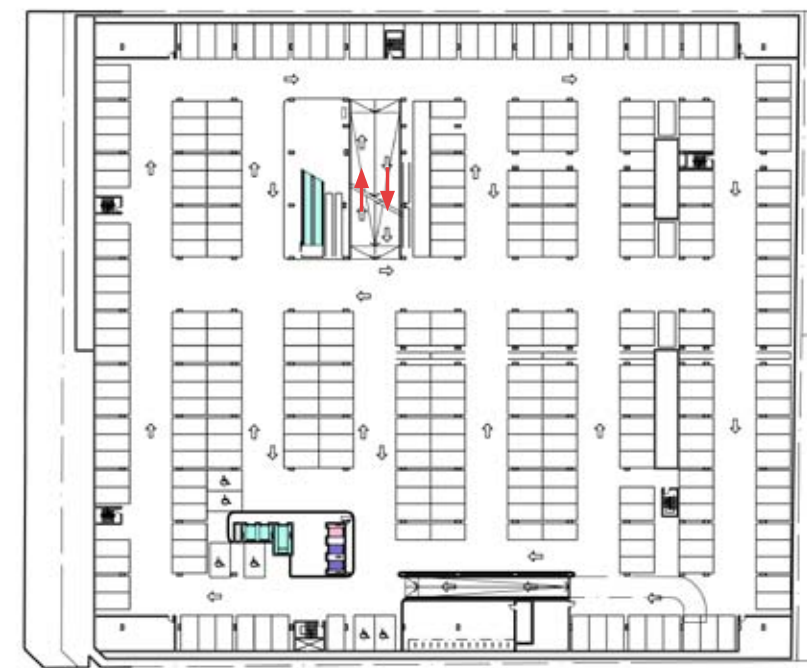
ACCESS, CIRCULATION AND PARKING



BASEMENT LEVEL 1



BASEMENT LEVEL 2



- ROAD TRAFFIC
- BASEMENT ENTRY & EXIT
- RESIDENTIAL LIFTS

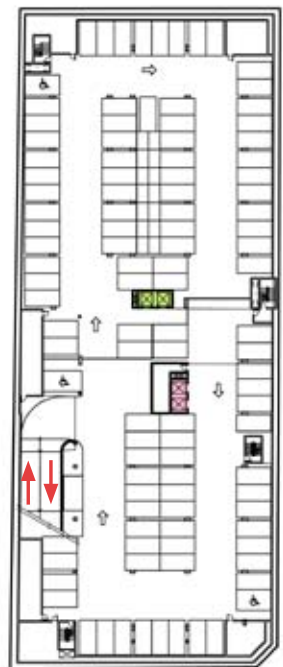
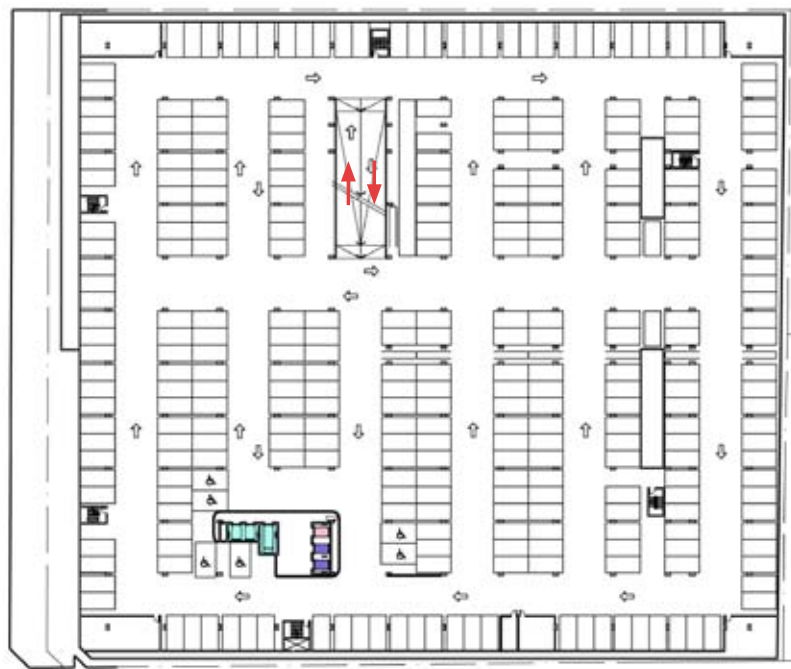
- SERVICES DELIVERY
- PEDESTRIAN/ RETAIL LIFTS, ESCALATORS, TRAVELATORS

- HOTEL, CONFERENCE & RESTAURANT LIFT
- OFFICES

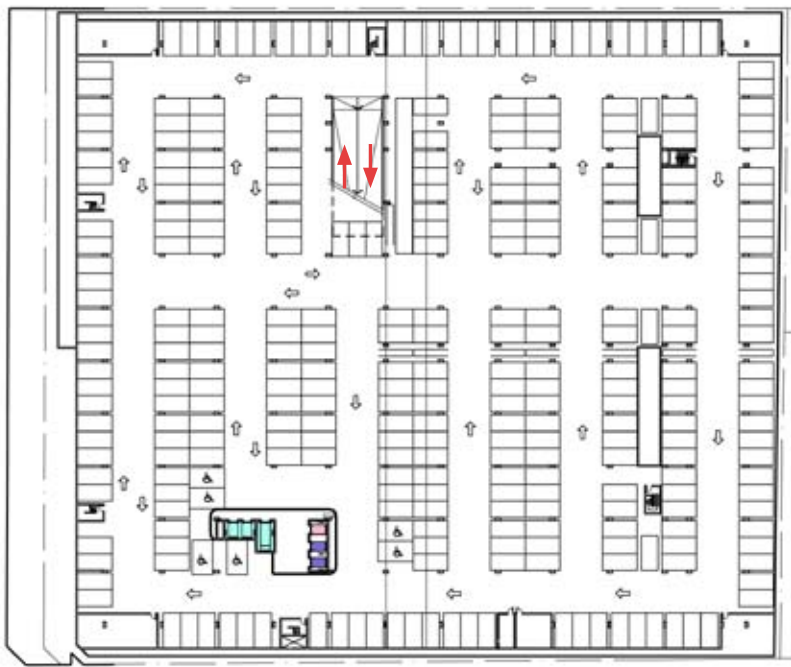
ACCESS, CIRCULATION AND PARKING



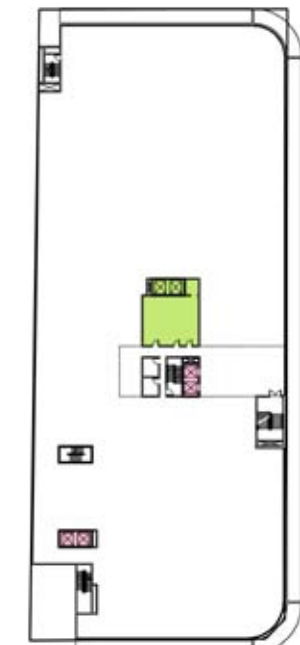
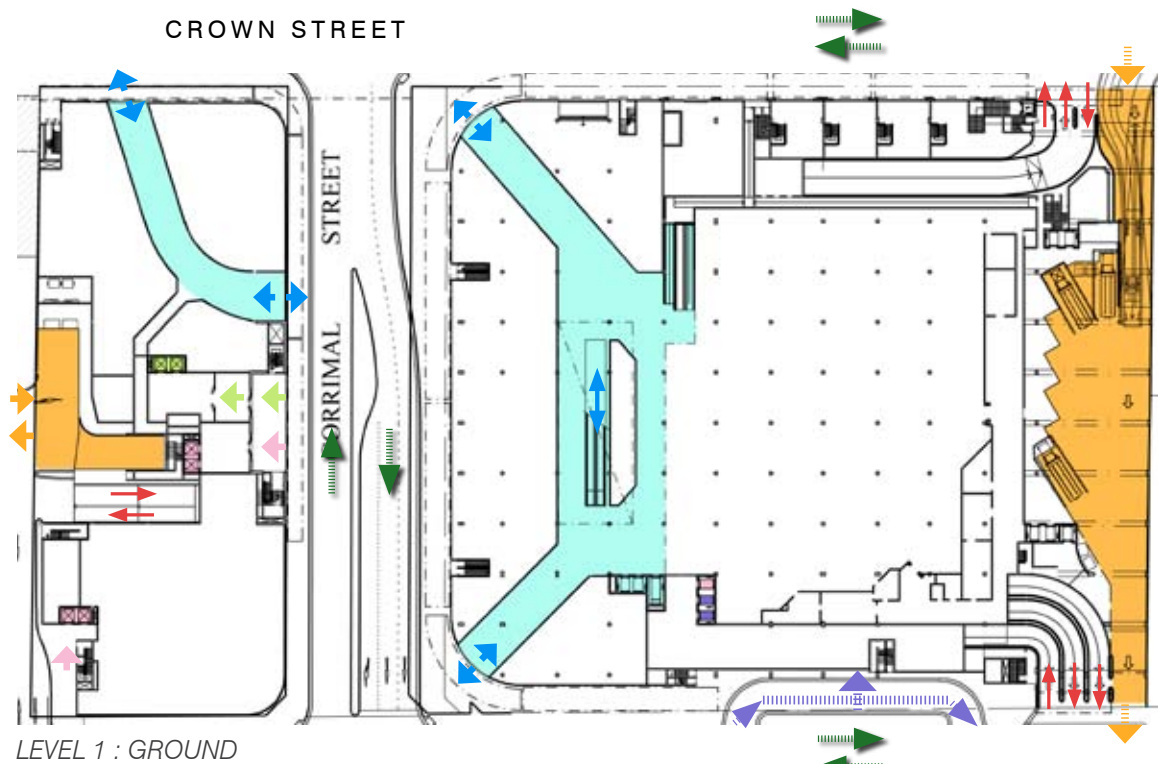
BASEMENT LEVEL 3



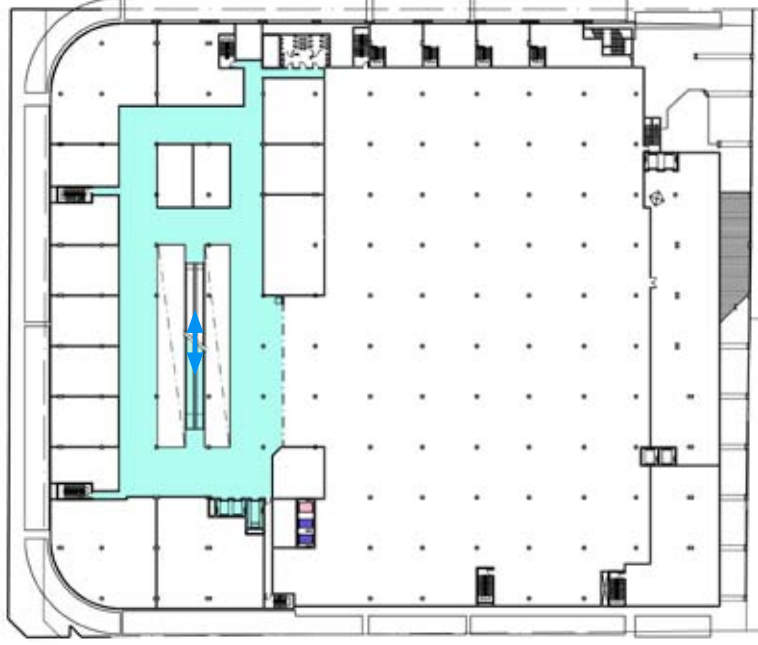
BASEMENT LEVEL 4



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|-----------------------|---|-------------------------------------|
| ROAD TRAFFIC | SERVICES DELIVERY | HOTEL, CONFERENCE & RESTAURANT LIFT |
| BASEMENT ENTRY & EXIT | PEDESTRIAN/ RETAIL LIFTS, ESCALATORS, TRAVELATORS | OFFICES |
| RESIDENTIAL LIFTS | | |



LEVEL 2



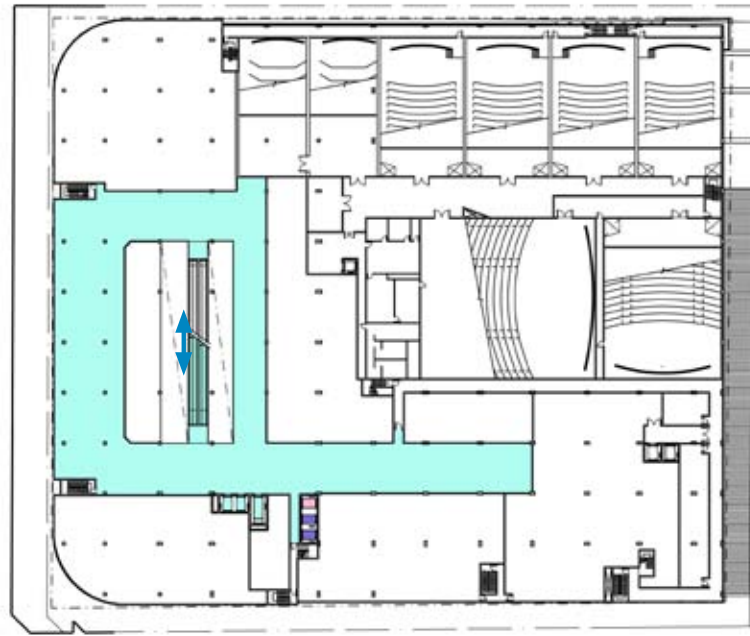
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| ROAD TRAFFIC | SERVICES DELIVERY | HOTEL, CONFERENCE & RESTAURANT LIFT |
| BASEMENT ENTRY & EXIT | PEDESTRIAN/ RETAIL LIFTS, ESCALATORS, TRAVELATORS | OFFICES |
| RESIDENTIAL LIFTS | | |

Crown Street

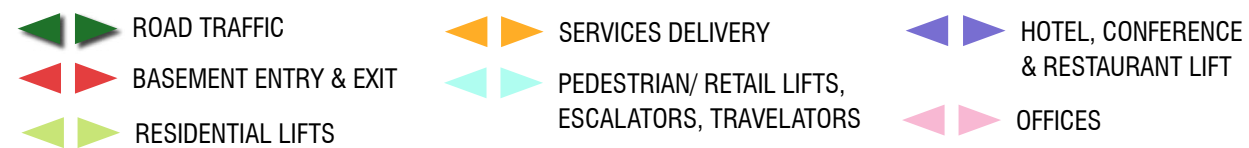
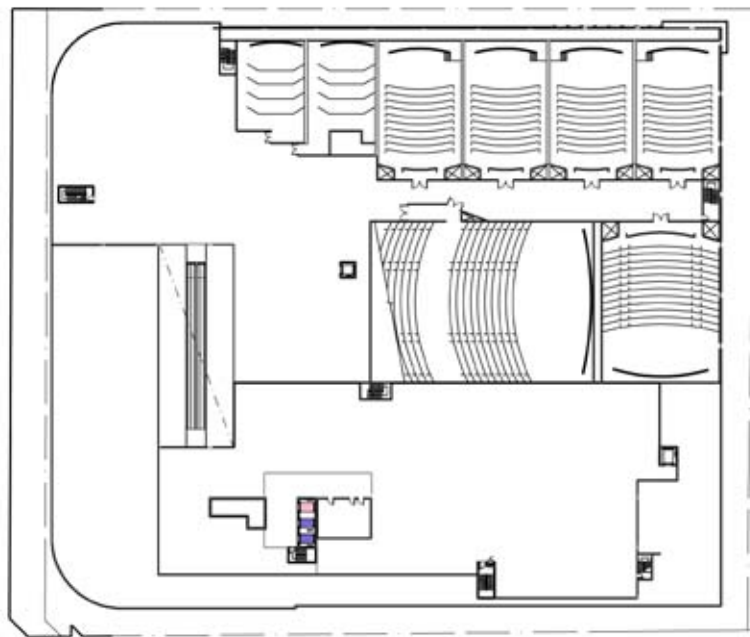
Environmental Assessment | Concept Plan and Stage 1 Project Application



LEVEL 3



LEVEL 4



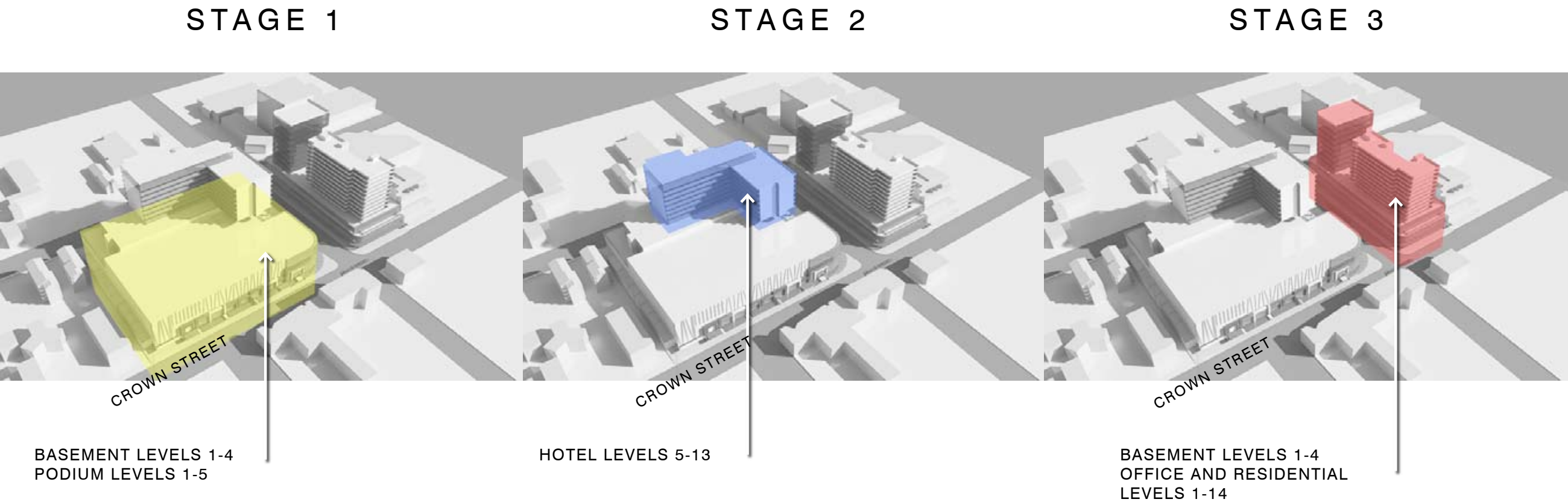
9.7 Staging

The proposal will be constructed in three stages as follows:

- 1. Retail, entertainment and leisure centre, including offices up to level 5 and basement car parking over 4 levels.
- 2. Hotel construction above the Stage 1 podium and including conversion of Level 5 office for the purpose of conference facilities.
- 3. Oxford site mixed use development including tavern, retail, office and residential components and 4 levels of basement car parking.

In relative to construction staging, the process for Stage 1 is detailed in the Construction management Plan at **Appendix T**. It is proposed to continue immediately with Stage 2. It is intended that project approval for Stage 2 is obtained throughout the construction period of Stage 1 (a two year construction process).

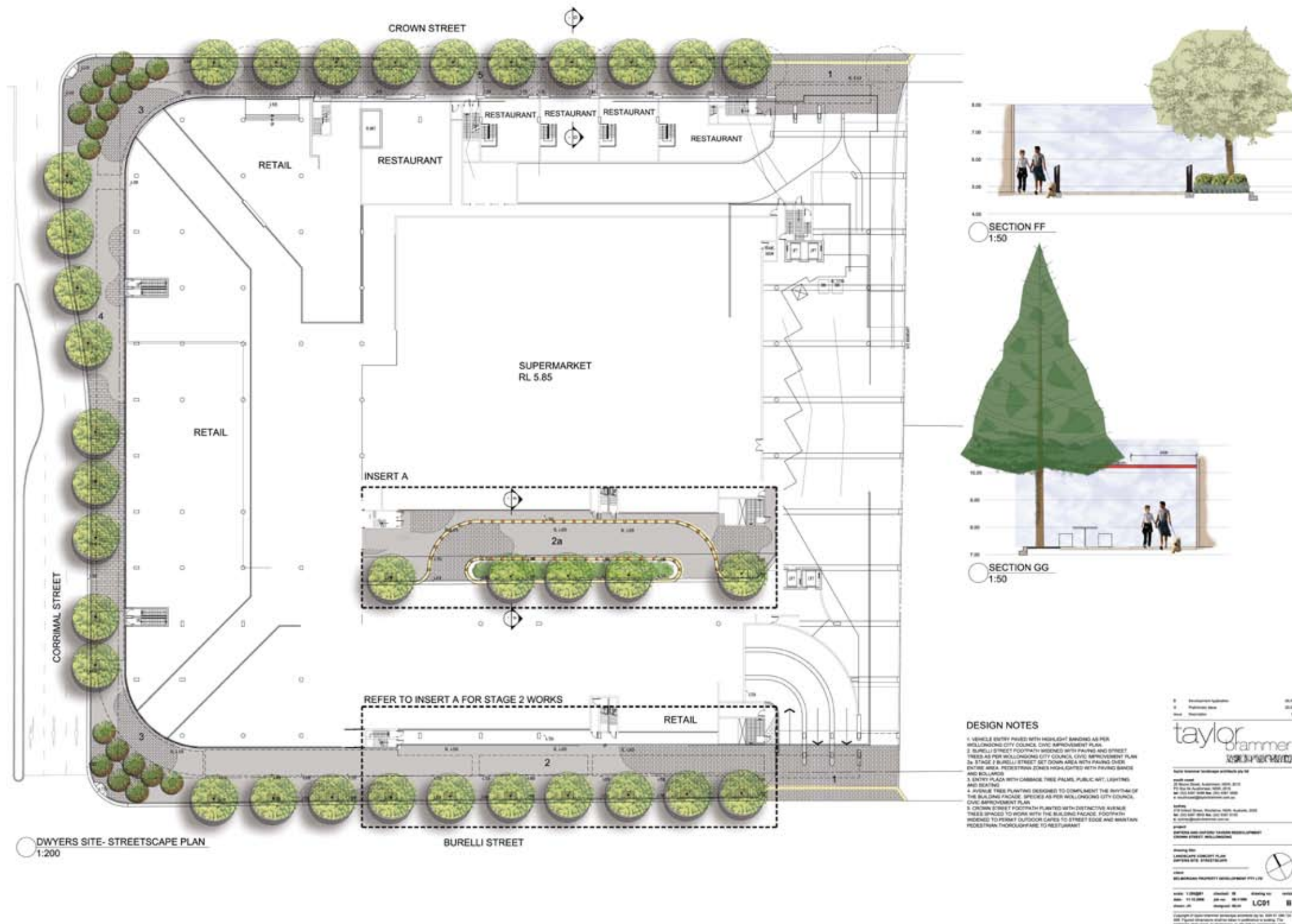
A graphic description of the proposed development staging is shown below:



9.8 Public Infrastructure and Civic Improvement Plan

The applicant is prepared to agree to a condition of consent requiring contributions to be paid pursuant to s94 of the Act in relation to infrastructure provision refer to Statement of Commitments at **Section 11**. It is envisaged that a significant proportion of the contribution will be paid for through works-in-kind in lieu of cash contribution including construction of public domain improvements around the perimeter of the site.

The proposed public domain improvements are illustrated in the concept landscape plans below (full size plans are also included with the application):





DESIGN NOTES

- 1. LEVEL 4 PLANTING PROVIDED FOR USE OF OFFICE BUILDINGS CENTRAL CORRIDOR AND WESTERN EGRESS PROVIDING SEATING SPACES, SHADE AND SHELTER FROM WESTERN ORIENTATION.
- 2. FLOATING DECK LINKING BUILDING TO POOL AREA. REFLECTION POOL, BAMBOO PLANTING AND WATER WALLS PROVIDE COOLING AND ENRICH THE PEDESTAL EXPERIENCE.
- 3. POOL AND WALKING LARGER SMILING DECK LEADING DIRECTLY TO A SWIMMING POOL. RAISED PLANTING TO THE WEST AND NORTH WILL PROVIDE SCREENING AND SHADE TO THE WESTERN ORIENTATION.
- 4. BLUE GRASS PLANTING PROVIDES COOLING AND SHADING FOR THE ROOF TOP.
- 5. COASTAL GRASSLAND PLANTINGS, IN EXAMPLE WALKING PLANTING LEAD TO THE NEARBY COASTLINE. PLANTINGS WILL ALSO PROVIDE INSULATION VALUE TO THE BUILDING AS WELL AS COOLING AND SHADING.
- 6. WALKING DECK PROVIDES AN ACCESSIBLE AND USABLE SPACE FOR PEDESTRIANS FROM THE ROOFTOP TO THE CINEMA COMPLEX. LARGE PERGOLA AND WALKING DECK SHEDS SHADING AND COOLING THE PEDESTAL WILL PROVIDE OLIMPES ACROSS TO LANG PARK AND THE OCEAN BEACH.

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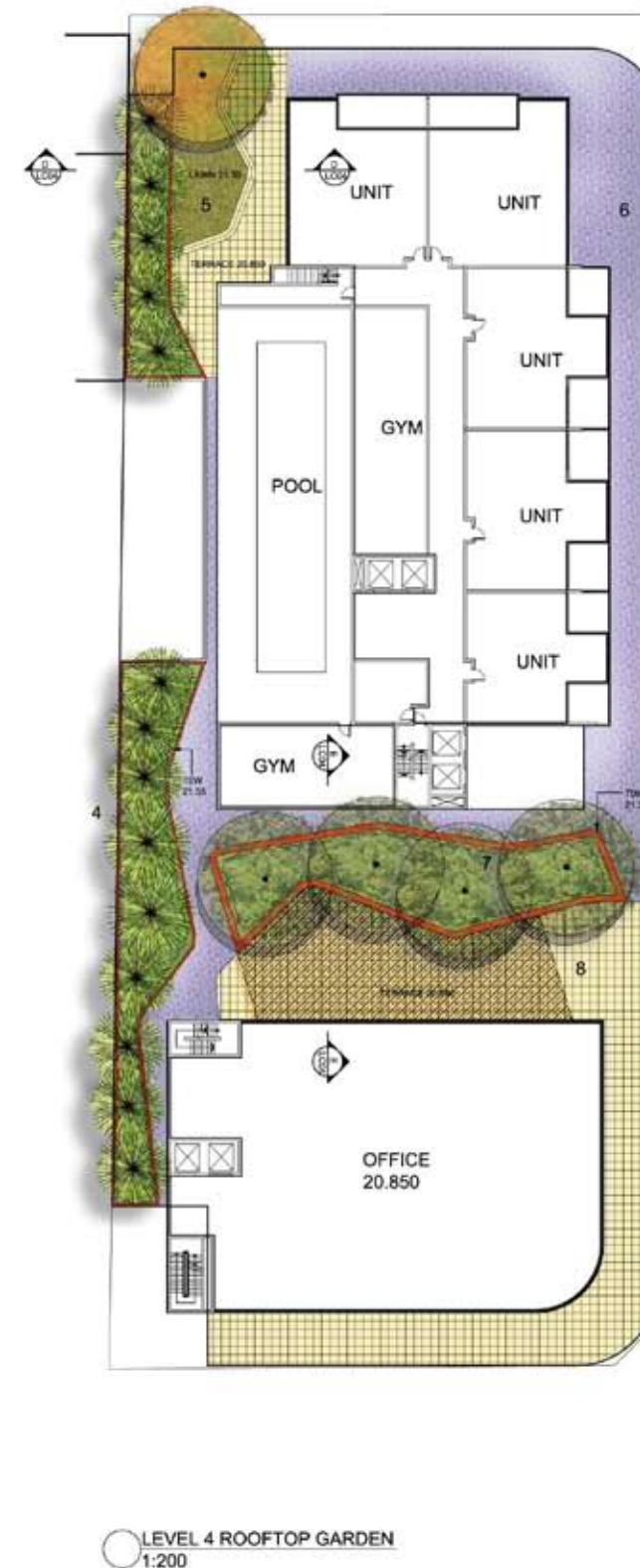
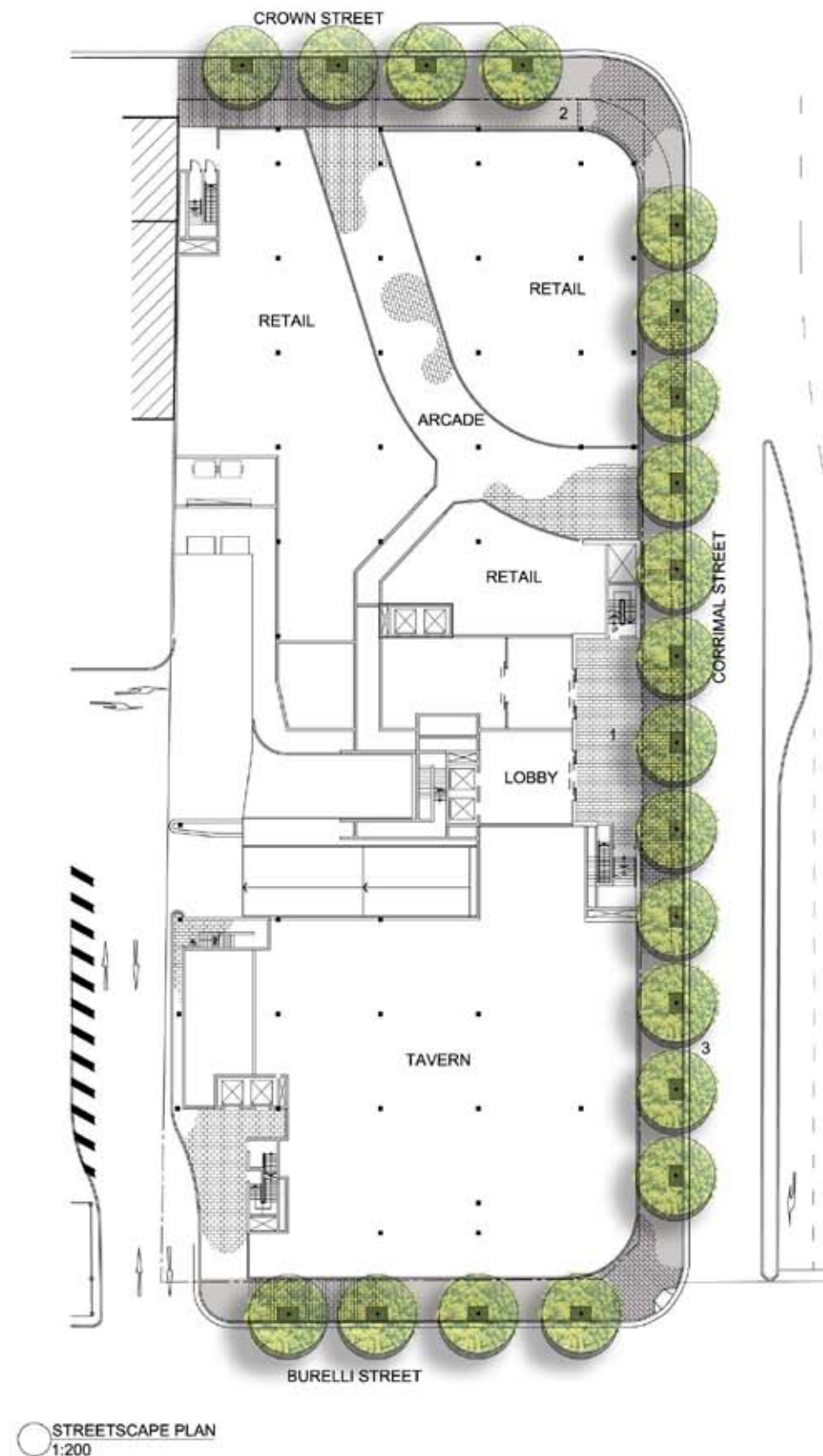
LANDSCAPE CONCEPT PLAN
DRIVING SITE - ROOFTOP GARDEN

name: 1.000gpt	checked: 0	drawing no:	rev:
date: 11.10.2004	job no: 00-1100	1.000gpt	

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Crown Street

Environmental Assessment | Concept Plan and Stage 1 Project Application



INDICATIVE PLANT LIST-STREET

Symbol	Botanical Name	Common Name
GROUNDCOVER/ACCENT PLANT		
	<i>Oxalis</i>	Snow in Summer
	<i>Isomeris</i>	Blue Tussock Grass
	<i>Poa Tenuis</i>	Dwarf Lamandra
STREET TREES		
	<i>Cupressus</i>	Tuckeroo
	<i>Acacia</i>	Cook Island Pine
	<i>Platanus</i>	Plane Tree
PAVING		
	<i>Lithodora australis</i>	Cabbage Tree Palm
	<i>Drosera</i>	Dragon Tree
	<i>Platanus</i>	Plane Tree

INDICATIVE PLANT LIST-PODIUM

Plant types have been selected in response to both the coastal and exposed environment.

Symbol	Botanical Name	Common Name
GROUNDCOVER		
	<i>Oxalis</i>	Snow in Summer
	<i>Isomeris</i>	Blue Tussock Grass
	<i>Poa Tenuis</i>	Dwarf Lamandra
	<i>Adiantum</i>	Exhibition border
	<i>Cyperus</i>	Red & Coral Pine
	<i>Cyperus</i>	Cardinal Palm
	<i>Agave</i>	Agave
	<i>Macaranga</i>	Zebra Grass
	<i>Brachy</i>	Rapier
	<i>Sedum</i>	Lily turf
	<i>Liriodendron</i>	
COASTAL GRASSES		
	<i>Carex</i>	Star Rush
	<i>Eleocharis</i>	
	<i>Isoplepis</i>	
	<i>Lomandra</i>	
SCREEN SHRUBS		
	<i>Sambucus</i>	Holborn Shrub
	<i>Metrosideros</i>	NZ Christmas Bush
	<i>Westringia</i>	Coastal Rosemary
	<i>Xylocarpus</i>	Slender Xylocarpus
FEATURE PLANT		
	<i>Sambucus</i>	Slender Weavers Bamboo
TREES		
	<i>Cupressus</i>	Tuckeroo
	<i>Picea</i>	Hills Weeping Fig

DESIGN NOTES

1. PAVING TREATMENT UNITS PUBLIC/PRIVATE DOMAIN
2. AVIARY TREE PLANTING AND PAVING TREATMENT CONSISTENT WITH WOLLONGONG CITY COUNCIL CIVIC IMPROVEMENT PLAN
3. LAYOUT OF STREET TREES TO COMPLEMENT BUILDING
4. BAMBOO SCREEN
5. PRIVATE TERRACE
6. GRASS TO POOL/POOL DECK
7. RAISED PLANTER WITH EDGES TO CREATE SITTING SPACE
8. PAVED TERRACE WITH PERGOLA FOR USE OF OFFICES

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Project:
 Crown Street, Wollongong
 Design:
 Landscape Concept Plan
 Drawing No: LC03
 Date: 11/01/2018
 Scale: 1:200

Author:
 Design:
 Landscape Concept Plan
 Drawing No: LC03
 Date: 11/01/2018
 Scale: 1:200

Check:
 Design:
 Landscape Concept Plan
 Drawing No: LC03
 Date: 11/01/2018
 Scale: 1:200

Approved:
 Design:
 Landscape Concept Plan
 Drawing No: LC03
 Date: 11/01/2018
 Scale: 1:200

10 Environmental assessment

PART A – KEY ISSUES COMMON TO BOTH THE CONCEPT PLAN AND PROJECT APPLICATION

10.1 Consistency with relevant environmental planning instruments and guidelines

Assessment has been made against the relevant Environmental Planning Instruments and guidelines in **Sections 4 and 5** of the report.

In summary the proposed is found to largely comply with all EPI's and guidelines. The exceptions relate to minor non compliances in relation to setback separation, and the vehicle crossing off Crown Street. As discussed in Section 4 & 5, the variations are to be considered minor and compliance unreasonable and unnecessary in the circumstances

10.2 Retail Impact Assessment

A Retail Impact Assessment has been undertaken by Leyshon Consulting for the retail component Stage 1 on the Dwyers site, refer to report at **Appendix P**.

In relation to the Stage 1 retail assessment Leyshon concludes that the level of retail impact is reasonable:

Overview

If brought to fruition, Belmorgan's project will result in some profound changes for the WCC. These will not only involve the overall retail mix of the WCC but also the spatial distribution of retail activity within the centre.

A major benefit of the project is that it will rectify a number of clearly identified long-term deficiencies in the retail mix of the CBD including:

- *Lack of a DDS*
- *Inadequate representation of supermarkets*
- *No contemporary, large-scale cinema complex*

The project will thus reinforce the roles of the WCC as the dominant retail/commercial centre in the Wollongong Region. Importantly, the development site is within the WCC boundaries albeit at its eastern end. Given this, the new centre will be a foil to Wollongong Central and should improve pedestrian activity levels along that part of Church Street lying between both centres.

Assessed Impact

Major projects like that being proposed by Belmorgan cannot be implemented without some impacts being registered by the surrounding retail environment. This is especially the case in relatively mature markets like that of the Wollongong Region.

As discussed in Section 4 of this Report, however, the potential impacts of the proposal on established centres (including the WCC) should be of an acceptable level. For the larger suburban centres of Warrawong, Figree and Shellharbour, as well as for other smaller centres like Corrimal, we do not consider the project will result in any significant reduction in retail services provided by these centres.

Furthermore, we would anticipate that the impact flowing from introduction of the proposed centre largely will have dissipated within a five year period due to ongoing population growth in the trade area.

This report has also outlined how legal precedent in the area of retail impacts means that any impact on the WCC arising from the project should, in fact, be discounted. This follows from the fact that the development will almost certainly make good any loss of retail services from elsewhere in the centre. In effect there will be no net loss of sales as far as the WCC is concerned. Rather a net gain in sales put at around +\$81.8 million (\$2006) during the project's first full year of trading (2009 is expected).

The above notwithstanding, it is nevertheless relevant for Council consider the implications of the project for the efficient functioning of the WCC as a whole. Viewed from this perspective, we maintain our assessment that the project's impacts will be acceptable and, indeed, even advantageous for the longer-term economic health and vitality of the WCC. The project's successful implementation will, for example, substantially negate many of the competitive disadvantages which have surely restrained the performance of the WCC in recent years vis-à-vis its suburban competitors.

In summary, we consider that from an economic perspective the proposed project will produce a definite net community benefit and be particularly beneficial in underpinning the economic performance of the WCC over the medium and longer term.'

10.3 Traffic Impacts

Parsons Brinkerhoff have prepared a Traffic Parking Assessment Report for the overall concept, refer to **Appendix Q2**. In undertaking the traffic assessment Parsons Brinkerhoff liaised with Council and the RTA to clarify their guidelines and information requirements.

A separate detailed assessment has also been prepared for the Stage 1 component, refer to **Appendix Q1** (discussion in relation to car parking, access and servicing for the Stage 1 component is further discussed in **Section 10.9** below.

10.3.1 Traffic volumes and intersection analysis

Parsons Brinkerhoff used Paramics modelling in two ways:

- To determine the base case traffic volumes from known travel generators and attractors, and
- Use trip tables based on other sources of data such as Journey to Work and Census data to determine the likely origins and destinations of any generated trips. The trip tables present the origin and destination travel zone and the number of trips between those zones so realistic distributions of future traffic can be considered.

The analysis of the Paramics modelling concluded the following:

'a preliminary investigation at the sites and in the surrounding road network revealed that the areas of highest potential risk were the key intersections around the development sites. Furthermore, any traffic performance deficiency in the mid-block sections would tend to be a result of a performance deficiency at the nearby intersections. As such more emphasis was placed on assessing the performance of the intersections with, and without, the traffic generated from the development sites. For this reason, SIDRA was the primary modelling tool used to assess the intersections.

...The models for the 2016 and 2026 year and for AM and PM peak periods were used to provide volumes specific to the peak period for each of these future years. These turning volumes were input into the SIDRA modelling.

The various Paramics models were also needed to determine the trip distribution to various travel zones. With this information then loaded into the Paramics background file, Paramics simulated the distribution of traffic (existing plus additional development generated traffic) to the various routes.'

SIDRA models were constructed using known intersection layouts and signal phasing as well as the input turning volumes determined from the Paramics models.

Parsons Brinkerhoff recommends the following upgrades from the traffic modelling results:

'To improve access into the Dwyers and Oxford Tavern sites, right-turn bays are proposed for the northern and southern approaches of the Corrimal Street / Burelli Street intersection. This would provide significant relief on the road network as there is currently a right turn ban for northbound traffic approaching the intersection. The removal of the ban, plus the addition of the exclusive right-turn lanes will take more pressure off the Corrimal/ Crown Street and the Corrimal/Stewart Street intersections in accommodating northbound right-turn demands headings to the Dwyers site.

The right-turn bay in the northern approach will be accommodated through road widening on the eastern side of the road. The footprint of the Dwyers site has been specifically reduced for this purpose. The right-turn bay on the southern approach will be provided by acquiring some of the wide footpath landscaped area on the eastern side of Corrimal Street between Burelli Street and Stewart Street.'

It is proposed that these upgrades form part of the conditions of consent as outlined in the Statement of Commitments at **Section 11**.

10.3.2 Access arrangements

The Dwyer's site includes vehicle access off both Burelli Street and Crown Street. Ingress and egress for both loading and unloading and other vehicles using the four levels of basement car park is essential to ensure:

- Adequate distribution onto the surrounding streets and intersections to allow satisfactory operation of intersections. This has been tested using Paramics modelling, and
- flow of traffic into and out of the basement car park without excessive delay. Two points of egress provides necessary choice for vehicles essential in the event of unusual traffic along either street.
- Efficient loading and unloading operation allowing for the entrance of large trucks off Crown Street, a simple reversing movement and exit via Burelli Street. A single access point would necessitate more complex truck turning movements and a loading area of substantially less efficiency in operation.

The vehicular access arrangements have been tested in relation to the existing Part 4 approved development and the proposed Stage 1 scheme has not substantially changed to warrant any changes.

Noting the City Centre DCP requirement to avoid any vehicular access of Crown Street, an access point in this instance is considered satisfactory where:

- The frontage of the site is substantial and the crossing represents a minor proportion of an otherwise pedestrian activated area.
- The crossing width to Crown Street has been reduced by one lane in comparison to that which was approved under the existing Part 4 consent.
- The materials of construction used for the crossing is of material consistent with the remainder of the foot path ensuring that the crossing has a perception of pedestrian right of way.
- Access to both Crown and Burelli Street is essential for the above reasons.

Vehicle access to the Oxford site will be at one location off Town Hall Lane. This location is the only satisfactory location for a crossing where the crossing of Crown Street is discouraged, Corrimal Street is a main road and the distance from the intersection prevents egress on to Burelli Street. Vehicle entrance and loading and loading off a laneway is totally appropriate.

Vehicle access for cars is provided separately to that for loading and unloading. The width of access designed to ensure compliance with the relevant Australian Standards as assessed in the Parsons Brinkerhoff Traffic and Parking Assessment. The loading area is designed to allow access for large rigid vehicles that would service the development. This provision would allow for the manoeuvring of waste management vehicles and removal vehicles on site.

In relation to manoeuvring, it is noted that all manoeuvring can occur within the site on both Dwyers and the Oxford site to ensure entry and exit in a forward direction.

Parsons Brinkerhoff recommends the following upgrades in relation to access arrangements:

In relation to the Dwyer's site:

'...the following changes were agreed to at a meeting on 21 August 2007 [between Urbis, Belmorgan]:

- *The entry ramp from Burelli Street will lead directly to basement level 2. This will effectively bypass the bicycle and disabled parking spaces as discussed above thereby negating any delays these special parking facilities will incur on the entering traffic. This also has the benefit of increasing parking space utilization on lower floors. The landing of the ramp on basement level 2 will result in the loss of 13 car spaces.*
- *The boom gate for the entry ramp from Crown Street will be moved to the base of the ramp to increase the storage length on the ramp and hence minimize potential for queue spillback onto Crown Street. This also combines the two flow constraints (the boom gates and the sharp left-hand turn) in the same area. The boom gates for existing traffic at Crown Street will be located at the top of the ramp to maximize storage capacity along the length of the ramp.*
- *A new eastbound bus stop will be recommended for Burelli Street, which will be located outside the Burelli Street pedestrian access point. This will ensure that any pedestrians walking from the bus stops will not be forced to walk across the ramp entrance.'*

In relation to the Oxford site:

'...the following measures could be considered to address the issues outlined in Table 3-1:

- *Banning entry into Townhall Place for all trucks and service vehicles; or*
- *Banning entry into Townhall Place for all trucks but allowing right-turn entry and exit by service vehicles (ie. No left-turn entry /exit for service vehicles); or*
- *Re-aligning the north-western kerbline (notwithstanding any constraints as outlined below) and removing the kerb blister to allow left-turn entry for service vehicles and possibly 12.5m trucks. All other turns could be allowed by service vehicles, but rigid trucks would need to be banned from left-turn exit into Burelli Street; or*
- *Re-aligning the north-eastern and north-western kerblines (notwithstanding any constraints as outlined below) and allowing all turns for service vehicles and rigid trucks.*

Crown Street

Environmental Assessment | Concept Plan and Stage 1 Project Application

Whilst the north-western kerbline could be realigned, a possible constraint to improved left-turn access into Townhall Place may be the façade and support structures of the Arts Centre to the west of Townhall Place. This has been highlighted in Figure 3-2. This may ass significant cost to the project if modified.

As such, the preferred option is to ban entry into Townhall Place for all trucks but allow right-turn entry and exit by service vehicles. 12.5m vehicles could still access the site, but only under approved control as they would require more road space to complete the turning movements involved.'

The recommended changes in relation to the Dwyers site have been incorporated into the Stage 1 Project Application and Concept Plan drawings. In relation to the Stage 3 component, it is proposed that these recommendations be detailed in the plans to accompany the Project Application for this component. A condition is proposed in this regard, as outlined in the Statement of Commitments at **Section 11**.

10.3.3 Pedestrian, cyclist and public transport issues

Assessment has been made against the objectives of Draft SEPP 66 – Integration of Land Use and Transport which includes consideration of modes of transport including car, bicycle and public transport. The assessment concludes that:

'Being located in the City Centre, within 1 kilometre of the Wollongong train station and on the regional bus route, the site is well serviced by public transport. The centrally located site is therefore considered suitable for development of a wide range of uses to the maximum density to maximise the access to facilities and services for people located within and travelling to the City Centre.

In relation to the objective to encourage the reduction of car usage, the proposal provides for a range of transport modes including car, bicycle and public transport. The basement car parking has been designed to comply with the requirements of the Wollongong City Centre LEP and DCP, noting that a minimum number of spaces to be provided on site is prescribed by the LEP. The Dwyers and Oxford Tavern components would both equate to the guideline rate.'

Parsons Brinkerhoff make a full assessment in relation to the provision of motorcycle and bicycle parking. The assessment concludes that the proposal will comply with DCP requirements.

Parsons Brinkerhoff make a further assessment of public transport issues and conclude that:

'...a new eastbound bus stop will be recommended for Burelli Street, which will be located outside the Burelli Street pedestrian access point. This will ensure that any pedestrians walking from the bus stops will not be forced to walk across the ramp entrance.'

It is proposed that this recommendation form part of the conditions of consent as outlined in the Statement of Commitments at **Section 11**.

10.3.4 Construction staging of road upgrade works

In general, the proposed road and access upgrades proposed by Parsons Brinkerhoff in their report at **Appendix Q2**, will all be undertaken in association with the construction of Stage 1, it is proposed to include a condition of consent in this regard, refer to **Section 11**. The only exception is those works associated with the entrance to the Stage 3 Oxford site development at the intersection of Burelli Street and Town Hall Lane.

A Traffic Management Plan in relation to the Stage 1 component has been included as part of the Construction Management Plan attached at **Appendix T**.

10.4 Social and Economic Context

10.4.1 Social Context

The staging of the development works has been designed to ensure aspects such as public domain works and other services and facilities are incorporated in a timely way. The Stage 1 entertainment and leisure retail centre will include the construction of all public domain works as illustrated on the Landscape Plan by Taylor Brammer (including road widening, paving, planting and seating) prior to its opening. The Stage 1 development can exist as a discrete entity and will provide a new level of service that will benefit the community of the locality through the provision of such shopping and entertainment facilities currently lacking in the centre (including a DDS and cinemas) and restaurants and cafes in an alfresco environment highly appropriate for the beach side City of Wollongong.

The Stage 2 development featuring a 4 star Hotel will respond to a clear gap in the market of Wollongong City. This Hotel will be accompanied by conference facilities which are also in high demand.

The Stage 3 development would include the retention and upgrading of the existing Oxford Tavern, a small amount of retail/café, 55 residential units and 12,480m² or commercial office space. The mix of uses is comprehensive and considered to be of great advantage in the proposed City Centre location in terms of improving the vitality of the eastern end of Crown Street: an underutilised portion of the City Centre.

The retention of the Oxford Tavern will ensure the retention of a popular leisure destination and entertainment venue. The retail/café space will add to the existing café character at this end of Crown Street. The construction of the residential apartments will be coupled with facilities such as a gymnasium and outdoor communal area. The apartments constructed in this City Centre location will be blessed with the facilities and services already on offer in this location. The new residents on site will be well serviced by social infrastructure.

10.4.2 Economic Context

Leyshon Consulting have undertaken an analysis of the economic context of the overall concept, refer to report at **Appendix R**.

In relation to each of the components of the overall concept, Leyshon comments:

Introduction

This Concept Report has been prepared for Belmorgan Property Development Pty Ltd (Belmorgan) by Leyshon Consulting Pty Ltd.

The Report assesses the potential economic effects of Belmorgan's proposal to develop a major shopping centre of 20,318sqm, an eight-screen cinema complex, office space, an hotel, a tavern and residential apartments in the Wollongong City Centre (WCC).

The project involves Stages 1 and 2 on the so-called Dwyer's site and Stage 3 on the adjacent Oxford Hotel site.

Retail Context

Historically, the WCC has been the major retail centre servicing the Wollongong Region. Apart from the WCC there are three other major suburban centres in the Region – Westfield Figtree, Westfield Warrawong and the Shellharbour Town Centre.

Although the WCC remains the most dominant retail location in the Region, its primacy has been steadily eroded over the past four decades by the development of the large suburban centres noted above.

A telephone survey of 600 households in the Wollongong Region confirmed that while the WCC is widely shopped, it faces stiff significant competition from the Shellharbour, Corrimal, Warrawong and Figtree centres.

Trade Area Analysis

In 2006 the Wollongong trade area has an estimated resident population of 268,426 people. This is projected to grow by around + 19, 918 to a total population of 288, 344 in 2016.

Total available annual retail spending in the trade area is close to \$2.2 billion (\$2006) at present. It is estimated to increase by + \$539.9 million to \$2.7 billion (\$2006) in 2016.

The projected growth in available spending is expected to generate demand in the trade area by 2016 for a net increase in retail floorspace of + 78,500 to 80,500sqm.

Impact Analysis

Assuming its first full year of trading is 2009, the proposed Stage 1 centre is estimated to have a potential impact of =9.8% on the WCC overall. The impact on Wollongong Central specifically is estimated at -13.6% and that on the balance of the WCC is put at -6.3%.

The estimated impacts on other major centres in the Region (Shellharbour, Figtree and Warrawong) range between -4.5% and -7.8%.

The impact of the proposed development on the WCC essentially will involve a redistribution of retail sales within the CBD. Overall the WCC will experience a net increase in its annual retail sales – estimated at +\$81.8 million in 2009 (\$2006).

A small component of retail space (1,810sqm) is proposed in Stage 3 of the project. This is expected to only very marginally increase the impact levels on centres noted above.

The majority of the impacts of the proposed development on existing centres is in the low / medium range except for the impact on Wollongong Central which is at the bottom end of the medium / high range.

The proposed development will not give rise to an adverse economic impact whereby facilities currently enjoyed by the public are put at risk and would not be made good by the proposal.

The net increase in employment in Wollongong arising from the proposal's Stage 1 retail and cinema activities is estimated to be in the order of +670 jobs of which 301 would be full-time and 369 part-time jobs.

Cinema Industry

The current demand for cinemas in the Wollongong trade area is estimated at 25.2 screens. This compares to a supply of 19 screens. The Wollongong Region therefore appears to have a shortfall of approximately six cinema screens at present. By 2016 the demand for screens in the trade area will be 27.1 – that is, eight less than the current supply.

The opening of an eight-screen complex in the proposed development is likely to have impacts of between -5% and -10% on suburban complexes at Warrawong and Shellharbour. The closure of the small and outdated Greater Union complex in the WCC cannot be ruled out.

Other Impacts

The proposed Stage 1 development incorporates 2,584sqm of office space. This represents a small increment (+2.2%) in the total stock of office space in the WCC.

Stage 3 includes provision for 13,130sqm of office space which will boost Wollongong's ongoing supply of competitive A grade commercial office space.

The project will have a positive influence on the commercial office market in the WCC and provide new opportunities to attract office-based employment to the WCC.

Other Uses

The proposed four star quality hotel in Stage 2 will address Wollongong's longstanding under-supply of such tourist accommodation. It will mean the City is able to compete more effectively for both conferences/ conventions and overseas tourism.

Conclusion

The Belmorgan project will bring major benefits to the Wollongong Region. Particularly, it will rectify a number of previously identified deficiencies in the WCC retail mix including:

- Lack of a DDS
- Inadequate representation of supermarkets
- No contemporary large-scale cinema complex

The overall project will reinforce the role of the WCC as the dominant retail and commercial centre in the Wollongong Region.

Analysis indicates the project's potential economic impacts on other relevant centres will be acceptable. For the WCC they will be advantageous in terms of securing its longer-term economic health and vitality.

In summary, the project will produce a net community benefit generating a large number of new jobs and underpinning the economic performance of the WCC over the medium and longer term in both the retail and commercial sectors.'

10.5 Remediation of the Site

Remediation of the Dwyers site is currently underway; having already been approved as part of the demolition consent granted under Part 4 of the Act.

A Preliminary Environmental Site Assessment (Phase 2) and Geotechnical Investigation has been undertaken by Coffey in relation to the Stage 3 Oxford site component, refer to **Appendix D**. In relation to contamination, the report concludes that:

'Former Service Station Site

Vapour and adsorbed phase soil contamination and dissolved phase groundwater contamination was identified in the former service station site. Vapour and adsorbed phase soil contamination was identified in the former UST excavation within the fill soils in the form of TPH fractions C6-C9 and C-10-C36, benzene and xylenes. The contamination appears to extend to the base of the excavation, 2.5m to 3m below the ground surface.

Soil contamination was identified at borehole locations downslope of the former UST excavation, in the eastern and southeastern directions of the excavation. The contamination appeared to be confined to fill material in the upper 1m of the soil profile. Dissolved phase groundwater contamination was also identified at MW3, east of the excavation. Observations made of groundwater inflows at other monitoring wells suggests that groundwater at MW3 may be perched and influenced by elevated groundwater levels in the former UST excavation.

This contamination was identified at locations 1.5m from the eastern boundary and 4.5m from the southeastern boundary. Given the close proximity of this contamination to the respective downgradient boundaries of the site and contaminant concentrations recorded, there is a likelihood that the contamination may have migrated beyond the site boundary, in particular beyond the eastern boundary. This may constitute a Significant Risk of Harm under Section 60 of the CLM Act 1997. Further investigation is recommended to assess the impacts to the regional groundwater and to assess the extent of contamination beyond the site boundary.

The former service station has significant levels of petroleum hydrocarbon contamination and requires remediation. Remediation of the contaminated soil would be required prior to the removal of overburden and rock for the basement construction. The general steps in the remediation would be similar to those previously described in the Remediation and Validation Plan (RVP) for the site (Report Ref: E14497/1-AB, dated 24 November 2003). It is recommended that the RVP be revised to include the Stage 2 assessment information and be expanded to include other areas of the site assessed to have contamination, not only the USTs.

The remedial steps would include:

- 1. Removal of remaining underground infrastructure such as the hoist, oil/water interceptor and fuel lines;*
- 2. Removal of contaminated soil around these structures including the area where the former USTs were located and downslope of these locations;*
- 3. Validation sampling and analysis including the preparation of a validation report; and*
- 4. Classifications and offsite disposal of contaminated soils and other spoil generated from the site activities.*

Oxford Tavern / Hotel and Car Park

The site history study indicates that a hotel has occupied the northeastern portion of the site since 1870. Lot 2 (west of the service station and hotel) was generally vacant throughout the years except for the hotel expansion and other minor structures.

The investigation identified two main AECs, namely:

- AEC 1 – the former carwash; and*
- AEC 3 – fill of unknown quality and origin.*

Field and laboratory results indicate that there is a low likelihood for significant contamination to exist within two AECs identified in the Oxford Tavern/Hotel portion of the site. Should evidence of contamination such as odours or staining be encountered within other areas of the site during earthworks, a suitably qualified consultant should be contacted.

It is recommended that when the Oxford Tavern/Hotel is demolished further sampling of the sill soils be carried out to complete the characterization of the site in accordance with the NSW EPA Sampling Design Guidelines.'

The DGR's request that a risk assessment on the health implications for construction workers, adjoining residents and future occupants of the site be conducted relative to any contamination of the site and required remediation. Preliminary comments have been made in relation to potential for contamination to extend beyond the site and associated risk. The report recommends that further investigation occur and that the existing Remediation and Validation Plan (undertaken by Coffey dated 24 November 2003) be revised and updated.

Given that the proposal relating to the Oxford site is conceptual and the first stage of three, it is considered appropriate that this Remediation and Validation Plan, including an expanded Risk Assessment be submitted with the Project Application to be lodged in due course. A recommended condition is included in the Statement of Commitments at **Section 11**.

10.6 Public Domain

10.6.1 Interface and impact upon the public domain

The relevant aspects of the proposal in relation to public domain in the following ways:

Use and active street frontages

Design of the ground floor (Level 1) of the proposal is such that activation of the street frontage has been maximised. Building entrances and shopfronts occupy the majority of all major streets including Crown Street, Burelli Street and Corrimal Street.

The 'High' or main street Crown, features retail and restaurant uses (including alfresco dining provision) along its entirety, the only exception being the necessary vehicle entrance in the north-eastern corner of the Dwyer's site and space allocated to fire services and the like.

Uses along Corrimal Street, a busy north-south access road, features retail along its entirety on the eastern side (Dwyers site) and a combination of retail, residential entrance, commercial office entrance and tavern, with minimal allocation to fire services and the like.

Burelli Street features retail along its entirety to the east of Corrimal, with exception to the necessary vehicular access, and the tavern to the west of Corrimal Street. A portion of the retail use to the east will be converted to Hotel reception in conjunction with the Stage 2 development.

In all instances, activation of the street frontage at ground level has been maximised as required by Council's City Centre Plan. Only minimal activation of Town Hall laneway is possible, due to the need to service the Oxford site, however, this is considered acceptable where it is a minor portion of the entire perimeter and where it fronts a laneway, designed primarily for servicing.

Landscape Footpath Treatment

Details of landscape treatment are illustrated in the landscape plan in **Section 9.8**. The plan features landscape works around the perimeter of the Dwyers site including paving, planting and seating. These works will be constructed as part of the Stage 1 development. The Stage 1 works feature:

- 2m setback along the entire Crown Street frontage, as per DCP requirements.
- Outdoor seating associated with the row of restaurants/cafes along Crown Street.
- The use of pedestrian friendly material along the entire footpath area (including vehicle crossings) as per specifications of the Civic Improvement Plan.
- Planting of the footpath area in accordance with the specifications of the Civic Improvement Plan.
- Road widening along Corrimal Street in accordance with that recommended as part of the Traffic Report by Parsons Brinkerhoff and illustrated in the site works plan in TTW.

Works associated with future stages are subject of a landscape concept plan and feature:

- Construction of a drop-off area relating to the hotel reception off Burelli Street. Although generally discouraged by the City Centre Plan, it is noted that exception is made to uses such as Hotels. In order to minimise impact upon the pedestrian environment, the area will be paved to ensure that it remains a pedestrian dominated zone.
- Paving and planting of the perimeter of the Oxford site in accordance with the Civic Improvement Plan
- Dedication of land at the intersection of Burelli Street and Town Hall Lane to facilitate a widening of the road and ensure smooth vehicle manoeuvring.

Amenity impact upon existing public domain

The site is not located nearby any area that is considered sensitive to overshadowing and therefore not subject of any sun access plane controls of the City Centre Plan.

In general, the proposed public domain works will see a marked improvement of the public domain area adjoining this substantial site at the eastern end of the City Centre. These improvements will encourage pedestrians to travel throughout this eastern precinct and toward the beach.

10.6.2 Provision of linkages

The site is not earmarked for any proposed through-site links by the City Centre Plan. It is noted that the Town Hall laneway will undergo improvement works to ensure safe pedestrian access is available.

Although the proposal includes internal arcades, considered necessary for the function of the proposed retail uses, the proposal does not turn its back on the street as a consequence. All ground level facades have been activated to give priority to activation of the street.

10.6.3 Wind and reflectivity impact

A Wind Impact Assessment, including extract in relation to the Stage 1 component, has been prepared by Heggies, refer to **Appendix AF1 and AF2**. In summary, the wind expert finds:

‘Considerable shielding exists directly adjacent to the site at low levels for southwesterly winds by buildings in the CBD area including the Wollongong Council Chambers on the opposite side of Burelli Street. Some additional shielding is provided to the west and south, however mid to upper levels of the development site are exposed to most of the prevailing Wollongong wind conditions of importance. It is likely that wind conditions on surrounding footpaths are currently generally below the 16m/sec “walking comfort” criterion with exceedances occurring on a relatively infrequent basis.

In terms of the future wind environment with the proposed redevelopment, the following areas are noted as being of most significance:

- Footpath locations on Burelli Street at the entry point to the Dwyers Site Hotel Lobby.
- Dwyers Site Podium areas at the southeast and southwest corners of the Hotel block.
- Oxford Site Podium areas in between the Office and Residential blocks.
- Oxford Site Residential block balconies facing west and southwest.

Landscaping and other windbreak treatments already included in the proposed redevelopment and proposed herein will assist in the preservation of wind amenity both at ground level surrounding the site and upper levels of the development.

It is noted that the actual configuration of wind treatments, eg density, height and layout of landscaping, extend of awnings, etc, would be developed during the detailed design phase of the project and could be assisted (in a quantitative manner by the use of model-scale wind tunnel testing or Computational Fluid Dynamics (CFD) 3-D modeling to accurately identify all affected areas and to develop cost-effective treatments to ameliorate adverse wind conditions.

On the basis of the above, it is predicted that ground level wind speeds along all surrounding public footpaths will either remain at their present levels or remain below the standard 16m/sec walking comfort criterion level with the addition of the proposed redevelopment.’

A summary of windbreak treatments to mitigate adverse wind flow so that the resulting wind environment complies with standard Council Wind Acceptability guidelines are illustrated in the graphic below. These recommendations are to form a condition of consent as outlined in the Statement of Commitments in **Section 10**.

Crown Street

Environmental Assessment | Concept Plan and Stage 1 Project Application

A Reflectivity Assessment has been prepared by Heggies in relation to the Stage 1 component, refer to **Appendix AG**. This assessment finds that:

'The Reflectivity Analysis of the development shows that there will be no glazing elements within the development facades which are capable of causing adverse glare events at surrounding locations for motorists (disability glare) under any condition, including off the development's curved glazed façade at the corner of Crown and Corrimal Streets.'

The analysis has also shown that the development's facades will not create pedestrian discomfort glare under any reflection conditions. A potential glare issue was identified in the analysis for reflections off mid-heights of the development's curved glazed façade at the corner of Crown and Corrimal Streets impacting on pedestrians with a line-of-site to the east, ie waiting to cross Corrimal Street at the Crown Street and Corrimal Street lights.

However, the proposed development incorporates a Level 2 awning (refer Figure 2) running along the perimeter of the Corrimal-Crown curved façade section of similar dimension to the development's Level 1 awning. This awning will eliminate any potential pedestrian discomfort glare condition.

In summary, through a combination of choice of glazing, façade design, façade orientation and surrounding thoroughfare orientation, no facades of the development will produce reflections causing either disability glare for passing motorists or unacceptable discomfort eye glare for passing pedestrians.'

The recommendation of the Reflectivity Assessment has already been incorporated in the detailed elevations of the Stage 1 Project Application.

