

District Planning Scheme No.2
Amendment No. 68



LEGEND SCALE 1: 7500

 Boundary of Amendment
Zone Area

METROPOLITAN REGION SCHEME RESERVES

 Primary Regional Road
 Other Regional Road

LOCAL RESERVES

 Parks and Recreation
 Civic and Cultural

ZONES

 Residential
 Urban Development
 Commercial
 Business
 Mixed Use
 Centre
 Private Clubs / Recreation
 Special Zone - Additional Use
1-15 _ Medical Centre
1-16 _ Medical Centre
1-17 _ Medical Centre
1-18 _ Medical Centre

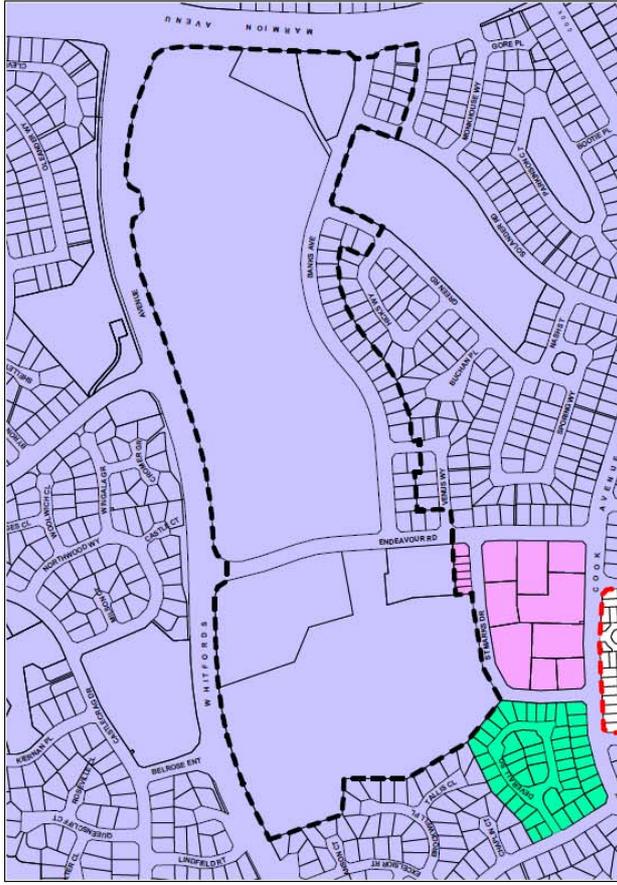
**Residential Density Codes
District Planning Scheme No.2
Amendment No. 68**

LEGEND SCALE 1: 7500

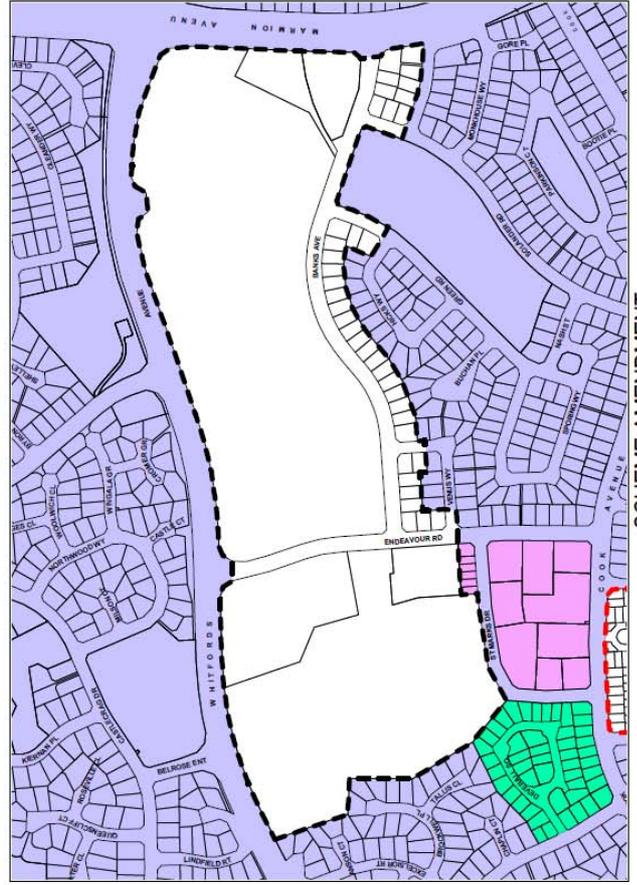
 Boundary of Amendment
Zone Area

RCODES

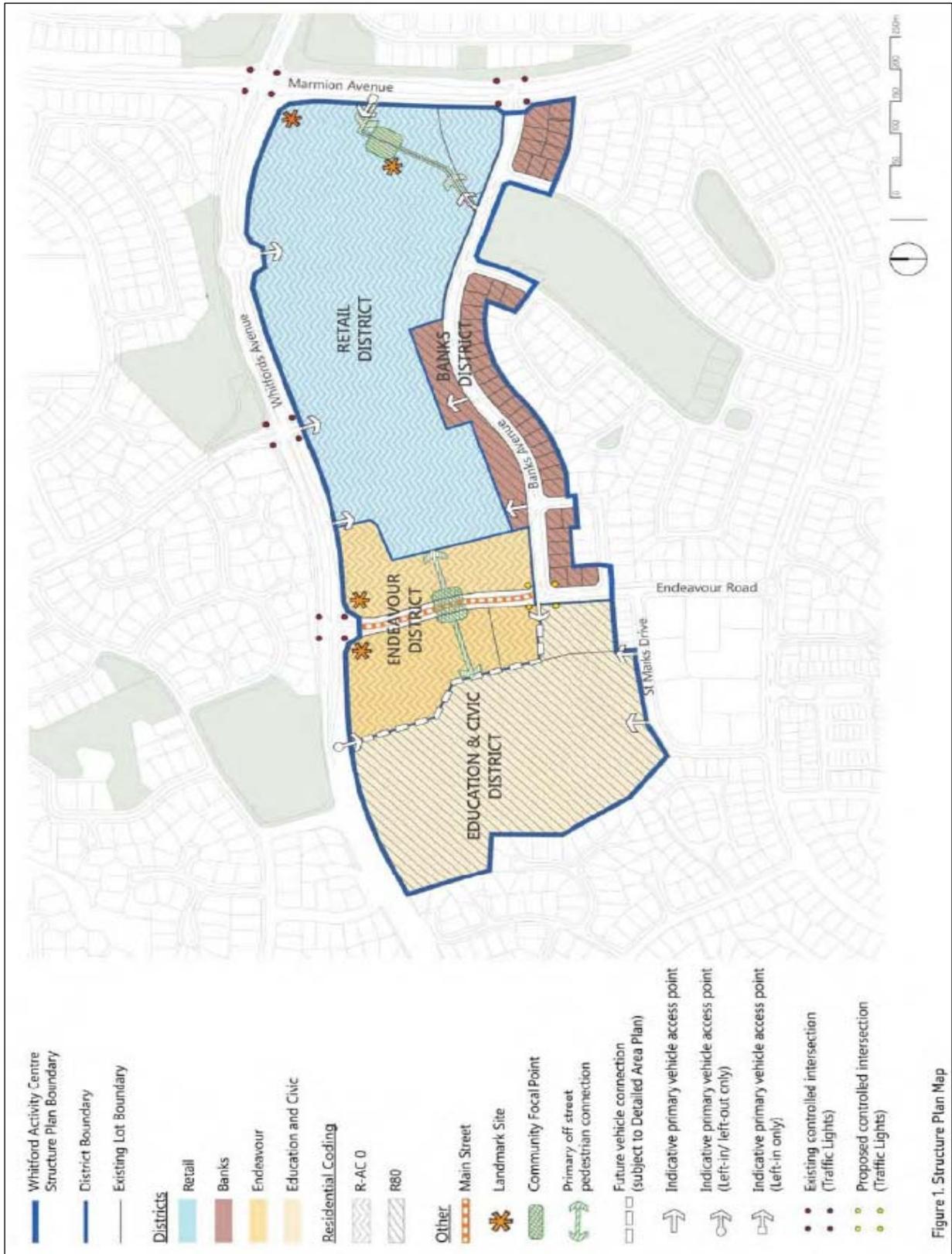
	UNCODED
	R 20
	R 25
	R 40
	Subject to Agreed Structure Plan



EXISTING ZONING



SCHEME AMENDMENT



MODEL CENTRE FRAMEWORK		PLANNING CONSIDERATION	PROPOSAL SUMMARY	COMMENT								
Centre Context	Regional Context	<ul style="list-style-type: none"> Statutory framework Centre hierarchy Catchment area Neighbouring attractors Strategic transport routes 	<p><u>Statutory framework</u> Acknowledges state and local strategies, policies and processes which influence the development of the activity centre structure plan (ACSP). This includes Directions 2031 and Beyond, State Planning Policy 4.2 – Activity Centres for Perth and Peel (SPP 4.2), City of Joondalup District Planning Scheme No.2 (DPS2) and the Public Transport for Perth 2031.</p> <p><u>Centre hierarchy</u> Indicates retail shop floorspace is justified in the context of the North West Sub Region, Joondalup municipality and the ACSP catchment. Identifies Whitford as a secondary centre in accordance with SPP 4.2.</p> <p>The maturity modelling of diversity, intensity, employment and accessibility for the Centre indicates that is currently operating below average. The current diversity is 47%, with SPP 4.2 requiring a minimum of 40%.</p> <p>The Retail Sustainability Assessment sets out the current role as an important secondary centre over other centres such as Warwick, Wanneroo and Clarkson.</p> <p><u>Catchment area</u> Identifies catchment area as being throughout the North West Sub region and beyond. Suggest main trade area is between 5-7 kilometres from the Centre, with the secondary area including parts of the City of Wanneroo to the North and the East and the City of Stirling to the South. Suggests currently 145,000 residents contained within catchment with an expected increase to 158,000 (being and additional 13,000 people) by 2031. Indicates low and gradual population growth for the primary trade area.</p> <p><u>Neighbourhood attractors</u> Indicates the Centre is a key destination for convenience and discretionary shopping needs. Key local attractors:</p> <table border="0"> <tr> <td>Retail</td> <td>Public Open Space</td> </tr> <tr> <td> <ul style="list-style-type: none"> Bunnings Westfield shopping centre </td> <td> <ul style="list-style-type: none"> James Cook Park </td> </tr> <tr> <td>Education</td> <td>Community facilities</td> </tr> <tr> <td> <ul style="list-style-type: none"> St Marks Anglican School </td> <td> <ul style="list-style-type: none"> Library Whitfords Senior Citizen Centre </td> </tr> </table> <p><u>Transport Routes</u> Identifies the proposal to provide a Bus Rapid Transit (BRT) link from Joondalup to Claremont via Whitford, Hillarys, Karrinyup, Scarborough and Shenton Park, which is indicated as being provided after 2031 in Public Transport for Perth 2031.</p>	Retail	Public Open Space	<ul style="list-style-type: none"> Bunnings Westfield shopping centre 	<ul style="list-style-type: none"> James Cook Park 	Education	Community facilities	<ul style="list-style-type: none"> St Marks Anglican School 	<ul style="list-style-type: none"> Library Whitfords Senior Citizen Centre 	<p>Consideration has been given to statutory framework, centre hierarchy and strategic transport.</p> <p>The assessment of the current performance of the Centre appears consistent with SPP 4.2 requirements.</p> <p>Comment provided on catchment area and neighbouring attractors are contained in the Retail Sustainability Assessment (supporting document) as well as in Part 2 of the ACSP. The independent review of the Retail Sustainability Assessment states that the trade area appears broadly appropriate, however the extent of the Secondary South catchment area (into the City of Stirling) is questionable. It is also unclear whether the impact of the developing centres to the north (e.g Alkimos) has been taken into consideration.</p> <p>Aside from the retail offering, there is a lack of attractors to the Centre with St Marks Anglican School considered the next main attractor.</p>
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MODEL CENTRE FRAMEWORK		PLANNING CONSIDERATION	PROPOSAL SUMMARY	COMMENT
	Local Context	<ul style="list-style-type: none"> Local policy context Centre boundary Demographic profile Defining characteristics 	<p><u>Local policy context</u> Identifies the City's draft Local Planning Strategy, draft Local Housing Strategy and draft Local Commercial Strategy as being relevant local documents.</p> <p><u>Centre boundary</u> Identifies the boundary and includes the shopping centre, bulky good retailers, community facilities and is adjacent to Whitfords and Marmion Avenue which form natural boundaries due to their function. St Marks and Endeavour Road have been included as they are key activity drivers. The inclusion of residential and mixed use properties along Banks Avenue enable Banks Avenue to become an integrated part of the Centre and provide an enhanced transition adjacent to residential development.</p> <p><u>Demographic profile</u> Identifies the social economic characteristics such as:</p> <ul style="list-style-type: none"> The trade area being well represented by families, with half the population in households with dependent children. A high percentage of households within the trade area have a mortgage compared to Perth as a whole, with a limited rental market. Ongoing population and retail growth. <p><u>Defining characteristics</u> Characteristics of the area include:</p> <ul style="list-style-type: none"> Key sites outlined under Regional Context above. Ocean views to the west. Undulating dunal topography on the shopping centre site, with a significant level difference between the shopping centre site and Banks Avenue. <p>Urban form principles and opportunities have been identified to take advantage of these aspects. The Aboriginal heritage data base does not identify any significant sites within the Centre.</p>	<p>The retail floor space contemplated under the ACSP of 95,000m². This amount of floorspace is normally seen at Strategic Metropolitan Centres rather than Secondary Centres and if this amount of floor space was supported it would result in the Whifford shopping centre being one of the largest secondary centres based on retail floorspace, which contradicts the centre hierarchy established in SPP4.2.</p> <p>The draft Local Housing Strategy identifies properties along Banks Avenue as being zoned "Mixed Use". The ACSP will override what is indicated in the draft Strategy which recommends a density of R40 for sites less than 1000m² in area and R80 for sites greater than 1000m² for "Mixed Use" sites.</p> <p>The rezoning to "Centre" was supported by Council for the purposes of community consultation at its meeting on 16 October 2012 (CJ199-10/12 refers). This included properties along Banks Avenue.</p> <p>The independent review of the Retail Sustainability Assessment states the socio-economic characteristics of the main trade area vary from the broader study area, with the main trade area having high incomes, older age profile and couples without children. This reflects the established and increasingly gentrified nature of the main trade area, and raises the susceptibility of future populations and expenditure growth rates slowing due to age and generational change.</p> <p>The key sites identified are logical, although it is unlikely James Cook Reserve has much if any relationship with the Centre, particular as it is not included in the activity centre.</p>
Movement	Regional Perspective	<ul style="list-style-type: none"> Strategic road hierarchy Points of arrival Key sites 	<p><u>Strategic Road Hierarchy</u> The key streets are identified as being Whitfords Avenue, Endeavour Road and Banks Avenue. The road hierarchy of the existing roads and the proposed access street along the eastern boundary of the St Mark's site to connect with Banks Avenue are identified.</p> <p>Changes are discussed to the existing road infrastructure to improve pedestrian amenity and promote the communal use of Endeavour Road as a Main Street.</p> <p>A new access point from Marmion Avenue is proposed on the northern boundary of the shopping centre.</p> <p><u>Points of Arrival</u> Points of arrival being identified at the intersection of:</p> <ul style="list-style-type: none"> Endeavour Road and Whitfords Avenue Marmion Avenue and Whitfords Avenue Dampier Avenue and Whitfords Avenue Marmion Avenue and Banks Avenue Marmion Promenade <p>These points of arrival are proposed to be 'enhanced' arrival nodes in the Centre through built form and/or landscaping.</p> <p><u>Key sites</u> Generally the shopping centre has been identified as a major attractor.</p>	<p>Changes to the road network will require approval from Main Roads in addition to the City's approval. It would also involve significant costs which may involve developer contributions as well as funding from the City to achieve.</p> <p>The location of the Centre adjacent Marmion and Whitfords Avenue provide opportunity for the Centre to capitalise on passing trade. The development of Marmion Promenade will further enhance the potential to capitalise from trade on Marmion Avenue.</p> <p>Points of arrival identified are logical. Also refer to Key Nodes, Landmarks and View Lines assessment below.</p> <p>Lack of detail on key sites makes it difficult to determine if the anchors tenancies or major attractors are in accessible locations.</p>

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Public Transport	<ul style="list-style-type: none"> Partnerships Network provisions Waiting areas Interchange 	<p>Whitfords rail station is located on Whitfords Avenue at the freeway interchange. High frequency bus services connect the Centre to Joondalup, Warwick and Whitfords rail stations. The road reserve along Whitfords Avenue presents the opportunity to provide additional capacity for public transport via bus lanes and bus stop facilities. In the longer term this could provide part of the necessary infrastructure for a Bus Rapid Transit (BRT) route within the north-west suburbs.</p> <p>Due to the coverage and frequency of the existing bus services there is unlikely to be significant opportunities to address the general transport needs of the residents, students, workers and visitors of the area in the short to medium term. Reflecting the network design and scheduling, the primary users of the existing services are likely to be commuters travelling to and from the Northern Train line.</p> <p>The proposed intensification of the Centre is in accordance with the key principles contained within State documents that encourage the integration of public transport with land use planning. The documents states that development should be concentrated in centres with major public nodes and high frequency services.</p> <p>As part of Public Transport for Perth 2031, a BRT link is proposed to run from Joondalup to Claremont via Whitford City, Hillarys, Karrinyup, Scarborough and Shenton Park. In the plan, the link would not be built until after 2031. BRT is to operate in dedicated priority zones within existing streets, although there could be short sections where operation in a mixed use traffic environment is permitted.</p> <p>Interim measures proposed to improve public transport usage include:</p> <ul style="list-style-type: none"> Real-time information to advise of incoming/outgoing services to minimise uncertainty. Provide secure bicycle parking/storage for commuters at high quality public transport nodes Investigate potential for providing queue-jump lanes and signal phasing for buses at signalised intersections. <p>The ACSP indicates that discussion has been had with the Department of Transport, and these discussions will continue regarding public transport infrastructure as part of the ongoing development of the Centre.</p>	<p>No evidence of partnership or commitment by the Public Transport Authority is provided to support the delivery of the BRT. Without this commitment it is difficult to uphold various aspects of the ACSP including:</p> <ul style="list-style-type: none"> A shift from private car use Reduced car parking demand/provision Improved accessibility (SPP 4.2 target) Appropriate traffic management <p>Given that the current network will need to be modified and the BRT link is not proposed until after 2031, it is unclear how the interim measures may be sufficient to make public transport a viable option over private car as the Centre develops.</p> <p>To facilitate the BRT station land may need to be acquired from adjoining sites. A potential site identified to facilitate the BRT on Whitfords Avenue could require land from the adjoining public open space, or shopping centre</p> <div style="border: 1px solid black; padding: 5px;"> <p>Additional comments following Council meeting on 19 March 2013</p> <p>A review of the transport assessment submitted as part of the structure plan documentation was undertaken by an independent consultant appointed by the City. A summary of this review is provided as Attachment 6.</p> </div>
Pedestrian movement and amenity	<ul style="list-style-type: none"> Desire Lines Network provision Legibility 	<p>Proposed pedestrian connectors are shown to improve access through the commercial sites from Whitfords Avenue south to Banks Avenue, as well as east to west between Marmion Avenue and Endeavour Road.</p> <p>The existing pedestrian network is proposed to be improved through the construction of wide paths and a high quality crossing on Whitfords Avenue to link public transport with existing and future land uses.</p> <p>Shared zones and shared use paths are to be provided at a minimum as follows:</p> <ul style="list-style-type: none"> Dual use paths on Marmion and Whitfords Avenues; Two metre paths on Banks Avenue, Endeavour Road and the link road between the Endeavour District and Education and Civic District (street to be constructed). <p>Development provisions require internal shopping paths to link with external paths for the Retail District.</p>	<p>Location of pedestrian connectors appears logical. However it is not clear on who will be responsible for funding the works, and when such works would be required.</p> <p>Staging of the development may impact on the effectiveness of the connectors. The development of new footpaths will be reliant on cooperation by the individual landowners of the residential properties, the commercial sites and the City. Any paths would need to meet the City's standards.</p> <p>There is limited detail on mid block links, therefore making it difficult to identify how all pedestrian connections will be provided.</p>
Cycling	<ul style="list-style-type: none"> Network provision End of trip facilities Cycle parking 	<p>Recommended improvements to the local cycling infrastructure focuses on eliminating gaps and providing opportunities for safe commuter cycling along Whitfords Avenue. This, combined with the promotion of a lower speed environment throughout the Centre will encourage cycling as an alternative transport mode.</p> <p>Cycle paths proposed as follows:</p> <ul style="list-style-type: none"> Dual use path and road cycle lane on Whitfords and Marmion Avenues; On road cycle lanes provided on Endeavour Road and Banks Avenue; and On-street cycling for the link road between the Endeavour District and Education and Civic District (street to be constructed). <p>General development requirements set out standards for long term and short term bicycle parking. Long term parking requires secure compounds. Short term parking requires devices to which the bicycle frame/wheels can be locked, and should be provided in a convenient and secure location close to building entrances. End of journey facilities is encouraged and should be located close to bicycle parking facilities.</p>	<p>Comments tend to be in demonstration of the principles of SPP 4.2, and are consistent with requirements being encouraged across the City.</p> <p>Standards should be proposed for end of trip facilities to be determined relative to the amount of bicycle parking required.</p> <p>All bicycle parking will need to meet Australian Standards.</p>

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<p>Vehicle movement and access</p>	<ul style="list-style-type: none"> • Traffic volumes • Traffic management • Priority access • Freight 	<p>Based on a high range maximum development scenario traffic volumes may increase by up to 70% by 2021 and 95% by 2031. As a result of improvements to public transport, pedestrian/cycling facilities, increased residential development and increased trip chaining actual projected traffic volume is anticipated to be 50% by 2031.</p> <p>The majority of future traffic generated will be accommodated within the regional road network (not small residential streets).</p> <p>The large number of entrance points to the shopping centre will spread the traffic impact over a number of intersections. At present there is some disproportionate use of some entrances, which will need to be managed. This may be through improvement to existing access points to increase capacity, including changes to access geometry or by improving wayfinding and directional signage to promote alternative access points.</p> <p>An additional left in/out entrance is proposed from Marmion Avenue which will provide a more direct link to the shopping centre for northbound traffic on Marmion Avenue.</p> <p>The Traffic Report identifies that at the intersection of Marmion and Whitfords Avenue additional traffic generated will result in traffic service levels that are rated 'E' and 'F' (F = fail) during am and pm peak respectively. Additional right turn lanes on Marmion Avenue would return the intersection to a rating of 'E' during the peak hour which is considered appropriate for the category of road.</p> <p>A new link is proposed on the western side of the Endeavour District connecting with Banks Avenue. It is intended that this link will provide rear access to buildings in the Endeavour District, as well as improved access to the school. Treatments are recommended to avoid it being used as a rat run to avoid traffic lights. These treatments include entry statements, shared surfaces, speed control and narrow road widths.</p> <p>The development of Endeavour Road as a "Main Street" will require a consolidated northern access for properties on the western side. This would only be possible once Bunnings is no longer operating, and is estimated to occur between 2021 and 2031. Access to the shopping centre site would also need to be consolidated and/or removed. The removal of these entrances would redistribute traffic to access points on Banks Avenue and Whitfords Avenue. Other urban treatments would be required to achieve a "Main Street".</p> <p>It is recommended that freight vehicles be restricted to main roads to minimise impact on local streets. Provisions in Part 1 require service vehicle routes and access to be away from areas of high footfall.</p>	<p>The projected traffic volumes are questionable. Appendix 1 identifies that approximately 18% of visitors to the Centre will commute by means other than the private car in 2031. This is a relatively low proportion which is unlikely to justify an increased traffic volume of 50%, rather than the potential 95% increase, particularly as commitment to public transport upgrades has not been given.</p> <p>Use of regional road network in lieu of local streets for future traffic generation is supported.</p> <p>No detail on the upgrade of the Marmion and Whitfords Avenue intersection has been provided. Lacks detail as to how and when this is to be implemented, by whom and who will fund the works.</p> <p>The development of the "Main Street" will be reliant on the expiry of leases for existing tenants (e.g Bunnings). The timing for this is between 2021 and 2031, however major expansion to the shopping centre is anticipated to be completed by 2016. Will existing accesses to the shopping centre be required to be consolidated as part of the major development of the shopping centre in order to move towards the "Main Street".</p> <p>The restriction of freight and service vehicles is supported.</p> <p>Any changes to the road network (intersection upgrades etc.) requires approval from Main Roads in addition to the City. No indication has been provided that changes proposed have been supported in principle by Main Roads.</p> <p>Locations for drop off and taxi facilities have not been identified as required under SPP 4.2.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Additional comments following Council meeting on 19 March 2013</p> <p>A review of the transport assessment submitted as part of the structure plan documentation was undertaken by an independent consultant appointed by the City. A summary of this review is provided as Attachment 6.</p> </div>

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	Parking	<ul style="list-style-type: none"> • Use allocation • Design • Short Stay 	<p>The ACSP states that changes are required to how existing parking is managed to improve availability across all uses to maximise efficiency. This will result in lower parking requirements and less 'dead space' dedicated to parking. This will include short-term, managed on-street parking, at-grade and below-grade parking and secure basement car parking for residents and visitors. The transition to permanent seven-day retail trading has spread demand and further reduced heavy peaks in parking and traffic activity.</p> <p>Appendix 3 (Transport Report) projects the necessary parking requirements based on the comparison between actual usage and the 20th busiest design day, the Institute of Transportation Engineers <i>Parking Generation</i>, and consideration of mixed use benefits/shared use and other mode of transport improvements. Based on this and the capacity of the existing road network a maximum of 5,300 spaces is considered sufficient to meet the demand to 2031.</p> <p>For the Retail District a maximum of 4,200 car bays are proposed, based on a rate of 4.5 bays per 100m² being applied to all land uses. As the cap is based on assumptions regarding the progression of the centre, mix of uses, and traffic conditions it may need to be reviewed as part of future development.</p> <p>Parking standards for other districts are to be in accordance with DPS2, or relevant Local Development Plan.</p> <p>Parking management strategies are proposed to be developed for the Centre:</p> <ul style="list-style-type: none"> • Prepare, implement and commit to an overall and dynamic Parking Management and Travel Plan (PMTP) for the Centre, this may be supplemented by PMTPs for individual land uses to address their specific needs as necessary; • Provide a communal pool of car parking for all land uses as opposed to dedicated parking spaces; • Prioritise parking for particular user groups such as ACROD and parents with children; • Ensure the PMTP includes provision for the management of staff parking to ensure these users do not consume any prime parking. • Locate parking to ensure major roads around the development are used in preference to lower order streets; and • Conceal parking in basements and behind or above street level properties to promote an active street environment. <p>On-street parking is proposed, however exact locations will be subject to further detailed design. Intensified residential development will require secure parking. Main street development along Endeavour Road will sleeve exposed areas of car parking.</p> <p>There is significant limestone close to the surface, which has engineering and cost implications for construction of underground car parking or other excavation. Geotechnical reports will be required prior to design of substantial buildings.</p>	<p>In principle the approach to providing parking by way of reciprocal parking, short term parking, on-street parking and concealed parking areas is supported.</p> <p>The car parking provision for the Retail District of 4,200 is not consistent with 5,300 identified in the Transport Report. It is unclear whether the 5,300 car bays are based on allocation for the whole Activity Centre, and not just the Retail District. If this is the case, the development provisions do not reflect this by requiring parking for development outside of the Retail District to be in accordance with DPS2.</p> <p>It is unclear if the parking standard of 4.5 bays per 100m² is based on net lettable area or gross floor area.</p> <p>If alternative modes of transport to private vehicles are not provided within staging and are insufficient to be a reasonable alternative, it is not clear if the car parking provision remain adequate.</p> <p>The responsibility for parking management strategies will be the land owners, and will require assessment and approval by the City through the development application process. Parking management strategies may need to be coordinated amongst different sites and land owners, particularly if reciprocal arrangements are proposed.</p> <p>Development contributions may be required to fund public on-street parking, and the location of parking will be subject to Local Development Plan(s).</p> <p>Part 2 identifies limestone close to the surface and suggests a geotechnical report may be required before major excavation. However there is no requirement within Part 1 for a geotechnical report to be provided as part of development applications.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Additional comments following Council meeting on 19 March 2013</p> <p>A review of the transport assessment submitted as part of the structure plan documentation was undertaken by an independent consultant appointed by the City. A summary of this review is provided as Attachment 6.</p> </div>

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Activity	Land uses and diversity	<ul style="list-style-type: none"> Identifying need Character areas Use mix 	<p>Retail Sustainability Assessment states:</p> <ul style="list-style-type: none"> Main trade area is a 5-7km diameter from the Centre 25% of trade comes from outside the main trade area Population within the main trade area is forecast to increase by 13,000 people by 2031, from 145,000 to 158,000 people. Retail spending within the main trade area is forecast to increase by \$219 million between 2012 and 2016, and \$936 million between 2012 and 2031. This will increase demand and market capacity for more retail floorspace at Whitfords and other centres. The proposed expansion of the Centre to 90,000m² by 2016, would account for a modest 21% of unmet PLUC 5 shop floorspace demand. About 110,000m² of unmet demand would therefore still be available for other centres in the municipality. With this amount of demand available to other centres it is clear that the Whitford expansion can be supported without impacting the expansion of shop floorspace at other centres. The expansion to 90,000m² by 2016 is considered to be appropriate based on context and demand. 	<p>An independent review of the Retail Sustainability Assessment (RSA) concludes that it does not adequately justify the proposed retail expansion. The RSA seeks to justify the expansion not on the growth of its trade area or even increases in its beyond-trade expenditure capture, but on the need for greater floor space provision in the City of Joondalup and the North West Sub-Region. However, no affirmative evidence is provided as to the appropriate role of Whitford in contributing to the current and future floor space shortfall being addressed.</p> <p>The population analysis in section 2.2 of the RSA suggests that Whitford's role may in fact be limited. The established nature of the Centre's primary and secondary trade areas and an already high beyond trade expenditure capture mean that Whitford is not well positioned to assist in addressing this issue to the extent proposed. Based on this and the specific modelling and assumption criticisms it is considered that the expansion of the Centre cannot be justified based on the analysis provided.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Additional comments following Council meeting on 19 March 2013</p> <p>The City engaged the services of an economic consultant to review the Retail Sustainability Assessment (RSA) provided by the applicant in support the structure plan. The comments provided from the review are summarised below:</p> <p>Insufficient justification for the proposed floor space which is considered to be significantly above that which is designated for secondary centres in SPP 4.2 (50,000m²).</p> <p>Main Trade Area identified by the applicant is regarded as overly aggressive to the south of the City of Joondalup and sufficient evidence was not provided to justify this.</p> <p>The assumed 1.5% per annum growth rate of per capita retail expenditure levels in the Main Trade Area is overly aggressive given the industry standard is 1% per annum as applied RSA. The growth rate does not take into consideration the impact of recent changes in consumer expenditure patterns such as reduced credit card usage since the Global Financial Crisis and online shopping. The rate also fails to consider the aging population in the Trade Area who will experience reduced incomes which results in reduced expenditure.</p> <p>The proposed increase in retail floor space is contingent on the current expenditure leakage levels being reversed. If this doesn't occur the floor space expansion is not sustainable. No justification has been provided by the applicant to explain the assumed reduction in current expenditure leakage.</p> <p>Notes that whilst there is a shortfall of shop retail floor space within the Joondalup local government area and the Trade Area the RSA does not determine the role and function of the centre in addressing the shortfall.</p> <p>Acknowledges that it is not inappropriate for a department store to be incorporated within the centre, however based on the analysis provided in the RSA, a maximum of 65,000m² – 75,000m² is justified.</p> </div>

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Land uses and diversity cont.	<ul style="list-style-type: none"> Identifying need Character areas Use mix 	<p>The staging information provided is summarised below. Where it is unclear on the staging but a 2031 projection has been provided no data has been entered.</p> <table border="1"> <thead> <tr> <th></th> <th>2012</th> <th>2021</th> <th>2031</th> </tr> </thead> <tbody> <tr> <td>Retail (m²)</td> <td>49,900</td> <td>90,000</td> <td>95,000</td> </tr> <tr> <td>Other retail (m²)</td> <td>8,500</td> <td>11,500</td> <td>11,500</td> </tr> <tr> <td>Office/Business (m²)</td> <td>7,800</td> <td>-</td> <td>22,800</td> </tr> <tr> <td>Residential (dwellings) based on projected upper limit</td> <td>30</td> <td>400</td> <td>800</td> </tr> <tr> <td>Entertainment / Recreation / Culture (m²)</td> <td>9,500</td> <td>-</td> <td>16,000</td> </tr> <tr> <td>Health / Welfare / Community</td> <td>16,200</td> <td>16,200</td> <td>16,200</td> </tr> <tr> <td>Other</td> <td>2,400</td> <td>-</td> <td>2,500</td> </tr> <tr> <td>Employment (jobs per gross Ha)</td> <td>57</td> <td>-</td> <td>128</td> </tr> <tr> <td>Accessibility (% of users external to the Centre not using a vehicle)</td> <td>8%</td> <td>13%</td> <td>18%</td> </tr> </tbody> </table> <p>Encourages a wider range of entertainment and community facilities. Encourages shared facilities between the School and Community use. Promoting active street frontages where high to moderate footfall is expected, and attractive facades where low footfall is projected.</p> <p>Land use targets</p> <table border="1"> <thead> <tr> <th rowspan="2">Land Use</th> <th colspan="3">Pracsys centre maturity scores</th> <th colspan="3">ACSP Proposal</th> </tr> <tr> <th>Best of Type</th> <th>Average</th> <th>Below Average</th> <th>2012</th> <th>2016</th> <th>2031</th> </tr> </thead> <tbody> <tr> <td>Diversity</td> <td>7.8 or more</td> <td>5.2-7.7</td> <td>5.1 or less</td> <td>5.25</td> <td>4.4</td> <td>4.7</td> </tr> <tr> <td>Intensity</td> <td>3.8 or more</td> <td>2.2 – 3.7</td> <td>2.1 or less</td> <td>1.5</td> <td>1.7</td> <td>2.8</td> </tr> <tr> <td>Employment (jobs per gross Ha)</td> <td>6.2 or more</td> <td>2.9 - 6.1</td> <td>2.8 or less</td> <td>1.75</td> <td>3.5</td> <td>4.2</td> </tr> <tr> <td>Accessibility (% of users not using a private car)</td> <td>4.2 or more</td> <td>2.2-4.1</td> <td>2.2 or less</td> <td>1.0</td> <td>1.5</td> <td>2.8</td> </tr> </tbody> </table> <p>SPP 4.2 Diversity Target</p> <table border="1"> <thead> <tr> <th></th> <th>Target land use diversity mix</th> <th>2012</th> <th>2016</th> <th>2031</th> </tr> </thead> <tbody> <tr> <td>For Centres greater than 50,000m² but less than 100,000m²</td> <td>40%</td> <td>47%</td> <td>34%</td> <td>42%</td> </tr> </tbody> </table> <p>It is noted that land use diversity will fall in the short term as large scale retail development will precede any residential or community development. Retail is typically supplied in large floor space increments to accommodate large anchor tenants.</p> <p>Part 2 of the ACSP sets out the vision for each of the districts and the intended land use mix that will be achieved.</p>		2012	2021	2031	Retail (m ²)	49,900	90,000	95,000	Other retail (m ²)	8,500	11,500	11,500	Office/Business (m ²)	7,800	-	22,800	Residential (dwellings) based on projected upper limit	30	400	800	Entertainment / Recreation / Culture (m ²)	9,500	-	16,000	Health / Welfare / Community	16,200	16,200	16,200	Other	2,400	-	2,500	Employment (jobs per gross Ha)	57	-	128	Accessibility (% of users external to the Centre not using a vehicle)	8%	13%	18%	Land Use	Pracsys centre maturity scores			ACSP Proposal			Best of Type	Average	Below Average	2012	2016	2031	Diversity	7.8 or more	5.2-7.7	5.1 or less	5.25	4.4	4.7	Intensity	3.8 or more	2.2 – 3.7	2.1 or less	1.5	1.7	2.8	Employment (jobs per gross Ha)	6.2 or more	2.9 - 6.1	2.8 or less	1.75	3.5	4.2	Accessibility (% of users not using a private car)	4.2 or more	2.2-4.1	2.2 or less	1.0	1.5	2.8		Target land use diversity mix	2012	2016	2031	For Centres greater than 50,000m ² but less than 100,000m ²	40%	47%	34%	42%	<p>SPP 4.2 requires 40% land use diversity for a centre with a shop floor space of 50,000-100,000m². The diversity for the Centre of 42% at 2031 meets this requirement, but is a decrease from the diversity of the Centre in 2012. It is also noted that the proposed 95,000m² retail floor space is only 5,000m² short of having to deliver a diversity target of 50% under SPP 4.2.</p> <p>Land use intensity is increasing (2031) to meet the average target. The ACSP states that it is difficult to achieve best practice as the Centre will always maintain a large retail component as compared to other smaller secondary centres. Increased diversity (particularly residential) and intensity is reliant on improved accessibility and amenities. It is uncertain if this is really the case, as the site is considered to have a high degree of accessibility by private car (being the main mode of transport) at present.</p> <p>The draft ACSP makes no commitment to meeting the projected targets.</p> <p>Districts are considered to group appropriate land uses and create stronger links between complimentary land uses.</p>
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Retailing	<ul style="list-style-type: none"> Anchor stores Foot fall 	<p>The provision of additional retail floor space is proposed to be staged as follows:</p> <table border="1"> <thead> <tr> <th></th> <th>2011</th> <th>2016</th> <th>2021</th> <th>2026</th> <th>2031</th> </tr> </thead> <tbody> <tr> <td>Retail (m²)</td> <td>49,900</td> <td>90,000</td> <td>90,000</td> <td>95,000</td> <td>95,000</td> </tr> <tr> <td>Other retail (m²)</td> <td>8,500</td> <td>8,500</td> <td>11,500</td> <td>11,500</td> <td>11,500</td> </tr> </tbody> </table> <p>An additional department store will be provided as part of the 2016 expansion.</p> <p>Due to the existing built form, and scale and operational requirements of shopping centres street activation is limited. This includes the specific dimension and layout requirements for anchor stores.</p>		2011	2016	2021	2026	2031	Retail (m ²)	49,900	90,000	90,000	95,000	95,000	Other retail (m ²)	8,500	8,500	11,500	11,500	11,500	<p>Future location of anchor stores should be such that they create strong linkages through the site. No detail on the linkages between anchor store and the remainder of the Centre is provided.</p> <p>Activation may be constrained as a result of the existing development on-site, compared to greenfield sites with unlimited potential for active frontages.</p>																																																																									
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MODEL CENTRE FRAMEWORK		PLANNING CONSIDERATION	PROPOSAL SUMMARY	COMMENT
	Employment	<ul style="list-style-type: none"> • Compatibility • Siting • Working practices 	<p>Whitford will service a smaller catchment and offer a different quantity and type of employment opportunities. Employment sectors that have the greatest potential for growth at the Centre are predominantly population driven and include retail, office/business, health/welfare/community services, and entertainment.</p> <p>The shopping centre will be a major generator of new employment within the Centre, with shop retail, other retail and entertainment, recreation and culture generating an estimated 2,156 new employment opportunities by 2031. In addition, approximately 877 employment opportunities can be expected from office and business activity within the Centre. This equates to a total of 3,033 new employment opportunities or more than double the current level of employment within the Centre. In addition to workplace based jobs, there will be opportunities for small scale home based business with excellent amenity and access to transport in the mixed use areas.</p> <p>Directions 2031 and Beyond aims to increase employment and self sufficiency in the North West Sub-Region from 41% to 61%. This increase equates to an extra 73,000 jobs, with employment in the Centre being critical to achieving this target.</p>	<p>The additional jobs projected equates to approximately 4% of those required for the North West Sub-Region for the next 20 years.</p> <p>The Centre is well located near bus and train facilities, which will improve should the BRT be constructed, though this would not occur until after 2031.</p> <p>Employment generators will be dependent on market demand and other forces which cannot be controlled under the ACSP.</p>

MODEL CENTRE FRAMEWORK	PLANNING CONSIDERATION	PROPOSAL SUMMARY	COMMENT
Dwellings	<ul style="list-style-type: none"> Dwelling type 	<p>The surrounding area is a well-established suburban area which consists predominantly of low density single dwellings. The age and quality of the housing stock and the property value of the location may limit organic change in dwelling density in this area, and it is anticipated that density increases will occur very gradually as planning controls change and market preference for higher density living prompts redevelopment.</p> <p>Under the draft Local Housing Strategy, the area around the Centre is located in Housing Opportunity Area 5, and densities range from R20/R40 to R20/R60.</p> <p>Based on the required delivery of 70% of the housing target within the 400m walkable catchment and the minimum density of 25 dwellings per hectare, a minimum of 1200 dwellings are required. A more desirable target of 35 dwellings per hectare would result in 1680 dwellings.</p> <p>It is anticipated that within the Centre between 500 to 800 dwellings is achievable, predominantly located within the vicinity of Endeavour Road. The dwellings will be mostly apartments above podium parking and mixed use development with some town houses. The indicative development plan shows 582 apartments, 66 walk-up apartments and 25 terraces (total of 673 dwellings). Housing will be provided in marketable stages of about 100 dwellings each released progressively as demand grows. Demand for this housing will grow as the Centre evolves into a more accessible and diverse place that offers good amenity and an alternative to the surrounding suburban housing.</p> <p>The projected housing target will lag behind other development types such as retail, with much of the land likely to support residential development encumbered by existing leases, with differing timeframes of up to 15 years.</p> <p>The density code of R-AC 0 is recommended for Endeavour and Retail Districts as it does not limit the number of dwellings and encourages diversity in design and dwelling types. The density code of R80 is recommended in the Banks District and Education and Civic District to provide a transition between the retail and mixed use areas and the existing housing to the south of the Centre.</p>	<p>The ACSP does not set out plot ratio or open space requirements for the R-AC 0 code. Rather Local Development Plans are required to be prepared for residential development. It is therefore difficult to quantify what the number and types of dwellings the R-AC 0 code will result in. However as the R-AC 0 code provides for diversity in dwelling type, it meets and is encouraged under SPP 4.2.</p> <p>For the Banks District, the ACSP proposes a different density code to that contained in the recently adopted draft LHS. However densities proposed within the Centre are considered appropriate and align with SPP 4.2.</p> <p>There is no information on whether the 1,680 dwellings are achievable within the 400 metre catchment, and therefore it is difficult to determine if the 500 to 800 with the Centre is enough to meet the desirable target.</p> <p>SPP 4.2 requires consideration of diversity and access to housing (elderly, disabled and affordable). No detail on this is provided in the ACSP.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Additional comments following Council meeting on 19 March 2013</p> <p>The draft ACSP has not demonstrated the 400 metre walkable catchment. It is estimated that there is approximately 100 gross hectares within the 400 metre walkable catchment for the centre. For secondary centres, the minimum residential density target is 25 dwellings per gross hectare and 35 dwellings as the desirable amount. This means that between 2,500 to 3,500 dwellings should be provided within the walkable catchment.</p> <p>It is estimated that there are 910 dwellings currently within the walkable catchment, being 35 within the activity centre structure plan area and 875 outside the structure plan area.</p> <p>The applicant states that there are 739 dwellings that will be constructed within the overall activity centre structure plan area, however it is noted that the current version of the draft WACSP identifies 673 dwellings. This figure is indicative only, and there is no impetus for these to be constructed.</p> <p>Therefore in order to meet the minimum target of 2,500 dwellings an additional 886 dwellings would be required outside the activity centre structure plan area.</p> <p>It is noted that this may not be able to be achieved, even with the increased densities proposed within the catchment as part of the draft Local Housing Strategy.</p> </div>

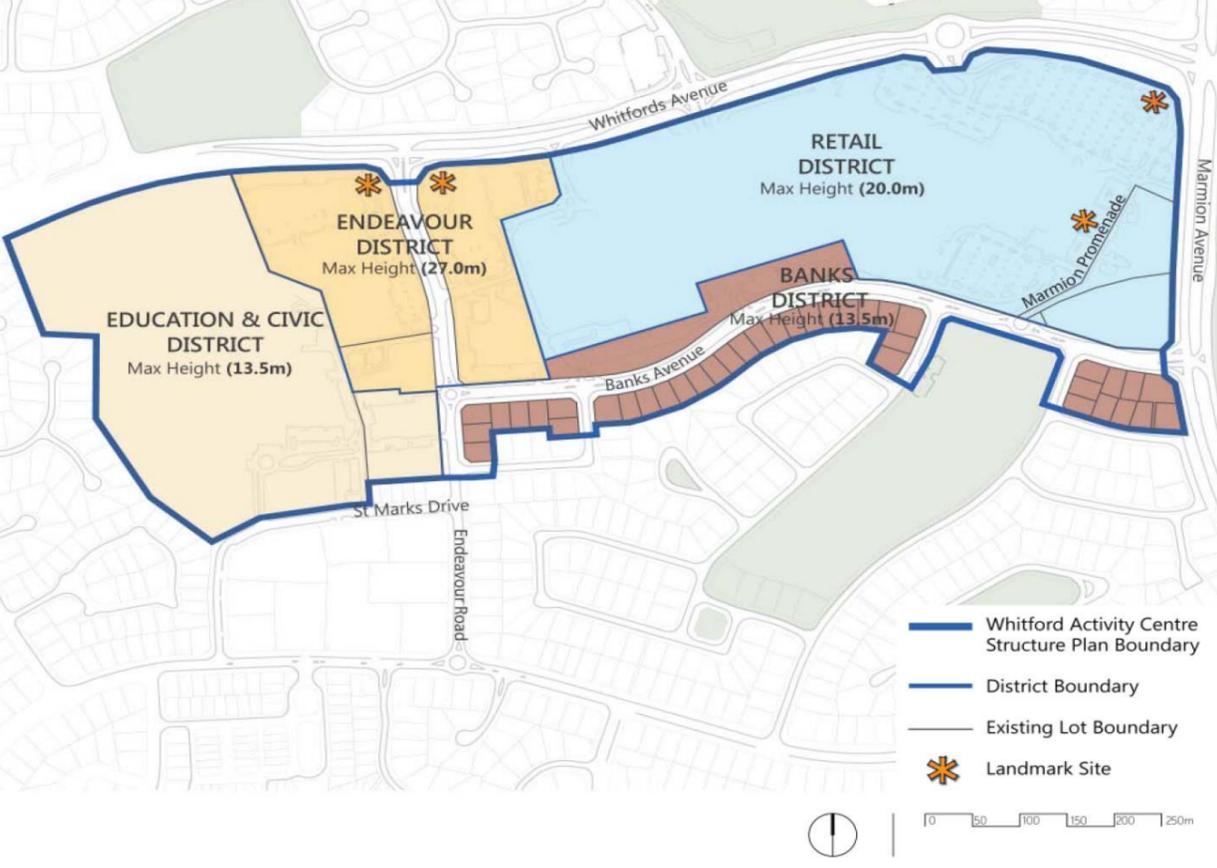
MODEL CENTRE FRAMEWORK		PLANNING CONSIDERATION	PROPOSAL SUMMARY	COMMENT
Urban Form	Urban Structure and built form	<ul style="list-style-type: none"> Urban structure Retain and reuse Building envelope Occupant amenity Adaptability 	<p>New street connections proposed to improve legibility.</p> <p>Built form philosophy gives consideration to massing, scale, solar access, topography, occupant amenity, private open space and street interface.</p> <p>Buildings within the Retail District are required to be setback above the third floor to reduce building bulk and shadow cast on the street. Buildings within the Endeavour District are required to be a minimum height of three metres around the Endeavour Community Square.</p> <p>General objectives and some provisions are provided for the districts which address matters such as land use permissibility, height, setbacks street interface and access.</p> <p>Where provisions are not provided Local Development Plans will be required, with plans being required prior to any development for:</p> <ul style="list-style-type: none"> Endeavour District. Banks District where lots are larger than 1500m² or three or more lots. Major redevelopment of St Mark's School site. Residential development within the Retail District <p>Statutory provisions require balconies to be designed to face the street and avoid overlooking to private open space, and minimum setback of six metres is required to the rear boundary for properties in the Banks District.</p> <p>Part 2 states that the existing housing is separated so that impacts on residential amenity is minimised. New buildings will be designed to limit detrimental impacts from other uses, with issues of privacy and overlooking to be resolved through setback and screening requirements consistent with the Residential Design Codes of Western Australia.</p> <p>Adaptable buildings are encouraged through 4.5 metre floor to floor heights for the ground floor and structures which can facilitate additional storeys.</p> <p>Building heights of up to 27 metres are proposed in the Endeavour District. Additional height may be permitted at Council's discretion subject to provision of increased amenity such as town square, community facility or other agreed element and that there is no unduly detrimental effects to adjoining properties or the public realm.</p>	<p>SPP 4.2 places importance on the retention and reuse of existing buildings to reinforce the unique qualities of any area. It is difficult to create small blocks out of the shopping centre site, however design requirements encourage walkability and connectivity through the Centre. Given the main site is in single ownership it will be easier to achieve these outcomes.</p> <p>The ACSP does not identify any building that should be retained, however it is considered that there are no buildings that would warrant retention, or would be detrimental to the existing character if demolished.</p> <p>It is noted that much of the major built form requirements are subject to further detailed design, which would be required to support statements in Part 2.</p> <p>Whilst provisions have been provided to support adaptable buildings, these requirements may not meet the needs of current or future occupants.</p> <p>The requirement for a town square or other community feature as an increase in amenity for additional height does not necessarily create a desirable built form outcome, and could lead to further underutilised public space.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Additional comments following Council meeting on 19 March 2013</p> <p>Some provisions within the draft ACSP that intend to drive the built form outcomes are ambiguous, and it will be unclear at the time development applications are submitted on how development could comply with these provisions. This could also be problematic if the City is unable to unequivocally demonstrate to applicants that the requirements of the structure plan have not been met, which could lead to an undesirable outcome.</p> </div>

MODEL CENTRE FRAMEWORK	PLANNING CONSIDERATION	PROPOSAL SUMMARY	COMMENT
Street interface	<ul style="list-style-type: none"> • Scale • Building articulation • Active fronts 	<p>The scale and operational requirements of the shopping centre limit the extent of street activation. This is due to factors such as:</p> <ul style="list-style-type: none"> • Large service docks and turning areas for delivery vehicles • Provision of large car parking areas in convenient locations • Retail anchor tenants with strict dimensioning and layout requirements • Limited uses appropriate to sleeve buildings in low footfall areas <p>The air-conditioned shopping malls allow retailers to have open shop fronts that are seen by shoppers with refuge from both hot and wet weather. Outside, however, there is little weather protection and to encourage visitors out into the street it will be important to provide them with improved weather protection as well as amenity and safety.</p> <p>Three key streets are identified. These streets and their key features are summarised below:</p> <ul style="list-style-type: none"> • Whitfords Avenue – will have an improved pedestrian environment. Built form will include parking and service areas and less active parts of the shopping centre. Low footfall is expected; • Endeavour Road (main street) – will have an integrated built form that connects to the shopping malls. Will become a vibrant and active main street, with apartment and commercial buildings up to six storeys sitting above parking podiums and active streets or retail and commercial development. Level differences will allow parking structures to be sleeved behind active street edge buildings; • Banks Avenue – Will provide a transition from the shopping centre to residential areas to the south. A street environment with mixed uses at ground level to both sides of the street and buildings of 3 storeys will provide an appropriate and improved transition in scale and activity. Buildings will have a passive street interface with pedestrian shelter at main building entrances. Landscaped frontages with permeable fencing will soften the streetscape. <p>A street interface plan is provided in Part 1. Interfaces have been broken into three frontage types based on projected pedestrian footfall, each with its own design criteria:</p> <ul style="list-style-type: none"> • Active frontages are required for those areas where the highest footfall is expected, and will require pedestrian shelter and glazing. • Passive frontages are required for those areas where moderate footfall is expected and will require pedestrian shelter at building entrances, and screening of any car parking. • Attractive frontages are required for those areas where low footfall is expected and will require facades to be articulated through the use of artistic, sculptural and/or landscaped features. 	<p>Whilst the proposed street interface treatments are sound planning principles, this will not guarantee the success of the proposed town square and main street.</p> <p>The ability for the main street to successfully compete with the adjoining (internally focussed) shopping centre is unknown.</p> <p>The existing retail core may serve to 'deactivate' the main street, resulting in over investment in a poorly used public space.</p> <p>Statements are made regarding the articulation of building facades and design provisions require a consistent approach to facades. This potentially allows for flexibility at the design stage but relies on developers to integrate their building designs with other developments.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Additional comments following Council meeting on 19 March 2013</p> <p>Active frontages within the Retail District could serve to deactivate the eastern portion of Banks Avenue and Whitfords Avenue.</p> </div>
Public Spaces & Landscaping	<ul style="list-style-type: none"> • Landscaping • Way-finding • Microclimate • Amenity 	<p>The ACSP makes provision for the implementation of a water efficiency strategy, based on the following actions:</p> <ul style="list-style-type: none"> • Maximise efficiency of groundwater usage for irrigation of any additional open spaces through appropriate landscape design so that additional allocations are not required. • Consider opportunities to reduce irrigation needs of existing open space areas through re-landscaping and hydro-zoning, whilst retaining drainage and recreational functions of these areas. <p>Landscaping in the Centre will be designed for functional and cultural requirements of outdoor spaces in an urban context and consideration will be given to activity and circulation; shade and wind protection and safety and security (Crime Prevention Through Environmental Design principles). Best practice for installation and maintenance will be applied to all landscapes to be attractive and safe, fit for purpose and adaptable. Materials, furniture and fixtures will be selected for life cycle efficiency. They will have a consistent palette and reusable/recyclable content. Landscaping of public spaces will be guided by the City of Joondalup Landscape Master Plan.</p> <p>Planting in public spaces will use consistent themes, be selected for local soil and microclimate conditions (including limestone and wind) and be south west Australian species where suitable. Tree rooting zones designed concurrently with paving, roads and infrastructure will be used for trees in street and plaza areas.</p> <p>A network of public spaces are proposed comprising of:</p> <ul style="list-style-type: none"> • A new town square on Endeavour Road • A civic space based off Marmion Avenue <p>Development objectives for the districts set out landscaping as a key aspect to the areas. It is proposed that differentiating landscape treatment be applied to key streets to improve amenity and the existing microclimate.</p> <p>Further detail of landscaping can be provided as part of Local Development Plans.</p>	<p>Use of water wise landscaping is supported.</p> <p>Public improvements alone will not ensure the success of the new town square on Endeavour Road.</p> <p>The City's Landscape Master Plan does not provide specific requirements for landscaping treatments, however landscaping that aligns with the principles of the Master Plan is supported.</p> <p>The ACSP does not clearly articulate how protection from climate will be provided or how the environment will be capitalised in regard to public space.</p>

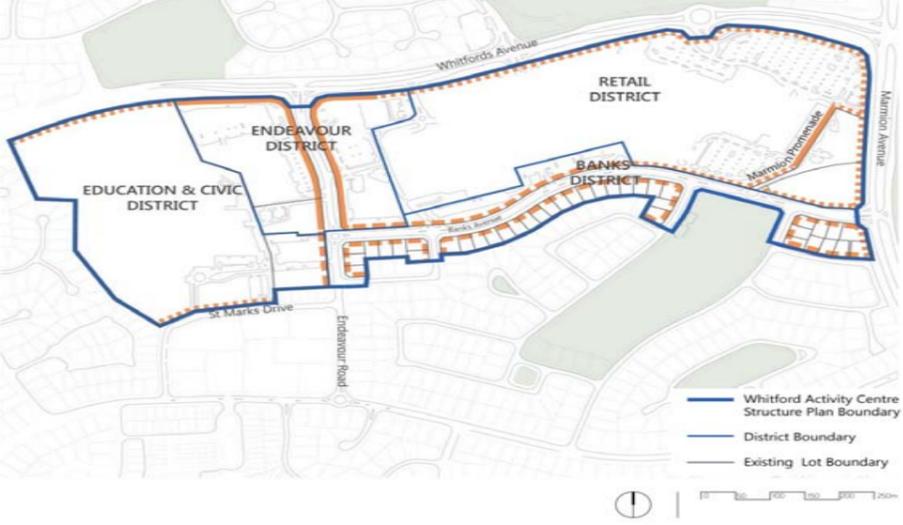
MODEL CENTRE FRAMEWORK		PLANNING CONSIDERATION	PROPOSAL SUMMARY	COMMENT
	Key nodes, landmarks and view lines		<p>Landmark sites and community focal points are proposed to enhance the legibility and community focus at the Centre. The proposed community focal points are:</p> <ul style="list-style-type: none"> • Endeavour Community Square • Marmion Promenade (on private land) <p>The proposed landmark sites are:</p> <ul style="list-style-type: none"> • Buildings at the intersection of Whitford Avenue and Endeavour Road which will signify arrival at the 'main street' of the Centre. • The retail building fronting Marmion Promenade which enhances the Centre and addresses Marmion Avenue. • Landscape elements at the intersection of Marmion Avenue and Whitfords Avenue which signify approach to the Centre at a vehicle scale. <p>Development standards that apply to these community focal points and landmark sites are generally subject to Local Development Plans.</p>	<p>Concepts within the ACSP appear to be logical and based on sound planning principles. There is a lack of detail on the staging of the points of arrival. In particular, landscaping treatments at the intersection of Marmion Avenue and Whitfords Avenue are not indicated to be done during the major expansion of the shopping centre by 2016.</p>
Resource Conservation	Energy	Thermal mass Renewable District-wide source	<p>The ACSP states that buildings will be climate responsive, being orientated for optimum solar access, natural ventilation and daylight, and having a thermally efficient building shell. Energy efficiency of buildings will also be achieved through such measures as high-efficiency lighting and air-conditioning systems.</p> <p>Renewable energy use will be optimised including use of solar water heating and on-site energy generation. Renewable energy and district-wide sources could be incorporate with the Centre subject to life cycle costing. This could include solar panels that also provide shading to car park decks as well as investigation into wind and geothermal energy in the future.</p> <p>The existing buildings at the Centre are of a variety of ages and generally do not comply with current best environmentally sustainable design practices. Redevelopment will provide an opportunity for innovative and best practice building design, construction and management. This is particularly important in a large retail centre where energy demands are high. Westfield will adopt 4.5 star green star specifications (pilot) for any development within the Centre. Buildings will be designed to meet objectives such as to:</p> <ul style="list-style-type: none"> • Protect occupant health and improve employee productivity; • Use energy, water, and other resources more efficiently; • Reduce overall environmental impact. <p>Both building shells and tenancy fit-outs will be subject to green star specifications. In addition, Section J of the Building Code of Australia now requires energy efficiency in buildings and the National House Energy Rating Scheme (NatHERS) (minimum 5 star) will be applicable to residential development. Where appropriate the reuse of existing buildings will be considered to contribute to resource conservation.</p> <p>General objectives that are applicable to all districts encourage reduced car dependency through the aggregation of activities and public transport access, and increased energy and water efficiency and open space through the application of ESD principles.</p>	<p>It is noted that the Green Building Council of Australia strongly recommends that the Green Star Rating be used as a voluntary tool and not as a mandatory standard.</p> <p>The general objective provided within Part 1 of the ACSP encourages the development of energy and water efficient buildings. In addition, the City's <i>Environmentally Sustainable Buildings in the City of Joondalup Policy</i>, the design checklist is required to be submitted as part of applications for development approval.</p>

MODEL CENTRE FRAMEWORK		PLANNING CONSIDERATION	PROPOSAL SUMMARY	COMMENT
	Water	<ul style="list-style-type: none"> Waterwise plants Stormwater management Efficient measures 	<p>A water balance report has been prepared by Consultants Essential Environmental. This report identifies and quantifies opportunities for efficiency and innovation in water servicing. It estimates of the various water demands in the study area with consideration of land use, resident and student populations, water consumption records (where available) and typical Perth water consumption information from the Water Corporation.</p> <p>The ACSP makes provision for the implementation of a water efficiency strategy, based on the following actions:</p> <ul style="list-style-type: none"> Maximise efficiency of groundwater usage for irrigation of any additional open spaces through appropriate landscape design so that additional allocations are not required. Consider opportunities to reduce irrigation needs of existing open space areas through re-landscaping and hydro-zoning, whilst retaining drainage and recreational functions of these areas. Consider opportunities to incorporate fit-for-purpose water supplies through development of a local scale water balance which investigates opportunities to: <ul style="list-style-type: none"> Recycle greywater from public bathroom basins for use in public toilets; Harvest stormwater from roof areas for use in public bathroom basins; and Develop and implement design guidelines which require water use efficiency measures to be implemented in private and public open spaces and within developments, including water efficient fixtures, fittings and appliances, including WELS (Water Efficiency Labelling and Standards) rated flow controllers, toilets, taps and urinals. Landscaping which incorporates the use of waterwise gardens, rain gardens, smart irrigation systems, and use of alternative sources of water; Smart meters for water use in all new developments. Incorporate fit-for-purpose supply options and requirements into design guidelines. 	<p>The report for future resource conservation amounts are based on assessment of the Whitfords Shopping Centre development and not the entire Centre. It acknowledges that the water efficiency standards are adaptable to other development.</p>
	Materials and waste	<ul style="list-style-type: none"> Cut and fill Construction materials 	<p>Sustainable strategies will be adopted for material use and waste both in construction and during occupancy. In retail development this can be significant as there are refurbishments on a regular basis and material reuse is often limited.</p>	<p>The principle is sound, however it is unclear if this will be addressed for all types of development.</p>
Implementation	Collaborative working		<p>The ACSP states that the following stakeholders are responsible for the implementation of the plan:</p> <ul style="list-style-type: none"> City of Joondalup Westfield State Government Agencies Landowners in the Centre Local Community <p>Cover letter of Servicing Report by Cardno (Appendix B2) indicates servicing information has been sought by Cardno from the following agencies:</p> <ul style="list-style-type: none"> ATCO gas Alinta Western Power Telstra Water Corporation <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Additional comments following Council meeting on 19 March 2013</p> <p>In accordance with Council's resolution the requirement for a developer contribution arrangement has been included in the structure plan. The purpose of the arrangement is to provide for the equitable sharing of costs for infrastructure required to deliver the development intentions. This may include new roads, upgrade to existing roads, intersection upgrades, traffic signals, service upgrades and landscape treatments.</p> </div>	<p>Due to the significance of the ACSP, it is acknowledged that ongoing commitment and collaboration will be required.</p> <p>It is difficult to comprehend the scale of commitment required; however there is some concern that significant officer time and resources will be required to facilitate implementation.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Additional comments following Council meeting on 19 March 2013</p> <p>The City will be required to amend DPS2 to include provisions to allow for developer contributions before the arrangement could be implemented.</p> </div>

MODEL CENTRE FRAMEWORK		PLANNING CONSIDERATION	PROPOSAL SUMMARY	COMMENT
	Staging and monitoring		<p>The ACSP will guide development until 2031, and states that staging of development of the Centre will be dependent on market driven demand for services and housing. There is a current lag in supply of retail floor space in the North West Sub-Region, and the additional retail floor space will act as a catalyst for further investment in the area.</p> <p>Factors influencing staging and time include:</p> <ul style="list-style-type: none"> • Sub regional population employment growth; • Existing tenure and leasing arrangements; • Planning context enabling development to proceed in a timely, unencumbered manner; • Transport context-improvements to bus services and street walking environment; • Local community acceptance and market desire for a more urban intense residential model including apartments; • Provision of appropriate community and utility infrastructure; • Local and sub regional commercial competition-the impact of other activity centres; • Construction costs and industry conditions; • Sense of place, ambience (and branding) that will attract more diverse activities inc housing to co-locate; and • Visitation rates and commercial success of the Centre that will also attract activity. 	<p>No commitment is provided to improve land use diversity with each stage of development. The ACSP indicates that it is intended that the initial stage will involve retail expansion only.</p> <p>No detail is provided on the funding and staging for the implementation of public infrastructure. This includes road modifications and upgrade to shared use paths.</p> <p>Upgrading of infrastructure may generate further investment in the area, and the expansion of the retail floorspace may act as an incentive for similar complimentary land uses to co-locate within the WAC.</p>
	Effective use of conditions		No information provided within the ACSP.	SPP 4.2 states that the City 'has the ability to impose conditions to ensure compliance with design standards and controls, diversify use mix and financial contributions'.
	Planning obligations and incentives		<p>The ACSP sets out future initiatives and responsibilities to ensure successful implementation. Commitment by the City in the short term includes:</p> <ul style="list-style-type: none"> • Adoption of the ACSP; • Modification to the draft Local Commercial Strategy to align with SPP 4.2; • Preparation of Community Engagement Strategy (in conjunction with Westfield Ltd); and • Identification and delivery of a new community facilities building. <p>It is noted that other short term initiatives and responsibilities will require the City's involvement:</p> <ul style="list-style-type: none"> • Assessment of various management strategies; • Assessment of Local Development Plans required under the ACSP; and • Assessment of development applications. 	As discussed above, the adoption of the ACSP places onus on the City to find the resources to undertake the necessary implementation actions.

	ATTRIBUTE/PRINCIPLE	STANDARDS	CITY COMMENT
<p>PROVISIONS RELATING TO ALL DISTRICTS</p>	<p>Building Height</p>	 <p>General Minimum Standards:</p> <ul style="list-style-type: none"> • Building heights shall be no greater than the nominated building heights as depicted in the building height plan (above). • Ground floor to floor height shall be a minimum of 4.5 metres to provide for changing of uses over time. • Additional height may be permitted at the City's discretion subject to provision of increased amenity such as a town square, community facility or other agreed element and if there are no unduly detrimental effects to adjoining properties or the public realm. 	<p>Retail District The proposed building height will accommodate a different built form than the existing development. Building height is considered appropriate.</p> <p>Endeavour District The proposed building height would accommodate approximately six storeys. This is a significant change from the existing urban form, however it may be required to achieve intensity and diversity targets.</p> <p>As the District is located away from existing residential development that is not proposed to be included in the Centre, the height is considered appropriate.</p> <p>Banks District The proposed building height of approximately three storeys provides a transition between the Retail and Endeavour Districts to the adjoining residential lots to the south of the Centre. Under the draft Local Housing Strategy the proposed residential area to the south will have a density code of R20/R60. A requirement for a six metre setback from the rear boundaries will ensure that the amenity of the adjoining properties is preserved.</p> <p>Education and Civic District The proposed building height would accommodate approximately three storeys. The setback provisions for the school site will be subject to a Local Development Plan. Depending on the setbacks, the height has the potential to have an impact on adjoining residential R20 lots to the west.</p>
	<p>Pedestrian Access</p>	<p>Internal shopping malls to be connected to external streets.</p> <p>Large areas of car parking (at grade or in decks), clearly signed and safe pedestrian access routes are to be provided that lead to building entrances.</p>	<p>In principle the provisions seem appropriate. However, as the statements are broad it may be difficult to determine if what is being proposed as part of a development is appropriate (e.g what is classed as large area of car parking?)</p>

PROVISIONS RELATING TO ALL DISTRICTS CONT.	ATTRIBUTE/PRINCIPLE	STANDARDS	CITY COMMENT																														
	<p>Vehicle Parking and Access</p>	<p>Car parking for people with a disability is to be provided in accordance with relevant Australian Standards.</p> <p>At grade and deck car parking areas are to be screened and to be visually attractive from the public realm.</p> <p>Vehicle access points and crossovers are to be located as indicated on the Structure Plan Map (Attachment 3 of this report) or any approved Local Development Plan. The location should be consistent with the development objectives of the district and supported by traffic analysis to the satisfaction of the City. Rationalisation of existing crossovers should also occur.</p> <p>Service vehicle routes and access points should be located away from areas of high pedestrian footfall and designed with consideration for safety, visual, and acoustic amenity for adjoining uses.</p> <p>Entrances to parking areas are to be clearly visible from the street and signed to indicate directions and availability to road users.</p> <p><u>Bicycle parking</u> Bicycle parking should be in accordance with the following:</p> <table border="1"> <thead> <tr> <th>USE</th> <th>Minimum Long Term Parking</th> <th>Minimum Short term Parking</th> </tr> </thead> <tbody> <tr> <td>Multiple Dwelling</td> <td>As per the Residential Design Codes</td> <td>As per the Residential Design Codes</td> </tr> <tr> <td>Short Stay Accommodation, Hotel (accommodation component only), Motel</td> <td>1 space per 40 guest bedrooms</td> <td>none required</td> </tr> <tr> <td>Commercial**</td> <td>1 space per 1,500m² NLA</td> <td>1 space per 1000m² NLA</td> </tr> <tr> <td>Office</td> <td>1 space per 250m² NLA</td> <td>1 space per 750m² NLA</td> </tr> <tr> <td>Consulting Rooms, Medical Centre</td> <td>1 space per 8 practitioners</td> <td>1 space per 4 practitioners</td> </tr> <tr> <td>Hotel (excluding accommodation component), Tavern, Small Bar, Nightclub</td> <td>1 space per 100m² of bars and public areas, including lounges, beer gardens and restaurants</td> <td>1 space per 150m² of bars and public areas, including lounges, beer gardens and restaurants</td> </tr> <tr> <td>Recreation Centre, Private Recreation</td> <td>1 space per 400m² NLA available to the public, including swimming pools</td> <td>1 space per 200m² NLA available to the public, including swimming pools</td> </tr> <tr> <td>Public Exhibition Facility, Place of Worship, Place of Assembly, Club (Non-Residential), Reception Centre</td> <td>None Required</td> <td>1 space for every 30 people that the building is designed to accommodate</td> </tr> <tr> <td>Showroom</td> <td>1 space per 750m² NLA for premises greater than 300m²</td> <td>1 space per 1000m² NLA</td> </tr> </tbody> </table> <p>** 'Commercial' includes a Shop, Bank, Betting Agency, Convenience Store, Drive Through Food Outlet, Lunch Bar, Restaurant, Restricted Premises, Service Station (convenience store component) and uses not listed will be at the discretion of the City.</p> <p>Long-term bicycle parking facilities are to be located in a convenient and secure location for employees/residents and can include:</p> <ul style="list-style-type: none"> • Locked compounds with communal access using duplicate keys or electronic swipe cards in a secure location and fitted with bicycle parking devices. • Fully-enclosed individual lockers. • Devices to which the bicycle frame and wheels can be locked, positioned close to and directly visible from inside the place of employment. <p>Short-term bicycle parking facilities are to include devices to which the bicycle frame and wheels can be locked and should be located in a convenient and secure position close to the entrance of the premises.</p> <p><u>End of journey facilities</u></p> <ul style="list-style-type: none"> • End of journey facilities are facilities which support the use of bicycle transport by allowing shower and change at the beginning or end of their journey to and from work. • They include separate male and female changing rooms with shower facilities and lockers other personal items. • All non-residential development is encouraged, to provide end of journey facilities • End of journey facilities must be located as close as possible to bicycle parking facilities. 	USE	Minimum Long Term Parking	Minimum Short term Parking	Multiple Dwelling	As per the Residential Design Codes	As per the Residential Design Codes	Short Stay Accommodation, Hotel (accommodation component only), Motel	1 space per 40 guest bedrooms	none required	Commercial**	1 space per 1,500m ² NLA	1 space per 1000m ² NLA	Office	1 space per 250m ² NLA	1 space per 750m ² NLA	Consulting Rooms, Medical Centre	1 space per 8 practitioners	1 space per 4 practitioners	Hotel (excluding accommodation component), Tavern, Small Bar, Nightclub	1 space per 100m ² of bars and public areas, including lounges, beer gardens and restaurants	1 space per 150m ² of bars and public areas, including lounges, beer gardens and restaurants	Recreation Centre, Private Recreation	1 space per 400m ² NLA available to the public, including swimming pools	1 space per 200m ² NLA available to the public, including swimming pools	Public Exhibition Facility, Place of Worship, Place of Assembly, Club (Non-Residential), Reception Centre	None Required	1 space for every 30 people that the building is designed to accommodate	Showroom	1 space per 750m ² NLA for premises greater than 300m ²	1 space per 1000m ² NLA	<p>In principle the provision seems appropriate.</p> <p>The provision for vehicle access locations contradicts where it states that the access point are to be in accordance with the structure plan map, however the suitability should also be supported by traffic analysis to the satisfaction of the City. The Structure Plan should be indicating the vehicle access and crossovers as final with the appropriate level of justification provided. This would therefore remove the need for an additional traffic analysis.</p> <p>The location of service vehicle routes and access points away from areas of high pedestrian footfall is supported. It is unclear if this relates only to footfall in the public realm, or applies to private property. This requirement may also not match with the business need for service docks to be located close to particular tenancies.</p> <p>There is a lack of justification within the Structure Plan to support the bicycle parking standards. Information provided to the City separately states that the standards are based on other planning schemes and policies, that Education providers (i.e. Department of Education) have their own standard and therefore has not been included, and the appropriateness of the standard is at the City's discretion. The City does not have any bicycle parking standards, and will be addressed as part of a new policy, or in the new District Planning Scheme. Insufficient detail provided by the applicant makes it difficult to form a position on the appropriateness of the standards and further consideration is required.</p> <p>Whilst providing end of trip facilities is supported, there is no standard on the number of facilities that should be provided, and the requirement only encourages developers to consider providing facilities. Additional information provided by the applicant stated that it should be at the developers discretion to provide facilities and that they do not have a standard that could be applied. The City will also be developing standards for end of trip facilities as part of a new policy, or the new District Planning Scheme.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Additional comments following Council Meeting of 19 March 2013</p> <p>Bicycle parking facilities should be located such that they are easily accessible via the external bicycle network. There is no requirement under the Structure Plan for this to occur.</p> </div>
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PROVISIONS RELATING TO ALL DISTRICTS CONT.	ATTRIBUTE/PRINCIPLE	STANDARDS	CITY COMMENT										
	Street and Public Realm Interface	 <p>Interface treatments with the street are to be consistent with the Street Interface Plan:</p> <p><u>Active Frontage</u></p> <p>Objective: Building frontages are to be active in areas with high projected pedestrian footfall, as indicated on the street interface plan</p> <p>Minimum Standards:</p> <table border="1"> <tr> <td>Pedestrian shelter of 2.5 metres minimum width and a minimum of 2.75 metres clearance above the footpath shall be provided.</td> <td>Main building entrances shall be directly onto the primary street frontage.</td> </tr> <tr> <td>Not less than 50% of the area of the facade of the ground floor is to be glass windows or glass doors and the windows and doors must be a minimum 75% of the width of the ground floor facade. The sill of the ground floor window must not be higher than 500mm above the finished floor level.</td> <td>There shall be no fencing to any public road. There shall be no on-site parking adjacent to any public road.</td> </tr> </table> <p><u>Passive Frontage</u></p> <p>Objective: Building frontages are to be passive in areas with moderate projected pedestrian footfall, as indicated on the street interface plan.</p> <p>Minimum Standards:</p> <table border="1"> <tr> <td>Pedestrian shelter shall be provided at entrances to buildings.</td> <td>Any fencing to a public road shall be a maximum height of 1.2 metres and shall be visually permeable.</td> </tr> <tr> <td>Main building entrances shall be directly onto the primary street frontage.</td> <td>Car parking areas shall be screened from public roads, however this shall not prevail over the requirement for a maximum height of fencing of 1.2 metres.</td> </tr> </table> <p><u>Attractive Frontage</u></p> <p>Objective: Building frontages are to be attractive in areas with low projected pedestrian footfall, as indicated on the street interface plan.</p> <p>Minimum Standards</p> <table border="1"> <tr> <td>Development sites shall incorporate landscaping that is designed, developed and maintained to a standard satisfactory to the City.</td> <td>Where the building is not of a human scale, the development shall incorporate artistic or sculptural features.</td> </tr> </table>	Pedestrian shelter of 2.5 metres minimum width and a minimum of 2.75 metres clearance above the footpath shall be provided.	Main building entrances shall be directly onto the primary street frontage.	Not less than 50% of the area of the facade of the ground floor is to be glass windows or glass doors and the windows and doors must be a minimum 75% of the width of the ground floor facade. The sill of the ground floor window must not be higher than 500mm above the finished floor level.	There shall be no fencing to any public road. There shall be no on-site parking adjacent to any public road.	Pedestrian shelter shall be provided at entrances to buildings.	Any fencing to a public road shall be a maximum height of 1.2 metres and shall be visually permeable.	Main building entrances shall be directly onto the primary street frontage.	Car parking areas shall be screened from public roads, however this shall not prevail over the requirement for a maximum height of fencing of 1.2 metres.	Development sites shall incorporate landscaping that is designed, developed and maintained to a standard satisfactory to the City.	Where the building is not of a human scale, the development shall incorporate artistic or sculptural features.	<p>In principle the interface plan is considered appropriate taking into account the existing built form, topography and character which influence pedestrian movement.</p> <p>The objective for each of the frontage types implies that they can only be that particular type of frontage (i.e a passive frontage cannot be active). Additional information provided by the applicant stated that these standards are minimum only, in which case this should be reflected in the provisions.</p> <p>The glazing requirement for active frontages is consistent with provisions for similar type of development within the draft Joondalup City Centre Structure Plan adopted by Council in December 2012, with the exception of sill heights.</p> <p>For passive frontages, there is no minimum requirement for the amount of pedestrian shelter that needs to be provided at building entrance (e.g width and clearance).</p> <div style="border: 1px solid black; padding: 5px;"> <p>Additional comments following Council Meeting of 19 March 2013</p> <p>There could be a possibility to encourage street activation within the Retail District, by reducing the extent of attractive frontage to Banks Avenue, and Whitford Avenue where key pedestrian access points are located and converting to passive or active frontages.</p> </div>
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	ATTRIBUTE/PRINCIPLE	STANDARDS	CITY COMMENT
<p>PROVISIONS RELATING TO ALL DISTRICTS CONT.</p>	<p>Street and Public Realm Interface cont.</p>	<p><u>Facades fronting the street or public realm</u> Buildings are to be designed with a consistent approach to all facades. Architectural character and visual interest is to be provided to all sides of buildings that are viewed from the public realm. This can be achieved with articulation, colour and/or materials (including glazing). Corner buildings are to be designed to address both streets with equal importance.</p> <p><u>Building entrances</u> Main building entrances shall be directly onto the primary street frontage.</p> <p><u>Passive surveillance</u> Crime Prevention Through Environmental Design (CPTED) principles are to apply in the design of street and public realm interface.</p> <p><u>Signage, advertising and public art</u> Signage shall be in accordance with the standards applicable to the Commercial Zone under the City of Joondalup Signs Policy. Public art is to be provided as part of the design of landmark sites, where appropriate.</p>	<p>The standard requires buildings entrances to be directly onto the primary street frontage, however it is not clear what the primary street frontage is.</p>
	<p>Landscape and Private and Open Space</p>	<p><u>Landscape provision</u> Landscaping within and to private development is to be designed to suit the intense urban environment of the activity centre.</p> <p>Where fronting the street, landscaped areas are to be integrated with the streetscape to include the use of consistent materials and planting.</p> <p>Shade trees in uncovered car parking areas shall be provided at a rate of 1 (one) tree for every 6 (six) bays.</p> <p><u>Balconies and roof gardens</u> Balconies to private residences or commercial spaces shall face the street or be designed to avoid overlooking private space.</p> <p>Roof gardens for commercial and residential development are strongly encouraged.</p>	<p>The statements made regarding the provision of landscaping are broad. Additional information was submitted by the applicant stating that a minimum standard for landscaping is considered too prescriptive.</p> <p>The requirement for consistent streetscape landscaping may not be easily achievable given fragmented land ownership. Should a landscape strategy for each of the district/key frontages be provided to ensure consistent landscaping for future development?</p> <p>In regard to shade trees, given that large expanses of car parking would be required within the Centre (particular through the Retail District) it is recommended that the City's DPS2 standard of 1 tree for every 4 bays be applied.</p> <p>The provision of roof gardens is encouraged (not mandated), and therefore it will be difficult to assess when they should or should not be provided, and how they should be designed.</p>
	<p>Roofscape</p>	<p>Roofscape is to be considered as part of building design and designed to be attractive, where it can be viewed from the public realm or any viewpoint within surrounding buildings, to include future buildings.</p> <p>Roof mounted plant and equipment is to be screened from view (including from above).</p> <p>Screening should be consistent with the design and character of the building.</p>	<p>The first statement adds subjectivity to the standard. With the exception of where it should be screened from, the matters relating to building design could be deleted as it is covered by the remainder of the provision.</p> <p>It will be difficult (if not impossible) to predict the location and design of future buildings given the lack of detail in the Structure Plan for certain Districts.</p>
	<p>Service Areas and Ancillary Buildings</p>	<p><u>Service Areas</u> Service areas and refuse disposal systems shall be located away from public areas and residential development.</p> <p><u>Screening</u> Service and refuse areas are to be screened from view. Screening and ancillary buildings shall be constructed of materials and be of design compatible with the adjacent buildings.</p>	<p>In principle the provisions are considered appropriate.</p>

RETAIL DISTRICT	ATTRIBUTE/PRINCIPLE	STANDARDS			CITY COMMENT																																																																																																			
	Land use and Development Intensity	<p>The following land uses are able to be considered for the District:</p> <table border="1"> <thead> <tr> <th>Permitted Uses</th> <th>Discretionary Uses</th> <th>Discretionary "A" Uses</th> </tr> </thead> <tbody> <tr><td>Amusement Parlour</td><td>Auction Room</td><td>Showroom</td></tr> <tr><td>Art Gallery</td><td>Betting Agency</td><td>Night Club</td></tr> <tr><td>Bakery</td><td>Car Wash</td><td></td></tr> <tr><td>Bank</td><td>Child Care Centre</td><td></td></tr> <tr><td>Car Park</td><td>Club (non-residential)</td><td></td></tr> <tr><td>Cinema/Theatre</td><td>Communication Antenna – Domestic</td><td></td></tr> <tr><td>Civic Building</td><td>Communication Antenna</td><td></td></tr> <tr><td>Consulting Rooms</td><td>Corner Store</td><td></td></tr> <tr><td>Convenience Store</td><td>Display Home</td><td></td></tr> <tr><td>Costume Hire</td><td>Educational Establishment</td><td></td></tr> <tr><td>Drive Through Food Outlet</td><td>Garden Centre</td><td></td></tr> <tr><td>Dry Cleaning Premises</td><td>Grouped Dwelling</td><td></td></tr> <tr><td>Hardware Store</td><td>Home Business – Category 2 & 3</td><td></td></tr> <tr><td>Home Business – Category 1</td><td>Hotel</td><td></td></tr> <tr><td>Land Sales Office (temporary)</td><td>Kindergarten</td><td></td></tr> <tr><td>Laundrette</td><td>Motel</td><td></td></tr> <tr><td>Liquor Store</td><td>Multiple Dwellings</td><td></td></tr> <tr><td>Lunch Bar</td><td>Place of Assembly</td><td></td></tr> <tr><td>Markets (retail)</td><td>Place of Worship</td><td></td></tr> <tr><td>Medical Centre</td><td>Reception Centre</td><td></td></tr> <tr><td>Office</td><td>Recreation Centre</td><td></td></tr> <tr><td>Private Recreation</td><td>Restricted Premises</td><td></td></tr> <tr><td>Public Exhibition Facility</td><td>Service Station</td><td></td></tr> <tr><td>Public Utility</td><td>Short Stay Accommodation</td><td></td></tr> <tr><td>Restaurant</td><td>Veterinary Consulting Rooms</td><td></td></tr> <tr><td>Shop up to 500sqm</td><td>Veterinary Hospital</td><td></td></tr> <tr><td>Shop greater than 500sqm</td><td></td><td></td></tr> <tr><td>Small Bar</td><td></td><td></td></tr> <tr><td>Take Away Food Outlet</td><td></td><td></td></tr> <tr><td>Tattoo Studio</td><td></td><td></td></tr> <tr><td>Tavern</td><td></td><td></td></tr> <tr><td>Vehicle Repair</td><td></td><td></td></tr> </tbody> </table> <p>Uses not listed in the ACSP are not permitted ("X") uses.</p> <p>Residential Density is proposed to be R AC-0.</p>			Permitted Uses	Discretionary Uses	Discretionary "A" Uses	Amusement Parlour	Auction Room	Showroom	Art Gallery	Betting Agency	Night Club	Bakery	Car Wash		Bank	Child Care Centre		Car Park	Club (non-residential)		Cinema/Theatre	Communication Antenna – Domestic		Civic Building	Communication Antenna		Consulting Rooms	Corner Store		Convenience Store	Display Home		Costume Hire	Educational Establishment		Drive Through Food Outlet	Garden Centre		Dry Cleaning Premises	Grouped Dwelling		Hardware Store	Home Business – Category 2 & 3		Home Business – Category 1	Hotel		Land Sales Office (temporary)	Kindergarten		Laundrette	Motel		Liquor Store	Multiple Dwellings		Lunch Bar	Place of Assembly		Markets (retail)	Place of Worship		Medical Centre	Reception Centre		Office	Recreation Centre		Private Recreation	Restricted Premises		Public Exhibition Facility	Service Station		Public Utility	Short Stay Accommodation		Restaurant	Veterinary Consulting Rooms		Shop up to 500sqm	Veterinary Hospital		Shop greater than 500sqm			Small Bar			Take Away Food Outlet			Tattoo Studio			Tavern			Vehicle Repair			<p>Given that a Consulting Room is a Permitted use, and a Veterinary Consulting Room could be considered as being of a similar intensity, it would be reasonable for a Veterinary Consulting Room to be a Permitted use rather than Discretionary.</p> <p>Showroom is not considered to be a land use that would have a significant impact on surrounding land uses, and therefore it would be more appropriate listed as a Discretionary use. It is noted that the only difference between a Discretionary and Discretionary "A" use is the requirement for advertising to be undertaken.</p> <p>The shop sizes should specify if it is based on 500sqm net lettable area or gross floor area.</p> <p>Given the potential for small bars, tavern and vehicle repair land uses to impact on amenity, it is suggested that these land uses be discretionary, rather than permitted. This is also consistent with the Commercial Zone under DPS2.</p> <p>Uses not listed being considered "X" uses (land uses not permitted) is considered appropriate.</p> <p>No information is provided on the design provisions for the R AC-0 density code, which will be subject to Local Development Plan(s). It is therefore difficult to envisage what this would mean for the area, and determine whether it is appropriate against other criteria which apply to the District.</p>
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	Height and Setbacks	<p>Building setbacks Nil minimum to Marmion Promenade. 3m minimum to all other streets.</p>			<p>To achieve an appropriate level of activation for active frontages (being for a portion of Marmion Promenade) it would be more appropriate for nil setbacks to be prescribed for this frontage. This would be consistent with the approach for the Joondalup City Centre.</p>																																																																																																			
	Pedestrian Access	<p>Primary off street pedestrian connections should be as nominated on the Structure Plan Map (Attachment 3 of this report). In addition, footpaths (min 2.0m width) shall be provided along all facades within 20m of mall entrances.</p>			<p>Without knowing the exact location of building entrances it is difficult to determine if a shared use path along the façade within 20 metres of entrances will provide a contiguous path. This requirement is for mall entrances only, however should it also include tenancies that have an external entrance?</p> <p>In addition to this standard it is noted that malls are required to be connected to external streets, and safe pedestrian routes are required for large expanses of car park.</p>																																																																																																			

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RETAIL DISTRICT CONT.	Vehicle parking and access	<p><u>Parking provision</u> An ultimate car parking bay cap of 4,200 bays applies. This cap shall not be exceeded without the preparation of a revised Transport and Parking Report.</p> <p>A parking rate of 4.5 bays per 100m² for all uses within the Retail District has been applied to determine this cap.</p> <p>The City may require a traffic impact assessment and parking strategy/report for any Development Application.</p> <p><u>Sleeving of parking</u> At-grade and decked car parking areas will be sleeved with built form as required by the District Planning requirements for the Endeavour and Banks Districts. Where this does not occur, these parking areas are to be screened in another way, to ensure a visually attractive streetscape is maintained.</p> <p><u>Vehicle access locations</u> Primary vehicle access points and crossovers are to be located as indicated on the Structure Plan Map. The location should be consistent with the development objectives of the district and suitability supported by traffic analysis to the satisfaction of the City.</p>	<p>The parking cap of 4,200 car bays equates to 93,333sqm of floor space. The retail addition proposed in the Retail District alone will bring the total retail floor space to approximately 90,000sqm, and does not account for other non-retail floorspace existing or proposed. This parking cap was revised from the 5,300 proposed in the initial Structure Plan submitted, however no additional justification was provided.</p> <p>The parking rate should state whether it is based on net lettable area or gross floor area.</p> <p>Additional comments on car parking provided in the City's assessment against the Model Centre Framework (Attachment 4).</p> <p>The provision for the sleeving of car parking is confusing. If development has not already occurred in the Endeavour or Banks District which could act to screen the car park, would another form of interim screening be required? Additional wording could be included to provide clarity.</p> <p>The provision for vehicle access locations contradicts where it states that the access point are to be in accordance with the structure plan map, however the suitability should also be supported by traffic analysis to the satisfaction of the City. The Structure Plan should be indicating the vehicle access and crossovers as final with the appropriate level of justification provided. This would therefore remove the need for an additional traffic analysis.</p> <div style="border: 1px solid black; padding: 5px;"> <p><u>Additional comments following Council Meeting of 19 March 2013</u> Additional information provided by the applicant indicates that the 5,300 car bays that are referenced in the Transport Assessment should apply across the whole structure plan area for non-residential uses (car parking for residential uses should be in accordance with the R-Codes). This parking cap has not been translated into the statutory provisions of the structure plan.</p> <p>The statutory provisions state that car parking is to be provided at a ratio of 4.5:100sqm for the Retail District (to a limit of 4,200 bays) and in accordance with DPS2 for the remaining districts. Applying these standards to the projected floor areas for commercial development it could result in the number of car parking bays exceeding the 5,300 bay cap. It is unclear how the statutory provisions align with the conclusions of the Transport Assessment.</p> </div>

	ATTRIBUTE/PRINCIPLE	STANDARDS	CITY COMMENT
RETAIL DISTRICT CONT.	Landmark sites and community focal points	<p>The applicant has indicated that the landmark sites will contain buildings which signify arrival to the Centre (particularly the main street), reflect the strategic location of the site and may include architectural or landscape elements.</p> <p><u>Marmion Promenade</u> In addition to the development standards that apply to the Retail District, the following standards apply to Marmion Promenade:</p> <p>Marmion Promenade is to become the primary community focal point at the eastern end of the retail core. It will provide improved legibility and a direct north-south pedestrian connection through the eastern end of the centre.</p> <p>The promenade is to extend between Banks Avenue and Whitford Avenue and have a minimum width of 6 metres from building facade to building facade.</p> <p>Treatment should include generous footpath and landscape (shade trees and feature plantings).</p> <p>A square or other appropriate space is to be provided at the entrance to the retail core.</p> <p>A pedestrian connection from the square to the bus stop on Marmion Avenue is to be provided.</p> <p>Marmion Promenade will not be provided as a Public Access Way or Right of Way. It will remain in private ownership.</p> <p><u>Landmark site at corner Marmion Avenue and Whitfords Avenue</u> In addition to the development standards that apply to the Retail District, the following standards apply to landmark site at the corner of Whitfords Avenue and Marmion Promenade:</p> <p>The termination of Marmion Promenade should be clearly articulated using landscape treatments to signal approach to the centre from the vehicle environment of the road intersection.</p> <p>The scale and detail of the landscape treatments should be appropriate to this environment whilst also signalling the change of character and grain anticipated within the centre.</p> <p>Landscaping treatments could include plantings, sculpture or other hardworks. Any such works should be consistent with the design theme for the redevelopment of the Retail District.</p> <p><u>Building on Marmion Promenade at the entry to the Retail Core</u> In addition to the development standards that apply to the Retail District, the following standards apply to building on Marmion Promenade at the entry of the retail core: The building fronting the proposed square on Marmion Promenade is a key element in enhancing the sense of place of the centre. It will be a distinctive beacon from Marmion Avenue as well as an improved pedestrian environment at the east end of the retail core.</p> <p>The building must have a distinct architectural treatment visible from Marmion Avenue and Banks Avenue (aside from the need to treat facades differently on different orientations).</p> <p>The building is to have active street frontages on to Marmion Promenade and be designed to accommodate diverse activities that contribute to vitality, viability and safety at all times of the day.</p>	<p><u>Marmion Promenade</u> With the exception of the width of the promenade between building facades, and the connection between the Promenade and the bus stop, the provisions are broad and would make assessment difficult.</p> <p>In general Marmion Promenade as a focal point is considered appropriate.</p> <p><u>Landmark site at corner Marmion and Whitfords Avenue</u> The heading states the landmark site is at the corner of Marmion and Whitfords Avenue, however the first statement indicates the corner of Whitfords Avenue and Marmion Promenade.</p> <p>The reference to the termination of Marmion Promenade does not appear to relate to the landmark site at the corner of Marmion and Whitfords Avenue. The provision is confusing.</p> <p>The provisions relating to landscaping treatment for this landmark site are appropriate considering it is at an area where low footfall is expected, and treatment will need to cater mostly for a vehicle dominated environment.</p> <p><u>Building on Marmion Promenade at the entry to the Retail Core</u> The requirement for an active street frontage is consistent with the street interface plan. The remaining provisions are broad character statements with no detailed provisions, therefore making it unclear as to what would be considered appropriate (e.g what is a distinct architectural treatment).</p>
ENDEAVOUR DISTRICT	Local Development Plans	<p>A Local Development Plan(s) is required for the Endeavour District, prior to any development. This Local Development Plan(s) shall amongst other issues, consider and resolve:</p> <ul style="list-style-type: none"> • Traffic and access, to service the school, particularly on the western side of Endeavour Road. • Overlooking and overshadowing impacts on the Education and Civic District. • The interface of the built form to existing development and Endeavour Square. • The rationalisation of existing crossovers. 	<p>Local Development Plans should also address matters such as on-street parking and public infrastructure improvements.</p> <p>The requirement for a Local Development Plan(s) make it difficult to envisage the detailed development of the area, and how it will interrelate with the other Districts.</p> <p>Will one land owner be responsible for the Local Development Plan(s) development, or alternatively, will it become the City's responsibility to prepare if there is fragmented ownership. This could also be a disincentive for development.</p>

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	Height and Setbacks	<p><u>Building Height</u> Maximum building height of 27 metres, with the following additional standard applicable: Endeavour District Minimum Standards:</p> <ul style="list-style-type: none"> • Endeavour Community Square shall be continuously framed by buildings a maximum height of 13.5 metres. • The intersection of Endeavour Road and Whitfords Avenue shall be continuously framed by buildings, to a maximum height of 15.5 metres. <p><u>Building Setbacks</u> Building setbacks to be determined by Local Development Plan.</p>	<p>Given a maximum building height of 27m is applicable for the district it is not clear as to why the building height is limited to 13.5m around the community square and 15.5m at the intersection of Endeavour Road and Whitfords Avenue. If the intent is to minimise building bulk and allow for solar penetration then it is recommended that the provision be reworded to state the height limit of 13.5m and 15.5m applies to development within the first 6m of the property boundary and thereafter may increase to 27m.</p> <p>As it is proposed that setbacks will be outlined in a yet to be developed Local Development Plan, there is insufficient information to determine whether the setbacks will contribute to the desired built form outcome.</p>																																																																					
	Pedestrian Access	<p>Pedestrian access will be provided in accordance with details outlined in Part 2 of the Structure Plan and specific Local Development Plans, however, the following shall be provided as a minimum:</p> <p>Footpaths are to be provided on both sides of Endeavour Road.</p> <p>Pedestrian access ways will be provided in an east-west orientation, to connect internal malls and residential development to Endeavour Road.</p>	<p>In principle, the concepts have merit. However as details are subject to a Local Development Plan(s) there is insufficient detail provided to determine if pedestrian paths will be sufficient.</p> <p>Due to fragmented land ownership pedestrian connections may be disjointed and no detail has been provided as to how this public infrastructure will be implemented.</p>																																																																					

	ATTRIBUTE/PRINCIPLE	STANDARDS	CITY COMMENT
ENDEAVOUR DISTRICT CONT.	Vehicle Parking and Access	<p><u>Car parking</u> Car parking is to be in accordance with the City's District Planning Scheme No.2.</p> <p><u>Vehicle access locations</u> A parallel roadway (location subject to Local Development Plan) shall be provided on either side of Endeavour Road, to service development with frontage to Endeavour Road and to provide for more coordinated and cohesive access arrangements for the district.</p> <p>Crossovers are to be rationalised where reasonable to do so and where the removal will not have an adverse effect on the surrounding movement network. Multiple crossovers on lots less than 1500m² will not be permitted.</p> <p>The existing access way to St Marks School from Endeavour Road is to remain, until a suitable alternative is provided on redevelopment of the site.</p>	<p>The car parking standards in DPS2 are designed to apply to land uses not necessarily located in an Activity Centre which is meant to have high public transport links and trip chaining (i.e one trip to access multiple services).</p> <p>The rationalisation of crossovers is considered appropriate, however as this is subject to there being no adverse impact on the surrounding movement network, it is difficult to know if rationalisation is possible given no further detail is contained in the Structure Plan.</p> <p>As the access way to St Mark's School is dependent on the redevelopment of that site, this could have the potential to restrict development within the Endeavour District. As no detail on staging or implementation has been provided the ramifications cannot be fully assessed.</p>
	Landmark Sites and Community Focal Points	<p><u>Endeavour Community Square</u> Endeavour Community Square will be the primary community focal point at the western end of the centre. It will integrate and connect the Retail District with the Education and Civic District, in a main street environment.</p> <p>In addition to the development standards that apply to the Endeavour District, the following standards apply to Endeavour Community Square:</p> <ul style="list-style-type: none"> • The square is to be a minimum of 20 metres (north-south) x 40 metres (east-west), measured to building façades. This area includes the street as a pedestrian priority - shared zone. • The square is to have direct pedestrian connections into the retail core. • Balconies and windows at upper levels of buildings as well as at ground level must be oriented to the square. • Alfresco dining areas in the square are to have good solar access with flexibility for winter sun and summer shade. <p><u>Buildings at corner of Whitfords Avenue and Endeavour Road (east and west side)</u> In addition to the development standards that apply to the Endeavour District, the following standards apply to buildings on landmark sites at the corner of Whitfords Avenue and Endeavour Road (east and west side):</p> <ul style="list-style-type: none"> • The buildings at the corner of Whitfords Avenue and Endeavour Road (east and west side) should enhance the sense of arrival at the centre. • The buildings are to have consistent architectural treatment to both Endeavour Road and Whitfords Avenue. 	<p>Endeavour Community Square is considered the core of the Centre under Part 2 of the Structure Plan, not at the western end.</p> <p>Given the convenience of internal shopping malls, and topography it is difficult to determine the success of such an area. As the land uses are similar across the districts, and evening/restaurant type uses are provided at the Shopping Centre (within the vicinity of the cinemas) would the square be able to provide a different level of amenity that would attract customers. The majority of residential dwellings will be provided in the Endeavour District which may assist to activate the area.</p> <p>There is a lack of justification on this provided in the Structure Plan to demonstrate how this would work.</p> <p>These corners as landmark sites within the Centre are considered appropriate. However, the statements provided are broad and subjective, and it will be difficult to assess if development meets these requirements. It is assumed that further detail will be subject to Local Development Plan(s).</p> <p>Also refer to building height comment above.</p>
	Roofscape	<p>Roofscape is to be considered as part of building design and designed to be attractive where it can be viewed from the public realm, or any viewpoint within surrounding buildings.</p> <p>This is particularly important in the Endeavour Road district, where there may be overlooking from future residential uses in taller buildings.</p>	<p>There is no explanation on what constitutes an attractive roofscape.</p> <p>It is difficult (if not impossible) for roofscape design to consider future development, particularly given the level of detail provided in the Structure Plan.</p>

BANKS DISTRICT	ATTRIBUTE/PRINCIPLE	STANDARDS	CITY COMMENT																																																																																																
	Local Development Plan	A Local Development Plan is required for any redevelopment of sites larger than 1500m ² or involving 3 or more lots proposed in the Banks District.	Local Development Plans could be considered as appropriate. However it could act as a disincentive for amalgamation and development of larger sites.																																																																																																
	Land Use and Land Use Intensity	<p>The following land uses are able to be considered for the District:</p> <table border="1"> <thead> <tr> <th>Permitted Uses</th> <th>Discretionary Uses</th> <th>Discretionary "A" Uses</th> </tr> </thead> <tbody> <tr><td>Civic Building</td><td>Aged or Dependent Persons Dwelling</td><td>Bakery</td></tr> <tr><td>Consulting Rooms</td><td>Ancillary Accommodation</td><td>Car Wash</td></tr> <tr><td>Dry Cleaning Premises</td><td>Art Gallery</td><td>Child Care Centre</td></tr> <tr><td>Home Business – Category 1</td><td>Auction Room</td><td>Showroom</td></tr> <tr><td>Land Sales Office (temporary)</td><td>Bank</td><td>Hotel</td></tr> <tr><td>Lunch Bar</td><td>Bed and Breakfast</td><td>Motel</td></tr> <tr><td>Office</td><td>Betting Agency</td><td>Private Recreation</td></tr> <tr><td>Public Exhibition Facility</td><td>Car Park</td><td>Take Away Food Outlet</td></tr> <tr><td>Public Utility</td><td>Caretakers Dwelling</td><td></td></tr> <tr><td>Single House</td><td>Club (non-residential)</td><td></td></tr> <tr><td>Veterinary Consulting Rooms</td><td>Communication Antenna – Domestic</td><td></td></tr> <tr><td></td><td>Communication Antenna</td><td></td></tr> <tr><td></td><td>Convenience Store</td><td></td></tr> <tr><td></td><td>Corner Store</td><td></td></tr> <tr><td></td><td>Costume Hire</td><td></td></tr> <tr><td></td><td>Educational Establishment</td><td></td></tr> <tr><td></td><td>Grouped Dwelling</td><td></td></tr> <tr><td></td><td>Hardware Store</td><td></td></tr> <tr><td></td><td>Home Business – Category 2 & 3</td><td></td></tr> <tr><td></td><td>Kindergarten</td><td></td></tr> <tr><td></td><td>Laundrette</td><td></td></tr> <tr><td></td><td>Medical Centre</td><td></td></tr> <tr><td></td><td>Multiple Dwellings</td><td></td></tr> <tr><td></td><td>Place of Assembly</td><td></td></tr> <tr><td></td><td>Place of Worship</td><td></td></tr> <tr><td></td><td>Reception Centre</td><td></td></tr> <tr><td></td><td>Restaurant</td><td></td></tr> <tr><td></td><td>Shop up to 500sqm</td><td></td></tr> <tr><td></td><td>Short Stay Accommodation</td><td></td></tr> <tr><td></td><td>Tattoo Studio</td><td></td></tr> <tr><td></td><td>Veterinary Hospital</td><td></td></tr> </tbody> </table> <p>Uses not listed in the ACSP are not permitted ("X") uses.</p> <p>Residential Density</p> <ul style="list-style-type: none"> The R80 density code applies 	Permitted Uses	Discretionary Uses	Discretionary "A" Uses	Civic Building	Aged or Dependent Persons Dwelling	Bakery	Consulting Rooms	Ancillary Accommodation	Car Wash	Dry Cleaning Premises	Art Gallery	Child Care Centre	Home Business – Category 1	Auction Room	Showroom	Land Sales Office (temporary)	Bank	Hotel	Lunch Bar	Bed and Breakfast	Motel	Office	Betting Agency	Private Recreation	Public Exhibition Facility	Car Park	Take Away Food Outlet	Public Utility	Caretakers Dwelling		Single House	Club (non-residential)		Veterinary Consulting Rooms	Communication Antenna – Domestic			Communication Antenna			Convenience Store			Corner Store			Costume Hire			Educational Establishment			Grouped Dwelling			Hardware Store			Home Business – Category 2 & 3			Kindergarten			Laundrette			Medical Centre			Multiple Dwellings			Place of Assembly			Place of Worship			Reception Centre			Restaurant			Shop up to 500sqm			Short Stay Accommodation			Tattoo Studio			Veterinary Hospital		<p>Showroom is not considered to be a land use that would have a significant impact on surrounding land uses, and therefore it would be more appropriate listed as a Discretionary use. It is noted that the only difference between a Discretionary and Discretionary "A" use is the requirement for advertising to be undertaken.</p> <p>Residential Density is considered appropriate, particularly given that adjoining properties to the south not located within the Centre are indicated as having a density code of R20/R60 under the draft Local Housing Strategy.</p>
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	Height and Setbacks	<p>Building setbacks</p> <p>Building setbacks apply as follows:</p> <ul style="list-style-type: none"> 1.0m minimum from Banks Avenue street boundary. Upper storey balconies may be provided at nil setback. 1.0m minimum from secondary streets. A 6.0m minimum rear setback applies so as to avoid overlooking issues. Covered car parking can however be provided within the 6m rear setback area. Nil minimum side setbacks apply subject to BCA requirements. 	<p>The proposed built form under the Structure Plan is significantly different to the single storey residential and medical centres/consulting rooms on Banks Avenue.</p> <p>There is no setback provision for lots which do not front Banks Avenue (11 lots).</p> <p>It is noted that the Residential Design Codes require a setback of 7.5 metres for balconies and other raised unenclosed outdoor living areas to address privacy.</p>																																																																																																

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BANKS DISTRICT CONT.	Vehicle Parking and Access	<p>Parking provision Car parking is to be in accordance with the City's District Planning Scheme No.2.</p> <ul style="list-style-type: none"> Any Local Development Plan prepared for development sites greater than 1500m² or involving more than 3 lots shall be supported by a Movement and Access Strategy prepared by a suitably qualified traffic consultant. <p>General parking location</p> <ul style="list-style-type: none"> No vehicle parking is to be in front of buildings on Banks Avenue. 	<p>The car parking standards in DPS2 are designed to apply to land uses not necessarily located in an Activity Centre which is meant to have high public transport links and trip chaining.</p> <p>Depending on the amalgamation of existing lots, there could be individual crossovers provided for each existing lot which can detrimentally impact on the pedestrian environment, and vehicle access and movement.</p> <p>While the requirement for no vehicle parking to be in front of buildings in Banks Avenue is considered appropriate, there provision does not state requirements for other streets also located within the Banks District.</p>																																													
EDUCATION AND CIVIC DISTRICT	Local Development Plan	Major redevelopment of St Mark's School (i.e. redevelopment that would facilitate an increase in the school population of 20% or more) will be the subject of an approved Local Development Plan.	There could still be other major development on the site that could warrant the requirement for Local Development Plan given the detail provided in the Structure Plan.																																													
	Land use and development intensity	<p>The following land uses are able to be considered for the District:</p> <table border="1"> <thead> <tr> <th>Permitted Uses</th> <th>Discretionary Uses</th> <th>Discretionary "A" Uses</th> </tr> </thead> <tbody> <tr> <td>Art Gallery</td> <td>Aged or Dependent Persons Dwelling</td> <td>Communication Antenna – Domestic</td> </tr> <tr> <td>Car Park</td> <td>Caretakers Dwelling</td> <td>Medical Centre</td> </tr> <tr> <td>Civic Building</td> <td>Child Care Centre</td> <td>Shop up to 500sqm</td> </tr> <tr> <td>Consulting Rooms</td> <td>Club (non-residential)</td> <td>Take Away Food Outlet</td> </tr> <tr> <td>Educational Establishment</td> <td>Communication Antenna</td> <td></td> </tr> <tr> <td>Kindergarten</td> <td>Convenience Store</td> <td></td> </tr> <tr> <td>Office</td> <td>Corner Store</td> <td></td> </tr> <tr> <td>Place of Assembly</td> <td>Grouped Dwelling</td> <td></td> </tr> <tr> <td>Place of Worship</td> <td>Lunch Bar</td> <td></td> </tr> <tr> <td>Public Exhibition Facility</td> <td>Multiple Dwellings</td> <td></td> </tr> <tr> <td>Public Utility</td> <td>Private Recreation</td> <td></td> </tr> <tr> <td>Sports Ground</td> <td>Recreation Centre</td> <td></td> </tr> <tr> <td></td> <td>Retirement Village</td> <td></td> </tr> <tr> <td></td> <td>Short Stay Accommodation</td> <td></td> </tr> </tbody> </table> <p>Uses not listed in the ACSP are not permitted ("X") uses.</p> <p>Residential density The R80 code applies to the Education and Civic district.</p>	Permitted Uses	Discretionary Uses	Discretionary "A" Uses	Art Gallery	Aged or Dependent Persons Dwelling	Communication Antenna – Domestic	Car Park	Caretakers Dwelling	Medical Centre	Civic Building	Child Care Centre	Shop up to 500sqm	Consulting Rooms	Club (non-residential)	Take Away Food Outlet	Educational Establishment	Communication Antenna		Kindergarten	Convenience Store		Office	Corner Store		Place of Assembly	Grouped Dwelling		Place of Worship	Lunch Bar		Public Exhibition Facility	Multiple Dwellings		Public Utility	Private Recreation		Sports Ground	Recreation Centre			Retirement Village			Short Stay Accommodation		<p>Given that a Consulting Room is a permitted land use, it would be more appropriate for a Medical Centre to be a discretionary land use, rather than a discretionary "A" use.</p> <p>Given a Communication Antenna is a discretionary use, it would be more appropriate for Communication Antenna – Domestic to also be a discretionary use.</p> <p>The residential density of R80 is considered appropriate. Consideration will need to be given to the built form given the existing residential R20 lots to the west.</p>
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	Height and setbacks	<p>Building setbacks Building setbacks are to be as follows:</p> <ul style="list-style-type: none"> 1.0m minimum from Endeavour Road. Nil side and rear setbacks permissible subject to BCA requirements. Building setbacks for development on Lot 181 (20) St Marks Drive are to be in accordance with the Scheme or an approved Local Development Plan. 	<p>The 1.0m setback to Endeavour Road is consistent with the setbacks on Banks Avenue.</p> <p>The nil setback of the south east portion of the district will have a direct impact on residential properties.</p> <p>Development on Lot 181 (20) St Marks Drive is currently assessed against the DPS2 standards for non-residential setbacks. Any changes as a result of a Local Development Plan will require further assessment.</p>																																													
	Pedestrian access	A well-defined pedestrian accessway aligned with the preferred Banks Avenue extension to the school from Endeavour Road shall be provided to facilitate safe and convenient pedestrian access to and from St Marks School.	It is unclear which pedestrian accessway is being referred to as it does not appear to be indicated on the Structure Plan Map. However, the principle of providing safe pedestrian access is supported. Providing this infrastructure could be problematic if it results from development on sites under different land ownership.																																													

A consultant was appointed by the City to review the transport assessment to support the draft Whitford Activity Centre Structure Plan. The table below is a summary of issues identified by the consultant, the response from the applicant, and a response to the applicant's comments.

Baseline Traffic		
Issue identified	Response from the applicant	City's response
<p>The growth in background traffic is less than that from Main Roads data, and limited justification has been provided. While this approach may be acceptable at peaks hours and for some movements, it does not explain the same level of growth applied to the daily profile. Furthermore, the rail network is currently at capacity and therefore there is limited opportunity for background traffic to divert to this mode of transport during peak periods.</p> <p>Sensitivity testing should be undertaken as there are risks that drivers may still use the routes they currently do even if there are delays, which will further increase delays and reduce performance. If this approach is adopted then this approach is "deemed to comply" for future development applications within the Structure Plan area.</p>	<p>Additional information on this matter has previously been provided to the City and Department of Planning. To summarise our position:</p> <p>The daily traffic growth has been calculated to be 10% from 2011 to 2031, based on historic trends in the area.</p> <p>Main Roads modelling shows 17.5% north of Hepburn Avenue. It is noted that this model is demand constrained and simply assigns traffic based on the path of least resistance, it is therefore, to a certain extent, not constrained by the capacity of the road network. The modelling used by Main Roads is a four stage model; however, the mode choice stage is fixed at predefined level of traffic. Therefore Main Roads model does not allow for mode shift as a result of increasing road congestion, it simply assigns the predefined traffic volumes to minimise overall travel cost, irrespective of whether links exceed capacity or not.</p> <p>The Main Roads model outputs are a measure of possible demand not traffic volume; we have been advised as such by Main Roads.</p> <p>Relying on a demand constrained model to determine actual traffic flows when historic trends indicate different is not the best way to plan development. This method results in land not reaching its development potential, over-designed road improvements and a perpetuation of passenger car use over sustainable travel modes.</p> <p>The statement that the rail network is at full capacity is incorrect; there is plenty of theoretical capacity available. This involves reducing headways, increasing rolling stock and increasing feeder bus service frequency. It is expected that additional rail capacity will be available by 2031.</p>	<p>Main Roads WA correspondence (dated 15th July 2013) on the structure plan requested a 17% growth be applied between 2011 and 2031.</p> <p>Data from the Main Roads peak hour model indicates growth of Marmion Avenue traffic between 20% and 50% from 2011 to 2031. Whilst appearing relatively high, this only equates to approximately 2% p.a. compounding growth rate. This version of modelling, models the peak hour road network capacity as well as replicating mode share to other modes in the form of fixed mode split proportions. The Main Roads modelling has been used as the basis for designing the regional road network for the last decade. Whilst it is acknowledged that this level of demand growth is unlikely to be accommodated on the existing, wider network road configuration without significant increase in travel times, it is clear the growth of regional traffic on this primary regional road is significant and needs further consideration.</p> <p>Furthermore, the structure plan indicates spare capacity (or improvement above existing conditions) for the Marmion Avenue intersections. By being regional in nature, Marmion Avenue should therefore prioritise this regional traffic demand (as forecast by Main Roads modelling) rather than constraining it to allow more localised traffic.</p> <p>The City believes the understating of background traffic growth on Marmion Avenue represents a significant risk to regional traffic operations and could also have implications for local roads access Marmion Avenue.</p>

Trip Generation and Assignment		
Issue identified	Response from the applicant	City's response
<p>It is not clear in the report whether allowance has been made for traffic exiting the shopping centre to travel through multiple intersections. Furthermore, it is unclear if the additional traffic has been weighted based on the scale of development within particular areas of the activity centre.</p> <p>If this has not been allowed for it could have a significant effect on the performance of intersections if it has not been allowed for.</p>	<p>Observations (traffic counts) indicate that drivers do preferentially travel past the first (or more) Centre accesses they come across in order to access the Centre at another location. Similarly, traffic exiting the centre is known to travel through one or more of the key external intersections.</p> <p>This has been accounted for in the modelling undertaken and submitted to the City of Joondalup.</p> <p>We have advised the City at meetings and via telephone discussion that the distribution of traffic within the submitted WACSP Transport Assessment is <i>broad brush</i> as per WAPC Transport Assessment Guidelines for Structure Plans and assigns traffic to the key intersections and Shopping Centre driveways only, not at individual driveway level. It is the key intersections that will decide the viability of this Structure Plan. These intersections are located at the corners of the site (excluding Endeavour Road/Banks Avenue which has no capacity issues). This, in conjunction with existing Shopping Centre traffic making up much of the traffic on Whitfords Avenue, Banks Avenue and Endeavour Road, it is relatively straightforward to determine the north, south, east, west traffic distribution and assign this to the relevant intersections.</p>	<p>The structure plan contains discussion on intersection performance (level of service) and the level of demand experienced compared to total capacity (degree of saturation) based on the intersection analysis of key intersections. To undertake this analysis there would be more detailed traffic volumes than those contained in the figures provided in the structure plan. Further detail, in particular traffic turn volumes with and without the structure plan traffic would allow a more thorough examination of the assumptions around traffic distribution and assignment.</p> <p>More detailed information was provided with the development application for extensions to the shopping centre, however these are for a different forecast year (2025 compared to 2031) and different development yield in the structure plan area. However the information provided as part of the development application does not form part of the structure plan.</p>

External Intersection and Impact Analysis		
Issue identified	Response from the applicant	City's response
<p>It appears that the intersections of Marmion Avenue/Marmion Promenade, the Banks Avenue roundabout and Endeavour Road/Banks Avenue have not been examined for their performance. As these intersections are critical to the operation of the transport network their forms needs to be known at the structure plan stage.</p>	<p>These intersections are not considered key to the overall performance of the road network. At the Banks Avenue/Shopping Centre roundabout it is proposed to provide an additional approach lane at the Shopping Centre arm.</p> <p>There are no capacity issues at the Endeavour Road/Banks Avenue roundabout. If this intersection is reconfigured to signal control in future it will not result in this intersection exceeding capacity. It is noted that Main Roads WA have not yet given support to signal control at this intersection; however, the existing roundabout form, if retained, will remain well within capacity under design traffic at 2031 (as outlined previously to the City).</p>	<p>Additional information on the performance of the intersections for 2031 is requested to allow a more detailed understanding of the traffic performance. Without this information, it is difficult to gain a full understanding of any capacity issues on Banks Avenue and Endeavour Road under the 2031 scenario.</p>
<p>The level of analysis appears limited to isolated intersections. Given the close spaced intersections within the network, and the potential for inappropriate use of the local road network to avoid the congestion on the regional roads, it is recommended that further modelling is undertaken (ie micro simulation) to fully understand the impact of development proposed under the structure plan.</p> <p>By not undertaking a thorough analysis of road network performance, the impacts on adjoining intersections on parameters such as driver's route choice may not be fully understood and represented. This may also have implications for the appropriate sizing of intersection upgrades.</p>	<p>We do not agree that microsimulation is required as it is of no benefit given the clear improvement in operations achieved through physical works and resulting signal time reallocation these permit.</p> <p>Furthermore, Main Roads WA have advised they do not require any microsimulation modelling to be undertaken.</p> <p>It is clear that the proposed intersection improvements result in a road network that will perform better than it does at present. This will actually minimise queue interaction, further negating the need to assess this road network in a microsimulation modelling environment.</p>	<p>Further information on the performance of the intersections in 2031 would assist in understanding the operations under traffic signal coordination. The intersections are reported to have improved performance under a road traffic demand constrained scenario with an additional access point from Marmion Avenue, however this access point does not have endorsement from Main Roads WA, and therefore it is uncertain if this could eventuate.</p>

External Intersection and Impact Analysis		
Issue identified	Response from the applicant	City's response
<p>The new access from Marmion Avenue (Marmion Promenade) is within close proximity of signalised intersection, which also have slip lanes. It is not ideal to have intersections located this closely along a relatively high speed road and way finding signage will be difficult given the proximity to intersections.</p> <p>The configuration of appropriate signage and slip lanes may cause confusion for drivers given the intersection spacing.</p>	<p>The City has previously been advised that Main Roads has previously supported the construction of the proposed left slip off Marmion Avenue. Concept plans have been prepared (including with the development application) that show an access at this location is viable.</p> <p>As Main Roads have recommended in previous development applications at this site, the inclusion of this access point would provide a benefit to the operation of intersections on the Primary Regional Road (Marmion Avenue/Whitfords Avenue and Marmion Avenue/Banks Avenue).</p> <p>The inclusion of this access point benefits Banks Avenue at a local level by allowing approximately 2,500 vehicles per day (vpd) to access the Shopping Centre at this alternative location.</p> <p>There is no directional signage on Marmion Avenue now, a well-designed system of signs would provide the required legibility and assist in managing traffic flows at intersections along Marmion Avenue.</p>	<p>Main Roads WA correspondence in relation to the development application indicated that they are not in favour of the left slip from Marmion Avenue.</p> <p>On this basis it is requested that sensitivity testing of the access point being closed be undertaken with detailed results of Banks Avenue intersections performance are supplied for 2031.</p>

Car Parking		
Issue identified	Response from the applicant	City's response
<p>The parking usage calibration does not appear to align with the "Shared Parking Considerations" in the transport report. The relationship between the observed and calculations based on the Institute of Transport Engineers guidelines are not explained, and potentially the transport report provides an under representation of future parking demand.</p>	<p>The Transport Assessment shows the shared parking scenarios for the existing and future centre based on data extracted from parking generation studies, parking survey across the existing retail area of the structure plan (2,350 spaces), calibrated to the 20th highest day of the year (4,090 spaces). This aligns very well with parking surveys undertaken in December 2012.</p> <p>To clarify:</p> <ul style="list-style-type: none"> • Existing theoretical shared parking requirement: 3,380 spaces • Existing actual shared parking requirement: 4,090 spaces • Future theoretical shared parking requirement 4,390 spaces • Future calibrated shared parking requirement 5,300 spaces (approx.) 	<p>It is unclear where the 5,300 calibrated parking requirement comes from, however it is mentioned briefly in the transport assessment. Furthermore, the figures in the transport assessment do not reflect the calibrated demand which should be the basis for the conclusions.</p>

Car Parking		
Issue identified	Response from the applicant	City's response
<p>It is difficult to see significant changes to the modal shift and car park sharing given the proposed provisions for public transport, pedestrian and cyclists. Additional justification is required for the car parking proposed under the structure plan.</p> <p>Should the current trend of private vehicle continue, there is likely to be significant congestion in the road network and car park during peak periods.</p> <p>A bench marking exercise was undertaken and the provision rate for car parking of 4.88 car bays per 100sqm retail floor space does not seem unreasonable. However this is on the lower end, and does not include a number of other proposed services at the shopping centre, and the level of public transport provision is lower than those other shopping centres. Therefore, a very high efficiency is required for the parking to ensure cars are not circulating for increase times looking for a bay.</p>	<p>It is clear upon reading the draft WACSP Transport Report that a substantially improved pedestrian, cyclists and public transport network (including BRT) is proposed for this area.</p> <p>This does not mean that Westfield will deliver all these improvements, there is an expectation that state and local government will provide the required support to enable private lands at activity centres to be developed in line with Directions 2031 and Public Transport for Perth in 2031, otherwise significantly more public funds are required to support business-as-usual car reliant travel.</p>	<p>Benchmarking against other retail focused centres in Perth show that, even with significant public transport nodes, that a 13% mode share stated in the structure plan report is very optimistic.</p> <p>For example, the Joondalup City Centre centred on a heavy rail station achieves a 8.3% mode share for work related trips in 2011. There needs to be a clear commitment for the development of major public transport facilities in the Whitfords Activity Centre in a demonstrable manner, with suitable timeframe and funding mechanism</p>

Pedestrian and Cyclist Access		
Issue identified	Response from the applicant	City's response
<p>The estimated 10,000 walking trips within the catchment are not considered to be sufficiently justified and seem unwarranted in consideration of the surrounding densities. Furthermore, improvements proposed are not considered dramatic enough to support such a modal shift.</p>	<p>It is important not confuse the wider development pedestrian catchment with the internal, shared walking trips between onsite land uses. For the purpose of this analysis, pedestrians are assumed to return to their origin after each internal trip (i.e. home-office-home).</p> <p>Complex trip chains (i.e. home-office-retail-home) have not been considered in this analysis as these would have no additional impact on the requirements for road infrastructure or services. This assumption therefore retains the same number of overall person-trips as a single-purpose analysis, which is considered to be a reasonable simplification of the multi-modal trip generation model.</p> <p>At present the internal capture is considered minimal compared to the overall trip generation of the development. This is principally due to the fact that the existing development is a large shopping centre with a relatively small amount of other freestanding sites. The size of the site is approximately doubling in terms overall floor area. This would increase the base 1,000 internal trips to 2,000 if all this growth was confined to a like for like expansion of the existing land uses.</p> <p>However, the floor area of the office space and numbers of dwellings are proposed to more than double, or more than triple in the case of office space. Increasing the floor area of these components at a much higher rate than the shopping centre expansion will vastly increase the amount of shared and reciprocal internal trips, where currently there is a negligible need to walk to between internal land uses.</p> <p>Furthermore, the internal pedestrian catchment is largely unrelated to improvements to external infrastructure, though research suggests that patrons using alternative transport modes are more likely to utilise multiple services at a given destination.</p>	<p>Further information regarding the pedestrian desire lines would assist in understanding the need, if any for additional pedestrian infrastructure. In particular, access to proposed BRT facilities will likely create significant demand and require direct pedestrian connections to areas within the structure plan area.</p>

Public Transport		
Issue identified	Response from the applicant	City's response
<p>The changes to public transport are considered minimal, and are unlikely to result in the mode share of 5% increasing to 13% by 2031 based on the justification provided. Furthermore, if the modal shift was to result the foot traffic across Whitfords Avenue would increase which could result in additional queuing both internally to the shopping centre and on the external network.</p> <p>If this mode share does not increase this will increase traffic on the roads. Therefore sensitivity testing is recommended.</p> <p>If the public transport modal share was realised, this would increase foot traffic across a busy thoroughfare for delivery vehicles (internal to the shopping centre site). If vehicles are forced to queue internal to the site, this could impact on car parking areas.</p>	<p>The proposed BRT route along Whitfords Avenue is not considered a minimal improvement. As above, improved public transport is a requirement in order that vehicle travel demand on a congested network is offset by alternative means of travel; this includes standard bus services and any future BRT infrastructure as proposed by state government. It is by these means that public transport mode share is likely to increase to the envisaged levels. It is illogical to assume minor levels of mode shift in what is intended as a progressive Structure Plan that reflects state policy.</p>	<p>The BRT is not considered a minimal improvement, however a commitment to deliver the infrastructure will require public and private sector commitment. A level of analysis and planning, commensurate to that undertaken for the road network operation, cannot be seen or referenced in the structure plan document. Either a sensitivity test with a lesser public transport mode share is required to understand the impacts on the road network and parking, or providing more operational detail of how the BRT will be integrated into the activity centre.</p> <p>Benchmarking against other retail focused centres in Perth show that, even with significant public transport nodes, that a 13% mode share stated in the Structure Plan report is very optimistic. For example, the Joondalup Activity Centre centred on a heavy rail station achieves an 8.3% mode share for work related trips in 2011. There needs to be a clear commitment for the development of major public transport facilities in the Whitfords Activity Centre in a demonstrable manner in a suitable timeframe, and funding mechanism.</p>

Scheme Amendment No 68 was advertised concurrently with the draft Whitford Activity Centre Structure Plan. Comments received during the advertising period which relate to the scheme amendment have been summarised below along with responses made by the applicant and the City.

SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE	CITY'S RESPONSE
427, 428, 383	Opposed to development incorporating land beyond the shopping centre site.	<p>The draft Whitfords Activity Centre Structure Plan (WACSP) was prepared in response to the requirements of State Government Planning Policy which seeks to enforce a shift from traditional retail based centres to creating divers, mixed use centres that incorporate residential, civic, commercial and other uses. In order to achieve this encompassing land outside of the shopping centre site is necessary. By including the properties along Banks Avenue and the surrounding sites (including St Mark's) it allows redevelopment of the area to occur in a broader, coordinated planning framework that will ensure optimal land use and design outcomes.</p> <p>By including the additional properties such as the residential properties along Banks Avenue creates a transitional zone between the retail core and existing lower impact uses such as the residential properties to the south of the WACSP area.</p>	<p>In determining the boundary for the proposed activity centre consideration was given to the existing character of the area in relation to the major roads that separate the shopping centre site from surrounding land uses, current activity sources and complexes, the relationship and linkages between these complexes, the existing zoning and built form of different properties and the requirements of SPP 4.2 for activity centres to extend beyond the boundaries of shopping centres.</p> <p>The proposed boundary aligns closely with a boundary for the activity centre which has notionally been developed by the Department of Planning's Directions 2031 team. The boundary proposed has been discussed with and is to the satisfaction of both the applicant and the Department of Planning.</p> <p>The applicant has also met with the Department for Family and Children's Services and St Mark's Anglican School to discuss the fact that whilst their landholdings may be included within the activity centre boundary and whilst the activity centre structure plan will include their landholdings, this does not necessarily mean that their land uses under the Structure Plan or their individual control over future development of their sites will be affected in any negative way.</p> <p>Council at its meeting held 18 September 2012 (CJ181-09/12 refers) adopted the boundaries for the activity centre which forms the basis for Amendment No 68 to rezone all land within the activity centre to 'Centre' under DPS2.</p>

SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE	CITY'S RESPONSE
429	Why has the school being included in the area, and what is the benefit in including it?	Refer to comment provided to submissions 427, 428 and 383 above.	Refer to the comment provided above to submissions 427, 428 and 383.
425	Is not in the community interest to integrate the current complex with the new activity centre.	Refer to comment provided to submissions 427, 428 and 383 above.	Refer to the comment provided above to submissions 427, 428 and 383.
1 – 415, 435, 484 - 510 (443 in total)	Banks Avenue forms a natural barrier between commercial and residential. By including properties to the south of Banks Avenue it will result in impacts on the adjoining residential areas that aren't included. Impacts are likely to include noise and decrease in property values, and they can rightly claim that they are being unjustly treated. Different land owners in this area of the structure plan will mean that development will be disjointed and present a hodge-podge of development in the interim.	Refer to comment provided to submissions 427, 428 and 383 above. Further, measures such as 6m minimum rear setbacks have been taken to ensure that development along Banks Avenue will not impede on existing residential development to the south. The type of uses permitted within Banks Avenue are unlikely to be noise generating uses (i.e. most likely to be office/residential development). Comments in relation to property values are the opinions of the submitter(s), however it is worth noting that the land south of Banks Avenue is also intended to be up-coded to higher residential densities, as provided for by the City's Draft Local Housing Strategy. Additionally some properties along Banks Avenue have already started to transition from residential to office/ commercial type uses.	Refer to the comment provided above to submissions 427, 428 and 383. The properties along the southern side of Banks Avenue have been identified in Housing Opportunity Area 5 under the City's draft Local Housing Strategy (LHS) (as adopted by Council in April 2013). It is proposed under the draft LHS that these properties be rezoned to 'Mixed Use' Additionally, for 'Mixed Use' sites Recommendation 5 of the draft LHS proposes to apply a residential density of R40 for lots less than 1000m ² and R80 for lots 1000m ² or greater. The 'Mixed Use' zone and proposed densities are consistent with the built form and land uses contemplated by the draft activity centre structure plan. Therefore it is not inappropriate for these properties to be included in the activity centre boundary or rezoned to 'Centre'.
383	It does not make logical sense to include properties on Monkhouse Way, which is a quiet cul-de-sac.	Refer to comment provided to submissions 427, 428 and 383 above.	Refer to the comment provided above to submissions 1 – 415, 427, 428 383, 435, 484 – 510.
135	If this plan goes ahead what will happen in the future, will the boundary be extended to include the land between Banks Avenue, Cook Avenue, Marmion Avenue and Endeavour Road?	Refer to comment provided to submissions 427, 428 and 383 above. There is no proposal to extend the activity centre area any further.	The proposed boundary does not include properties between Banks Avenue, Cook Avenue, Marmion Avenue and Endeavour Road and there is no proposal to extend the boundary any further.

THEME: TRAFFIC		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
421, 425, 426, 430, 441, 452 (6 in total)	Increased traffic in the area will impact on the environment, safety of the school, and cause problems for the rest of the community.	<p>The road network peak does not coincide with the school traffic peak. Safety of the school is currently compromised by the amount of traffic the school generates during pick-up times as well as the informal drop-off and pick up. The WACSP minimises this by providing for a new link road from which school pick-up and drop-off can be serviced more effectively.</p> <p>Currently the intersections in the area perform quite inefficiently. By making physical road improvements and by optimising traffic signal performance, the intersections can be made to work better even with the additional traffic. This has a positive impact on the roads themselves as it means shorter queues, less stops and an overall improvement in the road traffic environment.</p>
24, 43, 340, 381, 420, 422, 432, 440, 442-449, 458, 511 (18 in total)	Traffic congestion within the area is heavy enough without this proposal.	<p>While traffic does experience congestion in limited areas during peak times, the area's roads generally function within high levels of service. Traffic performance in this area is heavily linked to the poor operation of signalised intersections on Marmion Avenue. Cycle times of up to 3 minutes are prevalent during peak hours. This causes long quest and delays for road users. By optimising the performance of these intersections along with the physical road improvements, such as extended turn lanes and double right turn lanes, intersection performance can be improved even with the additional development traffic.</p>
43, 381, 420, 440	The local streets will experience more overflow traffic as people by-pass the main roads around the shopping centre	Displaced or rat-running traffic occurs when the arterial road network experiences congestion. The reduction in congestion that will arise as a result of the proposed intersection improvements will lessen the propensity for drivers to rat-run in order to reduce journey times.
116, 241, 381, 433 - 437, 417, 425 (10 in total)	Generally concerned about increase in traffic in the area	Overall traffic volumes will increase in the area; however, all roads are expected to remain within capacity and operate at acceptable levels of service. In terms of peak hour performance, when any capacity issues would be most noticeable, the Structure Plan Transport Report has assessed a situation whereby all additional hourly traffic will add to the existing road network peaks. This is particularly robust as it is known from experience at other activity centres that people tend to change the times at which they travel in order to maximise their own convenience.

THEME: TRAFFIC		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
		Clearly land uses such as office will be much more prescriptive in when people need to travel; however, travel for retail can be much more flexible. People may then choose to travel at a different time during the day, or on a different day during the week.
1, 344-391, 396, 401-415 (65 in total)	The increased traffic in the area as a result of the developments will mean the aim of creating pedestrian friendly streets and communal space is not achievable.	The streets within the WACSP area are not particularly conducive to pedestrian travel at present. There is little opportunity for pedestrians to cross roads and the majority of paths are only 1 – 1.5m wide. Furthermore, there is little formalised provision for cyclists, especially at intersections where cyclist protection is required most. The WACSP proposes a complete revamp of the pedestrian and cyclist network in its vicinity, including wider footpaths, additional crossing points, continuous cycle lanes along with defined links to public transport and connections to buildings. The reduction in congestion along roads in the area will provide greater amenity for non vehicular travel.
458	Increase in traffic is a negative. Access to the centre is limited by the Ocean to the West and Marmion and Whitfords Avenue cutting off potential walkers. The City is built for people to use cars and that will not change.	By virtue of the WACSP areas location, vehicle travel will remain the primary mode of travel. Improved infrastructure and management of assets such as signal controlled intersections is required in order to deliver overall benefits for local residents as well as those visiting the area. State Government proposed improvements to public transport generally, along with the introduction of Bus Rapid Transit (BRT) are expected within the next 20-years, these measures will assist in reducing the centres dependence on passenger vehicle access.
2 – 343, 392 - 395, 397 – 400, 421, 435, 484 – 510 (379 in total)	Endeavour and Banks Avenue are main access points that already experience high traffic and won't be able to cope or be conducive to pedestrian usage. Heavier traffic will be experienced on Cook Avenue and Solander Road.	Endeavour Road and Banks Avenue will see an increase in traffic; however, this can be managed by optimising the performance of signal controlled intersections, ensuring these roads remain within capacity at times of peak demand. Traffic will displace onto lower order roads when congestion is evident at arterial or direct routes. The improved physical design and management of current traffic bottlenecks will mean that there is little need for the additional vehicles to divert to other local roads as these vehicles will be better served by using the most direct routes.

THEME: TRAFFIC		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
120	Being a resident of Chaplin Court, which is connected to Cumberland Drive, which in turn joins Whitford and Cook Avenue at either end, are concerned that with the anticipated congestion, which will inevitably arise in that area should the activity centre be approved our roads will become extremely busy. This will impact on our property values and our section of the Hillarys community will no longer be a peaceful suburb.	<p>Traffic capacity can be defined in terms of an acceptable capacity that relates to road amenity rather than how much traffic a road can physically take. This is called functional road capacity. The functional capacity of Cook Avenue would likely be around 7,000 – 10,000 vehicles per day (vpd), the future traffic forecast shows only a increase in traffic of around 1,500 vpd from current levels. The traffic volume along Cook Avenue is expected to remain below functional capacity.</p> <p>Whitfords Avenue serves a higher level distributor road function, its capacity as a two lane single carriageway is around 15,000 vpd (even at this point a dual carriageway could be postponed until volumes reach 20,000vpd). Traffic volumes are expected to remain below 15,000vpd over the next 20 years.</p>
59 – 80 (22 in total)	Being residents in Deverall Square, which is connected to Cumberland Drive, which in turn joins Whitford and Cook Avenue at either end, are most concerned that with the anticipated congestion, which will inevitably arise in that area should the activity centre be approved our roads will become extremely busy. This will not only impact on our property values, but most importantly, our section of the Hillarys community will no longer be a peaceful suburb.	Refer to the response provided for submitter 120 above.
316 – 336 (21 in total)	Being residents in Cumberland Drive, which in joins Whitford and Cook Avenue at either end, are most concerned that with the anticipated congestion, which will inevitably arise in that area should the activity centre be approved our roads will become extremely busy. This will not only impact on our property values, but most importantly, our section of the Hillarys community will no longer be a peaceful suburb.	Refer to the response provided for submitter 120 above.

THEME: TRAFFIC		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
421	There is insufficient information on how the increase in traffic will impact on pedestrian and car traffic which will increase as a result of this development.	<p>Traffic will increase as a result of development within the structure plan area and also in the wider area which will generate an increase in background traffic. The pedestrian and cyclist environment (most vulnerable road users) is currently not conducive to these travel modes. The WACSP proposes a revamp of the pedestrian and cyclist facilities surrounding the plan area. This will include wider footpaths, more crossing points, continuous cycle lanes, improved connections to public transport and ease of access across car parks to building entrances.</p> <p>The traffic environment will become less congested through improved management of existing assets, with some physical intersection improvements as necessary (such as additional and/or longer turning lanes). The WACSP therefore proposes to improve facilities for pedestrians while also reducing traffic congestion, and queued vehicles that impact on pedestrian and cyclist amenity.</p>
441	Increasing traffic in the area will make it unsafe for children attending the school to negotiate traffic which conflicts with the state government initiative to encourage children to walk and ride to school.	Additional infrastructure for pedestrians and cyclists is proposed, this will provide a greater benefit compared to a status quo for these users, as well as offsetting the impacts of an increase in traffic. This will include children walking and cycling to and from school.
452	<p>Endeavour Road is already under pressure from existing development. The level of development proposed, with access to developments from the rear will assist in mitigating traffic impacts on the future Main Street (Endeavour Road).</p> <p>Supports the link road between the school and Endeavour District to provide access to the school as well as being a buffer between types of development. However, is concerned that there is no commitment by Westfield and the land owner to the south as to who will pay for the new road. Furthermore, the location on the School site would lead to a loss in scarce land. The school should not have to pay.</p> <p>Alternatives to the link road have been discussed to ensure the Early Learning Centre remains part of the school campus, and access is maintained in the interim.</p>	Shopping centre accesses along Endeavour Road have in the past been busy; this is being mitigated by the current construction of two small diameter roundabouts at key access points by the City. Agree that the new link road will assist in managing and mitigating impacts along Endeavour Road. The source of funding for the proposed link road will be determined at the time the surrounding lands are developed. The WACSP presents only one possible solution, what is ultimately built will become clearer when a Local Development Plan is prepared for the Endeavour District.

THEME: TRAFFIC		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
452	The initial expansion to the shopping centre will increase traffic at the western end of the Centre, adjacent the School. This will add pressure on informal pick up/drop off area on Whitfords Avenue. It is considered that formalised facilities at Whitfords Avenue are essential in the short term to maintain existing levels of student safety and ease of use. Active support is sought from the City and Westfield to facilitate this.	The initial shopping centre expansion will marginally increase traffic volumes on Endeavour Road. The informal drop-off on a district distributor road (Whitfords Avenue) should not be occurring at present, this area is at the interface between the 60km/h and 70km/h speed limits, therefore vehicles at relatively high speed are potentially interacting with vehicles stopped at the roadside or emerging slowly from the verge. This activity is creating a road safety issue that requires better management. The school should investigate solutions to mitigate its parking requirements as this is a current issue irrespective of any further development.
512	Has noted a steady increase in traffic on Dampier Avenue, and feels the shopping centre entrance directly from Dampier Avenue is encouraging traffic from outside Mullaloo to use Dampier Avenue to access the shopping centre and avoid Marmion Avenue. Would like to know the effect of this on the road.	The 'through traffic' or 'rat running' occurs when there arterial road network experiences congestion. The proposed intersection improvements will reduce the congestion which in turn will lessen the tendency for drivers to rat run to reduce journey times.
479	Concerned about access to the site and signage to find the church, and seek assurance that access and signage to the parish via Endeavour Road is maintained, including during construction.	There are no plans to remove any existing signage. The preparation of a Local Development Plan for the Endeavour District in the future may involve planning for improved directional signage
452	The structure plan relies on public transport improvements, and creation of a Main Street to improve pedestrian accessibility. There is no commitment in the structure plan to demonstrate that traffic volumes will be manageable without exacerbating congestion at the school.	The WACSP proposes that a new link road be constructed between Endeavour Road and Whitfords Avenue, to the rear of the existing Bunnings Warehouse building. This will mitigate the volume of school traffic currently using Endeavour Road and deliver an overall improvement to road function.
381, 417	Retail traffic entries/exits should be directed only to Whitfords and Marmion Avenue.	Main Roads will not permit a full shopping centre access intersection to be constructed on Marmion Avenue. A partial access (left-in only) is proposed at Marmion Avenue from the northbound carriageway. This will relieve Banks Avenue of approximately 1,500 vehicles per day (vpd) once the shopping centre is extended as currently proposed. The shopping centre depends on access from all frontage roads, especially as Endeavour Road and Banks Avenue provide access to the local areas to the north, south and west of the centre. If these accesses were closed, this would push traffic onto the major roads such as Whitfords Avenue and Marmion Avenue, something which Main Roads is opposed to.

THEME: TRAFFIC		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
417, 420	A traffic management plan should be implemented to deal with one way roads, spacing of service entries and exists to avoid congestion and require residential and mixed use buildings to provide off street parking.	Noted and agreed.
478	The slip lane from Marmion Avenue turning right into Whitfords Avenue is too short, and needs to be increased. Understands there are limitations to achieving this.	Proposals have been put forward to improve this intersection. These proposals have received <i>in principle</i> agreement from Main Roads. It is proposed that there will be two lengthened turning lanes.
478	The slip lane heading east turning north from Whitfords Avenue onto Marmion Avenue is short causing congestion on Whitford Avenue and many cars pull out in front of turning traffic. The entire intersection should be upgraded similar to the intersection of Hodges Drive and Joondalup Drive.	Proposals have been put forward to improve this intersection. These proposals have received in principle agreement from Main Roads. It is proposed that there will be two lengthened turning lanes.
478	Tramlines from Whitford train station will alleviate traffic issues, as would the introduction of the bus depot.	Bus Rapid Transit (BRT) is discussed within the WACSP; this will provide a reliable and convenient mass transit system, similar to a tram, guided bus or light rail transit (LRT) system. BRT has been identified as a long term possibility in the structure plan due to plans within the State Governments Public Transport for Perth 2031 document.
478	Would be a good idea to connect Banks Avenue with Dampier Avenue in a direct road thoroughfare with traffic light controlled intersection on Banks Avenue connecting the road running under the shopping centre. This would alleviate traffic from all major access points as vehicles from Kallaroo and Mullaloo try to access the southern area of the site.	This is not possible without demolishing a large proportion of the existing shopping centre.
481	Concerned about the traffic assessment undertaken and recommends the assessment be re run using the Regional Operating Model, background growth rates and in a 'without Bus Rapid Transit' scenario with regard to the parking cap.	Traffic engineers will be aware that network daily traffic growth does not translate directly to peak hour growth, especially where congestion occurs. ROM is primarily a strategic traffic model and is not appropriate for detailed site specific transport assessments. Further detail has been provided to Department of Planning as well as Main Roads to address these issues.

THEME: PARKING		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
418	<p>Could not find any specific reference to motor cycle/scooter parking, or how these fit into the car parking cap determined and rates used.</p> <p>Wonders if the information provided on parking is consistent with Perth's parking policy, which recommends motorcycle parking at a rate of 5% of the total tenant bays, and 5% of all public spaces.</p> <p>The concept and density proposed is suitable for motor cycle/scooters for most journeys including rail connections. At present the location of motor cycle/scooter parking is hit and miss and not always easy to locate or do not have adequate deterrents (such as bollards) to prevent motor vehicles from parking over it.</p>	<p>Motorcycle and Scooter parking will be considered at the detailed design stage as it is not possible to place this parking with certainty in a structure plan. However, parking requirements for bicycles and motorcycles will be met.</p>
340	<p>There will be a loss in parking around Cook Park due to increase in people using the facilities and new development.</p>	<p>Noted. The various stages of development in the shopping centre are to be accommodated by a Parking Management Plan that will optimise and improve the way in which parking for staff and customers takes place at Whitford City; this will reduce the need for customers to parking off-site on particularly busy days. It is the City's responsibility to provide parking within local parks.</p>
253, 417, 431	<p>Will people be charged for parking, or will there be parking restrictions that apply to residents?</p>	<p>There are no plans for paid parking.</p> <p>There are also no plans to introduce parking restrictions in surrounding streets.</p>
253, 422, 424, 449, 458 (5 in total)	<p>There is already insufficient parking at the shopping centre. People are unlikely to use alternative modes of transport.</p>	<p>Cardno have conducted detailed parking studies at the shopping centre. It was identified that there are certain parts of the car park that are underused even during the busiest periods. To this end, a Parking Management Plan will be prepared for each major development application at the WACSP. This will optimise the use of parking at the site.</p>
253	<p>Feels increase in public transport and other modes may only benefit employees, therefore adequate parking needs to be provided.</p>	<p>Noted. An increase in service frequency would also benefit customers who wish to travel for the entertainment venues such as the cinema as well as those who are not making large bulky purchases. Currently public transport is too infrequent such that people would rather take a car than wait for a bus to arrive.</p>

THEME: PARKING		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
260	Existing parking problems on Banks Avenue will be exacerbated as there is limited new parking proposed along the street. Suggests traffic management studies should be prepared to address traffic and parking issues specific to Banks Avenue.	No on street parking is proposed for or is currently in place on Banks Avenue.
381	Roof top parking will not succeed due to public aversion to driving up to higher levels.	Roof top parking is a very successful solution at a number of shopping centres in WA; Westfield Innaloo is an example of this. Good parking management will also result in workers being encouraged to utilise less accessible/convenient parking spaces.
381	Westfield already creates parking issues in the adjoining streets of Hillarys, Kallaroo, Padbury and Craigie	It is highly doubtful this occurs in Padbury or Craigie. Street side car parking is allowable in these streets. New development will require additional parking as specified in the structure plan.
441	There is already insufficient parking at St Marks for student drop off and pick up.	Agreed. St Marks School would need to resolve this issue.
449	Welcomes the upgrade to the library and collocation of community facilities. Parking for these facilities should be provided close to ensure safe access by families with children.	Noted.
478	The structure plan boundary should be extended further south to allow amalgamation of lots so parking can be provided at the rear of properties rather than separating pedestrian areas along Banks Avenue to provide access for each lot to develop. Suggests the boundary should be south to Hicks Way, Buchan Place, the northern half of Monkhouse Way and the entire northern and western parcel of land at Venus Way.	The structure plan boundary was identified in consultation with the City of Joondalup and the Department of Planning.

THEME: LAND USE		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
1 – 415, 419, 422, 426, 427, 435, 484 – 510, 513 (449 in total)	There are already sufficient services in the area	The proposed structure plan will facilitate the redevelopment and expansion of the Whitford City shopping centre and surrounds. Westfield in the first instance has identified demand for additional retail offerings (including the desire for a department store in the centre). Further Westfield would not invest in this project unless they determined there was adequate demand. Accordingly, the view of the submitters in this instance is not shared.
1, 344 – 391, 396, 401 – 415 (65 in total)	There are already open spaces in the area. This includes unutilised and wasted spaces on the shopping centre site. This does not support the contentions of the structure plan document.	Westfield intends on utilising currently underutilised space within the shopping centre site to its maximum potential. However there will still be a need to include sites outside of the shopping centre site.
253, 430, 441	Wants Bunnings to be retained. If lost people would need to travel further.	Bunnings has a number of years remaining on its lease, and the development of the Endeavour District is medium to long term prospect.
426, 440, 449	It is not considered appropriate to have land uses such as bars and night clubs within the vicinity of a school	Uses such as 'bar/tavern' and 'nightclub' are identified as discretionary uses in DPS2. The proposed WACSP still allows for such uses to occur in the Endeavour and Retail Districts however a 'nightclub' is an 'A' use meaning that any proposal needs to be advertised to surrounding landowners prior to determination. Whilst concerns with proximity of such uses to the school are acknowledged, it needs to be highlighted that obviously the primary operating hours for bars and nightclubs do not align with school hours. As such it is unlikely there will be interaction between students and patrons of these establishments should they occur.
24	The introduction of office space is out of character with the area, considering how poorly serviced it is by public transport. There must be better localities for office space.	The WACSP does promote and facilitate office development in a number of locations. Whilst demand may be limited at this point in time in this location it is expected that as the shopping centre expands the residential catchment increases and public transport services improve to the area demand for office space will grow. It is noted that some of the residential dwellings on Banks Avenue have already been converted into office and home office type uses. The structure plan will simply allow for this natural progression to occur within an orderly and proper planning framework.
253	Suggests restaurants on the third floor to take advantage of ocean views.	Noted. The Structure Plan does not preclude such development occurring.

THEME: LAND USE		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
381	The plan is an encroachment by big business on a quiet suburb, and local Australian retailers appear to be squeezed out by global nationals.	The expansion of the Westfield Whitford City will in fact provide for greater opportunities for Australian and independent retailers. This comment is the opinion of the submitter.
449	Welcomes provisions for restaurants and family friendly entertainment.	Noted.
452	Additional land uses should be added in the Civic and Cultural District, including reception centre, take away food outlet (canteen) and theatre.	Westfield would be happy to alter the use class permissibility as requested, however would be guided by the City of Joondalup.
458	What will the centre offer as products in addition to other surrounding centres? It appears it will just be more of the same.	It is intended that the centre will provide for a far greater range of retail and non-retail uses than that which is currently provided for at the existing centre and surrounding centres. Critically, the provision of a Department Store will offer greater retail options
458	Is David Jones too close to Karrinyup?	Whilst the Structure Plan does not specifically provide for a department store, Westfield does have a contract with David Jones, who will locate in the centre if all required planning approvals can be obtained. David Jones would not entertain such a contract if that felt that Karrinyup was too close to Whitford City.
253	Alfresco dining in Endeavour Square is welcomed. Noise from vehicles leaving late needs to be considered.	Noted.
135	What will happen to the Library and Senior Citizen buildings?	Whilst the WACSP does allow for the potential future redevelopment of the Library and Senior Citizens building the structure plan does not compel the City to redevelop these buildings. The retention of these buildings does not impact Westfield's expansion intentions.
424	The structure plan does not address the local pub at the eastern end of the car park. It appears a considerable amount of money has been spent at the tavern recently but surely this is one piece of infrastructure that will have to go. The idea of drunken people driving through the shopping centre car park would have to be given some consideration.	The existing tavern is intended to be removed as part of the first stage of expansion of the shopping centre. There are no specific plans at this point in time to provide another tavern.
472	Would like a public open space where community events can be held as this will bring traffic to the local businesses and bring the community together.	It is anticipated that the future Endeavour Square and Marmion Promenade will provide appropriate spaces for community events such as markets
478	Increased services and residential population at Whitford will assist in reducing traffic in the Joondalup CBD from residents in the southern suburbs.	Noted and agreed.

THEME: RETAIL FLOORSPACE		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANTS RESPONSE
451	Concerned about the significant increase in retail floorspace and the potential impact on the retail hierarchy of the North West Subregion of Perth as outlined in SPP4.2.	The proposed scale and range of retail uses proposed at Whitford would not change the relative position of Whitford in the centre hierarchy and are consistent with the type of uses intended to be provided in a secondary centre. SPP4.2 states secondary centres can include department stores, discount department stores, supermarkets and specialty shops. The range of retail uses at Whitford would be no different and in the case of department stores, less than other secondary centres such as Karrinyup and Garden City which already include two department stores.
451	There is no justification for the indicative retail floorspace of 95,000m ² . It doesn't appear to consider the consequential impacts that the retail floor space allocation may have on Activity Centres in the North West Sub Region and has the potential to disrupt the hierarchy of activity centres by preventing other centres in the North West Sub Region to ascend to the type of centre prescribed in SPP 4.2.	The Whitford trade area is undersupplied in retail floorspace with 60 per cent of retail floor space demand being directed to centres outside of the trade area as well as the generally strong turnover performance of centres in the area. The level of impacts are within the acceptable range of a normal competitive environment and would not adversely impact the role and range of uses provided at individual centres. The Retail Sustainability Assessment prepared in support of the activity centre structure plan demonstrates that the identified amount of retail floorspace that could sustainably be provided at Whitford will not detrimentally affect Joondalup or any other existing or future centre.
451	The applicant's Retail Sustainability Assessment (RSA) was based on a need for greater retail floor space within the North West Sub Region rather than the WACSP trade area or the centres 'beyond trade' expenditure capture. Notes comment in the report to Council dated 19 March 2013 that an independent economic consultant review of the RSA was conducted by RPS and comments made by RPS on these points.	The analysis undertaken evaluated the need and demand for the proposed expansion of the Whitford centre in the context of its trade area. Additional information has been provided in terms of trade area support for the proposed expansion in the form of an updated RSA report and response to queries by RPS in their review of the RSA report on behalf of the City.
451	It appears that the retail development allowed under the structure plan will take a significant portion of the potential retail floor space growth. This will limit the redevelopment of other centres. One centre should not monopolise the ability for another centre to expand.	See response to comment above.

THEME: RETAIL FLOORSPACE		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANTS RESPONSE
451	The development may impact on the ability for the Joondalup City Centre to grow to achieve 'Primary Centre' status, and could result in Warwick Activity Centre being limited in achieving to full range of uses intended for a 'Secondary Centre'.	The proposed Whitford expansion will not disrupt the centre hierarchy and centres, such as Joondalup and Warwick will continue to grow given the impacts calculated using industry accepted methodologies are within the range that would not impact on any one centre to an extent that reduces the centre's role, range of uses or viability.
458	To increase the total floor space from 94,000m ² to 164,000m ² needs a good argument.	The Retail Sustainability Assessment (RSA) prepared to support the structure plan clearly demonstrated that the expansion of Whitford would not detrimentally impact on the viability of Joondalup. Refer to comments provided above in respond to submitter 251 comments on retail floorspace.
453	<p>Given the Joondalup City Centre's role in the hierarchy, it should be allocated a significant portion of the floorspace within the Joondalup sector. The amount of floorspace proposed by the structure plan will have a significant impact on the capacity for Lakeside Joondalup to maintain its position in the hierarchy.</p> <p>Lend Lease remains committed to the expansion of Lakeside in line with the proposal set out in the draft LCS, and illustrated in Lend Lease's master plan for the centre. The first stage of this expansion, for which approval has been granted, it is now under construction, and includes a department store.</p> <p>Given the rapidly growing population within the Joondalup City Centre catchment, Lend Lease is of the view a second department store could be provided in the short to medium term. Subject to approvals given elsewhere within the catchment and market conditions, it is possible that the next phase of the major development at Lakeside could incorporate a second department store.</p>	Refer to comments provided to submission 451.
24, 449	Retail spending is declining as a result of economic forces and/or retail shopping. Therefore more shops are not needed.	The retail spending market in the trade area is forecast to grow to \$2.4 billion by 2021. Western Australia continues to achieve the highest growth in retail trade of any state in Australia and economic conditions continue to be robust and significantly stronger than elsewhere in the country.

THEME: RETAIL FLOORSPACE		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANTS RESPONSE
458	<p>The major limitation of large increases of retail space is traffic, with Marmion/Whitfords too crowded, the ocean to the west, old single storey residential buildings (except of the coastal strip), area south of the centre is run down.</p> <p>Wonders why Westfield bought the shopping centre, the limitations are obvious.</p>	<p>Refer to all comments provide above in relation to retail floorspace expansion.</p>

THEME: RESIDENTIAL DENSITY		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
432	High density living is developers cashing in on an opportunity, rather than to address state government land shortages.	Proposed residential intensification is a response to State Planning Policy 4.2 which includes housing and diversity targets. One of the key objectives of SPP 4.2 is of increasing density and diversity in and around activity centres to improve land efficiency, housing variety and support centre facilities
1 - 415, 435, 484 - 511 (444 in total)	The whole area is fully established so there is not likely to be any increase in population. This is how we like it, and do not want to see an increased density of people. People seek to purchase and live in the area because of large and small residential properties, so it should be left that way.	Hillarys is currently 90% single dwellings, with 95% of those having 3 or more bedrooms. Increased dwellings will provide improved housing choice for different household compositions.
1, 344-391, 396, 401-415 (65 in total)	The City of Joondalup has already identified areas suitable for increase, which would allow for a slight increase in population density. This is a fair and reasonable approach.	The proposed residential density meets the minimum target that is required for Secondary Centres under the State Governments Activity Centres for Perth and Peel State Planning Policy.
24, 342, 381, 423	Increased density will be detrimental to existing householders.	SPP 4.2 outlines that residential uses in activity centres helps establish a sense of community and increase activity outside normal business hours. Additional residents in the area, particularly in areas where there currently is no residential development, will provide for more activity and 'eyes on the street', enhancing safety in the locality.
24, 441	The prime motive is to increase profits that will result from changes to allow more residential units (including increased densities proposed under the City's draft Local Housing Strategy)	Proposed residential intensification is a response to State Government planning policy.
442 - 448 (7 in total)	Higher density housing will compromise the safety of those accessing services in the area.	Additional residential dwellings will increase 'eyes on the street'.
458	Supports the densities, however uptake may be slow as it is up to individual land owners to redevelop.	The main residential area is proposed to occur in the Endeavour District, which is largely under the single ownership of Westfield.
478	Welcomes the density increase from R20 to R80 on Banks Avenue.	Noted.

THEME: RESIDENTIAL DENSITY		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
340	The community is not designed to accommodate a greater density of people in the area.	Higher density development will largely occur on Endeavour Road, which does not abut any existing residences. The density increase is in response to the targets and key objectives of SPP 4.2. It should also be noted that the City is proposing density increase for the area in its draft Local Housing Strategy.
478	The introduction of intense residential development will marry the centre with the surrounding neighbourhood urban form. This will increase ambience and surveillance, which in turn will lead to a decrease in anti social behaviour.	Noted.
342	Should Council support the proposal despite numerous objections, they are hopeful that the WAPC will not support the plan and the lower density will remain.	Proposed residential intensification is a response to State Government planning policy. Both the City and WAPC is required to have due regard to State Planning Policies.

THEME: BUILT FORM		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
24, 241, 432	High rise apartments are unsightly, and not in-keeping with the surrounds.	Proposed residential intensification is a response to State Government planning policy and is occurring in a number of other Secondary Centres in Perth, including Claremont and Cockburn.
417	Multi storey buildings should be of a high architectural standard.	Noted. With the exception of the shopping centre, there has been no detailed design of any buildings within the structure plan area. The development and design of each building will be the responsibility of individual landowners.
426	Only low level housing to a maximum height of three storeys should be the allowed in a residential area.	The proposed heights are consistent with that being sought in other Secondary Centres in Perth and are necessary to achieve density targets contained within State Government policy.
1 - 415, 435, 484 – 510 (443 in total)	Objects to the scheme to convert shopping centre and environs from a residential area to a dense urban area.	Diversification and intensification of land use is a response to State Government planning policy.
1 - 415, 435, 484 – 510 (443 in total)	The text in the structure plan depicts articulated multi-storey buildings on both sides of the Main Street (Endeavour Road), with an integrated built form that 'climbs the hill'. The supporting images display large buildings that dwarf everything around them. Residents do not want to live down the road from these monstrosities.	The proposed heights are consistent with that being sought in other Secondary Centres in Perth and are necessary to achieve density targets contained within State Government policy. Concerns about overlooking and overshadowing are required to be addressed by Local Development Plans, which must be in place prior to development. Buildings will be diverse in height and scale.
1, 344-391, 396, 401-415 (65 in total)	While one or two of the buildings may be old, they are still serviceable. Who would want to spend monies to modernise them in these difficult times.	There is no obligation upon any landowner to developer their property.
116, 449	Does not support high-rise apartments.	Proposed residential intensification is a response to State Government planning policy and is occurring in a number of other Secondary Centres in Perth, including Claremont and Cockburn.
253	Doesn't object, but believes buildings should be restricted to three storeys. Tower blocks of low cost/social housing are being demolished in the UK as they are a social disaster.	Proposed residential intensification is a response to State Government planning policy and is occurring in a number of other Secondary Centres in Perth, including Claremont and Cockburn. There are no current plans for any public housing in the structure plan area.

THEME: BUILT FORM		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
424	Images provided in the structure plan based on someone's impression of before and after have no regard for the environment or homes in the locality. For example a park with tall trees is being shown as replaced by paved areas and statues.	Landscaping is a key requirement of many districts. Both the City's Scheme and the structure plan require development to consider the amenity of the area, high quality design, and compatible urban design.
439	Does not want all the buildings to look the same, is concerned it will look okay in the beginning then become a low grade development as seen in Currambine.	Design of buildings has not commenced and is the prerogative of individual landowner.
441	A bigger shopping centre like Lakeside Joondalup will be less accessible with less parking and requiring time poor customers to walk further. This would make for an unsatisfying shopping experience they'd prefer to avoid.	This is natural consequence of expanding a shopping centre. Parking will be distributed around the site.
449	A building height of 27m is too high, 13.5m is more acceptable. Buildings along Banks Avenue should be limited to two storeys to maintain privacy and solar access to adjoining properties.	The proposed heights are consistent with that being sought in other Secondary Centres in Perth and are necessary to achieve density targets contained within State Government policy. Concerns about overlooking and overshadowing are required to be addressed by Local Development Plans, which must be in place prior to development. A height of 27 metres will facilitate buildings of 6-8 storeys, depending on whether they are commercial or residential, the design approach and the height of ground floor uses. Buildings of these heights have been successfully into the existing urban fabric. Further still it is not considered the heights proposed for the Endeavour District to be grossly overstated and are generally commensurate with a centre in a location and size of Whitford.
449	Apartments are not compatible with modern day living. For example noise associated with home theatres does not make for good neighbourly relations.	Future development will be subject to a range of laws and policies which protect internal amenity including the building codes, Residential Design Codes and future Local Development Plans.
452	The residential development in Endeavour Road is higher than the school site. This will create overshadowing and impact on the amenity of the School's facilities. High development at the boundary between the School and Endeavour District is not supported.	The proposed heights are consistent with that being sought in other Secondary Centres in Perth and are necessary to achieve density targets contained within State Government policy. Concerns about overlooking and overshadowing are required to be addressed by Local Development Plans, which must be in place prior to development.

THEME: BUILT FORM		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
458	Given that the piazza is already a dead area, the Endeavour area will not be successful.	Proposed nature of Endeavour Road is substantially different to the piazza in form and function. Endeavour Road is intended to have a mix of retail, office, commercial and residential uses, and will function in a different manner and format compared to the piazza. By its very nature Endeavour Road like Marmion Promenade, will offer a unique type of urban environment that is not currently present in the many parts of the North West sub region.
458	What measures will be incorporated to ensure a green footprint?	There are a number of resource conservation strategies in Part 2 of the structure plan document. The recent development application for the shopping centre includes an extensive ESD report.
478	The changes to the area around Endeavour Road will create a new town centre that will become the hub of activity for the community in what is currently a thoroughfare for commuters. This will allow the area to become family friendly and pedestrian orientated.	Noted.
478	The proposed building heights will allow a sense of place to be achieved. There should be higher building heights at key landmark sites to provide a sense of place and civic pride.	Noted.
478	Suggests an additional residential area on Marmion Promenade and the north east corner to allow activation at all times. Introducing residential development in this area will provide a sense of place for the district fronting the main access way past the Centre to Marmion Avenue. Not enough has been done to the centre to allow proper presentation to Marmion Avenue. A landmark building on the north east corner would greatly enhance the urban landscape.	The intersection of Marmion Avenue and Whitfords Avenue is proposed to have a sculptural/landscape landmark component.
388	Lives across the road, and believes Westfield should focus on improving the existing depressing and dilapidated buildings.	A substantial redevelopment of the shopping centre is a core reason why the structure plan has been progressed.

THEME: BUILT FORM		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
440, 433 – 437, 449 (7 in total)	Not considered appropriate to have high rise apartments within the vicinity of the school	The proposed heights are consistent with that being sought in other Secondary Centres in Perth and are necessary to achieve density targets contained within State Government policy. Concerns about overlooking and overshadowing are required to be addressed by Local Development Plans, which must be in place prior to development.
1	<p>More prominence/disclosure should have been given to the expected number of dwellings and multi-storey apartments in the document, other than to say how high they are. This is despite Westfield stating that they have developed the plan in close association with State and local governments to strike a balance.</p> <p>Due to the lack of detail provided, this leads observers to draw their own conclusions as to what it involves and how it will impact on them and their community. Due to the limited space allocated it may become a rabbit warren and is not conducive to comfortable and orderly living standards.</p>	<p>The structure plan contains targeted overall dwelling numbers, and for the Endeavour District specifically.</p> <p>Future Local Development Plan(s) will provide greater detail on the expected urban form and distribution of land uses in the Endeavour District.</p>
381	Gradual increase in housing is acceptable by way of units or a two storey townhouse. However not high rise apartments of three, five, six, eight storeys.	<p>The proposed heights are consistent with that being sought in other Secondary Centres in Perth and are necessary to achieve density targets contained within State Government policy.</p> <p>Concerns about overlooking and overshadowing are required to be addressed by Local Development Plans, which must be in place prior to development</p>
381	WA state government survey in the Sunday Times showed 79% of respondents oppose apartment living.	Proposed residential intensification is a response to State Government planning policy and is occurring in a number of other Secondary Centres in Perth, including Claremont and Cockburn.
253, 449	People may not want to sell or develop their properties.	There is no obligation upon any landowner to develop their property.
513	Disagrees with demolishing perfectly good housing stock along Banks Avenue when there is an urgent need for more housing.	There is no obligation upon any landowner to develop their property. The land use 'Single House' is proposed to remain as a 'P' permitted use in the Banks District.
472	Consideration should be given to the consideration to pedestrian friendly areas with universal access.	Noted. A number of public spaces will be created, including a community square in the Endeavour District.

THEME: BUILT FORM		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
449	The resulting traffic and housing does not allow for the school to expand in the future however the additional access to the school site from Whitfords Avenue is welcomed.	Noted. There is no proposed loss of school land, or resumption of school land. The school is able to continue the use of its land for school and related purposes as it has in the past.
431	Houses will have to be demolished to make room.	There is no obligation upon any landowner to developer their property.
478	Rear access parking allows for footpaths and built form to take on a continuous nature allowing a true cafe strip to emerge.	Noted.
478	Welcomes the upgrade of car park access to Whitford Public Library. Suggests the road be gazetted and treated as a street of the City to allow proper maintenance by the City. This will allow a true public street rather than a token, developer controlled street.	Noted. The 'road' is an easement shared by the City and Westfield and grants unfettered access to each party.

THEME: STRUCTURE PLAN DOCUMENTATION		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
424	Notes a transport hub is proposed for the Banks District but this is not shown in the printed material, what is happening with this?	The structure plan seeks the provision of a new bus route down Banks Avenue but not the provision of a "Bus Hub" – this was part of previous structure planning exercises. It is important to note that new bus routes are provided for by the PTA/DoT
481	A list of comments about development provisions and general text modifications has been provided on the draft Structure Plan. A copy was provided to Urbis and has been considered by the City.	Comments on structure plan provisions have been provided by the City and responded to.
1 - 415, 435, 484 – 510 (443 in total)	Limited information provided to the public and in the structure plan on the modern facilities such as St Mark's school, which presents a lack of balance.	It is acknowledged that there is a greater focus on the Retail and Endeavour Districts as these sites are predominantly in the ownership of Westfield. However, information on the existing facilities is not the focus of the structure plan that seeks to provide a framework for future redevelopment and expansion.
458	There are a lot of contingencies that makes it difficult to envision the plan.	Part 1 of the Structure Plan provides clear direction on what is expected/ required in terms of land use and development. In some instances parameters are provided to provide for flexibility. More information is required to determine the submitter's key concern.

THEME: OVERDEVELOPMENT		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
432, 1, 241, 426, 511	Development of this nature should be in a city centre like Joondalup.	The structure plan has been developed in accordance with SPP4.2 and therefore is not simply a shopping centre expansion but a plan that seeks to create a diverse mixed use Activity
431, 381, 457, 450	The strategic regional area is Joondalup, not Whitford	Whitford is identified as a secondary centre under SPP4.2, which states 'Secondary Centres share similar characteristics with strategic metropolitan centres but serves smaller catchments and offer a more limited range of services, facilities and employment opportunities.
1 – 415, 435, 484 – 510 (443 in total)	Does not want a site of this scale so close to Joondalup	It is assumed submitters are suggesting the scale of the proposal may impact on the viability of Joondalup. In response to this assumption a Retail Sustainability Assessment (RSA) was prepared to support the structure plan. The RSA demonstrates that the expansion of Whitford as proposed would not detrimentally impact on the viability of Joondalup or surrounding local centres.
24	By allowing the area to grow to such as scale it will make other small local centres less viable.	Refer to the response provided above.
381	The original plan for Whitfords was no larger than what has been developed.	No planning has been undertaken for Whitford City since 1999. There has been no previous overall plan for the area. The current plan responds to greater demand and a more mature surrounding catchment, as well as <i>SPP 4.2 Activity Centres for Perth and Peel</i> .
450	Hillarys is a residential suburb, and no one would expect (or have bought into the area) for Westfield to put forward such a proposal. The proposal is greedy.	There proposal is a response to State Government policy, and the commercial reality that there is significant demand for expanded retail and services.
388	Well done to the City of Joondalup for rejecting the venture that is solely based on profit without concern to the sensitivity of the area.	The proposal has not been rejected by the City of Joondalup.
441	Wants a clear message sent to the seemingly unconcerned shopping giants that their neighbourhood and children matter by voting no to the proposed expansion plans.	Noted.
452	The school has a large student population and ongoing demand for enrolments, however it is constrained by the existing landholding. The school needs to ensure there is no loss in utility from any of the existing land holding.	The only spatial impact the proposed ACSP contemplates for the school is the provision of a new service road that was originally requested by the school representatives to assist in alleviating some of the traffic congestion that occurs at key drop-off/pick-up times. The exact alignment of this road however is subject to negotiation between Westfield and the school.

THEME: AMENITY		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
438	There have been numerous developments within the Hillarys area that has not been in keeping with a medium density family area. This includes C-Air and Harbour Rise estates, Hillarys Boat Harbour and fast food outlets. How will the residents of Hillarys be benefited by the development if it goes ahead?	The proposal will not only facilitate a broader retail offering but bring further housing diversity options, a greater mix of land uses in general and improved public transport; all of which are generally lacking in the Hillarys area.
340, 381, 420, 422, 438, 450 (6 in total)	The plan is multi-national companies pushing a development through without regard to the needs of the local community or impact on existing residents.	This is the opinion of the submitter. The submitted ACSP ensures that the proposal is not a single use development (i.e. retail) and provides a framework for a diverse mixed-use centre.
260, 342, 425, 432	Land values will decrease due to undesirable effects from the development.	Whilst impact on land values is not a valid planning consideration, any notion that the proposal would adversely impact on land values is linked to the impact on amenity, desirability or development potential. The proposed Structure Plan will facilitate development and services which will enhance the overall amenity of the area (which could be suggested will only improves property values). The development potential of properties is not being adversely affected by the Structure Plan, nor is land identified as being taken for public purpose, either within the Structure Plan area or within the surrounds. No claim for injurious affection or decline in land value is therefore considered valid. Unless valuation reports by a licensed valuer have been submitted with related comments on the structure plan, these comments should be considered as opinions only.
389, 424, 432, 450	It will impact on children due to increased traffic and population as a result of the development.	Main Street environments such as proposed for Endeavour are characterized by on-street parking and slower moving vehicles with lower incidents of serious accidents.
1, 241, 253, 342, 425, 449 (6 in total)	It will create security and anti-social problems due to the type of development and increased population.	The assertion that more intensive development is less safe or will result in increased crime is not supported. The proposed structure plan seeks to facilitate a more intensive urban form, however it also seeks to apply current design principles to improve rather than erode the safety of the area. The greatest risk to safety is linked to high traffic speed and low surveillance, both of which would be improved through the proposed structure plan. Creating a vibrant and active centre, promoting activity for expanded trading hours with residential uses and urban amenity creates improved passive surveillance of the public realm which in-turn improves community safety

THEME: AMENITY		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
24, 135, 260, 342, 381, 425, 426, 450, 511 (9 in total)	Concerned about the impact on the overall amenity of the area.	Residential amenity and the preservation of amenity is a clear and distinct consideration in the development of the WACSP. Much of the area is currently characterised by single residential dwellings. The area has changed over time and contains some different housing styles and commercial development including the Whitford Shopping Centre. Meeting the housing needs and community requirements focused on intensive nodes assists in retaining the majority of the area in its current form whilst supporting improved services and public transport which will ultimately enhance the overall amenity of the locality.
440, 442 – 448 (8 in total)	It will impact on the health and safety of residents and/or students.	The greatest risk to safety is linked to high traffic speed and low surveillance, both of which would be improved through the proposed structure plan. Creating a vibrant and active centre, promoting activity for expanded trading hours with residential uses and urban amenity creates improved passive surveillance of the public realm which in-turn improves community safety
367 – 391, 396, 401 – 415 (41 in total)	Do not want to move away from the area we have lived in for many years because of the development.	Noted.
116	Did not purchase an expensive house in a beautiful and peaceful suburb near the sea to have it turned into a Business area.	It is important to note that all land currently zoned residential within the ACSP is also identified for mixed use development by the City of Joondalup's Draft Local Housing Strategy.
253	There are already existing noise issues from the centre (eg. Garbage trucks, loud speakers, car in the car park). This will be exacerbated by this proposal.	No comment provided.
260, 342, 419, 511	Purchased a property due to the quiet nature of the suburb and proximity to services, which will be disturbed by the development.	The proposed structure plan is not considered to have an adverse impact on the amenity of the overall locality or detract from the surrounding residential estates. The redevelopment of these areas will see key parts of the centre revitalised and rejuvenated. These locations are at present devoid of any character and/ or quality built form. The redevelopment of these sites will provide a level of urban amenity needed in the area.

THEME: AMENITY		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
433 – 437 (5 in total)	You cannot control the type of people that will live in the apartments.	The demographics of the area are changing, with an ageing population and new affluent families moving into the area. Provision of housing diversity will not undermine the social fabric of the area or create “slums” as asserted within some submissions; rather it is considered it will provide opportunities for residents at different stages of life who do not need a large single house to remain in the area. Aged persons, single persons and young couples in particular are not catered for by large single dwellings on suburban lots. The ACSP makes no suggestion of sites being used for a large social housing project and the outcome will be a series of private developments which will reflect the social mix and land values associated with the area.
432	High density living has adverse impacts with lower socio economic people moving into the area.	The provision of housing diversity will not undermine the social fabric of the area, rather it is considered it will provide opportunities for residents at different stages of life who do not need a large single house to remain in the area.
166, 260, 513	Three storey buildings on Banks Avenue will lead to a loss in privacy and amenity for adjoining residents.	Single houses will remain a permitted use in the Banks District. There is no obligation for landowners to redevelop their property. The application of the Residential Design Codes and Local Development Plans (where applicable) will ensure that the issue of privacy and overshadowing are controlled in any new development.
440, 340, 166, 381, 423, 449 (6 in total)	Loss in privacy to the school, church and/or surrounding residents as a result of high rise apartments.	The application of the Residential Design Codes in addition to the Local Development Plans which will be prepared where applicable will ensure that issues of privacy and overshadowing are controlled in any new development. The location of the more intensive development is removed from the single residential environment.
449	Mature trees should be retained, particularly along Endeavour Road.	Agreed.
449	The change in Chatswood (Sydney) from a quite suburb to a busy high density suburb has created traffic issues, overshadowing from large building, and a streetscape that is no longer pleasant. Does not want this to happen to Whitfords.	Noted. However this is why an ACSP and further detailed plans (such as Local Development Plans) are needed to ensure quality design and a coordinated approach to development.

THEME: AMENITY		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
381	Previous decisions by the Metropolitan Region Planning Appeals (now the State Administrative Tribunal) have determined that the impact of development on residents by way of traffic, bulk, parking are serious considerations in determining the amenity impact. Where the amenity for residents is degraded the proposal should be refused.	Noted.
458	<p>The Centre needs an inside and outside update as it currently appears to be sterile and dated, and increase in retail space, and office and residential uses within Endeavour and Banks Districts.</p> <p>Doesn't see a need for action in the areas of Kallaroo and Hillarys but the verges and the playground at Castlecrag Park needs an upgrade. Suggests the local councillors should look into this and take action.</p>	<p>Noted. Ultimately the ACSP will facilitate the redevelopment of the shopping centre.</p> <p>Noted.</p>

THEME: STAGING AND IMPLEMENTATION		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
458	What will be the impact of the construction on shop owners and shoppers? There are no timeframes for when development will occur.	<p>Construction of the shopping centre would likely commence in 2014 and be completed in 2016.</p> <p>Impacts on particular tenancies and the like will take place between Westfield and its tenants through normal means of communication.</p>
453	<p>The report by the planning consultant shows that while the draft structure plan conforms to the requirements in SPP4.2 for an activity centre structure plan, in substance it fails to provide fundamental targets such as the residential dwelling yield and lacks important details regarding timing and implementation.</p> <p>The structure plan provides no obligation for the construction of the dwellings, nor does it peg the expansion of the retail floorspace to the provision of the dwellings. Instead adopts the "build the retail and the residential will follow" approach.</p> <p>In a planning sense, this is enough to warrant refusal of the structure plan, or at least, the staging of the expansion of the retail floorspace over a significant period of time.</p>	<p>This approach is common.</p> <p>Retail is the main driver of most activity centres in Perth and therefore will form a large part in their positive evolution.</p> <p>The structure plan identifies and overall dwelling numbers that can be achieved, including a provisional number for the Endeavour District.</p> <p>The structure plan provides the framework for residential intensification to occur when it is feasible.</p>
481	Concerned about the lack of staging and implementation information provided. There is concern that commitment is only to the retail expansion within the existing shopping centre site with no commitment to timeframes for delivery of any other uses.	<p>The structure plan provides the framework for residential intensification to occur when it is feasible.</p> <p>The commercial incentives of intensification will drive development over time.</p>
260, 416, 417, 424	No clear timeframes for development. Concerned most of the proposed improvements will only occur after expansion of the centre.	<p>The structure plan provides the framework for residential intensification to occur when it is feasible.</p> <p>The commercial incentives of intensification will drive development over time.</p> <p>Westfield has provided a staging plan with the recently submitted development application for the proposed expansion to the shopping centre.</p>

THEME: STAGING AND IMPLEMENTATION		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
416, 417	Conditions should be imposed requiring the development of mixed use buildings on the perimeter prior to or concurrently with retail space.	<p>The structure plan provides the framework for residential intensification to occur when it is feasible.</p> <p>The commercial incentives of intensification will drive development over time.</p>
452	The structure plan has provisions relating to a water efficiency strategy. It is unclear on what this means and impact it will have on future development, and the schools responsibility.	<p>A water balance report was prepared in support of the structure plan to outline the benefits of implementing best practice water management.</p> <p>At a more detailed level it will be the responsibility of individual developers or landowners to ensure water is being used efficiently.</p>
452	Notes that a developer contribution plan is required, however it is unclear whether this has occurred or how long it will take to prepare.	Westfield has had the consistent position that such a plan is not required. The Department of Planning holds a similar position.
452	The School has worked with the applicant and they sought to respond to the impacts of the plan on the School. The School has continued to express serious concern that there is insufficient clarity and certainty in the draft Structure Plan. Particularly in regard to where, when, how and who would pay for the proposed link road.	<p>There is no obligations on landowners to develop their land</p> <p>Any development of the Endeavour district, which abuts the Education and Civic district, will be subject to the preparation of a Local Development Plan, which requires collaboration with the City and the school.</p>

THEME: SUPPORT		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANTS RESPONSE
253, 449, 454, 459, 460, 471, 470 (7 in total)	Looking forward to the inclusion of David Jones	Noted.
469, 464	Good to see Whitford City made more of a community.	Noted.
454, 455, 459, 460, 461, 462, 464, 468, 471, 472, 474, 478 (12 in total)	Looking forward to the proposal.	Noted.
467, 463, 470	Supports the proposal however would prefer stores in addition to David Jones.	Noted.
468	Will generate more jobs.	Noted.
416, 417	The premise of diversity of use, visual appeal and pedestrian permeability for the site is a significant improvement. The interpretation of the European high street is appealing.	Noted.
456, 473	Supports the development and believes it is essential in order to maintain competitiveness and value in a highly sort after consumer market.	Noted.
465	The northern corridor is currently poorly serviced by major retail stores which mean residents are spending money to support another Council and travel further.	Noted.
466	Excited for the redevelopment. Hillarys has so much potential and infill is needed for the future instead of fringe development.	Noted.
476	Redevelopment is long overdue and believes it will have little or no impact on Joondalup.	Noted.
477	Likes the idea of a village atmosphere combining retail, commercial and residential.	Noted.
449	Development objectives and provisions seem sound, however should only be implemented once all issues raised by stakeholders have been addressed where possible.	Noted.
451	Supports the notion of a range of land uses adjacent to Whitford Shopping Centre and the inclusion of afterhour activity and increased residential development.	Noted.

THEME: SUPPORT		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANTS RESPONSE
457	Supports the proposal on the basis of the success of other shopping centres such as Carindale (Brisbane), the height and scale flowing into the adjoining housing opportunity area, and consideration for increased public transport, walking and cycling.	Noted.
457	The Centre will operate as a major retail and entertainment precinct that supports the lifestyle of residents. The vision being living next to the best beaches in the world with a range of residential options, a major employment and education hub, first class retail, and entertainment precincts and tourist precincts of Hillarys and Ocean Reef Marina.	Noted.
457, 478	The structure plan will regenerate the area.	Noted.
457	Banks Avenue is a disgrace, with antiquated infrastructure and a lot of unkempt rental housing. The City of Joondalup has done no maintenance in the area and when Westfield proposed to remedy the situation, the Council sent out a highly negative response to the plan.	Noted.
477	Step in the right direction. The plan is far better than the present situation, where 100+ parents in their cars take it over twice a day dropping off and collecting children from St Mark's, causing considerable traffic congestion.	Noted.
478	Has been a resident in Kallaroo for many years and has seen the shopping centre become internalised with little street activation (similar to an American mega mall). This has detracted from the landscape and is a direct result of the current structure plan that allow for commercial, but not residential development. The piazza was a step in the right direction, but needs redevelopment because of design and access flaws.	Noted.
478	Commends Westfield for their foresight in their planning. It is common knowledge the Mayor and a number of councillors see the proposed changes as detractions from the Joondalup City Centre.	Noted.

THEME: SUPPORT		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANTS RESPONSE
478	It is not convenient to travel to Joondalup to access services that can easily be provided at Whitford City and surrounds.	Noted.
478	The Joondalup City Centre will remain the 'hub' given the education and health services. The City of Joondalup should be proactively promoting the redevelopment of other centres with residential components in order to initiate overdue redevelopment of aging commercial infrastructure. Whitford will be a catalyst for the regeneration of the City.	Noted.
478	Encourages councillors to vote in favour of the proposed changes which will see the transformation of Whitford City. Population growth cannot be stopped so Joondalup Council must be pro active in the development of all commercial centres within the City boundary to accommodate the required change in urban form.	Noted.
475	<p>The City of Joondalup has no regard for the residents in the west area of your Council. The City has a single-minded attitude to allow expansion of Joondalup. Westfield City is, and has been, the major centre in the City of Joondalup long before Joondalup City was constructed.</p> <p>Residents living in the area of Hillarys who are mostly higher rate payers and Council need to ensure access to modern and well-structured facilities as proposed by Westfield.</p>	Noted.

THEME: CONSULTATION PROCESS		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
432	The City has not been transparent in the information provided.	Westfield supplemented the information provided by the City of Joondalup to help reach as wide an audience as possible.
440	More information should have been provided from the City to parents who have children that attend the school	A wide variety of consultation methods were used to provide information on the draft activity centre structure plan. Some of these methods included prominent signage placed around the shopping centre and additional information was provided by Westfield via its customer email database and Facebook page. Letters were hand delivered to every residence living within the structure plan area inviting them to contact the applicant if they required any further information and as well as inviting them to join a place maker group established to provide input to the development process. Briefings were provided for key community groups and community representatives and four coffee mornings were held at Westfield Whitford City inviting anyone with questions to a briefing with the applicant. This was advertised through retailers, via Facebook, on the Westfield website and by email.
1, 241, 450	More residents should have been consulted (ie. All of Hillarys and/or Kallaroo)	The proposal was advertised in accordance with the requirements of Council's scheme and policies including advertising in the local paper, a notice on the website, signs on site and letters to nearby landowners. During the advertising period Westfield supplemented the information provided by the City of Joondalup to help reach as wide an audience as possible.
1	Unbeknown to many people, Westfield has been extolling the virtues of the plan without the mention of apartments.	Westfield has made every effort to draw people's attention to the full contents of the draft structure plan, especially the need for housing diversity which includes apartment dwellings.
13	Disappointed the City did not provide them a print out of the documents. As they are unable to view the documents properly they are unable to support the proposal as it may negatively impact on the residents.	Refer detailed response in correspondence. Westfield made documents available in print format in addition to those available at the City's customer service centres and libraries.
466	It is good to see the authorities encouraging public input and planning for population increases. Haven't seen much community participation communicated to the public, it may have been but they haven't seen it.	Westfield supplemented the information provided by the City of Joondalup to help reach as wide an audience as possible. It has established a Place Making group to encourage ongoing community participation.
450	Only found out about the proposal through the school and was directed to the Westfield website. A number of other neighbours were unaware because they don't read the local paper.	In addition to the information provided by the City of Joondalup, Westfield circulated flyers via the Whitford customer service desk, doorknocked and provided a letter and flyer to residents in the structure plan area, displayed an article on the Westfield Whitford website with links to the City's website.

THEME: CONSULTATION PROCESS		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
		Further still, notices were placed on Westfields Facebook page and email was sent to customers on the Westfield Whitford City database. Meetings which were advertised on the Facebook page were held inviting anyone with questions to a briefing by Urbis, the planning consultants representing Westfield.
450	Other methods of consultation should be explored by the City, such as allow ratepayers to register for online updates, using social networking, or put road signs up near the development.	Refer to comment above.
450	If Westfield thought it was a good proposal, they would be advertising or marketing to support the development. As they didn't, this indicates they are trying to slide through with as little attention as possible.	Westfield made every effort to supplement the information provided by the City of Joondalup to help reach as wide an audience as possible.
1	<p>Conducted a survey of the area that encompassed Cumberland Drive, Ferndene Mews, Kebble Close, Deverall Square, Chaplin Court, St Marks Drive, Endeavour Road, part of Cook Avenue (274 properties). The results were:</p> <ul style="list-style-type: none"> • 135 objection forms were received and forwarded to the City • 7 objections were lodged with the City directly • 38 did not wish to object • 94 owners were not contactable. <p>Interviews with land owners has indicated that they do not want this type of development (particularly apartments)</p>	Submissions based on surveys of residents do not detail what format the survey took, what information was supplied to the residents being surveyed and what questions the residents were asked. Without seeing a copy of the survey (or full details of the format of survey) which was used to interview the residents, it is impossible to accurately determine a true level of support/opposition.
381	<p>Conducted a survey of the area that encompassed Solander Road, Monkhouse Way, Gore Place, Parkinson Place, Bootie Place, Nash Street, Sporing Way, Green Road, Buchan Place, Hicks Way, Banks Avenue, Venus Way and both side of Cook Avenue from Marmion Avenue to the roundabout at Endeavour Road.</p> <p>Also surveyed to area of Kallaroo that comprises Clevedon Place, Oleander Way, Shelley Place, portion of Bridgewater</p>	As above

THEME: CONSULTATION PROCESS		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
	<p>Drive, Northwood Way, Milson Court, Castle Court, Wingala Grove, Cromer Grove, Woolwich Close, Castlecrag Drive, Kiernan Place, Lindfield Retreat, Montague Way, Dee Why Grove and Clifton Gardens (529 properties). The results were:</p> <ul style="list-style-type: none"> • 267 objection forms received (and provided to the City) • 4 objections provided directly to the City • 67 did not object, or were undecided • 165 were not contactable <p>Interviews with land owners has indicated that they do not want this type of development (particularly apartments)</p>	
381	Surveys undertaken by the MLA (Rob Johnson) indicate that a large percentage of people are opposed to the plan.	As above
381	Surveys undertaken by two local residents reflected 80% of land owners were opposed to the plan.	As above
424	Viewed the structure plan at the Whitfords Customer Service Centre and is disappointed by the lack of knowledge shown by staff and feels that this needs to be addressed.	Westfield provided a number of alternative avenues of information to supplement the information provided by the City of Joondalup Customer Service Officers.

THEME: OTHER		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
440	Assume the Council receives financial benefit by allowing the development to proceed. Would be interested to see what has been calculated based on development scenarios.	The development of an Activity Centre Structure Plan is a requirement of State Government planning policy, as is the proposed intensification and diversification of land uses.
1	There is already a lack of transparency and trust in State Parliament in regard to the conduct of individual and groups. This concern is shared by many Hillarys residents and businesses in Hillarys.	Westfield have provided numerous opportunities for stakeholders, including the general public, to obtain information about the proposal in addition to the information provided by the City of Joondalup.
260	Is it Westfield's intention to acquire properties to facilitate development?	No. Westfield has no intention or the legal power to acquire land.
342, 381, 511	Wonders about the influence a multi-national company like Westfield will have on Councillors to gain approval for a proposal that is purely commercial driven with no benefit to the residents. Hopes that the Council will place the interest of long term residents ahead commercial interest or themselves.	As the City would be aware, the preparation of an Activity Centre Structure Plan is a requirement of State Government policy. Similarly the intensification and diversification of land uses in activity centres is also a response to State Government policy. The nature and content of this structure plan is a direct response to the State Government policy. Westfield has been in the planning process for the centre for a number of years and has had ongoing consultation wide number of Council officers, State Government agencies, the Department of Planning, and has made concerted efforts to consult with the community.
452	The school is a not for profit organisation with no current plans for significant growth in the student population. Concerned that development would impose substantial capital costs which would not otherwise be required.	There is no obligation for development on the school, and the City's request for a Development Contribution Plan has been recommended for deletion by the Department of Planning.
452	It is understood that a development application has been lodged. While a structure plan is currently being considered, given the issues that have not been resolved, the structure plan should not be considered 'seriously entertained' and given weight in the assessment of the application.	This matter has been addressed extensively in the submitted development application for the proposed expansion of Westfield Whitford City.
452	The requirement for a Local Development Plan for the Education and Civic District will impose costs on the School and create conflict with property owners bordering the School if developments are not timed in conjunction.	There is a need to coordinate development, access and land use between the school and Endeavour Road where more intense land uses are proposed. The LDP is expected to ensure a better planning outcome and process for the school and students in the longer term.
458	Despite the need for an uplift of the Shopping Centre there are too many 'negatives' and 'doubtfuls' to support the plan.	Westfield has been planning the redevelopment of the centre for several years.

THEME: OTHER		
SUBMITTER NO.(s)	SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
514	<p>The survey undertaken asked questions regarding the number of dwellings, building height, retail floor space and traffic. A total of 337 responses were received, being:</p> <ul style="list-style-type: none">• 263 against the proposal• 38 for the proposal• 36 required further information	<p>The applicant was not given an opportunity to respond directly to the survey results.</p>

Submitter details

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
1	H & S Ross-Jones 7/3 Endeavour Road HILLARYS WA 6025	7/3 Endeavour Road HILLARYS	Objection Three submissions received
2	M Milligan 6/27 St Marks Dive HILLARYS WA 6025	6/27 St Marks Dive HILLARYS	Objection
3	K & A Green 6 Bootie Place HILLARYS WA 6025	6 Bootie Place HILLARYS	Objection
4	M Butler 2/33 St Marks Drive, HILLARYS WA 6025	2/33 St Marks Drive, HILLARYS	Objection
5	P & R Lillywhite 26 Cook Avenue HILLARYS WA 6025	26 Cook Avenue HILLARYS	Objection
6	I E Delank 30 Sporing Way HILLARYS WA 6025	30 Sporing Way HILLARYS	Objection
7	E Peters 3 Nicholls Place PADBURY WA 6025	3 Nicholls Place PADBURY	Objection
8	H Carr 20 Hunter Way PADBURY WA 6025	20 Hunter Way PADBURY	Objection
9	M Richards 28 Cook Avenue HILLARYS WA 6025	28 Cook Avenue HILLARYS	Objection
10	S & A Sommer 6 Sporing Way HILLARYS WA 6025	6 Sporing Way HILLARYS	Objection
11	M & P P Tin 6 Buchan Place HILLARYS WA 6025	6 Buchan Place HILLARYS	Objection
12	M Woodall 7 Samson Court DUNCRAIG WA 6024	7 Samson Court DUNCRAIG	Objection
13	Diane & Ian Dick 4 Kiernan Place KALLAROO WA 6025	4 Kiernan Place KALLAROO WA 6025	Objection Two submissions received.

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
14	A & J Pollard 1/27 St Marks Drive HILLARYS WA 6025	1/27 St Marks Drive HILLARYS	Objection
15	F Christian 117 Cook Avenue HILLARYS WA 6025	117 Cook Avenue HILLARYS	Objection
16	M Grossetti 10/9 St Marks Drive HILLARYS WA 6025	10/9 St Marks Drive HILLARYS	Objection
17	V Ladec 1/85 Cook Avenue HILLARYS WA 6025	1/85 Cook Avenue HILLARYS	Objection
18	D Nicholas 6/9 St Marks Drive HILLARYS WA 6025	6/9 St Marks Drive HILLARYS	Objection
19	J & N Popzeleff 14/93 Cook Avenue HILLARYS WA 6025	14/93 Cook Avenue HILLARYS	Objection
20	E Spackman 7/97 Cook Avenue HILLARYS WA 6025	7/97 Cook Avenue HILLARYS	Objection
21	F & M A Stimpson 3/85 Cook Avenue HILLARYS WA 6025	3/85 Cook Avenue HILLARYS	Objection
22	D Tilvern 10/85 Cook Avenue HILLARYS WA 6025	10/85 Cook Avenue HILLARYS	Objection
23	J & R Windebank 2 Ferndene Mews HILLARYS WA 6025	2 Ferndene Mews HILLARYS	Objection
24	David & Wendy Wheaton 5 Lindfield Retreat KALLAROO WA 6025	5 Lindfield Retreat KALLAROO	Objection Two submissions received.
25	G G & A Davies 15/85 Cook Avenue HILLARYS WA 6025	15/85 Cook Avenue HILLARYS	Objection
26	H E & M Dawson 11/93 Cook Avenue HILLARYS WA 6025	11/93 Cook Avenue HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
27	P J & S E Huggins 115 Cook Avenue HILLARYS WA 6025	115 Cook Avenue HILLARYS	Objection
28	L Meek 8 Kebble Close HILLARYS WA 6025	8 Kebble Close HILLARYS	Objection
29	A T & G J Mott 5/85 Cook Avenue HILLARYS WA 6025	5/85 Cook Avenue HILLARYS	Objection
30	D & T Parks 90 Cook Avenue HILLARYS WA 6025	90 Cook Avenue HILLARYS	Objection
31	M Primus 118 Cook Avenue HILLARYS WA 6025	118 Cook Avenue HILLARYS	Objection
32	S Smith Reed 1B Endeavour Road HILLARYS WA 6025	1B Endeavour Road HILLARYS	Objection
33	S & S Torode 6 Kebble Close HILLARYS WA 6025	6 Kebble Close HILLARYS	Objection
34	L & J Wilson 122 Cook Avenue HILLARYS WA 6025	122 Cook Avenue HILLARYS	Objection
35	J & R Windebank 14/85 Cook Avenue HILLARYS WA 6025	14/85 Cook Avenue HILLARYS	Objection
36	A Birkner 8/93 Cook Avenue HILLARYS WA 6025	8/93 Cook Avenue HILLARYS	Objection
37	G Brevic 104 Cook Avenue HILLARYS WA 6025	104 Cook Avenue HILLARYS	Objection
38	J de Andrade 114 Cook Avenue HILLARYS WA 6025	114 Cook Avenue HILLARYS	Objection
39	G & J Ericson 20 Ferndene Mews HILLARYS WA 6025	20 Ferndene Mews HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
40	M Fletcher 11/85 Cook Avenue HILLARYS WA 6025	11/85 Cook Avenue HILLARYS	Objection
41	T Ibbotson 1 Kebble Close HILLARYS WA 6025	1 Kebble Close HILLARYS	Objection
42	R E Mutch 33 Orient Circuit HILLARYS WA 6025	33 Orient Circuit HILLARYS	Objection
43	Warren Mumme 2 Kebble Close HILLARYS WA 6025	2 Kebble Close HILLARYS	Objection Two submissions received
44	C A Riddings 4/33 St Marks Drive HILLARYS WA 6025	4/33 St Marks Drive HILLARYS	Objection
45	J Ritchie 5/27 St Marks Drive HILLARYS WA 6025	5/27 St Marks Drive HILLARYS	Objection
46	J Wells 4 Kebble Close HILLARYS WA 6025	4 Kebble Close HILLARYS	Objection
47	J & C Ackland 11 Ferndene Mews HILLARYS WA 6025	11 Ferndene Mews HILLARYS	Objection
48	L & M Arbuckle 8A Ferndene Mews HILLARYS WA 6025	8A Ferndene Mews HILLARYS	Objection
49	M Barnett 17 Ferndene Mews HILLARYS WA 6025	17 Ferndene Mews HILLARYS	Objection
50	D & A Cook 9 Ferndene Mews HILLARYS WA 6025	9 Ferndene Mews HILLARYS	Objection
51	M Gajek 91 Cook Avenue HILLARYS WA 6025	91 Cook Avenue HILLARYS	Objection
52	B & G Leopardi 3/9 St Marks Drive HILLARYS WA 6025	3/9 St Marks Drive HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
53	C & B Ridgeway 8 Ferndene Mews HILLARYS WA 6025	8 Ferndene Mews HILLARYS	Objection
54	P D Smith 109 Cook Avenue HILLARYS WA 6025	109 Cook Avenue HILLARYS	Objection
55	J K & M J Vekaria 120 Cook Avenue HILLARYS WA 6025	120 Cook Avenue HILLARYS	Objection
56	M Bennett 7 Ferndene Mews HILLARYS WA 6025	7 Ferndene Mews HILLARYS	Objection
57	J L Champion 2/85 Cook Avenue HILLARYS WA 6025	2/85 Cook Avenue HILLARYS	Objection
58	A & J Coleman 5/9 St Marks Drive HILLARYS WA 6025	5/9 St Marks Drive HILLARYS	Objection
59	D W & U A Banasiwicz 15 Deverall Square HILLARYS WA 6025	15 Deverall Square HILLARYS	Objection
60	S A Cooke 34 Cumberland Drive, HILLARYS WA 6025	34 Deverall Square HILLARYS	Objection
61	S & D Cox 17 Deverall Square HILLARYS WA 6025	17 Deverall Square HILLARYS	Objection
62	M & L Kochman 32 Deverall Square HILLARYS WA 6025	32 Deverall Square HILLARYS	Objection
63	G & K Robinson 47 Deverall Square HILLARYS WA 6025	47 Deverall Square HILLARYS	Objection
64	K & P Smith 7 Deverall Square HILLARYS WA 6025	7 Deverall Square HILLARYS	Objection
65	A & G Taylor 4 Deverall Square HILLARYS WA 6025	4 Deverall Square HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
66	B & L Colvin 53 Deverall Square HILLARYS WA 6025	53 Deverall Square HILLARYS	Objection
67	H & C Durrant 3 Chaplin Court HILLARYS WA 6025	3 Chaplin Court HILLARYS	Objection
68	G & G Hooley 4 Chaplin Court HILLARYS WA 6025	4 Chaplin Court HILLARYS	Objection
69	C & Y Kerns 3 Deverall Square HILLARYS WA 6025	3 Deverall Square HILLARYS	Objection
70	J & S Mashman 14 Deverall Square HILLARYS WA 6025	14 Deverall Square HILLARYS	Objection
71	N & G McCallum 38 Deverall Square HILLARYS WA 6025	38 Deverall Square HILLARYS	Objection
72	R & J Minett 19 Deverall Square HILLARYS WA 6025	19 Deverall Square HILLARYS	Objection
73	L & M Sorsok 49 Deverall Square HILLARYS WA 6025	49 Deverall Square HILLARYS	Objection
74	R Algeri 21 Deverall Square HILLARYS WA 6025	21 Deverall Square HILLARYS	Objection
75	C Drew & J Macgill 31 Deverall Square HILLARYS WA 6025	31 Deverall Square HILLARYS	Objection
76	A & G Mackerron 23 Deverall Square HILLARYS WA 6025	23 Deverall Square HILLARYS	Objection
77	D & D Morris 11 Deverall Square HILLARYS WA 6025	11 Deverall Square HILLARYS	Objection
78	I & T Ainsworth 5 Deverall Square HILLARYS WA 6025	5 Deverall Square HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
79	JD & RM Hawes 16 Deverall Square HILLARYS WA 6025	16 Deverall Square HILLARYS	Objection
80	K Bunton 35 Deverall Square HILLARYS WA 6025	35 Deverall Square HILLARYS	Objection
81	C Scurria 27 Deverall Square, HILLARYS WA 6025	27 Deverall Square, HILLARYS	Objection
82	B & F Solly 113 Cook Avenue HILLARYS WA 6025	113 Cook Avenue HILLARYS	Objection
83	C & E Stephanou 5 Ferndene Mews HILLARYS WA 6025	5 Ferndene Mews HILLARYS	Objection
84	C & D Thornley 16 Ferndene Mews HILLARYS WA 6025	16 Ferndene Mews HILLARYS	Objection
85	J & V Batt 7/9 St Marks Drive HILLARYS WA 6025	7/9 St Marks Drive HILLARYS	Objection
86	Z & V Briski 25 Cook Avenue HILLARYS WA 6025	25 Cook Avenue HILLARYS	Objection
87	T & E Damianidis 18 Cook Avenue HILLARYS WA 6025	18 Cook Avenue HILLARYS	Objection
88	E & A Gibson 3 Solander Road HILLARYS WA 6025	3 Solander Road HILLARYS	Objection
89	G & T Mitchell 50 Cook Avenue HILLARYS WA 6025	50 Cook Avenue HILLARYS	Objection
90	M & Z Mullah 8 Solander Road HILLARYS WA 6025	8 Solander Road HILLARYS	Objection
91	B Roper 12 Solander Raod HILLARYS WA 6025	12 Solander Raod HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
92	J Tokaruic & L M Klunatsort 34 Solander Road HILLARYS WA 6025	34 Solander Road HILLARYS	Objection
93	N Chaffey & B Taiterson 62 Cook Avenue HILLARYS WA 6025	62 Cook Avenue HILLARYS	Objection
94	J Downey 2a Cook Avenue HILLARYS WA 6025	2a Cook Avenue HILLARYS	Objection
95	S & C Evans 22 Cook Avenue HILLARYS WA 6025	22 Cook Avenue HILLARYS	Objection
96	C & T Fallows 20 Solander Road HILLARYS WA 6025	20 Solander Road HILLARYS	Objection
97	S & D Farnworth 72 Cook Avenue HILLARYS WA 6025	72 Cook Avenue HILLARYS	Objection
98	O Mandl 2 Bootie Place HILLARYS WA 6025	2 Bootie Place HILLARYS	Objection
99	M & E McQuade 16 Cook Avenue HILLARYS WA 6025	16 Cook Avenue HILLARYS	Objection
100	M & A Tangney 3 Bootie Place HILLARYS WA 6025	3 Bootie Place HILLARYS	Objection
101	Alan & Linley Buckingham 7/11 Endeavour Road HILLARYS WA 6025	7/11 Endeavour Road HILLARYS	Objection
102	K & S Brynjolfson 105 Cook Avenue, HILLARYS WA 6025	105 Cook Avenue HILLARYS	Objection
103	S Humfrey & J Hopkins 9/11 Endeavour Road, HILLARYS WA 6025	9/11 Endeavour Road HILLARYS	Objection
104	R & J Polglaze 10/11 Endeavour Road, HILLARYS WA 6025	10/11 Endeavour Road HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
105	V & M Woolcott 7/11 Endeavour Road, HILLARYS WA 6025	7/11 Endeavour Road HILLARYS	Objection
106	S Brooks 21 Glenbank Crescent, KALLAROO WA 6025	21 Glenbank Crescent KALLAROO	Objection
107	S Budd 24 Hughes Court, PADBURY WA 6025	24 Hughes Court PADBURY	Objection
108	A & J Burdon 1 Cook Avenue, HILLARYS WA 6025	1 Cook Avenue, HILLARYS	Objection
109	R & R Carder 59 Camberwarra Drive, CRAIGIE WA 6025	No applicable	Objection
110	V Farthing 10 Cotton Place, HILLARYS WA 6025	10 Cotton Place HILLARYS	Objection
111	A Gadson 15B Monkhouse way, HILLARYS WA 6025	15B Monkhouse Way HILLARYS	Objection
112	V & A Lee 5 Cook Avenue, HILLARYS WA 6025	5 Cook Avenue HILLARYS	Objection
113	M Russell 6B Mildura Road, CRAIGIE WA 6025	6B Mildura Road CRAIGIE	Objection
114	B & M Spong 3/20 Black Wattle Parade, PADBURY WA 6025	3/20 Black Wattle Parade PADBURY	Objection
115	D Geddes 12A Hicks Way, HILLARYS WA 6025	12A Hicks Way HILLARYS	Objection
116	K & V Ross-Jones 6 Ellesmere Heights HILLARYS WA 6025	6 Ellesmere Heights HILLARYS	Objection Two submissions received
117	N Cranes 14 Meadow Bank, HILLARYS WA 6025	14 Meadow Bank HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
118	M & J Elders 6 Hawdon Mews, HILLARYS WA 6025	6 Hawdon Mews HILLARYS	Objection
119	F H Herd 10/19 St Marks Drive, HILLARYS WA 6025	10/19 St Marks Drive HILLARYS	Objection
120	R & A Leeson 6 Chaplin Court, HILLARYS WA 6025	6 Chaplin Court HILLARYS	Objection
121	J N & I H Tierney 4/93 Cook Avenue, HILLARYS WA 6025	4/93 Cook Avenue, HILLARYS	Objection
122	J Woodward 3 Orient Circuit, HILLARYS WA 6025	3 Orient Circuit, HILLARYS	Objection
123	R & I C Armstrong 52 Forrest Road PADBURY WA 6025	52 Forrest Road PADBURY	Objection
124	L & G Collopy 44 Cook Avenue HILLARYS WA 6025	44 Cook Avenue HILLARYS	Objection
125	N Ford 6A Cook Avenue HILLARYS WA 6025	6A Cook Avenue HILLARYS	Objection
126	J Kemp 1 Renegade Way KINGSLEY WA 6026	1 Renegade Way KINGSLEY	Objection
127	P Moore 56 Cook Avenue HILLARYS WA 6025	56 Cook Avenue HILLARYS	Objection
128	C Philip, K Philp & J Philip 29 Cook Avenue HILLARYS WA 6025	29 Cook Avenue HILLARYS	Objection Two submissions received
129	C Shepaniak & J I Cunningham 17 Staplehurst Crescent BUTLER WA 6036	Not applicable	Objection
130	S & L Widjaja 35 Windarra Drive CITY BEACH WA 6015	Not applicable	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
131	S & A Smith 5/19 St Marks Drive HILLARYS WA 6025	5/19 St Marks Drive HILLARYS	Objection
132	A Auld & K Kingstone 23 Sporing Way HILLARYS WA 6025	23 Sporing Way HILLARYS	Objection
133	A & J Burgess 26 Hicks Way HILLARYS WA 6025	26 Hicks Way HILLARYS	Objection
134	S Byrne 17 Hicks Way HILLARYS WA 6025	17 Hicks Way HILLARYS	Objection
135	M J Conway 40 Sporing Way HILLARYS WA 6025	40 Sporing Way HILLARYS	Objection Two submissions received.
136	A J Cummings 48 Sporing Way HILLARYS WA 6025	48 Sporing Way HILLARYS	Objection
137	A Cusack, A McAllister & H Cusack 46 Sporing Way HILLARYS WA 6025	46 Sporing Way HILLARYS WA 6025	Objection Two submissions received
138	Mr & Mrs S Emberson 8 Hicks Way HILLARYS WA 6025	8 Hicks Way HILLARYS	Objection
139	C & J A Mitchell 15 Hawden Mews HILLARYS WA 6025	15 Hawden Mews HILLARYS	Objection
140	L Misik 34 Cook Avenue HILLARYS WA 6025	34 Cook Avenue HILLARYS	Objection
141	J & D Nerva 14 Sporing Way HILLARYS WA 6025	14 Sporing Way HILLARYS	Objection
142	A Reece 24 Sporing Way HILLARYS WA 6025	24 Sporing Way HILLARYS	Objection
143	C Sarich & T Butcher 5 Green Road HILLARYS WA 6025	5 Green Road HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
144	D Webb 9 Nash Street HILLARYS WA 6025	9 Nash Street HILLARYS	Objection
145	B Frankee 11 Buchan Place HILLARYS WA 6025	11 Buchan Place HILLARYS	Objection
146	E & M Gouws 16 Hicks HILLARYS WA 6025	16 Hicks HILLARYS	Objection
147	P Jones 4 Buchan Place HILLARYS WA 6025	4 Buchan Place HILLARYS	Objection
148	P & J Martin 5 Buchan Place HILLARYS WA 6025	5 Buchan Place HILLARYS	Objection
149	K Ryan 3A Exmoor Court HILLARYS WA 6025	3A Exmoor Court HILLARYS	Objection
150	R Skinner 15 Green Road HILLARYS WA 6025	15 Green Road HILLARYS	Objection
151	R Small 13 Green Road HILLARYS WA 6025	13 Green Road HILLARYS	Objection
152	A Wales & A Buckley 22 Sporing Way HILLARYS WA 6025	22 Sporing Way HILLARYS	Objection
153	B & P Wintle 52 Sporing Way HILLARYS WA 6025	52 Sporing Way HILLARYS	Objection
154	J F Goodwin 3/19 St Marks Drive HILLARYS WA 6025	3/19 St Marks Drive HILLARYS	Objection
155	M King 25 Sheffield Place HILLARYS WA 6025	25 Sheffield Place HILLARYS	Objection
156	A & A G Donne 40 Parkinson Place HILLARYS WA 6025	40 Parkinson Place HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
157	M & M Donnelly 12 Parkinson Place HILLARYS WA 6025	12 Parkinson Place HILLARYS	Objection
158	D & R M Gallagher 46 Parkinson Place HILLARYS WA 6025	46 Parkinson Place HILLARYS	Objection
159	J Johnson 36 Parkinson Place HILLARYS WA 6025	36 Parkinson Place HILLARYS	Objection
160	W K & P Lynton 3 Gore Place HILLARYS WA 6025	3 Gore Place HILLARYS	Objection
161	K Muscat 34 Parkinson Place HILLARYS WA 6025	34 Parkinson Place HILLARYS	Objection
162	A & M Newman 30 Parkinson Place HILLARYS WA 6025	30 Parkinson Place HILLARYS	Objection
163	C Nordheim 10 Hicks Way HILLARYS WA 6025	10 Hicks Way HILLARYS	Objection
164	G Palmer 32 Sporing Way HILLARYS WA 6025	32 Sporing Way HILLARYS	Objection
165	B Petricevich 31 Cook Avenue, HILLARYS WA 6025	31 Cook Avenue, HILLARYS	Objection
166	R J & S R Reeve 13 Buchan Place HILLARYS WA 6025	13 Buchan Place HILLARYS	Objection
167	S & B Szell 3 Nash Street HILLARYS WA 6025	3 Nash Street HILLARYS	Objection
168	E West 44 Parkinson Place HILLARYS WA 6025	44 Parkinson Place HILLARYS	Objection
169	A & P Bourne 2/19 St Marks Drive HILLARYS WA 6025	2/19 St Marks Drive HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
170	D & M Morgan 4/19 St Marks Drive HILLARYS WA 6025	4/19 St Marks Drive HILLARYS	Objection
171	S & N Qamar 5 Excelsior Retreat HILLARYS WA 6025	5 Excelsior Retreat HILLARYS	Objection
172	A Sargent 18 Ferndene Mews HILLARYS WA 6025	18 Ferndene Mews HILLARYS	Objection
173	N Thomas 10 Deverall Square HILLARYS WA 6025	10 Deverall Square HILLARYS	Objection
174	K Blaikie 18 Oleander Way KALLAROO WA 6025	18 Oleander Way KALLAROO	Objection
175	S Burns 23 Oleander Way KALLAROO WA 6025	23 Oleander Way KALLAROO	Objection
176	C Evans 24 Oleander Way KALLAROO WA 6025	24 Oleander Way KALLAROO	Objection
177	R Fielding 15 Oleander Way KALLAROO WA 6025	15 Oleander Way KALLAROO	Objection
178	L Hallam & D Vutrojevich 24 Bridgewater Drive KALLAROO WA 6025	24 Bridgewater Drive KALLAROO	Objection
179	R & R Hansen 10B Oleander Way KALLAROO WA 6025	10B Oleander Way KALLAROO	Objection
180	P Haseldine 20 Oleander Way KALLAROO WA 6025	20 Oleander Way KALLAROO	Objection
181	N Miell 35A Oleander Way KALLAROO WA 6025	35A Oleander Way KALLAROO	Objection
182	J O'Donnell 34 Oleander Way KALLAROO WA 6025	34 Oleander Way KALLAROO	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
183	P Rowell 8 Oleander Way KALLAROO WA 6025	8 Oleander Way KALLAROO	Objection
184	R & D Sutherland 7 Oleander Way KALLAROO WA 6025	7 Oleander Way KALLAROO	Objection
185	M & G Swann 33 Oleander Way KALLAROO WA 6025	33 Oleander Way KALLAROO	Objection
186	C Walker 26 Bridgewater Drive KALLAROO WA 6025	26 Bridgewater Drive KALLAROO	Objection
187	J Wright & G Wearne 17 Oleander Way KALLAROO WA 6025	17 Oleander Way KALLAROO	Objection
188	D & S Armer 24 Parkinson Court HILLARYS WA 6025	24 Parkinson Court HILLARYS	Objection
189	L Bertram 14 Bridgewater Drive KALLAROO WA 6025	14 Bridgewater Drive KALLAROO	Objection
190	E Bester (Resident) 58a Parkinson Court HILLARYS WA 6025	58a Parkinson Court HILLARYS	Objection
191	J Bonnefin 15A Monkhouse Way HILLARYS WA 6025	15A Monkhouse Way HILLARYS	Objection
192	A Brown 52 Parkinson Place HILLARYS WA 6025	52 Parkinson Place HILLARYS	Objection
193	K & D Circosta 56 Parkinson Place HILLARYS WA 6025	56 Parkinson Place HILLARYS	Objection
194	R Davis 7 Monkhouse Way HILLARYS WA 6025	7 Monkhouse Way HILLARYS	Objection
195	V Ford 3 Shelley Place KALLAROO WA 6025	3 Shelley Place KALLAROO	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
196	D Fryer 16 Parkinson Court HILLARYS WA 6025	16 Parkinson Court HILLARYS	Objection
197	M & M Kubat 46 Cook Avenue HILLARYS WA 6025	46 Cook Avenue HILLARYS	Objection
198	S O'Donnell 62 Parkinson Place HILLARYS WA 6025	62 Parkinson Place HILLARYS	Objection
199	A & A Plummer 6 Shelley Place KALLAROO WA 6025	6 Shelley Place KALLAROO	Objection
201	D Pogson 54 Parkinson Place HILLARYS WA 6025	54 Parkinson Place HILLARYS	Objection
202	I Stobbie 43 Cook Avenue HILLARYS WA 6025	43 Cook Avenue HILLARYS	Objection
203	AJ Tonge 5 Shelley Place KALLAROO WA 6025	5 Shelley Place KALLAROO	Objection
204	J Caple 23B Clevedon Place KALLAROO WA 6025	23B Clevedon Place KALLAROO	Objection
205	K & J Caple 23 Clevedon Place KALLAROO WA 6025	23 Clevedon Place KALLAROO	Objection
206	J Dent (Resident) 10 Bridgewater Drive KALLAROO WA 6025	10 Bridgewater Drive KALLAROO	Objection
207	T Hamilton 16 Oleander Way KALLAROO WA 6025	16 Oleander Way KALLAROO	Objection
208	W Hutton 5 Oleander Way KALLAROO WA 6025	5 Oleander Way KALLAROO	Objection
209	M & L Mangan 32 Bridgewater Drive KALLAROO WA 6025	32 Bridgewater Drive KALLAROO	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
210	F Manners 38 Bridgewater Drive KALLAROO WA 6025	38 Bridgewater Drive KALLAROO	Objection
211	S McCarthy 2 Clevedon Place KALLAROO WA 6025	2 Clevedon Place KALLAROO	Objection
212	R Morris 19 Oleander Way KALLAROO WA 6025	19 Oleander Way KALLAROO	Objection
213	D & V Raghwani 30 Oleander Way KALLAROO WA 6025	30 Oleander Way KALLAROO	Objection
214	P & B Rice 2 Bridgewater Drive KALLAROO WA 6025	2 Bridgewater Drive KALLAROO	Objection
215	SJ & Y Shirley 12 Oleander Way KALLAROO WA 6025	12 Oleander Way KALLAROO	Objection
216	G Singleton 22 Bridgewater Drive KALLAROO WA 6025	22 Bridgewater Drive KALLAROO	Objection
217	AG Vickery 21 Clevedon Place KALLAROO WA 6025	21 Clevedon Place KALLAROO	Objection
218	L & A Ward 20 Bridgewater Drive KALLAROO WA 6025	20 Bridgewater Drive KALLAROO	Objection
219	JE & IN Anderson 20 Clevedon Place KALLAROO WA 6025	20 Clevedon Place KALLAROO	Objection
220	J Andrews 29 Clevedon Place KALLAROO WA 6025	29 Clevedon Place KALLAROO	Objection
221	R Barnes 31 Clevedon Place KALLAROO WA 6025	31 Clevedon Place KALLAROO	Objection
222	M Cranston 26 Clevedon Place KALLAROO WA 6025	26 Clevedon Place KALLAROO	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
223	E Flett & S Ashara 28 Clevedon Place KALLAROO WA 6025	28 Clevedon Place KALLAROO	Objection
224	WK & M Howard 1 Oleander Way KALLAROO WA 6025	1 Oleander Way KALLAROO	Objection
225	H & J Jones (Resident) 24 Clevedon Place KALLAROO WA 6025	24 Clevedon Place KALLAROO	Objection
226	I Laycock & K Clark 36 Clevedon Place KALLAROO WA 6025	36 Clevedon Place KALLAROO	Objection
227	E Marson (Resident) 5 Clevedon Place KALLAROO WA 6025	5 Clevedon Place KALLAROO	Objection
228	I McCreedy 30 Clevedon Place KALLAROO WA 6025	30 Clevedon Place KALLAROO	Objection
229	Michael Ong 7 Clevedon Place KALLAROO WA 6025	7 Clevedon Place KALLAROO	Objection
230	M & C Osborne 12 Clevedon Place KALLAROO WA 6025	12 Clevedon Place KALLAROO	Objection
231	M Payne 15 Clevedon Place KALLAROO WA 6027	15 Clevedon Place KALLAROO	Objection
232	J Pratt 14 Clevedon Place KALLAROO WA 6025	14 Clevedon Place KALLAROO	Objection
233	E & PR Sandys 16 Clevedon Place KALLAROO WA 6025	16 Clevedon Place KALLAROO	Objection
234	B & M Brambles 22 Brockwell Place HILLARYS WA 6025	22 Brockwell Place HILLARYS	Objection
235	T L Clarke 1 Brockwell Place HILLARYS WA 6025	1 Brockwell Place HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
236	AE Coetzer 17 Excelsior Retreat HILLARYS WA 6025	17 Excelsior Retreat HILLARYS	Objection
237	L Coles 6 San Marino Place HILLARYS WA 6025	6 San Marino Place HILLARYS	Objection
238	M Snable- Matthews 6/19 St Marks Drive HILLARYS WA 6025	6/19 St Marks Drive HILLARYS	Objection
239	A & G Mc Crann 10 Excelsior Retreat HILLARYS WA 6025	10 Excelsior Retreat HILLARYS	Objection
240	JI & J Watt 14 Excelsior Retreat HILLARYS WA 6025	14 Excelsior Retreat HILLARYS	Objection
241	JR Welch 6 Brockwell Place HILLARYS WA 6025	6 Brockwell Place HILLARYS	Objection Two submissions received
242	Dr A & AM Zentner 8 Brockwell Place HILLARYS WA 6025	8 Brockwell Place HILLARYS	Objection
243	P Bawden 9 Northwood Way KALLAROO WA 6025	9 Northwood Way KALLAROO	Objection
244	D Chambers 22 Northwood Way KALLAROO WA 6025	22 Northwood Way KALLAROO	Objection
245	M & G Elliot 6 Cromer Grove KALLAROO WA 6025	6 Cromer Grove KALLAROO	Objection
246	S Feifar 12 Cromer Grove KALLAROO WA 6025	12 Cromer Grove KALLAROO	Objection
247	C & L Halsall 52 Castlecrag Drive KALLAROO WA 6025	52 Castlecrag Drive KALLAROO	Objection
248	A Johnson 3 St Ives Loop KALLAROO WA 6025	3 St Ives Loop KALLAROO	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
249	E & H Kuhn 5 St Ivesloop KALLAROO WA 6025	5 St Ives Loop KALLAROO	Objection
250	A & M Latter 10 Cromer Grove KALLAROO WA 6025	10 Cromer Grove KALLAROO	Objection
251	Glynn Logue 2 Milson Close KALLAROO WA 6025	2 Milson Close KALLAROO	Objection
252	T & C Needham 14 Northwood Way KALLAROO WA 6025	14 Northwood Way KALLAROO	Objection
253	B & J Newcomb 7 Cromer Drive KALLAROO WA 6025	7 Cromer Drive KALLAROO	Objection Two submissions received
254	C & L Roberts 9 Cromer Grove KALLAROO WA 6025	9 Cromer Grove KALLAROO	Objection
255	RJ & JS Simpson 15 Northwood Way KALLAROO WA 6025	15 Northwood Way KALLAROO	Objection
256	F Walther 23 Northwood Way KALLAROO WA 6025	23 Northwood Way KALLAROO	Objection
257	B & J Charles 7 Buchan Place HILLARYS WA 6025	7 Buchan Place HILLARYS	Objection
258	P Gilgallon 3 Wild Road HILLARYS WA 6025	3 Wild Road HILLARYS	Objection
259	S & J Douth 4 Woolwich Close KALLAROO WA 6025	4 Woolwich Close KALLAROO	Objection
260	S & M Evans 14 Hicks Way HILLARYS WA 6025	14 Hicks Way HILLARYS	Objection Two submissions received
261	I Harris 23 Hicks Way HILLARYS WA 6025	23 Hicks Way HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
262	T Havini and M Burain 48 Banks Avenue HILLARYS WA 6025	48 Banks Avenue HILLARYS	Objection
263	J Sook In 9 Buchan Place HILLARYS WA 6025	9 Buchan Place HILLARYS	Objection
264	PR & KF Langmead 19 Green Road HILLARYS WA 6025	19 Green Road HILLARYS	Objection
265	KA & A Lawrence 21 Hicks Way HILLARYS WA 6025	21 Hicks Way HILLARYS	Objection
266	BE & HB Lee 6 Woolwich Close KALLAROO WA 6025	6 Woolwich Close KALLAROO	Objection
267	N Lunder 36 Northwood Way KALLAROO WA 6025	36 Northwood Way KALLAROO	Objection
268	I & M Reilly 25 Campbell Drive HILLARYS WA 6025	25 Campbell Drive HILLARYS	Objection
269	J Saunders 44 Northwood Way KALLAROO WA 6025	44 Northwood Way KALLAROO	Objection
270	J & A Vickery 27 Castlecrag Drive KALLAROO WA 6025	27 Castlecrag Drive Kallaroo WA 6025	Objection
271	B & L Kenny 26 Excelsior Road HILLARYS WA 6025	26 Excelsior Road HILLARYS	Objection
272	B Matera 8 San Marino Place HILLARYS WA 6025	8 San Marino Place HILLARYS	Objection
273	D & D Mimmagh 17 Brockwell Place HILLARYS WA 6025	17 Brockwell Place HILLARYS	Objection
274	L & Z Pinto 9 Brockwell Place HILLARYS WA 6025	9 Brockwell Place HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
275	M Capelli 7 Kiernan Place KALLAROO WA 6025	7 Kiernan Place KALLAROO	Objection
276	N & J Cooper 33 Castlecrag Drive KALLAROO WA 6025	33 Castlecrag Drive KALLAROO	Objection
277	J Ferguson 10 Linfield Retreat KALLAROO WA 6025	10 Linfield Retreat KALLAROO	Objection
278	C & V Franklin 3 Castle Court KALLAROO WA 6025	3 Castle Court KALLAROO	Objection
279	J & P Hawkins 24 Lindfield Retreat KALLAROO WA 6025	24 Lindfield Retreat KALLAROO	Objection
280	IP Lei 51 Castlecrag Drive KALLAROO WA 6025	51 Castlecrag Drive KALLAROO	Objection
281	M & P Chan 6 Castle Court KALLAROO WA 6025	6 Castle Court KALLAROO	Objection
282	J & D Moreschini 3 Kiernan Place KALLAROO WA 6025	3 Kiernan Place KALLAROO	Objection
283	M Moss 11 Lindfield Road KALLAROO WA 6025	11 Lindfield Road KALLAROO	Objection
284	M & S Smeal 5 Kiernan Place KALLAROO WA 6025	5 Kieran Place KALLAROO	Objection
285	G & K Strauss 1 Castle Court KALLAROO WA 6025	1 Castle Court KALLAROO	Objection
286	L & P Whitman 15 Lindfield Retreat KALLAROO WA 6025	15 Lindfield Retreat KALLAROO	Objection
287	R Wilson 47 Castlecrag Drive KALLAROO WA 6025	47 Castlecrag Drive KALLAROO	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
288	S Blackman 40 Clevedon Place KALLAROO WA 6025	40 Clevedon Place KALLAROO	Objection
289	J & P Brolsma 40 Cook Avenue HILLARYS WA 6025	40 Cook Avenue HILLARYS	Objection
290	F & M Byrne 69 Cook Avenue HILLARYS WA 6025	69 Cook Avenue HILLARYS	Objection
291	M & J Davey 3 Cromer Grove, KALLAROO, WA 6025	3 Cromer Grove KALLAROO	Objection
292	T & C Deephouse 38 Parkinson Place HILLARYS WA 6025	38 Parkinson Place HILLARYS	Objection
293	L & E Gallagher 8 Venus Way, HILLARYS WA 6025	8 Venus Way HILLARYS	Objection
294	A & L Gordon 46 Northwood Way KALLAROO, WA 6025	46 Northwood Way KALLAROO	Objection
295	S & D Klimcke 66 Cook Avenue HILLARYS WA 6025	66 Cook Avenue HILLARYS	Objection
296	T & T Page 61 Cook Avenue HILLARYS WA 6025	61 Cook Avenue HILLARYS	Objection
297	RG Taylor 5 Venus Way HILLARYS WA 6025	5 Venus Way HILLARYS	Objection
298	Belinda Morgan 10/93 Cook Avenue HILLARYS WA 6025	10/93 Cook Avenue HILLARYS	Objection
299	W S Anderson 18 Clevedon Place KALLAROO WA 6025	18 Clevedon Place KALLAROO	Objection
300	E & J Beattie 14 Oleander Road KALLAROO WA 6025	14 Oleander Road KALLAROO	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
301	K & L Bradshaw 12 Bridgewater Drive KALLAROO WA 6025	12 Bridgewater Drive KALLAROO	Objection
302	B & C Farmer 25 Sporing Way HILLARYS WA 6025	25 Sporing Way HILLARYS	Objection
303	S Harper 6 Parkinson Place HILLARYS WA 6025	6 Parkinson Place HILLARYS	Objection
304	D & T Gilbertson 1 Venus Way HILLARYS WA 6025	1 Venus Way HILLARYS	Objection
305	L Liebe & M Brown 28 Parkinson Place HILLARYS WA 6025	28 Parkinson Place HILLARYS	Objection
306	P Lund 20 Sporing Way HILLARYS WA 6025	20 Sporing Way HILLARYS	Objection
307	D & S Livingston 26 Parkinson Place HILLARYS WA 6025	26 Parkinson Place HILLARYS	Objection
308	S Lorimer 8A Clevedon Place KALLAROO WA 6025	8A Clevedon Place, Kallaroo WA 6025	Objection
309	A & P Munt 7 Milson Court KALLAROO WA 6025	7 Milson Court Kallaroo WA 6025	Objection
310	D & K Nicholson 2 Parkinson Place HILLARYS WA 6025	2 Parkinson Place HILLARYS	Objection
311	J Pacynko 7 Venus Way HILLARYS WA 6025	7 Venus Way HILLARYS	Objection
312	G & M Pannell 10 Venus Way HILLARYS WA 6025	10 Venus Way, HILLARYS	Objection
313	B Sutherland 18 Venus Way HILLARYS WA 6025	18 Venus Way, HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
314	I Voramwald & M Ellis 14 Venus Way HILLARYS WA 6025	14 Venus Way, HILLARYS	Objection
315	S Cassidy & T Matsubara 44 Sporing Way HILLARYS WA 6025	44 Sporing Way HILLARYS	Objection
316	N & T Northcott 121 Cook Avenue HILLARYS WA 6025	121 Cook Avenue HILLARYS	Objection
317	L Collins 29 Cumberland Drive HILLARYS WA 6025	29 Cumberland Drive HILLARYS	Objection
318	S Fairclough 38 Cumberland Drive HILLARYS WA 6025	38 Cumberland Drive HILLARYS	Objection
319	R C T Farquharson 2 Cumberland Drive HILLARYS WA 6025	2 Cumberland Drive HILLARYS	Objection
320	J & B E Hawke 36 Cumberland Drive HILLARYS WA 6025	36 Cumberland Drive HILLARYS	Objection
321	G & A Howes 10 Cumberland Drive HILLARYS WA 6025	10 Cumberland Drive HILLARYS	Objection
322	S & P Isaac 22 Cumberland Drive HILLARYS WA 6025	22 Cumberland Drive HILLARYS	Objection
323	H & R Jethwa 32 Cumberland Drive HILLARYS WA 6025	32 Cumberland Drive HILLARYS	Objection
324	G & K McIntosh 33 Cumberland Drive HILLARYS WA 6025	33 Cumberland Drive HILLARYS	Objection
325	B & R Stewart 24 Cumberland Drive HILLARYS WA 6025	24 Cumberland Drive HILLARYS WA 6025	Objection
326	P Coetzee 34 Cumberland Drive HILLARYS WA 6025	34 Cumberland Drive HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
327	P & A Radis 11 Cumberland Drive, HILLARYS WA 6025	11 Cumberland Drive HILLARYS	Objection
328	N & T Richards 12 Cumberland Drive, HILLARYS WA 6025	12 Cumberland Drive HILLARYS	Objection
329	P & J Salmon 8 Cumberland Drive, HILLARYS WA 6025	8 Cumberland Drive HILLARYS	Objection
330	M & K Stewart 15 Cumberland Drive, HILLARYS WA 6025	15 Cumberland Drive HILLARYS	Objection
331	S & J Cross 6 Cumberland Drive, HILLARYS WA 6025	6 Cumberland Drive HILLARYS	Objection
332	L & V Halai 40 Cumberland Drive, HILLARYS WA 6025	40 Cumberland Drive HILLARYS	Objection
333	Kadiri Pty Ltd 44 Cumberland Drive HILLARYS WA 6025	44 Cumberland Drive HILLARYS	Objection
334	D Wright & S Hutchins 35 Cumberland Drive HILLARYS WA 6025	35 Cumberland Drive HILLARYS	Objection
335	C Papadopoulous 25 Cumberland Drive HILLARYS WA 6025	25 Cumberland Drive HILLARYS	Objection
336	E Hudson 16 Cumberland Drive, HILLARYS WA 6025	16 Cumberland Drive, HILLARYS	Objection
337	D Johnson 9/19 St Marks Drive HILLARYS WA 6025	9/19 St Marks Drive HILLARYS	Objection
338	M Lazer-Self & J Self 6 Ferndene Mews HILLARYS WA 6025	6 Ferndene Mews HILLARYS	Objection
339	A Russell 42 Parkinson Place HILLARYS WA 6025	42 Parkinson Place HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
340	Sue & Dave Thorniley 48 Cook Avenue HILLARYS WA 6025	48 Cook Avenue HILLARYS	Objection Two submissions received
341	B Banwait 42 Cook Avenue HILLARYS WA 6025	42 Cook Avenue HILLARYS	Objection
342	M & D Picton-King 21 Monkhouse Way HILLARYS WA 6025	21 Monkhouse Way HILLARYS	Objection Two submissions received
343	E M Paske 87 Cook Avenue HILLARYS WA 6025	87 Cook Avenue HILLARYS	Objection
344	H E Alford & K L Alford 2/7 Endeavour Road HILLARYS WA 6025	2/7 Endeavour Road HILLARYS	Objection
345	R Battaglia & G Battaglia 1A Endeavour Road HILLARYS WA 6025	1A Endeavour Road HILLARYS	Objection
346	P Blakey & M Blakey 6 Endeavour Road HILLARYS WA 6025	6 Endeavour Road HILLARYS	Objection
347	R Doyle & D M Doyle 9/3 Endeavour Road HILLARYS WA 6025	9/3 Endeavour Road HILLARYS	Objection
348	G M Hoath 11/7 Endeavour Road HILLARYS WA 6025	11/7 Endeavour Road HILLARYS	Objection
349	H I Laycock 6/3 Endeavour Road HILLARYS WA 6025	6/3 Endeavour Road HILLARYS	Objection
350	J B Ware & J E Ware 14 Endeavour Road HILLARYS WA 6025	14 Endeavour Road HILLARYS	Objection
351	P Magiatis 8/3 Endeavour Road HILLARYS WA 6025	8/3 Endeavour Road HILLARYS	Objection
352	Roselakes Pty Ltd 81 Cook Avenue HILLARYS WA 6025	81 Cook Avenue HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
353	B Beacham 8/11 Endeavour Road HILLARYS WA 6025	8/11 Endeavour Road HILLARYS	Objection
354	C & K Cawood 9/7 Endeavour Road HILLARYS WA 6025	9/7 Endeavour Road HILLARYS	Objection
355	D & R Cook 12 St Marks Drive HILLARYS WA 6025	12 St Marks Drive HILLARYS	Objection
356	H & K Dobelstein 83 Cook Avenue HILLARYS WA 6025	83 Cook Avenue HILLARYS	Objection
357	M C & A L Jones 10 Willandra Place HILLARYS WA 6025	11/11 Endeavour Road HILLARYS 10 Willandra Place HILLARYS	Objection Two submissions received
358	K J & L M Lamb 4/85 Cook Avenue HILLARYS WA 6025	4/85 Cook Avenue HILLARYS	Objection
359	B Moore 10 Endeavour Road HILLARYS WA 6025	10 Endeavour Road HILLARYS	Objection
360	P & D Vinciullo 2A St Marks Drive HILLARYS WA 6025	2A St Marks Drive HILLARYS	Objection
361	P & K Dagnia 58 New England Ave HILLARYS WA 6025	58 New England Ave HILLARYS	Objection
362	S Smith 18 Hicks Way, HILLARYS WA 6025	18 Hicks Way, HILLARYS	Objection
363	R Betts 1 Wild Road HILLARYS WA 6025	1 Wild Road HILLARYS	Objection
364	S & S Davis 54 Banks Avenue HILLARYS WA 6025	54 Banks Avenue HILLARYS	Objection
365	A & D Ryan 28 Northwood Way KALLAROO WA 6025	28 Northwood Way KALLAROO	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
366	G Boekelman 23 Monkhouse Way HILLARYS WA 6025	23 Monkhouse Way HILLARYS	Objection
367	B H & GG James 11 Monkhouse Way HILLARYS WA 6025	11 Monkhouse Way HILLARYS	Objection
368	S A & D Payne 6 Monkhouse Way HILLARYS WA 6025	6 Monkhouse Way HILLARYS	Objection
369	M T Rodriguez 44 Solander Road HILLARYS WA 6025	44 Solander Road HILLARYS	Objection
370	G A Scott 26 Monkhouse Way HILLARYS WA 6025	26 Monkhouse Way HILLARYS	Objection
371	S Sosenko 18 Monkhouse Way HILLARYS WA 6025	18 Monkhouse Way HILLARYS	Objection
372	J & P South 14 Monkhouse Way HILLARYS WA 6025	14 Monkhouse Way HILLARYS	Objection
373	C & M Tebb 6 Gore Place HILLARYS WA 6025	6 Gore Place HILLARYS	Objection
374	D & G Thompson 4 Gore Place HILLARYS WA 6025	4 Gore Place HILLARYS	Objection
375	B K & J H Burns 22 Monkhouse Way HILLARYS WA 6025	22 Monkhouse Way HILLARYS	Objection
376	M J Dacruz 5 Monkhouse Way HILLARYS WA 6025	5 Monkhouse Way HILLARYS	Objection
377	D Fulton Coventry & L Coventry 58 Banks Avenue HILLARYS WA 6025	58 Banks Avenue HILLARYS	Objection
378	P Frawley 4 Monkhouse Way HILLARYS WA 6025	4 Monkhouse Way HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
379	T McKenna 19 Monkhouse Way HILLARYS WA 6025	19 Monkhouse Way HILLARYS	Objection
380	K J & B D Monteath 21 Venus Way HILLARYS WA 6025	21 Venus Way HILLARYS	Objection
381	S & M Semenow Requests address be withheld	Not applicable	Objection Three submissions received
382	C Smith 16 Solander Road HILLARYS WA 6025	16 Solander Road HILLARYS	Objection
383	Brett Johnson 25 Monkhouse Way HILLARYS WA 6025	25 Monkhouse Way HILLARYS	Objection Two submissions received
384	R J & D J Sutton 27 Monkhouse Way HILLARYS WA 6025	27 Monkhouse Way HILLARYS	Objection
385	B & L Walters 16 Venus Way HILLARYS WA 6025	16 Venus Way HILLARYS	Objection
386	W R & I M Wann 12 Venus Way HILLARYS WA 6025	12 Venus Way HILLARYS	Objection
387	M & R A Park 22 Solander Road HILLARYS WA 6025	22 Solander Road HILLARYS	Objection
388	C H & J C Cussons 42 Solander Road HILLARYS WA 6025	42 Solander Road HILLARYS	Objection Two submissions received
389	V Volonta & A Jones 28 Monkhouse Way HILLARYS WA 6025	28 Monkhouse Way HILLARYS	Objection Two submissions received
390	B & W Saul 11B Solander Raod HILLARYS WA 6025	11B Solander Raod HILLARYS	Objection
391	M Chappell 46 Solander Road, HILLARYS WA 6025	46 Solander Road, HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
392	A Harris 30 Cook Avenue, HILLARYS WA 6025	30 Cook Avenue, HILLARYS	Objection
393	M Jackson 32 Cook Avenue, HILLARYS WA 6025	32 Cook Avenue, HILLARYS	Objection
394	I Lally 9 Cook Avenue, HILLARYS WA 6025	9 Cook Avenue, HILLARYS	Objection
395	G Masand 76 Cook Avenue, HILLARYS WA 6025	76 Cook Avenue, HILLARYS	Objection
396	S & D Murphy 14 Parkinson Court, HILLARYS WA 6025	14 Parkinson Court, HILLARYS	Objection
397	T & C Stanway 67 Cook Avenue, HILLARYS WA 6025	67 Cook Avenue, HILLARYS	Objection
398	G Tesoro 10 Parkinson Place, HILLARYS WA 6025	10 Parkinson Place HILLARYS	Objection
399	D Thipthorp 73 Cook Avenue, HILLARYS WA 6025	73 Cook Avenue HILLARYS	Objection
400	P Woods 70 Cook Avenue, HILLARYS WA 6025	70 Cook Avenue HILLARYS	Objection
401	A Semenow 26 David Street, MULLALOO WA 6027	26 David Street MULLALOO WA	Objection
402	C Bayman 6 Hicks Way, HILLARYS WA 6025	6 Hicks Way HILLARYS	Objection
403	V Bradshaw 25 Sporing Way, HILLARYS WA 6025	25 Sporing Way HILLARYS	Objection
404	S & N Cole 56 Sporing Way, HILLARYS WA 6025	56 Sporing Way HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
405	K Covell 22 Hicks Way, HILLARYS WA 6025	22 Hicks Way HILLARYS	Objection
406	R & M Goldthorp 56 Sporing Way, HILLARYS WA 6025	56 Sporing Way HILLARYS	Objection
407	A K & D Gupta 51 Sporing Way HILLARYS WA 6025	51 Sporing Way HILLARYS	Objection
408	N & L Huckv 21 Green Road, HILLARYS WA 6025	21 Green Road HILLARYS	Objection
409	G Lambert 23 Green Road, HILLARYS WA 6025	23 Green Road HILLARYS	Objection
410	T M & C T Mills 7 Nash Street, HILLARYS WA 6025	7 Nash Street HILLARYS	Objection
411	T Roberts & D Curran 12 Sporing Way, HILLARYS WA 6025	12 Sporing Way HILLARYS	Objection
412	G Muscio & E Sangiorgio 47 Sporing Way HILLARYS WA 6025	47 Sporing Way HILLARYS	Objection
413	P & J Sismey 54 Sporing Way, HILLARYS WA 6025	54 Sporing Way HILLARYS	Objection
414	O Willoughby 12B Hicks Way, HILLARYS WA 6025	12B Hicks Way HILLARYS	Objection
415	B Malone 48 Solander Road KALLAROO WA 6025	48 Solander Road KALLAROO	Objection
416	S & M Roberts 9 Roe Court PABURY WA 6025	9 Roe Court PADBURY	Conditional support
417	H & M Roberts 8/85 Cook Avenue HILLARYS WA 6025	8/85 Cook Avenue HILLARYS	Conditional support

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
418	B V Kesteren Email address supplied		Neutral
419	A Beasley 41 Deverall Square HILLARYS WA 6025	41 Deverall Square HILLARYS	Objection
420	D McNally 135 Cook Ave HILLARYS WA 6025	135 Cook Ave HILLARYS	Objection
421	M Morrison 84 Cook Avenue HILLARYS WA 6025	84 Cook Avenue HILLARYS	Objection
422	S Wise 15 Debenham Way HILLARYS WA 6025	15 Debenham Way HILLARYS	Objection
423	K Covell & G Jeggo 22 Hicks Way HILLARYS WA 6025	22 Hicks Way HILLARYS	Objection
424	D Gardiner 20 Alabaster Terrace HILLARYS WA 6025	20 Alabaster Terrace HILLARYS	Objection
425	G Shaw & C Shaw Address withheld		Objection
426	Christina Kipling 41 Newport Gardens HILLARYS WA 6025	41 Newport Gardens HILLARYS	Objection
427	L Johnson Email address supplied		Objection
428	L Bridge Email address supplied		Objection
429	N Samuels Email address supplied		Objection
430	M Bond Email address supplied		Objection
431	V Davini Email address supplied		Objection
432	S & N Cole Email address supplied		Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
433	C Bradley 9 Westham Crt KINGLSEY WA 6026	Not applicable	Objection
434	K Jupp Email address supplied		Objection
435	L Davis & H Davis 147 Castlecrag Crive KALLAROO WA 6025	147 Castlecrag Crive KALLAROO	Objection Two submissions received.
436	J Porter 6 Coolangatta Retreat HILLARYS WA 6025	6 Coolangatta Retreat HILLARYS	Objection
437	S Bradley Email address supplied		Objection
438	M Baumgartner Address withheld		Objection
439	J Froyland Email address supplied		Objection
440	S Tough Email address supplied		Objection
441	S Thomas 8 Cockle Place MULLALOO WA 6027		Objection
442	L Morgan 3 Centaur Street KALLAROO WA 6025	3 Centaur Street KALLAROO	Objection
443	J South 14 Monkhouse Way, HILLARYS WA 6025	14 Monkhouse Way HILLARYS	Objection
444	A Catalano 27 Durack Way PADBURY WA 6025	27 Durack Way PADBURY	Objection
445	J Legg 4 Sirius Ramble QUINNS ROCK 6030	4 Sirius Ramble QUINNS ROCK	Objection
446	C Clinton 10 Port Jackson Parade QUINNS ROCK 6030	10 Port Jackson Parade QUINNS ROCK	Objection
447	K Zoroje 226 Flinders Avenue HILLARYS WA 6025	226 Flinders Avenue HILLARYS	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
448	S Robertshaw 15 Mario Way CRAIGIE WA 6025		Objection
449	R Hawker 17 Collaroy Court KALLAROO WA 6025	17 Collaroy Court KALLAROO	Objection
450	L Hough-Neilson 7 Millstream Rise HILLARYS WA 6025	7 Millstream Rise HILLARYS	Objection
451	Rowe Group Level 3, 369 Newcastle Street, NORTHBRIDGE WA 6003	Warwick Shopping Centre	Objection
452	Tony O'Brien St Mark's Anglican Community School St Marks Drive HILLARYS WA 6025	St Marks Drive HILLARYS	Objection
453	Lend Lease C/O Belinda Moharich Flint Moharich PO Box 8243 Angelo Street SOUTH PERTH WA 6151	420 Joondalup Drive, Joondalup	Objection
454	Nicholas Yan Email address provided		Support
455	Edward J McGrady & Sonia McGrady 4 Castlecrag Drive KALLAROO WA 6025	4 Castlecrag Drive KALLAROO WA 6025	Support
456	Larry Parkes & Samara Parkes 15/7 Endeavour Road HILLARYS WA 6025	15/7 Endeavour Road HILLARYS	Support
457	Brian Yearwood Email address provided		Support
458	Rainer Repke 1 Pittwater Close KALLAROO WA 6025	1 Pittwater Close Kallaroo WA 6025	Objection Two submissions received
459	Lyn Lewis Email address provided		Support
460	Kari Stott Email address provided		Support

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
461	Ron Davenport 11 Horden Lane HILLARYS WA 6025	11 Horden Lane HILLARYS WA 6025	Support
462	Matt Email address provided		Support
463	Sinead Brunton Email address provided		Support
464	Nola Williams Email address provided		Support
465	Andrea Croxall 53 Standish Way WOODVALE WA 6026	53 Standish Way WOODVALE WA 6026	Support
466	Jane Stockley Email address provided		Support
467	Neel Shukla Email address provided		Support
468	Pamela Campbell Email address provided		Support
469	Mark Mose Email address provided		Support
470	Jill Email address provided		Support
471	Vanessa Morgan Email address provided		Support
472	Debbie Kenrick Email address provided		Support
473	Dr Johan Gouws Email address provided	Shop 253 Whitford City HILLARYS	Support
474	John and Diane Kennedy 43 Tifera Circle KALLAROO WA 6025	43 Tifera Circle KALLAROO	Support
475	Alan Ashe 32 Banks Ave HILLARYS WA 6025	32 Banks Ave HILLARYS	Support
476	John Burns Email address provided		Support
477	Peter Keogh 71 Cook Avenue HILLARYS WA 6025	71 Cook Avenue HILLARYS	Support

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
478	A Toulanlan 7 Woonona Place KALLAROO WA 6025	7 Woonona Place KALLAROO	Support
479	Archdeacon T Burt Whitfords Anglican Community Church PO Box 336 HILLARYS WA 6923	26 Endeavour Road HILLARYS	Objection
480	Grant Coble-Neal Westernpower GPO Box L921 PERTH WA 6842	Not applicable	Neutral
481	Department of Planning Locked Bag 2506 PERTH WA 6001	Not applicable	Neutral
482	Water Corporation PO Box 100 LEEDERVILLE WA 6902	Not applicable	Conditional support
483	Lindsay Broadhurst Main Roads PO Box 6202 EAST PERTH WA 6892	Not application	Objection
484	A & D Baldock 22 Clifton Gardens KALLAROO WA 6025	22 Clifton Gardens KALLAROO	Objection
485	S Bond 35 Montague Way KALLAROO WA 6025	35 Montague Way KALLAROO	Objection
486	M Doubiki 4 Cook Avenue HILLARYS WA 6025	4 Cook Avenue HILLARYS	Objection
487	J & B Forlonge 138 Castlecrag Drive KALLAROO WA 6025	138 Castlecrag Drive KALLAROO	Objection
488	MM & S Fowler 140 Castlecrag Drive KALLAROO WA 6025	140 Castlecrag Drive KALLAROO	Objection
489	P & M Gibbons 9 Clifton Gardens KALLAROO WA 6025	9 Clifton Gardens KALLAROO	Objection

SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
490	T & S Greenwood 6 Dee Why Grove KALLAROO WA 6025	6 Dee Why Grove KALLAROO	Objection
491	M & J Hassan-Raiyat 30 Montague Way KALLAROO WA 6025	30 Montague Way KALLAROO	Objection
492	HL Hodgson 29 Castlecrag Drive KALLAROO WA 6025	29 Castlecrag Drive KALLAROO	Objection
493	H & S Hogan 10 Dee Why Grove KALLAROO WA 6025	10 Dee Why Grove KALLAROO	Objection
494	J & S Kaminski 36 Montague Way KALLAROO WA 6025	36 Montague Way KALLAROO	Objection
495	T & I Macnaughtan 26 Montague Way KALLAROO WA 6025	26 Montague Way KALLAROO	Objection
496	A & J Moore 24 Clifton Gardens KALLAROO WA 6025	24 Clifton Gardens KALLAROO	Objection
497	AC Olwar 16 Clifton Gardens KALLAROO WA 6025	16 Clifton Gardens KALLAROO	Objection
498	C & J Pawle 20 Clifton Gardens KALLAROO WA 6025	20 Clifton Gardens KALLAROO	Objection
499	V Apelgren 33 Gosse Road PADBURY WA 6025	33 Gosse Road PADBURY	Objection
500	C Pretorius 16 Clifton Gardens KALLAROO WA 6025	16 Clifton Gardens KALLAROO	Objection
501	B & A Pritchard 1 Clifton Gardens KALLAROO WA 6025	1 Clifton Gardens KALLAROO	Objection
502	M & S Pugh 31 Castlecrag Drive KALLAROO WA 6025	31 Castlecrag Drive KALLAROO	Objection

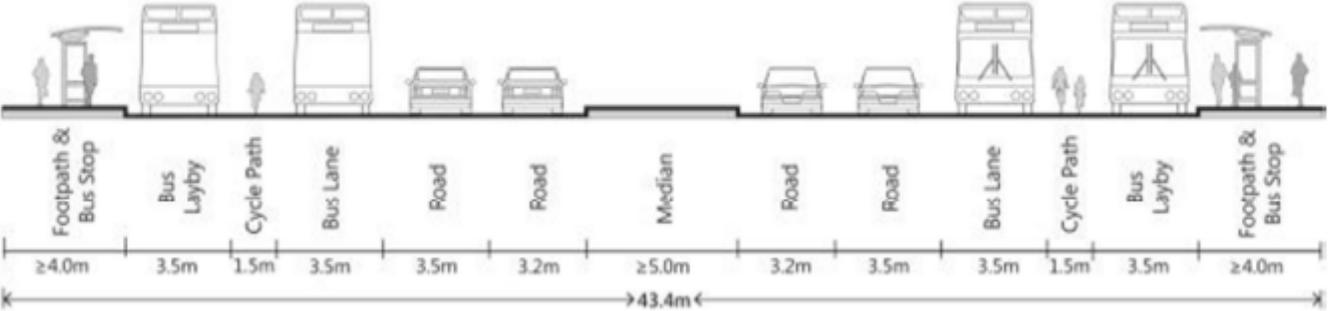
SUBMITTER No	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	OBJECTION/NEUTRAL/SUPPORT
503	ME Quine 2 Dee Why Grove KALLAROO WA 6025	2 Dee Why Grove KALLAROO	Objection
504	DM & EC Radford 10 Clifton Gardens KALLAROO WA 6025	10 Clifton Gardens KALLAROO	Objection
505	N Shields 5 Wild Road HILLARYS WA 6025	5 Wild Road HILLARYS	Objection
506	E & M Taylor 21 Clifton Gardens KALLAROO WA 6025	21 Clifton Gardens KALLAROO	Objection
507	R & D Webb 136 Castlecrag Drive KALLAROO WA 6025	136 Castlecrag Drive KALLAROO	Objection
508	J & P Wood 32 Montague Way KALLAROO WA 6025	32 Montague Way KALLAROO	Objection
509	WP Wood 32 Montague Way KALLAROO WA 6025	32 Montague Way KALLAROO	Objection
510	W & F Halsall 49 Aristrade Drive, KALLAROO WA 6025	49 Aristrade Drive KALLAROO	Objection
511	B Sandler 58 Sporing Way HILLARYS WA 6025	58 Sporing Way HILLARYS	Objection
512	L & J Culverhouse 127 Dampier Avenue MULLALOO WA 6027	Not applicable	Objection
513	J Moore 102 Clontarf Street SORRENTO WA 6020	Not applicable	Objection
514	Hon. Rob Johnson JP MLA Suite 2 Endeavour Business Centre Cnr Endeavour Road & Banks Avenue HILLARYS WA 6025	Not applicable	Surveys provided from constituents

MAIN ROADS WA COMMENTS	
SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
<p>There is some discrepancy between the structure plan document and the Transport Report (TR) prepared by the applicant. For example, the TR states that there will be 1,500 dwellings by 2031, however the Structure Plan Report indicates the number of dwellings proposed range from 500 to 800 and under the Model Centre Framework, 673 dwellings are proposed. This lack of uniformity raises concerns about the traffic generation numbers and should be amended to provide consistency. Main Roads cannot support the plan if the number of dwellings exceeds the numbers quoted in the Structure Plan report</p>	<p>The ultimately proposed number of dwellings is 739, this has been updated in the latest analysis provided to the City.</p>
<p>There is further inconsistency between the structure plan document and the TR. The structure plan proposes a parking cap of 4,200 and the cap is not evaluated in the TR. Within the TR a parking requirement of 4,720 is given. Again consistency is an issue that needs to be amended within these two documents. Main Roads can support 4,200 bays but not the higher amount.</p>	<p>Firstly, it is difficult to see how Main Roads can make a decision on such a crucial issue as parking provision without offering any substantiating analysis. Secondly, the transport report does not contain any recommendation for a parking cap, in fact, when calculating the required parking supply, parking caps are not mentioned until later in the report.</p> <p>4,720 bays are calculated based on theoretical supply for individual land uses, considered in isolation. The traffic report demonstrates how this theoretical value is reduced through shared parking to 4,090 spaces. The traffic report demonstrates that when calibrated to the existing demand peaks, making the assessment site specific to Whitfords, the actual required level of parking is 5,300 spaces.</p> <p>The figure used in the Structure Plan document, 4,200 spaces, relates to the number of spaces serving the “retail core” in the ultimate scenario and not the overall centre. 5,300 bays remains the required overall level of parking for the Whitfords Activity Centre Structure Plan (WACSP) in 2031.</p>
<p>In addition to the above, the number of parking bays quoted in the TR don't include residential parking provision and should be amended to show the full amount of parking bays predicted to be created by the Whitfords Activity Centre Structure Plan</p>	<p>The parking cap for WACSP relates to off-street parking for non-residential land uses only, as per State Planning Policy (SPP) 4.2. Residential development will be provided with discrete parking, with the relatively minor level of on-street parking not counted in the overall total. It is noted that while resident parking is not included in the parking cap, the residential traffic generation is assessed as part of the Traffic Impact Assessment (TIA). Residential parking will be provided at rates similar to those specified by State Planning Policy 3.1 – Residential Design Codes (R-Codes).</p>

MAIN ROADS WA COMMENTS	
SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
<p>For the Internal Catchment Reductions and Trip Chaining no method has been given. Please provide evidence to support these claims.</p>	<p>Additional information has been provided to the City. We trust Main Roads will understand that the mode shift away from private vehicles to other modes of travel is relatively modest, and therefore is robust.</p>
<p>The traffic analysis performed for the TR does not seem to reflect the growth for the local area. Main Roads has provided previous advice to the applicant (February, 2013), based on Main Roads modelling data, that this background growth on Marmion Avenue is predicted to be in order of 17%. This growth rate is not present in the applicants traffic analysis and should be amended accordingly.</p>	<p>Having discussed this issue at length with City of Joondalup, Department of Planning and most recently Main Roads, we are of the opinion that this issue is resolved; however, to respond and clarify:</p> <ul style="list-style-type: none"> • In pre-application discussions with Main Roads, Cardno was advised that 17.5 percent is the expected daily traffic demand growth rate from 2011 to 2031 (extracted from the ROM) • Main Roads will be well aware that daily traffic growth does not apply to peak hours, especially in areas where congestion currently exists. This indicates that the peak hour growth rate will be less than the daily. To suggest that daily traffic growth translates directly to peak hours is not in line with industry best practice. • We have used Automatic Traffic Counter (ATC) data, dating from 2004 until recently. This data was then supplemented by our own estimates for current daily traffic, which are towards the higher end as the volumes were collected in December 2012 when the Shopping Centre experiences its peak annual demand. • The timeframe for growth (that we have assessed) is from 2011 to 2031; we have used linear regression to project the recorded trends forward to 2031. Therefore the calculated rate of 10% applies to this 20-year timeframe. • We have acknowledged that daily traffic demand growth does not translate to peak hour traffic growth; nonetheless, we have used our calculated 10 percent daily growth and applied it to the peak hour. This provides a compromise between using the ROM daily rate of 17.5 percent and the fact that this won't translate directly to the same increase in peaks. <p>We note that strategic traffic models such as ROM are not constrained by the capacity of the road network, ROM receives demand an input and therefore disperses this demand in order to minimise road user costs over the entire road network. ROM does not include at step by which users would chose to avail of other transport modes should journey times by roads increase beyond a tolerable level. In this sense ROM is not a forecast of traffic volumes but a forecast of possible demand. It is therefore not wholly appropriate to use ROM as a measure of daily traffic volumes and it is certainly not appropriate to apply the ROM daily demand growth rates to an isolated peak hour situation.</p> <p>The base traffic volumes submitted as part of the WACSP were taken from 2010. Following submission of the structure plan, further analysis has been undertaken on the basis of updated traffic flows collected in December 2012 (PM and Saturday). The updated traffic flows are marginally higher than traffic flows considered in the submitted Structure Plan analysis. A growth rate of 10% has again been applied to the background traffic volumes surveyed and then additional demands associated with that anticipated to be generated by the structure plan added to derive a total traffic demand projection.</p>

MAIN ROADS WA COMMENTS	
SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
	<p>This approach is consistent with industry best practice, allowing for both background and structure plan traffic demands, and results in conservative future year forecasts which have been utilised for operational assessment. The operational assessment then conducted has confirmed that the existing road network will sufficiently accommodate the forecast demand when appropriate improvements are made.</p>
<p>Page 13 of the TR reads: <i>"The distance between intersections indicates that storage of the traffic from minor arms along Whitfords Ave, between major arm traffic phases, would not be of concern."</i> No supporting evidence is given for this statement and should either be removed or evidence provided to support it.</p>	<p>It would benefit the discussion to set this statement in context. The statement was made in relation to traffic signal coordination along Whitfords Avenue where currently there is none: <i>"The provision of bus priority indicates the need for a signalised intersection at the entrance to the Centre on Whitfords Avenue, replacing the existing roundabout. It would be difficult to provide bus priority through this roundabout and priority control at the roundabout would somewhat undermine the ideals of BRT. It is accepted that the usually applied minimum spacing between signals is around 400 metres however any concerns can be overcome through signal coordination to provide good progression of traffic in a "green wave" along Whitfords Avenue in the dominant direction of traffic. The distance between intersections indicates that storage of traffic from minor arms along Whitfords Avenue, between major arm traffic phases, would not be of concern."</i> To update the above, it is understood a minimum signal applied of 350m spacing is usually in this type of road environment. Nonetheless, given that the operation of this roundabout is a function of its metering by nearby signals; signalling this intersection would serve to formalise and control how the entire system between Endeavour Road and Marmion Avenue functions. Generally, it is illogical to adopt a position that does not support signal controlled intersections in proximities such as those at Whitfords, yet it is perfectly acceptable to use roundabouts, a method of traffic control that, in this instance, serves to disrupt major road traffic flow and undermine performance of nearby signal controlled intersections. That aside, if BRT is to be implemented, the roundabout on Whitfords Avenue would be an impediment to any bus priority measures and will need further consideration when BRT proposals are elaborated upon.</p>
<p>Main Roads supports the introduction of better public transport service for the route along Whitfords Avenue. However, as the details of these services along Whitfords Avenue are not yet available, basing the transport assessment on its inclusion is not advisable. The applicant shall be required to amend the TR to include a future scenario where a Bus Rapid Transit (BRT) is not included.</p>	<p>It is accepted that the ultimate scenario relies on a substantial amount of buy-in from state government and its agencies. The Structure Plan has been developed to embrace state planning policies and strategic objectives regarding the use of land and transport infrastructure (Directions 2031 and Public Transport for Perth in 2031 are examples). There is no reason to run modelling for alternative scenarios as the government agencies, at state and local level, have the power to control how the Structure Plan area develops through the development application process.</p> <p>The Structure Plan defines the broader framework for future acceptable land uses and supporting infrastructure requirements; however, at the time that subsequent DAs are being made, it can only be assumed that the transport infrastructure in place at that time, or highly likely to be in place at the development year of opening (conditioned or otherwise), will be the infrastructure that will be in place at the design year appropriate for that particular DA (be that a 5 or 10-year design horizon). To assume otherwise is not orderly and proper planning, nonetheless, this is not a constraint when preparing structure plans as it imparts no right to develop land.</p>

MAIN ROADS WA COMMENTS	
SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
<p>In addition to the previous comment, further definition is required to implement a BRT along Whitfords Ave namely, cross-sections at intersections, bus queue jump lanes, treatment at the intersection of Whitfords Ave/Marmion Ave and what mechanism will be used to create the bus priority</p>	<p>Cardno has informed Main Roads (most recently on 21 June 2013) that DoT and PTA are not yet in a position to advise on the future form of BRT in this locale. BRT could take any number of forms and it would be wasteful to design detailed treatments (especially within a structure planning process) when no real route planning analysis has been conducted by the state. Such details would likely be drawn up to inform and accompany a business case for implementing BRT. Outside of this, provision of such detail, at best, serves no real purpose and is at worst, misleading.</p> <p>This level of detail is not required to determine a Structure Plan; however, Figure 3-5 of the WACSP Transport Report illustrates the possible required width for BRT at its widest part, when incorporating bus lanes as a possible future outcome.</p>
<p>The current road reservation (40m) does not afford enough space to implement a BRT, how will the land required be obtained and who will fund this measure? Further definition is required here.</p>	<p>BRT along Whitfords Avenue may or may not require bus lanes. The cross-section shown in the WACSP Transport Report is just one possible outcome regarding BRT infrastructure along this corridor. The eventual form could entail bus lanes, intersection queue jump lanes only, or a combination of both.</p> <p>The road reserve along Whitfords Avenue is approximately 40m wide. At its widest point, the road reserve containing the possible future BRT route may consist of the following:</p> <ul style="list-style-type: none"> • Median • 2 general vehicle lanes • Bus lane • Cycle lane • Bus Layby • Footpath and Bus Stop <p>The above cross-section would be approximately 43.5m wide, in the area of the bus stops only, and would be approximately 36.5m wide elsewhere.</p> <p>The WACSP Transport Report has noted that land may be required from the Public Open Space (POS) to the north of the road reserve. The POS already contains footpaths and a bus stop outside of the 40m road reserve along Whitfords Avenue opposite Whitford City (as shown in Figure 1 below), it is therefore expected that the POS could contain the footways and bus stops in this area.</p> <p>In this scenario the road reserve width is considered sufficient to support BRT.</p>

MAIN ROADS WA COMMENTS	
SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
	<p>Figure 1 Whitfords Avenue Road Reserve</p>  <p>Figure 2 Typical Future Cross-Section of Whitfords Avenue upon BRT Implementation</p> 
<p>Main Roads supports the inclusion of extra right turn pockets at the intersection of Marmion Ave/Whitfords Ave as shown on Cardno drawing CEP02174-001- SK01. Further negotiation should be undertaken between the applicant and Main Roads to finalise any road design.</p>	<p>Noted and agreed.</p>

MAIN ROADS WA COMMENTS	
SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
<p>A left turn slip off Marmion Avenue mid-block between Whitfords Avenue and Banks Avenue into the Whitfords Activity Centre is not supported by Main Roads.</p>	<p>Main Roads have not provided any technical justification for their refusal to support this access point. The applicant has advised Main Roads during several meetings during 2013 that the Whitford City site has a significant planning history which should be investigated and understood before determining any future plans to develop this site.</p> <p>Main Roads has been asked to provide comment on a number of previous DA's at Whitford City, the most important of these relate to the DA's approving the previous major expansion of what is now the current Shopping Centre. Main Roads comments were:</p> <p><u>City of Joondalup - Minutes of Meeting of Joint Commissioners – 07.12.1999 (DA99/1299)</u> <i>"Marmion Avenue/Driveway J Junction – no objections as a 'left-in only' facility."</i></p> <p>Following the approval of this DA the then owners of the site revised the car park layout and returned to Council with another DA supported by a Traffic and Parking Study showing the left-in only driveway removed from the submitted plans. Main Roads comments were:</p> <p><u>City of Joondalup - Minutes of Meeting of Council – 26.09.2000 (DA00/0264)</u> <i>"Driveway J (left-in only from Marmion Avenue) should be included in the scheme to reduce the pressure on the intersections of Banks/Marmion and Marmion/Whitfords. Main Roads had no objections to this in the original application."</i></p> <p>Given that Main Roads has previously supported and then insisted that this left-in facility be provided, and given that Main Roads have full access to the planning history of this site, we assume that they have reviewed their records and determined exactly why the reasons given for support of this access point do not apply now. We suggest that the full reasoning behind the original support and the current refusal are provided to Council for review.</p> <p>It is difficult to see how Main Roads can support this proposal on intersection capacity grounds and now refuse support when traffic volumes are acknowledged to have increased in the intervening 14-year period since the original assessment.</p> <p>Furthermore, it is irrational that buses are currently allowed to come to a completed stop in the Marmion Avenue carriageway approximately at the proposed turn lane bifurcation point, yet a left-turn lane designed to full Austroads and Main Roads standards cannot be supported.</p> <p>At pre-application meetings, the applicant has given Main Roads the opportunity to present cogent reasons why they would not support the inclusion of this left-in only access from Marmion Avenue. To date, the only information we have been given is as noted below (12 February 2013), all of which can be nullified:</p> <ul style="list-style-type: none"> • <i>Constructability</i> (for the applicant to demonstrate as a DA condition) • <i>Queues within the proposed turn lane from an internal intersection</i> (access road would connect with the Shopping Centre car park and be given priority over other internal traffic until well inside site boundary)

MAIN ROADS WA COMMENTS	
SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
	<ul style="list-style-type: none"> • <i>Too many accesses already and therefore unnecessary</i> (not the case, provision of this access would relieve Banks/Marmion and Marmion/Whitfords intersections as stated in Main Roads comments for previous DA's) • <i>Geometrics at Whitfords Avenue</i> (for the applicant to demonstrate as a DA condition) • <i>Bus stop locations</i> (for the applicant to demonstrate as a DA condition) • <i>Marmion Avenue is a Primary Regional Road</i> (we agree that the Primary Regional Road is a significant factor; however, as noted by Main Roads, provision of this access would relieve Banks/Marmion and Marmion/Whitfords intersections which are intersections on a Primary Regional Road. This is therefore a positive outcome for the operation of these intersections and therefore the Primary Regional Road itself). <p>As part of the recently submitted DA, now under consideration by the City, the applicant included a concept sketch of a left-turn lane and bus embayment within the Transport Report. This drawing was provided to Main Roads on 21 June 2013, well in advance of their submitted comments on this Structure Plan. Acknowledging that this drawing is concept sketch and it was submitted with an active DA, we would appreciate if Main Roads would provide a coherent and considered response as to why this proposed access point cannot be supported now, given it was supported previously.</p> <p>Another issue that the applicant foresee is legibility; this would be mitigated through appropriately designed signage. Accesses to WACSP should be signed at appropriate distances along the approach roads as it is a major destination, ignoring it on the principle that it is a private development is akin to ignoring a town centre. As an example, at the Marmion Avenue/Whitfords Avenue intersection approximately 35 percent (Thursday) and 45 percent (Saturday) of the traffic using this intersection is forecast to be associated with the WACSP in the future scenario. Using signage to control access to a major regional destination is a wholly reasonable traffic management solution.</p> <p>Notwithstanding the above, the applicant has assessed intersection performance based on the left-in access being removed. The roads and intersections most affected by this change are along Banks Avenue, where the majority of the additional traffic will enter the Shopping Centre in the "no left-in" scenario. The intersections along Banks Avenue will continue to perform adequately during peak traffic conditions.</p>
<p>Main Roads has not approved any signalisation as proposed by the structure plan and any further exploration of these options should be first approved by Main Roads Network Services. Currently no extra signals are supported.</p>	<p>The applicant can advise that signal control at the current Whitfords Avenue/Shopping Centre roundabout is no longer a Structure Plan proposal. Please note that future development of this site may require the reinstatement of this proposal.</p> <p>The signal controlled intersection at Endeavour Road/Banks Avenue is proposed as an accessibility and pedestrian safety measure, not for capacity reasons. Due to the proximity of the school crossing point to the existing roundabout, causing traffic to stop within the roundabout, signals would provide an appropriate crossing facility for school children rather than relying on drivers to stop for a crossing guard.</p> <p>Further options are currently being explored regarding the location of the west approach road from the school; this</p>

MAIN ROADS WA COMMENTS	
SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
	<p>may result in the Endeavour Road/Banks Avenue intersection remaining as a 3-arm roundabout. For the sake of future flexibility we would advise that this intersection be retained as signal controlled in the Structure Plan.</p>
<p>The TR proposes a 1.5m shared path along Marmion Avenue, of which only a portion is already in existence. The inclusion of this feature should be funded and constructed at the cost of the developer, with approval of Main Roads.</p>	<p>The applicant assumes 'developer' is a collective term for any person or entity that seeks to make this improvement:</p> <ul style="list-style-type: none"> • City of Joondalup; • Department of Transport; • Main Roads; • Westfield or indeed any possible future land owner <p>Therefore, flexibility should be retained in the responsibility as to who funds improvements, assuming that private property "developers" will fund all external infrastructure improvements is not realistic and serves to undermine the ability of lands to be developed to their full potential.</p> <p>The WACSP area will see the development of an improved shopping centre that provides greater accessibility and connectivity to and from its surrounds. A renewed focus has been placed on encouraging people to walk from the surrounding residential areas rather than drive, this is to be achieved</p>
<p>Main Roads would ideally like to see more thought given to internal vehicle movements to distribute vehicles throughout the Activity Centre site. Currently the external road network is proposed to carry the majority of internal traffic movements, something Main Roads does not support.</p>	<p>It is difficult to see how Main Roads has drawn this conclusion given that this information is not contained anywhere in the WACSP Transport Report. In any event, the Main Roads comment is not correct.</p> <p>Whitfords is a relatively compact activity centre and virtually all internal movements will be walking trips; almost all traffic using external roads such as Marmion Avenue and Whitfords Avenue is traffic travelling to or from locations outside the WACSP area. When including the school, Bunnings and the residential along Banks Ave, the amount of "internal" traffic capture for the Structure Plan Area is very minimal compared to the traffic from external sources.</p> <p>When considering the Whitfords site, it is clear that it would be very difficult to achieve any meaningful internal circulation across the entire site as a means of making a "journey" from one point to another given the position of existing buildings, car parks, boundaries and grades across the site. However, it should be noted that within the Shopping Centre for example, parking areas are linked internal and these links will be maintained in future.</p> <p>One of the benefits of the left-in slip road from Marmion Avenue is to improve direct access and remove the need for all traffic to use local roads as an intermediary between the Primary Regional Road at Marmion Avenue and Shopping Centre car parks. All traffic that would use this proposed access is already on the Primary Regional Road anyway, the proposal simply removes some traffic from local roads.</p>

WATER CORPORATION COMMENTS	
SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
<p>No objection subject to the developer covering the costs of all water and sewerage reticulation upgrades. This may also require contribution to headworks and ceding of land free of cost to the Water Corporation.</p>	<p>This will be resolved as part of the standard development application process.</p> <p>The extent of upgrades required to service the redevelopment anticipated by the structure plan are not yet exactly known. It is anticipated that up to two additional water connections may be required to support development within the activity centre structure plan. From a waste water perspective, the structure plan area sits within two sewer catchments. Initial investigations suggest there is currently sufficient capacity to accommodate growth associated with the structure plan, again, subject to confirmation.</p> <p>Development Area Plans referred to by the Water Corporation are typically prepared by proponents in conjunction with the Water Corporation to determine capacity shortfalls and the extent and cost of water or wastewater upgrades required for a project.</p> <p>Westfield is currently preparing a Development Area Plan for the area in conjunction with the Water Corporation. Until this exercise is undertaken it is suggested that a determination as to whether a developer contribution arrangement is required to apportion costs for this infrastructure should be held pending.</p>
<p>Given that land ownership is fragmented Joondalup should act as the 'project manager' for the redevelopment area in respect to some aspects of infrastructure.</p>	<p>As a substantial proportion of the land within the structure plan area is under the ownership of Westfield, there is considered to be no need for a development contribution plan or similar.</p> <p>Specific service upgrade requirements will be resolve in development application stages.</p>
<p>Consideration of water efficiency is a key component for redevelopment areas, as it will reduce the scale of upgrades required. The Better Urban Water Management guidelines outline the administrative approach for water management planning, at each stage of the planning and development approvals process. The process includes examination of drainage systems and water balance.</p> <p>The local government has a large influence on built form and conservation of both water and energy resources.</p>	<p>Department of Water (DoW) has previously advised that it did not require a Local Water Management Strategy for this structure plan. Further, DoW advised that it is unlikely to require an Urban Water Management Plan for more detailed subdivision and development. The reason for this being that the area contains sandy soils, is essentially fully developed and does not contact any environmental features (ie. wetlands). This aside, Westfield are committed to the principles and objectives of the Department of Planning Better Water Management Guidelines and the Water Corporation's Water Wise initiatives.</p> <p>Westfield is only required to confirm that the area is capable of being serviced from a water and waste water perspective. It is considered the question of capability has been answered. The extent of upgrades required to service the subject land and development and who pays are important questions, however it is more appropriate for them to be answered later in the planning process when more detailed assessment and information is available.</p>

<p>Recommended that planning for the structure plan area should mimic the greenfield process. This would include a water management plan outlining how water efficiencies are to be met and engineering plan detail of what work needs to be completed, by when, and by whom. This will allow the Water Corporation to schedule any required headworks.</p> <p>This information should form part of the City's Developer Contribution Scheme.</p>	<p>Refer to comment made above.</p>
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WESTERN POWER COMMENTS	
SUMMARY OF SUBMISSION	APPLICANT'S RESPONSE
<p>A key planning consideration is to determine whether forecast demand for the electricity network capacity which is comprised mainly of firm network connection applications is in line with long term trends, or represents a significant change in trend.</p> <p>Relatively large changes in forecast demand will receive close attention.</p> <p>Advice has been noted in the database for the next review for power capacity requirements.</p>	<p>Western Power has acknowledged the structure plan and will utilise this information for its Network Capacity mapping. No issues were raised and it is not considered that any further action is required at this point in time. Further investigations will need to be undertaken at more detailed stages of planning and development.</p>



ITEM	ACTION	RESPONSIBILITIES
Statutory and Strategic Planning Framework		
WACSP Approval	WACSP to be adopted by City of Joondalup and approved by the WAPC in accordance with the Scheme and SPP 4.2	City of Joondalup and the WAPC.
Modification of Draft Local Commercial Strategy	Modify the Draft City of Joondalup Local Commercial Strategy to align with SPP 4.2.	City of Joondalup
Local Development Plans	Preparation of individual Detailed Ares Plans as required by the relevant District Development Standards	Westfield Ltd and other landowners as required.
Management Plans and Strategies		
Urban Water Management Plans	Preparation of Urban Water Management Plans for major development or development areas as required.	Westfield Ltd. or other landowners as required
Community Engagement Strategy	Preparation of Community Engagement Strategy for WACSP and redevelopment and expansion thereof	Westfield Ltd and City of Joondalup.
Environmental Management Plan	Prepare of various environmental management plans (i.e. site contamination) as required	Westfield Ltd or other landowners as required
Traffic Management Plans	Preparation of traffic and access strategy's and statements as required by the City of Joondalup.	Westfield Ltd or other landowners as required.
Provision of Services		
Internal Service Infrastructure	Westfield Ltd to design and implement all internal service and infrastructure upgrades associated with the Whitford City Shopping Centre, to the satisfaction of the City of Joondalup.	Westfield Ltd
Other		
Community Facilities	Identification and delivery of a new community facilities building within the WACSP	City of Joondalup.



Whitford Activity Centre

Structure Plan

March 2013



Modification No.	Description of modification	Date endorsed by Council	Date endorsed by WAPC
1			
2			

CERTIFIED THAT THIS STRUCTURE PLAN ____/20____
 WAS ADOPTED BY
 RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING
 COMMISSION ON _____

 Chairperson, Western Australian
 Planning Commission

AND BY
 RESOLUTION OF THE COUNCIL OF THE CITY OF
 JOONDALUP ON _____

AND THE SEAL OF THE MUNICIPALITY WAS PURSUANT
 TO THE COUNCIL'S RESOLUTION HEREUNTO AFFIXED IN THE
 PRESENCE OF:

 Mayor, City of Joondalup

 Chief Executive Officer, City of Joondalup

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Executive Summary

Westfield Whitford City and its surrounds is characterised by typical suburban development of the 1970's and 80's and is representative of many of Metropolitan Perth's now middle-ring suburbs. Whitford has been an important service centre for the rapidly developing and changing north-west corridor, however, changes in public policy and community expectations and behaviour mean that it is no longer appropriate to proceed in the same way. Low intensity, poor street presence, minimal to no land use separation and car dependence are characteristics Whitford and many other similarly aged suburban centres have, throughout the metropolitan area. The Western Australian Commission's (WAPC) State Planning Policy 4.2 Activity Centres for Perth and Peel (SPP 4.2) seeks to change this, however, the delivery of such change within this existing suburban setting represents the most significant challenge for the policy, government agencies and the private sector.

SPP 4.2 seeks to develop integrated centres with a diversity of uses which facilitate the provision of local employment and sustainable transport and includes general targets to this end. However the policy also acknowledges the importance of local context, through increased emphasis on analysis rather than more simplistic models and templates previously applied.

In close association with State and Local Government officers, the Whitford Activity Centre project team has sought to strike a balance of the many interests and objectives, including the following:

- Respecting the existing urban context, but facilitating transition to contemporary urban form, diversity and density within the core.
- Creation of a transitional mixed use area along Banks Avenue to enable suitable scaling down of land use intensity and built form through to the existing suburban hinterland.
- Enabling the improved pedestrian connection between districts and uses and access into the centre through means other than private car.
- Providing for improved vehicular movement through improved and new internal connections to the regional road network.
- Accommodating the expansion of retail services within a repositioned and contemporary centre which better reflects the local demography and current consumer expectations, whilst improving the visual amenity and public realm interface.

The Whitford Activity Centre Structure Plan (WACSP) represents a significant shift in the placement and function of the centre, whilst seeking to reflect and respect the context of the site and the nature of development within the area. The creation of this framework will guide progressive development through integration with the statutory planning tools over the coming 15-20 years, through to 2031.

Part One of the report is the Statutory section which provides the mechanics of land use and development control. It is these components which will be binding upon parties through the powers of the City of Joondalup's District Planning Scheme No.2 (the Scheme) under the Planning and Development Act 2005. Part Two provides the rationale for the Structure Plan and the detailed inputs which have informed the plan. This section will provide context and seek to provide the long term picture for the centre, through the necessary evolution. The plan has the potential to deliver significant improvements for Whitford and the surrounding community through this clear vision and associated framework for implementation.

Structure Plan Summary Table:	
Total area covered by WACSP	42.82 hectares
Estimated number of total dwellings	739 dwellings
Estimated additional population	1478 people (2 per dwelling)
Estimated 2031 retail floor space	95,000m ²
Estimated 2031 'mix of uses' floor space	69,000m ²
Estimated additional employment	3033 jobs
There is 1 school in the centre with others (2 senior high schools, 5 primary schools) within 1km of the centre	
Community facilities that will remain include Whitford Public Library, Whitford Senior Citizens Centre and Whitford Family Centre.	





Part 1 Statutory Section

Part 1 Statutory Planning Section

1.1 STRUCTURE PLAN AREA

This Structure Plan applies to the Whitford Activity Centre, which is comprised of all land contained within the inner edge of the Structure Plan boundary line, as depicted on the Structure Plan Map (Figure 1).

1.2 STRUCTURE PLAN CONTENT

This Structure Plan comprises:

Part 1 – Statutory Section.

Part 2 – Non-Statutory (Explanatory) Section.

Part 1 includes a Structure Plan Map, Building Height Plan, Street Interface Plan and associated statutory provisions. This section considers planning requirements on an over-arching basis as well as on a district by district basis.

Part 2 justifies and clarifies the provisions contained within Part 1, places the Whitford Activity Centre in its local, district and regional context and is generally to be used as a reference guide to interpret and implement Part 1.

Technical Appendices – Retail Sustainability Assessment, Servicing Report, Transport Report and Water Balance Assessment.

1.3 INTERPRETATION AND SCHEME RELATIONSHIP

The terms used in this Structure Plan have the respective meanings applied to them in the Scheme, or where not defined in the Scheme; as set out in the Structure Plan.

“Building Height Plan” means the plan set out in Figure 2 of this Structure Plan.

“human scale” is the proportional relationship of the physical environment to human dimensions. Building details and texture particularly at eye level contribute to human scale environments.

“landscaping” means to develop within garden beds, shrubs, trees and lawn, and with such features as rockeries and ornamental ponds. Landscaping can also include hardscaping such as sculpture and public art.

“main street” is defined as the most prominent street of the activity centre, where shops and businesses are situated in a pedestrian friendly environment. The street has pedestrian connections to key destinations such as shopping, schools and community facilities and access to public transport.

“principal frontage” is the frontage designated as the address and principal entrance to the building.

“retail core” is the Westfield Whitford City shopping centre component of the Retail District.

“Street Interface Plan” means the plan set out in Figure 3 of this Structure Plan.

“Structure Plan Map” means the map set out in Figure 1 of this Structure Plan.

A provision standard or requirement of the Structure Plan, shall be given the same force and effect as if it was a provision, standard or requirement of the Scheme. Where in the event of there being an inconsistency or conflict between any provision, requirement or standard of the Scheme and any provision, requirement or standard of this Agreed Structure Plan, the Agreed Structure Plan shall prevail. Where a provision, requirement or standard is not contemplated by this Structure Plan, the Scheme shall continue to have effect.

Any variation to the development standards and requirements may be considered in accordance with Clause 4.5 of the Scheme.

1.4 WHITFORD ACTIVITY CENTRE STRUCTURE PLAN

The Whitford Activity Centre Structure Plan Map (Figure 1) indicates:

- the extent and boundary of the activity centre.
- the location, extent and boundary of the 4 districts proposed within the centre.
- residential densities that apply to each district.
- indicative primary vehicle access points.
- principle pedestrian connections.

In addition, the Building Height Plan (Figure 2) and the Street Interface Plan (Figure 3) provide further development guidance to be read in conjunction with the general and district development objectives and standards.

Development shall be in accordance with the objectives and standards set out in the general sections (Sections 1.6 to 1.11) and the relevant district requirements (Sections 1.12 to 1.15).

- Whitford Activity Centre Structure Plan Boundary
 - District Boundary
 - Existing Lot Boundary
- Districts**
- Retail
 - Banks
 - Endeavour
 - Education and Civic
- Residential Coding**
- R-AC 0
 - R80
- Other**
- Main Street
 - Landmark Site
 - Community Focal Point
 - Primary off street pedestrian connection
 - Future vehicle connection (subject to Detailed Area Plan)
 - Indicative primary vehicle access point
 - Indicative primary vehicle access point (Left-in/ left-out only)
 - Indicative primary vehicle access point (Left-in only)
 - Existing controlled intersection (Traffic Lights)
 - Proposed controlled intersection (Traffic Lights)

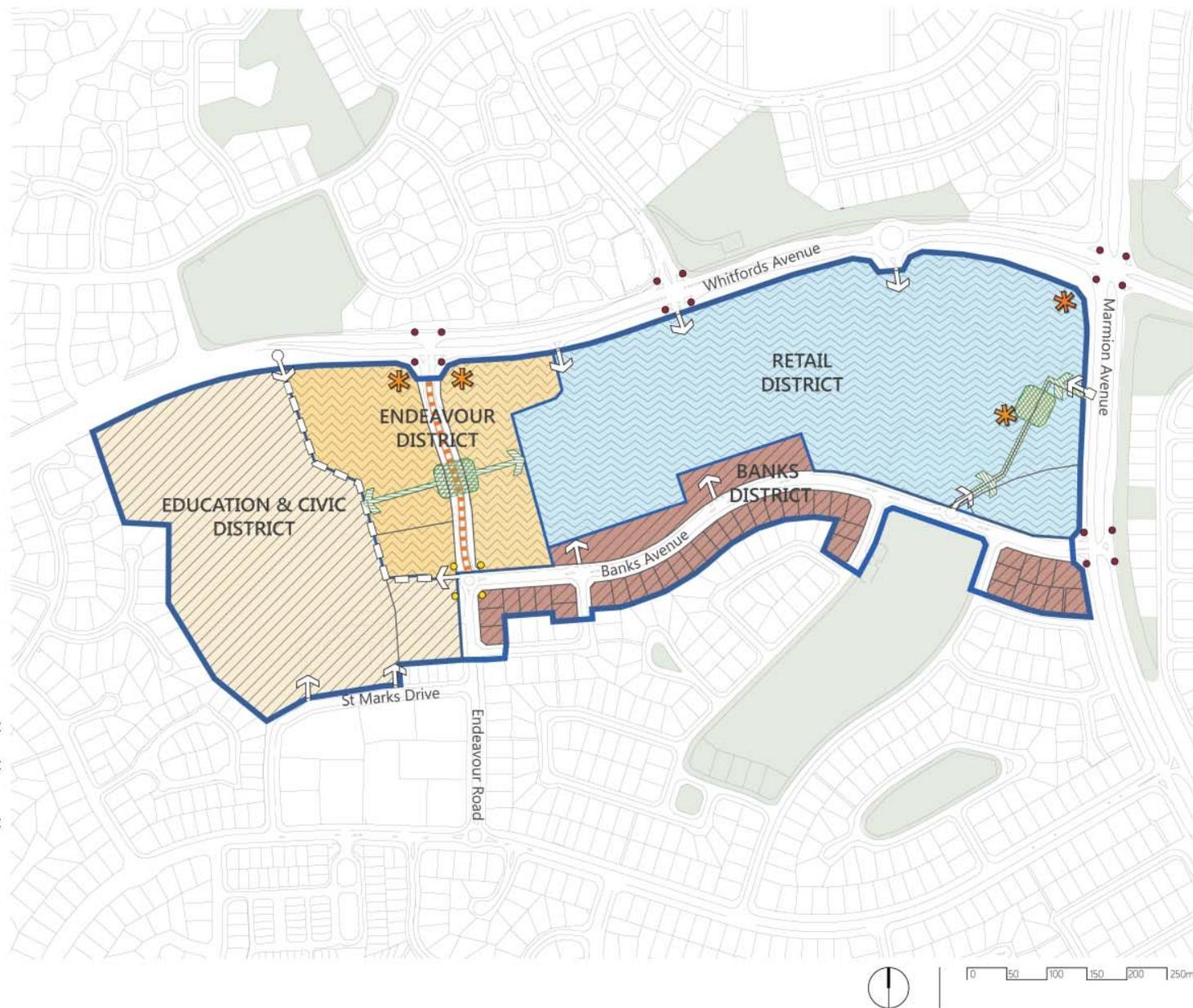


Figure 1. Structure Plan Map

1.5 OPERATION

This Structure Plan comes into effect on the date it is adopted by the WAPC pursuant to Clause 9.8.1 of the Scheme.

1.6 LAND USE CLASS PERMISSIBILITY

The Land Use Permissibility Table outlined below identifies the use class permissibility within each of the identified Districts. Uses that are not listed in either the Structure Plan or Scheme shall be treated as an unlisted use, pursuant to Clause 3.3 of the Scheme.

SYMBOLS

The symbols used in Table 1 have the same meaning as Clause 3.2.2 of the Scheme.

Uses not identified in the Structure Plan, but are listed in the Scheme are 'X' uses.

Districts	Endeavour	Retail	Banks	Education and Civic
Use Classes				
Aged or Dependant Persons Dwelling	D	X	D	D
Amusement Parlour	D	P	X	X
Ancillary Accommodation	X	X	D	X
Art Gallery	P	P	D	P
Auction Room	D	D	D	X
Bakery	P	P	A	X
Bank	P	P	D	X
Bed & Breakfast	X	X	D	X
Betting Agency	D	D	D	X
Car Park	D	P	D	P
Car Wash	D	D	A	X

Table 1. Land Use Class Permissibility

Caretaker's Dwelling	D	X	D	D
Child Care Centre	D	D	A	D
Cinema/Theatre	X	P	X	X
Civic Buildings	P	P	P	P
Club (Non-Residential)	D	D	D	D
Communication Antenna	P	D	D	A
- Domestic	D	D	D	D
Communication Antenna	D	D	D	D
Consulting Rooms	P	P	P	P
Convenience Store	P	P	D	D
Corner Store	P	D	D	D
Costume Hire	P	P	D	X
Display Home	D	D	X	X
Drive Through Food Outlet	D	P	X	X
Dry Cleaning Premises	P	P	P	X
Educational Establishment	D	D	D	P
Garden Centre	X	D	X	X
Grouped Dwelling	D	D	D	D
Hardware Store	P	P	D	X
Home Business – Category 1	P	P	P	X
Home Business – Category 2	D	D	D	X
Home Business – Category 3	D	D	D	X
Hotel	D	D	A	X
Kindergarten	D	D	D	P
Land Sales Office (Temporary)	P	P	P	X
Laundrette	D	P	D	X
Liquor Store	D	P	X	X
Lunch Bar	P	P	P	D
Markets (Retail)	D	P	X	X

Medical Centre	D	P	D	A
Motel	D	D	A	X
Multiple Dwellings	D	D	D	D
Night Club	A	A	X	X
Office	P	P	P	P
Place of Assembly	D	D	D	P
Place of Worship	D	D	D	P
Private Recreation	P	P	A	D
Public Exhibition Facility	P	P	P	P
Public Utility	P	P	P	P
Reception Centre	D	D	D	X
Recreation Centre	X	D	X	D
Residential Building	D	X	X	X
Restaurant	P	P	D	X
Restricted Premises	D	D	X	X
Retirement Village	D	X	X	D
Service Station	D	D	X	X
Shop (up to 500m ²)	P	P	D	A
Shop (greater than 500m ²)	D	P	X	X
Short Stay Accommodation	D	D	D	D
Showroom	A	A	A	X
Single House	D	X	P	X
Small Bar	D	P	X	X
Sports Ground	X	X	X	P
Takeaway Food Outlet	D	P	A	A
Tattoo Studio	D	P	D	X
Tavern	D	P	X	X
Vehicle Repairs	D	P	X	X
Veterinary Consulting Rooms	D	D	P	X
Veterinary Hospital	D	D	D	X

1.7 COMMERCIAL FLOOR SPACE

This Activity Centre Structure Plan contemplates the provision of up to 95,000m² retail and 69,000m² non-retail commercial floor space, as outlined in the attached Retail Sustainability Assessment (Refer Appendix B1).

1.8 RESIDENTIAL DENSITIES

Residential development shall be provided in accordance with the densities as allocated on Figure 1 Structure Plan Map and within the district development standards at Section 1.11.

1.9 DEVELOPER CONTRIBUTION ARRANGEMENTS

A Developer Contribution Arrangement and associated Developer Contribution Plan shall be prepared for the Whitford Activity Centre in accordance with *State Planning Policy 3.6 – Development Contributions for Infrastructure* and the requirements of District Planning Scheme No.2. This arrangement shall provide for the equitable sharing of costs for infrastructure required to deliver the development intentions of the structure plan. Such infrastructure items may include but are not limited to the following:

- Provision of new roads;
- Upgrade of existing roads;
- Intersection upgrades;
- Traffic signals;
- Service upgrades; and
- Landscape treatments.

1.10 BUILDING HEIGHTS

General Minimum Standards:

- Building heights shall be no greater than the nominated building heights.
- Ground floor to floor height shall be a minimum of 4.5 metres to provide for changing of uses over time.
- Additional height may be permitted at the City's discretion subject to provision of increased amenity such as a town square, community facility or other agreed element and if there are no unduly detrimental effects to adjoining properties or the public realm.

In addition to the maximum heights nominated on the Building Height Plan, the following applies:

Endeavour District Minimum Standards:

- Endeavour Community Square shall be continuously framed by buildings a maximum height of 13.5 metres.
- The intersection of Endeavour Road and Whitfords Avenue shall be continuously framed by buildings, to a maximum height of 15.5 metres.

Retail District Minimum Standards:

- Buildings built to nominated minimum street setbacks shall be a maximum height of 13.5 metres for the first 6.0 metres of the building depth.
- Buildings at the nominated landmark site on Marmion Promenade shall offer an architectural point of visual interest.

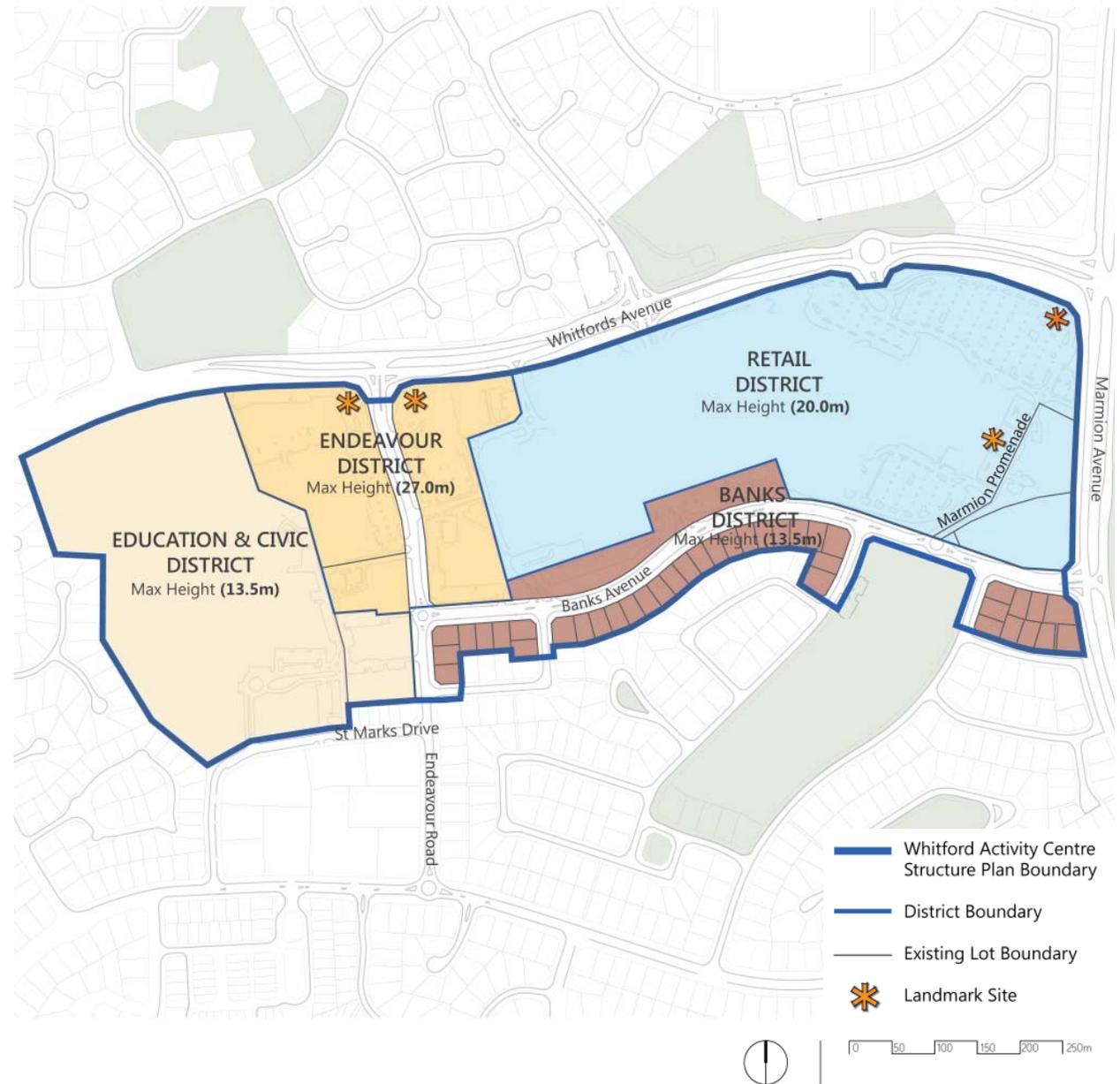


Figure 2. Building Height Plan

1.11 STREET INTERFACE

Objectives and Minimum Standards

ACTIVE FRONTAGES

Objective:

Building frontages are to be active in areas with high projected pedestrian footfall, as indicated on the street interface plan

Minimum Standards:

- Pedestrian shelter of 2.5 metres minimum width and a minimum of 2.75 metres clearance above the footpath shall be provided.
- Main building entrances shall be directly onto the primary street frontage.
- Not less than 50% of the area of the facade of the ground floor is to be glass windows or glass doors and the windows and doors must be a minimum 75% of the width of the ground floor facade. The sill of the ground floor window must not be higher than 500mm above the finished floor level.
- There shall be no fencing to any public road.
- There shall be no on-site parking adjacent to any public road.

PASSIVE FRONTAGES

Objective:

Building frontages are to be passive in areas with moderate projected pedestrian footfall, as indicated on the street interface plan

Minimum Standards:

- Pedestrian shelter shall be provided at entrances to buildings.
- Main building entrances shall be directly onto the primary street frontage.
- Any fencing to a public road shall be a maximum height of 1.2 metres and shall be visually permeable.
- Car parking areas shall be screened from public roads, however this shall not prevail over the requirement for a maximum height of fencing of 1.2 metres.

ATTRACTIVE FRONTAGES

Objective:

Building frontages are to be attractive in areas with low projected pedestrian footfall, as indicated on the street interface plan

Minimum Standards

- Development sites shall incorporate landscaping that is designed, developed and maintained to a standard satisfactory to the City.
- Where the building is not of a human scale, the development shall incorporate artistic or sculptural features.

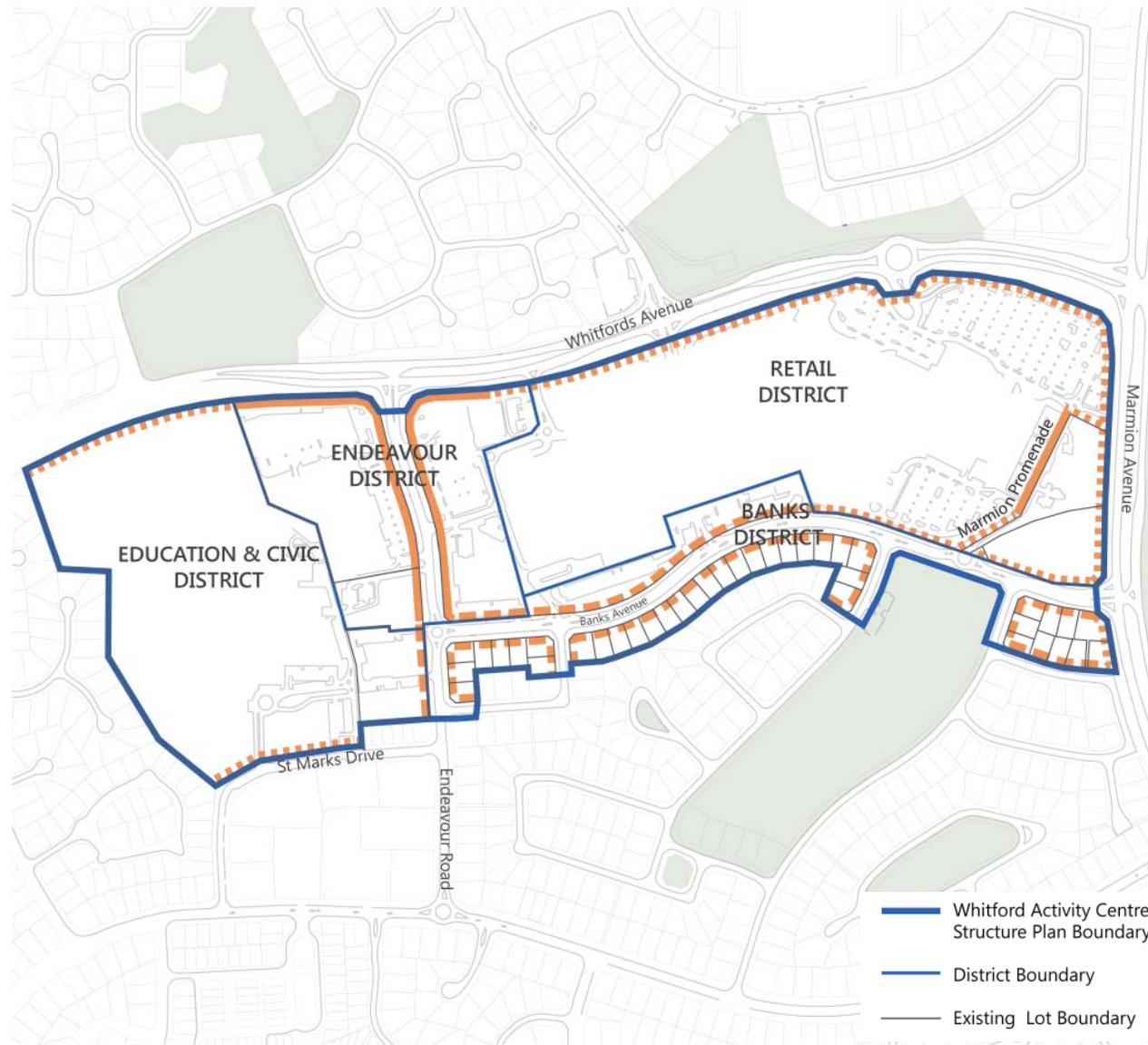


Figure 3. Street Interface Plan

1.12 GENERAL DEVELOPMENT REQUIREMENTS

1.12.1 GENERAL DEVELOPMENT OBJECTIVES

DEVELOPMENT OBJECTIVES	<p>Context</p> <ul style="list-style-type: none"> • Provide development guidance consistent with the role and function of Whitford Activity Centre as a secondary centre as defined by SPP 4.2. • Provide development guidance that distinguishes between the 4 districts within the centre. <p>Movement</p> <ul style="list-style-type: none"> • Provide access to an improved bus service and a cycle network connecting Whitford Activity Centre with other sub-regional attractors, the Whitfords train station and the Perth CBD. • Provide a public realm that encourages walking and sustainable modes of transport while ensuring adequate access and parking for private vehicles, to support a wide range of high visitation activities. <p>Activity</p> <ul style="list-style-type: none"> • Provide a focus for intense and diverse retail, commercial, residential, education, community and cultural, entertainment and leisure activities to serve the catchment population and that are complementary to other centres in the North-West Sub-Region and the City of Joondalup. • Provide appropriate levels of hard and soft infrastructure for these activities to co-exist and develop Whitford Activity Centre as an important community focus or node. • Provide a local employment focus contributing to employment self-sufficiency targets for the North-West Sub-Region and the City of Joondalup. <p>Urban form</p> <ul style="list-style-type: none"> • Provide a robust and flexible urban structure and built form that is responsive to changing community aspirations, increased intensity and diversity of activity, whilst respecting the amenity of surrounding residential areas. • Provide a vibrant and pedestrian friendly street based public realm. • Create a unique and appropriate visual character and identity using high quality architectural, spatial and landscape design. <p>Resource conservation</p> <ul style="list-style-type: none"> • Encourage reduced dependency on private cars thereby reducing energy consumption through aggregation of activities in a walkable centre and improved public transport access to the centre. <p>Services</p> <ul style="list-style-type: none"> • Provide service areas that are away from public view and pedestrian movement and limit the impact of service vehicles. <p>Implementation</p> <ul style="list-style-type: none"> • Provide a development framework that provides certainty for staged investment whilst offering flexibility to account for changing market conditions and community needs.
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1.12.2 GENERAL DEVELOPMENT STANDARDS

The following development standards apply to the entire Activity Centre Structure Plan Area. These standards shall also be read in conjunction with Part 4 of the Scheme. Also refer to district development standards for specific requirements for each district.

ATTRIBUTE /PRINCIPLE	STANDARD
	Refer to the district development standards for specific requirements in each district
Land use and development intensity	<p>Land Use Permissibility Refer to Land Use Permissibility Table (Table 1 at section 1.6) for land use permissibility in each district.</p> <p>Residential density The R-AC 0 code applies to Endeavour District and the Retail District. A residential density of R80 applies to the Banks District and Education and Civic Districts.</p>

Height and setbacks	<p>Building height Refer to the Building Height Plan (Figure 2) and district development standards for permitted building heights.</p> <p>Building setbacks Refer to the respective District Development Standards for building setback requirements.</p>
Pedestrian access	<p>Shopping malls Internal pedestrian shopping malls are to be connected to external streets, to contribute to an integrated and permeable centre.</p> <p>Car parks Where there are large areas of car parking (at grade or in decks), clearly signed and safe pedestrian access routes are to be provided that lead to building entrances.</p>
Vehicle parking and access	<p>Parking provision Retail District An ultimate car parking bay cap of 4,200 bays applies. This cap shall not be exceeded without the preparation of a revised Transport and Parking Report.</p> <ul style="list-style-type: none"> • A parking rate of 4.5 bays per 100m² for all uses within the Retail District has been applied to determine this cap. <p>All Other Districts</p> <ul style="list-style-type: none"> • Parking for all other Districts shall be provided in accordance with the Scheme. <p>Car parking for people with a disability is to be provided in accordance with relevant Australian Standards.</p> <p>General parking location</p> <ul style="list-style-type: none"> • Car parking is to be located as prescribed by the District Planning Requirements or the applicable adopted Local Development Plan. <p>Sleeving of parking</p> <ul style="list-style-type: none"> • At-grade and deck car parking areas are to be screened and to be visually attractive from the public realm. <p>Vehicle access locations</p> <ul style="list-style-type: none"> • Vehicle access points and crossovers are to be located as indicated on the Structure Plan Map or any approved Local Development Plan. The location should be consistent with the development objectives of the district and supported by traffic analysis to the satisfaction of the City. Rationalisation of existing crossovers should also occur. <p>Service vehicle access</p> <ul style="list-style-type: none"> • Service vehicle routes and access points should be located away from areas of high pedestrian footfall and designed with consideration for safety, visual and acoustic amenity for adjoining uses. <p>Car park entrances</p> <ul style="list-style-type: none"> • Entrances to parking areas are to be clearly visible from the street and signed to indicate directions and availability to road users.

Vehicle parking and access	<p>Bicycle parking The following minimum bicycle parking standards apply to the Structure Plan Area.</p> <table border="1"> <thead> <tr> <th>USE</th> <th>Minimum Long Term Parking</th> <th>Minimum Short term Parking</th> </tr> </thead> <tbody> <tr> <td>Multiple Dwelling</td> <td>As per the Residential Design Codes</td> <td>As per the Residential Design Codes</td> </tr> <tr> <td>Short Stay Accommodation, Hotel (accommodation component only), Motel</td> <td>1 space per 40 guest bedrooms</td> <td>none required</td> </tr> <tr> <td>Commercial**</td> <td>1 space per 1,500m² NLA</td> <td>1 space per 1000m² NLA</td> </tr> <tr> <td>Office</td> <td>1 space per 250m² NLA</td> <td>1 space per 750m² NLA</td> </tr> <tr> <td>Consulting Rooms, Medical Centre</td> <td>1 space per 8 practitioners</td> <td>1 space per 4 practitioners</td> </tr> <tr> <td>Hotel (excluding accommodation component), Tavern, Small Bar, Nightclub</td> <td>1 space per 100m² of bars and public areas, including lounges, beer gardens and restaurants</td> <td>1 space per 150m² of bars and public areas, including lounges, beer gardens and restaurants</td> </tr> <tr> <td>Recreation Centre, Private Recreation</td> <td>1 space per 400m² NLA available to the public, including swimming pools</td> <td>1 space per 200m² NLA available to the public, including swimming pools</td> </tr> <tr> <td>Public Exhibition Facility, Place of Worship, Place of Assembly, Club (Non-Residential), Reception Centre</td> <td>None Required</td> <td>1 space for every 30 people that the building is designed to accommodate</td> </tr> <tr> <td>Showroom</td> <td>1 space per 750m² NLA for premises greater than 300m²</td> <td>1 space per 1000m² NLA</td> </tr> </tbody> </table> <p>** 'Commercial' includes a Shop, Bank, Betting Agency, Convenience Store, Drive Through Food Outlet, Lunch Bar, Restaurant, Restricted Premises, Service Station (convenience store component) and uses not listed will be at the discretion of the City.</p> <p>Long-term bicycle parking facilities are to be located in a convenient and secure location for employees/residents and can include:</p> <ul style="list-style-type: none"> • Locked compounds with communal access using duplicate keys or electronic swipe cards in a secure location and fitted with bicycle parking devices. • Fully-enclosed individual lockers. • Devices to which the bicycle frame and wheels can be locked, positioned close to and directly visible from inside the place of employment. <p>Short-term bicycle parking facilities are to include devices to which the bicycle frame and wheels can be locked and should be located in a convenient and secure position close to the entrance of the premises.</p> <p>End of journey facilities</p> <ul style="list-style-type: none"> • End of journey facilities are facilities which support the use of bicycle transport by allowing cyclists the opportunity to shower and change at the beginning or end of their journey to and from work. • They include separate male and female changing rooms with shower facilities and lockers for the storage of clothing and other personal items. • All non-residential development is encouraged, to provide end of journey facilities • End of journey facilities must be located as close as possible to bicycle parking facilities. 			USE	Minimum Long Term Parking	Minimum Short term Parking	Multiple Dwelling	As per the Residential Design Codes	As per the Residential Design Codes	Short Stay Accommodation, Hotel (accommodation component only), Motel	1 space per 40 guest bedrooms	none required	Commercial**	1 space per 1,500m ² NLA	1 space per 1000m ² NLA	Office	1 space per 250m ² NLA	1 space per 750m ² NLA	Consulting Rooms, Medical Centre	1 space per 8 practitioners	1 space per 4 practitioners	Hotel (excluding accommodation component), Tavern, Small Bar, Nightclub	1 space per 100m ² of bars and public areas, including lounges, beer gardens and restaurants	1 space per 150m ² of bars and public areas, including lounges, beer gardens and restaurants	Recreation Centre, Private Recreation	1 space per 400m ² NLA available to the public, including swimming pools	1 space per 200m ² NLA available to the public, including swimming pools	Public Exhibition Facility, Place of Worship, Place of Assembly, Club (Non-Residential), Reception Centre	None Required	1 space for every 30 people that the building is designed to accommodate	Showroom	1 space per 750m ² NLA for premises greater than 300m ²	1 space per 1000m ² NLA
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Showroom	1 space per 750m ² NLA for premises greater than 300m ²	1 space per 1000m ² NLA																															
Landmark sites and community focal points	<p>Refer to the Structure Plan Map for locations of landmark sites and community focal points. Refer to district development standards for specific requirements for each location.</p> <p>Development on landmark sites and around community focal points is to be designed with recognition of the site's strategic location. It should address the public realm with an appropriate level of architectural or landscape detail, to the satisfaction of the City.</p> <p>Community focal points in the Endeavour District are:</p> <ul style="list-style-type: none"> • Endeavour Community Square. 																																

Landmark sites and community focal points	<p>Landmark sites in the Endeavour District are:</p> <ul style="list-style-type: none"> • Building at corner of Whitfords Avenue and Endeavour Road (east side). • Building at corner of Whitfords Avenue and Endeavour Road (west side). <p>Community focal points in the Retail District are:</p> <ul style="list-style-type: none"> • Marmion Promenade (located on private land). <p>Landmark sites in the Retail District are:</p> <ul style="list-style-type: none"> • Building element on Marmion Promenade at the entry to the retail core. • Landscape and/or sculptural element at corner of Marmion Avenue and Whitfords Avenue.
Street and public realm interface	<p>Street interface Interface treatments with the street are to be consistent with the Street Interface Plan (Figure 3).</p> <p>Facades fronting the street or public realm</p> <ul style="list-style-type: none"> • Buildings are to be designed with a consistent approach to all facades. Architectural character and visual interest is to be provided to all sides of buildings that are viewed from the public realm. This can be achieved with articulation, colour and/or materials (including glazing). • Corner buildings are to be designed to address both streets with equal importance. <p>Building entrances</p> <ul style="list-style-type: none"> • Main building entrances shall be directly onto the primary street frontage. <p>Passive surveillance</p> <ul style="list-style-type: none"> • Crime Prevention Through Environmental Design(CPTED) principles are to apply in the design of street and public realm interface. <p>Signage, advertising and public art</p> <ul style="list-style-type: none"> • Signage shall be in accordance with the standards applicable to the Commercial Zone under the City of Joondalup Signs Policy. • Public art is to be provided as part of the design of landmark sites, where appropriate.
Landscape and private open space	<p>Landscape provision</p> <ul style="list-style-type: none"> • Landscaping within and to private development is to be designed to suit the intense urban environment of the activity centre. • Where fronting the street, landscaped areas are to be integrated with the streetscape to include the use of consistent materials and planting. • Shade trees in uncovered car parking areas shall be provided at a rate of 1 (one) tree for every 6 (six) bays. <p>Balconies and roof gardens</p> <ul style="list-style-type: none"> • Balconies to private residences or commercial spaces shall face the street or be designed to avoid overlooking private space. • Roof gardens for commercial and residential development are strongly encouraged.
Roofscape	<ul style="list-style-type: none"> • Roofscape is to be considered as part of building design and designed to be attractive, where it can be viewed from the public realm or any viewpoint within surrounding buildings, to include future buildings. • Roof mounted plant and equipment is to be screened from view (including from above). • Screening should be consistent with the design and character of the building.
Service areas and ancillary buildings	<p>Location Service areas and refuse disposal systems shall be located away from public areas and residential development.</p> <p>Screening</p> <ul style="list-style-type: none"> • Service and refuse areas are to be screened from view. • Screening and ancillary buildings shall be constructed of materials and be of design compatible with the adjacent buildings.

1.13 ENDEAVOUR DISTRICT PLANNING REQUIREMENTS

1.13.1 DISTRICT DESIRED CHARACTER

CHARACTER STATEMENT	<p>The Endeavour District will become an intense and diverse urban environment with a focus on street based activity. It will be vibrant, well landscaped, pedestrian friendly and will provide a diverse range of activity to include housing, shops, offices and community uses. Activities that contribute to evening street life and provide interesting and activated frontages will be encouraged. Rear access for vehicles will be resolved in Local Development Plans, to limit vehicle crossovers along Endeavour Road. Endeavour Road is envisaged as a main street environment with a shared pedestrian priority zone at the community square, with low vehicle speeds and on-road cycle lanes.</p> <p>The focus of the district will be the Endeavour Community Square which will connect the retail district with the education and civic district; it will become a community meeting place for surrounding residents.</p>
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1.13.2 DISTRICT OBJECTIVES

DEVELOPMENT OBJECTIVES	<ul style="list-style-type: none"> • Create a main street, mixed use environment; with high amenity, a sense of place and a highly landscaped streetscape. • Facilitate a pedestrian connection between Endeavour Road and the Retail District. • Provide for a public square in a central location, for community meeting and interaction. • Provide for the majority of medium-high residential density within the WACSP. This residential density may take the form of apartments, terraces, townhouses and maisonettes. • Encourage a broad range of uses and design treatments that promote both day and night time activation. • Promote the delivery of office, smaller scale retail and dining outlets on ground floors. • Provide for a continuous façade to Endeavour Road, wherever possible, minimising the number of vehicular access points. • Allow on-street parking where possible and encourage onsite parking to be located behind buildings that adjoin Endeavour Road. • Provide for an appropriate interface between development within this Education and Civic District.
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1.13.3 DEVELOPMENT STANDARDS

ATTRIBUTE /PRINCIPLE	STANDARD
Local Development Plans	<p>A Local Development Plan(s) is required for the Endeavour Road District, prior to any development. This Local Development Plan(s) shall amongst other issues, consider and resolve:</p> <ul style="list-style-type: none"> • Traffic and access, to service the school, particularly on the western side of Endeavour Road. • Overlooking and overshadowing impacts on the Education and Civic District. • The interface of the built form to existing development and Endeavour Square. • The rationalisation of existing crossovers.
Land use and development intensity	<p>Land Use Permissibility Refers to Land Use Permissibility Table (Table 1 at section 1.6).</p> <p>Residential Density The R-AC 0 code applies to the district.</p>

Height and setbacks	<p>Building height</p> <p>Refer to Building Height Plan (Figure 2).</p> <p>Building setbacks</p> <p>Building setbacks are to be as determined by a Local Development Plan.</p>
Pedestrian access	<p>Pedestrian access will be provided in accordance with Section 2.5.2 of Part 2 and specific Local Development Plans, however, the following shall be provided as a minimum:</p> <ul style="list-style-type: none"> • Footpaths are to be provided on both sides of Endeavour Road. • Pedestrian access ways will be provided in an east-west orientation, to connect internal malls and residential development to Endeavour Road.
Vehicle parking and access	<p>Vehicle access locations</p> <ul style="list-style-type: none"> • A parallel roadway (location subject to Local Development Plan) shall be provided on either side of Endeavour Road, to service development with frontage to Endeavour Road and to provide for more coordinated and cohesive access arrangements for the district. • Crossovers are to be rationalised where reasonable to do so and where the removal will not have an adverse effect on the surrounding movement network. Multiple crossovers on lots less than 1500m² will not be permitted. • The existing access way to St Marks School from Endeavour Road is to remain, until a suitable alternative is provided on redevelopment of the site.
Landmark sites and community focal points	<p>Endeavour Community Square</p> <p>Endeavour Community Square will be the primary community focal point at the western end of the centre. It will integrate and connect the Retail District with the Education and Civic District, in a main street environment.</p> <p>In addition to the development standards that apply to the Endeavour District, the following standards apply to Endeavour Community Square:</p> <ul style="list-style-type: none"> • The square is to be a minimum of 20 metres (north-south) x 40 metres (east-west), measured to building façades. This area includes the street as a pedestrian priority - shared zone. • The square is to have direct pedestrian connections into the retail core. • Balconies and windows at upper levels of buildings as well as at ground level must be oriented to the square. • Alfresco dining areas in the square are to have good solar access with flexibility for winter sun and summer shade.

<p>Landmark sites and community focal points</p>	<p>Buildings at corner of Whitfords Avenue and Endeavour Road (east and west side)</p> <p>In addition to the development standards that apply to the Endeavour District, the following standards apply to buildings on landmark sites at the corner of Whitfords Avenue and Endeavour Road (east and west side):</p> <ul style="list-style-type: none"> • The buildings at the corner of Whitfords Avenue and Endeavour Road (east and west side) should enhance the sense of arrival at the centre. • The buildings are to have consistent architectural treatment to both Endeavour Road and Whitfords Avenue.
<p>Street and public realm interface</p>	<p>Refer Street Interface Plan.</p>
<p>Roofscape</p>	<p>Roofscape</p> <p>Roofscape is to be considered as part of building design and designed to be attractive where it can be viewed from the public realm, or any viewpoint within surrounding buildings. This is particularly important in the Endeavour Road district, where there may be overlooking from future residential uses in taller buildings.</p>

1.14 RETAIL DISTRICT PLANNING REQUIREMENTS

1.14.1 DISTRICT DESIRED CHARACTER

CHARACTER STATEMENT	<p>The Retail District will provide residents and visitors with convenient access to a mix of retail, office, leisure, entertainment, recreation and community facilities within both new and renovated buildings; that respond to current consumer and community demands and desires. The retail district will be characterised as a destination that is vibrant and accessible, with a unique character and sense of place evolving from the retail activity of the centre.</p> <p>New buildings to the eastern end of the retail core will provide an enhanced presentation and sense of arrival to Marmion Avenue as well as attractive frontages to both Whitfords Avenue and Banks Avenue. A new north-south pedestrian connection (Marmion Promenade) will add to this sense of arrival and address, while the southern edge of the retail buildings will respond to the character of the Banks District.</p> <p>At the western end, the retail district will interface with the Endeavour District. There will be a pedestrian connection between the Endeavour Community Square and the retail core. The large format retail buildings and structures will be sleeved by more finer grain buildings that respond to the street on the western edge of the Retail District by a mix of building types (shops, office, retail, residential), fronting Endeavour Road in the Endeavour District.</p>
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1.14.2 DISTRICT OBJECTIVES

DEVELOPMENT OBJECTIVES	<ul style="list-style-type: none"> • Provide convenient access to a diverse mix of retail, office, leisure, entertainment, recreation and community facilities. • Respond to current and changing consumer and community demands for lifestyle and convenience. • Promote the seamless integration of external and internal pedestrian connections and spaces. • Provide built form that offers both attractive and active frontage appropriate to the level of adjacent pedestrian activity. • Create an improved eastern frontage to the retail core with high amenity and landscape, pedestrian connection to Marmion Avenue and a sense of arrival for the centre. • Create a future pedestrian connection from the internal mall environment to the future Endeavour Road main street environment. • Create a pedestrian connection between Banks Avenue and Whitfords Avenue on the eastern frontage of the retail core. • Provide parking predominantly in decks and basements, whilst also providing some at grade parking for short term convenience trips.
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1.14.3 DEVELOPMENT STANDARDS

ATTRIBUTE /PRINCIPLE	STANDARD
Land use and development intensity	<p>Land use permissibility Refers to Land Use Permissibility Table (Table 1 at section 1.6).</p> <p>Residential density The R-AC 0 code applies to the district. All Residential Development within the Retail District shall be the subject of an approved Local Development Plan.</p>
Height and setbacks	<p>Building height Refer to Building Height Plan (Figure 2).</p> <p>Building setbacks Nil minimum to Marmion Promenade. 3m minimum to all other streets.</p>
Pedestrian access	<p>Primary off street pedestrian connections should be as nominated on the Structure Plan Map (Figure 1). In addition, footpaths (min 2.0m width) shall be provided along all facades within 20m of mall entrances.</p>
Vehicle parking and access	<p>Parking provision</p> <ul style="list-style-type: none"> The City may require a traffic impact assessment and parking strategy/report for any Development Application. <p>Sleeving of parking</p> <ul style="list-style-type: none"> At-grade and decked car parking areas will be sleeved with built form as required by the District Planning requirements for the Endeavour and Banks Districts. Where this does not occur, these parking areas are to be screened in another way, to ensure a visually attractive streetscape is maintained. <p>Vehicle access locations</p> <ul style="list-style-type: none"> Primary vehicle access points and crossovers are to be located as indicated on the Structure Plan Map. The location should be consistent with the development objectives of the district and suitability supported by traffic analysis to the satisfaction of the City.

<p>Landmark sites and community focal points</p>	<p>Marmion Promenade</p> <p>In addition to the development standards that apply to the Retail District, the following standards apply to Marmion Promenade:</p> <ul style="list-style-type: none"> • Marmion Promenade is to become the primary community focal point at the eastern end of the retail core. It will provide improved legibility and a direct north-south pedestrian connection through the eastern end of the centre. • The promenade is to extend between Banks Avenue and Whitford Avenue and have a minimum width of 6 metres from building facade to building facade. • Treatment should include generous footpath and landscape (shade trees and feature plantings). • A square or other appropriate space is to be provided at the entrance to the retail core. • A pedestrian connection from the square to the bus stop on Marmion Avenue is to be provided. • Marmion Promenade will not be provided as a Public Access Way or Right of Way. It will remain in private ownership. <p>Landmark site at corner Marmion Avenue and Whitfords Avenue</p> <p>In addition to the development standards that apply to the Retail District, the following standards apply to the landmark site at the corner of Whitfords Avenue and Marmion Promenade:</p> <ul style="list-style-type: none"> • The termination of Marmion Promenade should be clearly articulated using landscape treatments to signal approach to the centre from the vehicle environment of the road intersection. • The scale and detail of the landscape treatments should be appropriate to this environment whilst also signalling the change of character and grain anticipated within the centre. • Landscaping treatments could include plantings, sculpture or other hardworks. Any such works should be consistent with the design theme for the redevelopment of the Retail District. <p>Building on Marmion Promenade at the entry to the Retail Core</p> <p>In addition to the development standards that apply to the Retail District, the following standards apply to the building on Marmion Promenade at the entry of the retail core:</p> <ul style="list-style-type: none"> • The building fronting the proposed square on Marmion Promenade is a key element in enhancing the sense of place of the centre. It will be a distinctive beacon from Marmion Avenue as well as an improved pedestrian environment at the east end of the retail core. • The building must have a distinct architectural treatment visible from Marmion Avenue and Banks Avenue (aside from the need to treat facades differently on different orientations). • The building is to have active street frontages on to Marmion Promenade and be designed to accommodate diverse activities that contribute to vitality, viability and safety at all times of the day.
<p>Street and public realm interface</p>	<p>Refer Street Interface Plan</p>

1.15 BANKS DISTRICT PLANNING REQUIREMENTS

1.15.1 DISTRICT DESIRED CHARACTER

CHARACTER STATEMENT	The Banks District will be characterised by transition in both activity and built form. A range of uses including residential and offices will be encouraged. Banks Avenue will become more urban in character with buildings up to 3 storey fronting it. Adjacent development will potentially have shared access to rear parking areas. Care will be taken to retain the amenity of residential properties to the south.
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1.15.2 DISTRICT OBJECTIVES

DEVELOPMENT OBJECTIVES	<ul style="list-style-type: none"> • Create a functional mixed use transitional zone between the retail core and suburban residential development to the south. • Promote the delivery of mixed use development, but do not preclude single uses (i.e. either residential or commercial only) in the interim. • Encourage the rationalisation and sharing of crossovers between properties and developments. • Ensure parking areas for all new development is screened from street view. • Provide quality building presentation to the street and screen service areas associated with the Retail District.
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1.15.3 DEVELOPMENT STANDARDS

ATTRIBUTE /PRINCIPLE	STANDARD
Planning requirements	A Local Development Plan is required for any redevelopment of sites larger than 1500m ² or involving 3 or more lots proposed in the Banks District.

Land use and development intensity	<p>Land use permissibility Refers to Land Use Permissibility Table (Table 1 at section 1.6).</p> <p>Residential density The R80 code applies to the Banks District.</p>
Height and setbacks	<p>Building height Refer to Building Height Plan (Figure 2).</p> <p>Building setbacks Building setbacks apply as follows:</p> <ul style="list-style-type: none"> • 1.0m minimum from Banks Avenue street boundary. Upper storey balconies may be provided at nil setback. • 1.0m minimum from secondary streets. • A 6.0m minimum rear setback applies so as to avoid overlooking issues. Covered car parking can however be provided within the 6m rear setback area. • Nil minimum side setbacks apply subject to BCA requirements.
Vehicle parking and access	<p>Parking provision</p> <ul style="list-style-type: none"> • Any Local Development Plan prepared for development sites greater than 1500m² or involving more than 3 lots shall be supported by a Movement and Access Strategy prepared by a suitably qualified traffic consultant. <p>General parking location</p> <ul style="list-style-type: none"> • No vehicle parking is to be in front of buildings on Banks Avenue.

1.16 EDUCATION AND CIVIC DISTRICT PLANNING REQUIREMENTS

1.16.1 DISTRICT DESIRED CHARACTER

CHARACTER STATEMENT	The Education and Civic District will generally be characterised by campus style buildings set in landscape. The existing St Marks School is an important community facility that would benefit from associated compatible activities. There is potential for additional community facilities to be located or co-located in this district, to provide diversity of activity in proximity to Endeavour Road.
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1.16.2 DISTRICT OBJECTIVES

DEVELOPMENT OBJECTIVES	<ul style="list-style-type: none"> • Provide for the continuation and enhancement of existing education and civic uses within the Education and Civic District. • Provide for an improved street treatment and interface which recognises the changing role and function of Endeavour Road as a Main Street mixed use environment. • Respect the adjoining residential land use in the form and placement of future development. • Facilitate improved vehicular access and movement through an additional access point from Whitfords Avenue and provision for effective drop off and pick up arrangements. • Facilitate vehicular and pedestrian access to St Marks school from Endeavour Road.
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1.16.3 DEVELOPMENT STANDARDS

ATTRIBUTE /PRINCIPLE	STANDARD
Planning requirements	Major redevelopment of St Mark's School (i.e. redevelopment that would facilitate an increase in the school population of 20% or more) will be the subject of an approved Local Development Plan.
Land use and development intensity	<p>Land use permissibility Refers to Land Use Permissibility Table (Table 1 at section 1.6).</p> <p>Residential density The R80 code applies to the Education and Civic district.</p>

Height and setbacks	<p>Building height Refer to Building Height Plan (Figure 2).</p> <p>Building setbacks Building setbacks are to be as follows:</p> <ul style="list-style-type: none"> • 1.0m minimum from Endeavour Road. • Nil side and rear setbacks permissible subject to BCA requirements. • Building setbacks for development on Lot 181 (20) St Marks Drive are to be in accordance with the Scheme or an approved Local Development Plan.
Pedestrian access	<p>A well-defined pedestrian accessway aligned with the preferred Banks Avenue extension to the school from Endeavour Road shall be provided to facilitate safe and convenient pedestrian access to and from St Marks School.</p>
Vehicle parking and access	<p>Vehicle access locations</p> <ul style="list-style-type: none"> • An additional left in/ left out access point to Whitfords Avenue, generally in the location of the north-east corner of the St Marks, is to be provided. • Existing crossovers to Endeavour Road should be rationalised, with a preference for the existing accessway at Banks Avenue/Endeavour Road junction becoming a formal four-way intersection and roadway connecting the school site to Endeavour Road. The use of existing accessways from Endeavour Road is satisfactory in the interim, until such time as the sites with frontage to Endeavour Road are redeveloped.
Street and public realm interface	<p>Refer Street Interface Plan.</p>



Part 2 Non-Statutory (Explanatory) Section

Part 2 Non-Statutory (Explanatory) Section

2.1 INTRODUCTION AND PURPOSE

This non-statutory (explanatory) section constitutes Part 2 of the proposed Structure Plan for the Whitford Activity Centre. The WACSP has been prepared for the centre to fulfil requirements of SPP 4.2 and the Scheme. The Structure Plan provides a framework for future Local Development Plans and development applications.

The Structure Plan will be used by the WAPC, the Department of Planning, City of Joondalup, State Government agencies, landowners and the local community to inform further detailed planning and provide certainty about future development in Whitford Activity Centre.

The Structure Plan comprises a Part 1 Statutory Planning Section and a Part 2 Non-Statutory (Explanatory) Section and technical appendices.

2.1.1 PART 1 STATUTORY PLANNING SECTION

Part 1 Statutory Planning Section sets out the provisions that apply to the structure plan area as well as specific provisions for the 4 districts created within the centre.

2.1.2 PART 2 NON-STATUTORY (EXPLANATORY) SECTION

Part 2 Non-Statutory (Explanatory) Section provides supporting information and explanation as background to the Part 1 provisions. The content and format of Part 2 responds to the requirements of the Structure Plan Preparation Guidelines (WAPC August 2012); the Model Centre Framework and SPP 4.2. General site and context conditions are described followed by the opportunities, challenges, vision and intent of the Structure Plan and then chapters detailing Model Centre Framework considerations: Centre context, Movement, Activity (land use), Urban form and Resource conservation. These chapters describe the existing and proposed situation at the centre on a 'compare and contrast' basis, looking primarily at the centre as a whole and then district by district as applicable.

2.2 LAND DESCRIPTION

2.2.1 LOCATION

Whitford Activity Centre is located within the City of Joondalup in the North-West Sub-Region of metropolitan Perth, approximately 20km north-west of Perth CBD, 7km south of Joondalup CBD and 3.5km west of Whitfords Train Station. The centre is sited west of Marmion Avenue and south of Whitford Avenue, on the dune ridge, two kilometres inland from the Indian Ocean and is afforded views to the coast.



Figure 1. Regional Context

2.2.2 BOUNDARY AND AREA

Proposed Boundary

A boundary for the Whitford Activity Centre is proposed in accordance with principles set out in section 6.3.1 of the SPP 4.2

The purpose of the boundary is to:

- Identify the extent of applicability of the structure plan and policy.
- Estimate the growth potential and land use mix of the centre.
- Manage the interface between scaled development and adjacent land.

The proposed boundary, indicated in Figure 2, includes Westfield Whitford City shopping centre, bulky goods retailers along Endeavour Road, and community facilities adjacent to Marmion Avenue within its extent. The northern and eastern

boundaries are defined respectively by Whitfords Avenue (Primary distributor road) and Marmion Avenue (District distributor road A). These roads form natural boundaries to the centre due to their function in the road hierarchy. St Mark's Anglican Community School and community facilities along Endeavour Road have been included to the western end of the centre as they serve as key activity drivers within the Whitford Activity Centre and broader community. In addition, residential and mixed-use properties (to their rear boundaries) along the south side of Banks Avenue have also been included to enable Banks Avenue to become an integrated part of the centre; and to provide an enhanced transition to adjacent residential development to the south.

The area covered by the Structure Plan is 42.82ha as indicated in Figure 2.

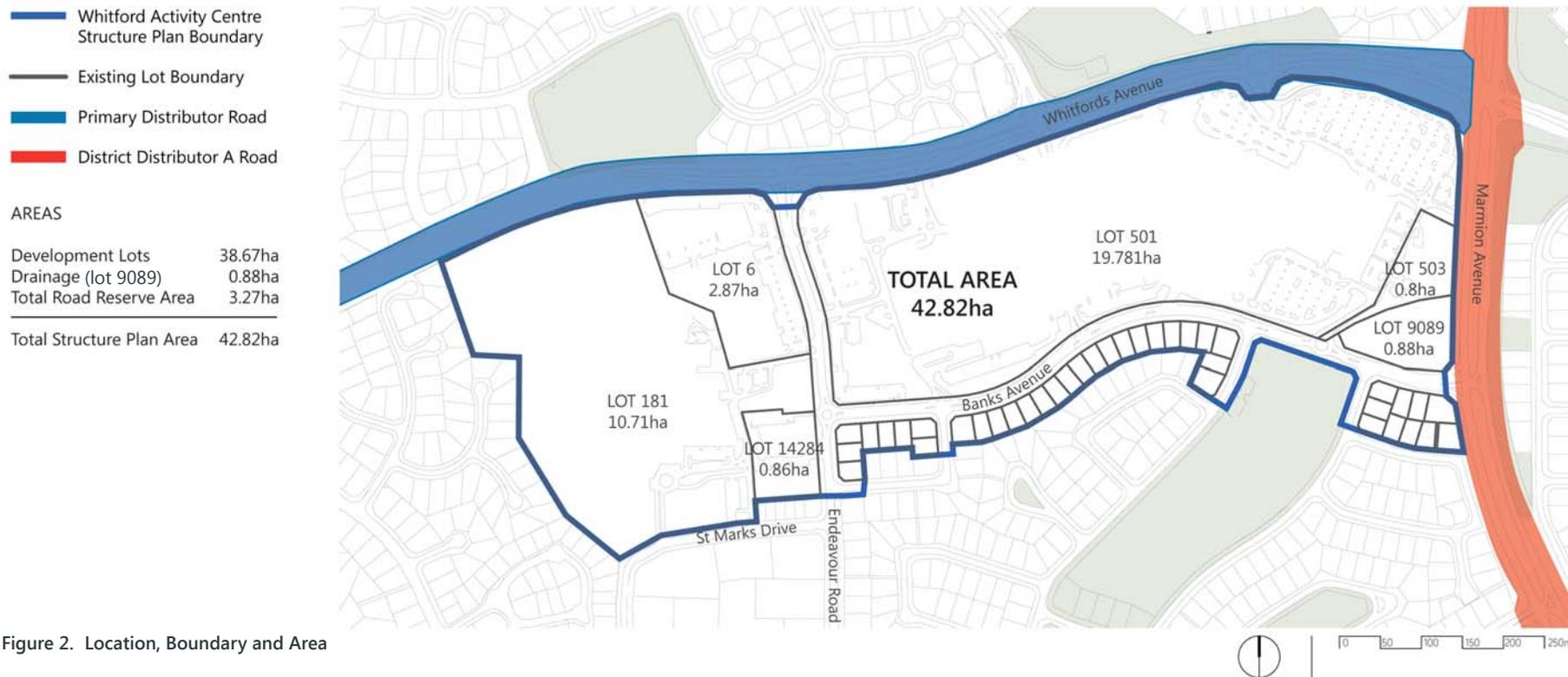


Figure 2. Location, Boundary and Area

2.2.3 EXISTING LAND USE

Current land use within the proposed boundary is predominantly represented by a large retail core; Westfield Whitford City, which has developed in stages over the last 30+ years, to include two supermarkets, two discount department stores and a wide range of smaller specialty retail outlets totalling some 50,000m² of retail floor space within a total commercial floor space of 79,000m² including offices, entertainment and bulky goods.

The eastern part of the site has a community facility and open space (for drainage purposes) located on the Marmion Avenue frontage, and owned and operated by the City of Joondalup. The western part of the site includes St Mark's Anglican Community School, bulky goods commercial (Bunnings etc.) and a range of child care and government facilities. Residential and some commercial uses such as professional and medical uses are located to the south of the retail core along Banks Avenue.

The surrounding area is less intensively developed than the centre and characterised by low density residential, education and open space recreational uses, within the centre's 800 metre (10 min) walkable catchment.

Figure 3 indicates existing land uses within the centre.

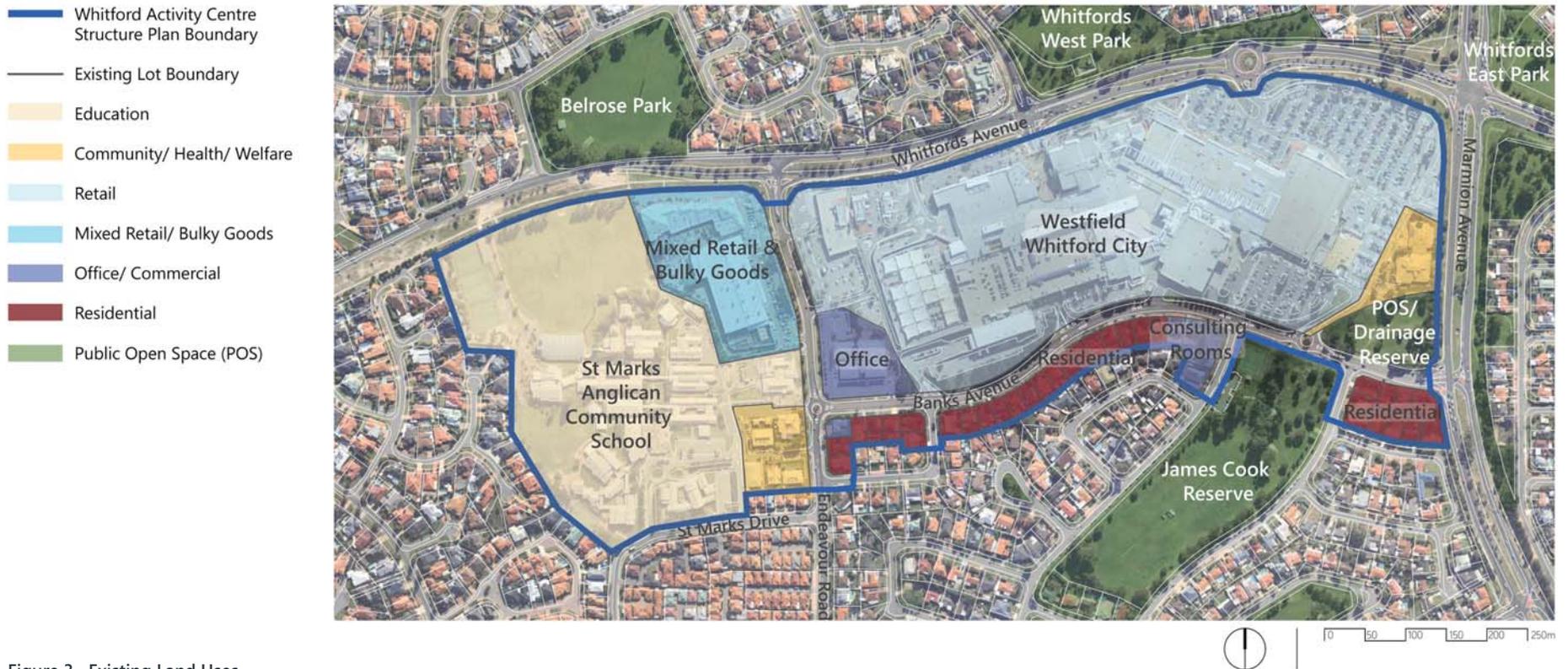


Figure 3. Existing Land Uses

2.2.4 LEGAL DESCRIPTION AND OWNERSHIP

Figure 4 indicates existing ownership within Whitford Activity Centre. The large single ownership of the retail core as well as the bulky goods site presents opportunities for integrated built form and development, whilst fragmented residential ownership along Banks Avenue presents constraints to increased residential intensity.

Refer to Appendix A for further details of legal description and ownership.

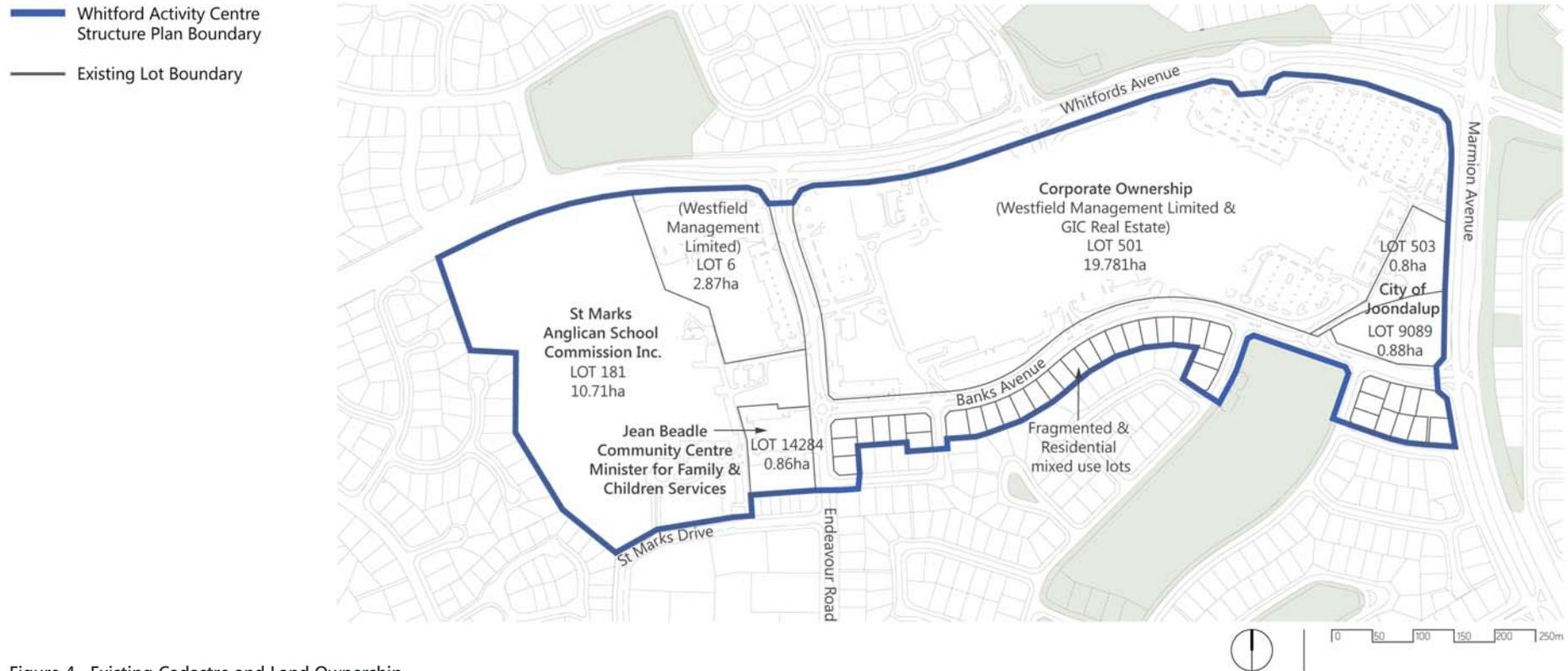


Figure 4. Existing Cadastre and Land Ownership

2.3 PLANNING FRAMEWORK

2.3.1 ZONING AND RESERVATIONS

Metropolitan Region Scheme

Whitford Activity Centre is zoned 'Urban' under the Metropolitan Region Scheme (MRS). Marmion Avenue is identified as a 'Primary Regional Road' reserve and Whitfords Avenue is an 'Other Regional Road' reserve. Urban zoned land under the MRS provides for a range of urban based activities including residential, commercial, recreational and light industry. The current MRS zoning allows for the land use and development contemplated by the WACSP.

City of Joondalup District Planning Scheme No.2

Figure 6 indicates the current zoning of land within the Whitford Activity Centre under the Scheme – which was recently amended to rezone lots within the activity centre boundary to 'Centre'. This zone essentially requires a Structure Plan to be in place prior to major development and subdivision, hence the production of the WACSP.

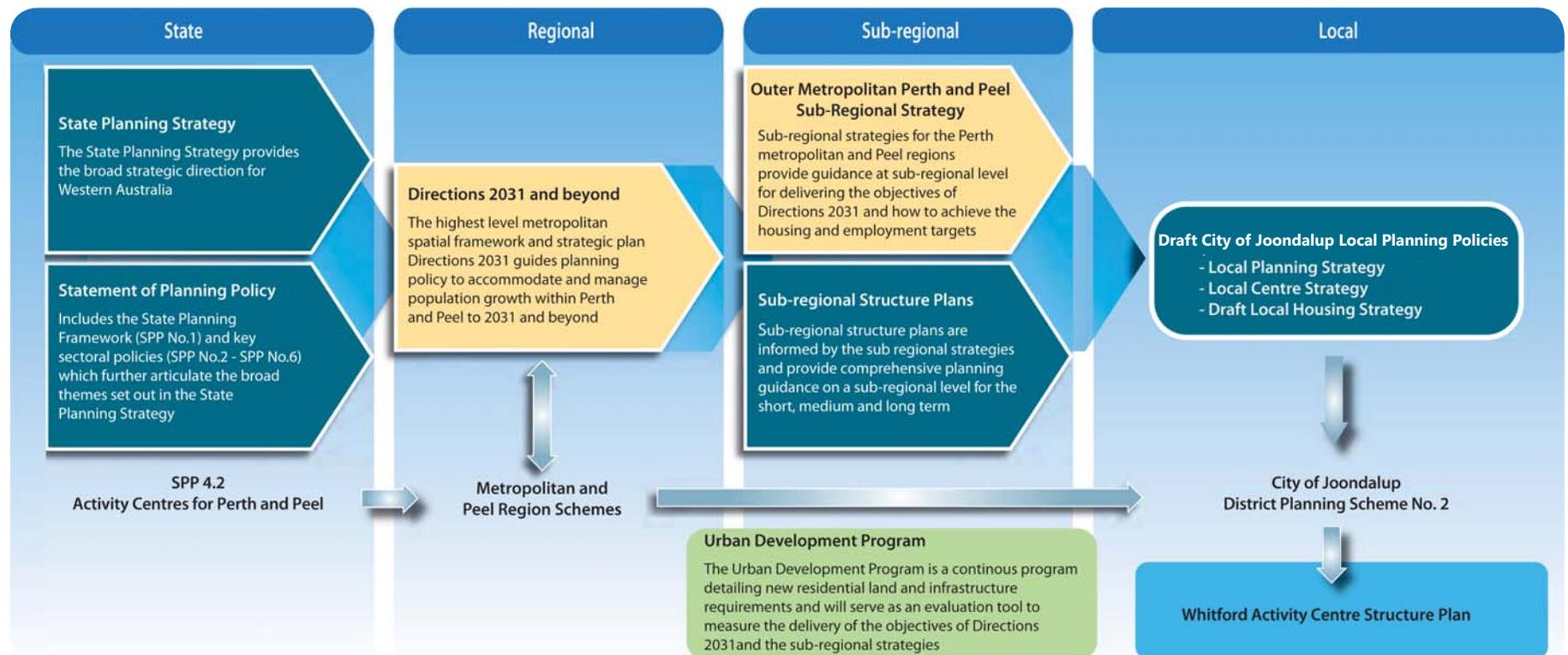


Figure 5. Planning context Source: Directions 2031 and Beyond August 2010

2.3.3 PLANNING STRATEGIES

Directions 2031 and Beyond (WAPC)

Directions 2031 and Beyond was released by the WAPC in August 2010 to establish a vision for growth of the Perth and Peel regions. It is a high level strategic plan that guides detailed planning and delivery of housing, infrastructure and services to accommodate forecast population growth. A network of activity centres are proposed as community nodal points for people, services, employment and leisure, with larger centres providing a diverse range of retail, commercial, housing, entertainment, community, education and medical services.

Whitford Activity Centre is located in the North-West Sub-Region, where population is estimated by Directions 2031 to grow from 285,000 to 395,000 in 2031, requiring an extra 65,000 dwellings. This population estimate may be conservative according to more recent data. Having reviewed this data the Whitford Activity Centre assumes a forecast population growth for the North-West Sub-Region to 499,924 by 2031.

Directions 2031 notes a relatively weak local employment base in the North-West Sub-Region and seeks an increase in employment self-sufficiency from 41% to 60%, requiring 72,000 additional jobs located in the sub region.

A more balanced distribution of infill and greenfield housing is promoted with a target of 47% of new dwellings provided as part of infill development.

Strategies for the transport network are identified including connecting the community with employment and services, improving public transport to encourage a shift to more sustainable transport options, maximising efficiency of road infrastructure, protecting the movement economy and managing car parking. Directions 2031 also seeks to manage impacts of the growth of Perth and Peel on the natural environment. Public transport strategies from Directions 2031 were further refined in the draft Public Transport for Perth 2031 document.

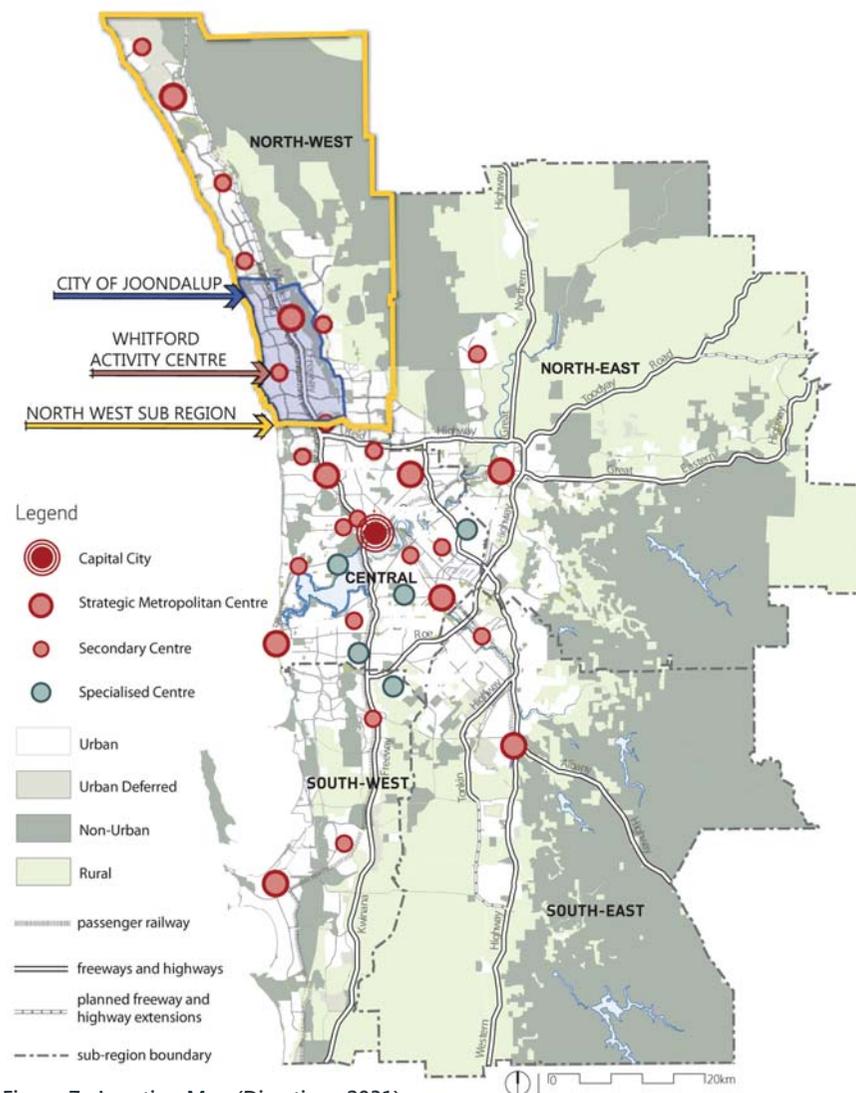


Figure 7. Location Map (Directions 2031)

Local Planning Strategy (City of Joondalup)

City of Joondalup's Local Planning Strategy identifies a planning direction for the next 20 years and the need to be consistent with Directions 2031 and SPP 4.2. It encourages redevelopment of commercial centres to include diverse activity and land uses "to retain a competitive edge and to become lively, attractive places." It also encourages "improvements to streetscapes, public safety, access, public transport and the pedestrian/cyclists network in and around centres."

Draft Local Commercial Strategy (City of Joondalup)

Centre development in the City of Joondalup is currently guided by the Local Centres Strategy which was produced in 2000 under the previous 1999 Metropolitan Centre Policy (WAPC Statement of Planning Policy). This state policy has subsequently been superseded by the SPP 4.2 (refer below), and consequently the City has produced a draft Local Commercial Strategy (released for public comment in late 2012).

The draft Local Commercial Strategy intends to provide for the equitable and orderly distribution of retail floorspace for community and commercial benefit, as well as maximising opportunities to expand other land use types in appropriate locations.

The draft strategy acknowledges that the Whitford Activity Centre is currently fulfilling its role as a Secondary Centre, with the exception of not having a Department Store. Additional office development is suggested as a potential way of better aligning the centre with SPP 4.2, however, the strategy outlines that land use intensity at 3,000m²/ha is presently quite high in contrast to other centres in the municipality, which may pose challenges and particularly for car parking. Better provision of public transport is considered critical for the future of the Whitford Activity Centre.

Draft Local Housing Strategy (City of Joondalup)

City of Joondalup's draft Local Housing Strategy provides rationale for determining future housing needs and measures for providing a range of housing types and densities. Consistent with Directions 2031, it identifies the need for more housing in established areas, in particular in and around activity centres. Most of Whitford Activity Centre, east of Endeavour Road, is located in Housing Opportunity Area 5 – Whitford Centre to Whitfords Station (Refer to Figure 8).

Higher housing densities around Whitford Activity Centre are recommended as follows: "This area presents excellent opportunities for more compact living and greater housing choices focused around Whitford Regional Centre and the important public transport services on Whitfords Avenue." The strategy notes Marmion and Whitfords Avenues provide excellent private and public transport access to facilities in the area and beyond, including easy connection to Whitfords train station via high frequency services.

Specifically, the Draft Strategy proposed the introduction of a 'Mixed Use' zone for land on the south side of Banks Avenue.

Public Transport for Perth 2031

In July 2011 the State Government released a public transport blueprint for the Perth Metropolitan Region, titled Public Transport for Perth 2031. This plan identifies the public transport network required to support Perth's growing population and links to and between strategic centres.

As part of the plan, a Bus Rapid Transit (BRT) link is proposed to run from Joondalup to Claremont via Whitford City, Hillarys, Karrinyup, Scarborough and Shenton Park. In the plan, the link would not be built until after 2031. BRT is to operate in dedicated priority zones within existing streets, although there could be short sections where operation in a mixed use traffic environment is permitted.

The proposed intensification of the Whitford Activity Centre is in accordance with the key principles contained within the document as part of integrating public transport with land use planning. The document states that development should be concentrated in centres with major public nodes and high frequency services.

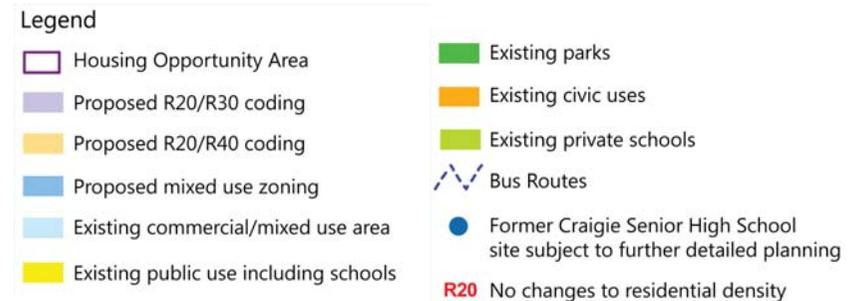
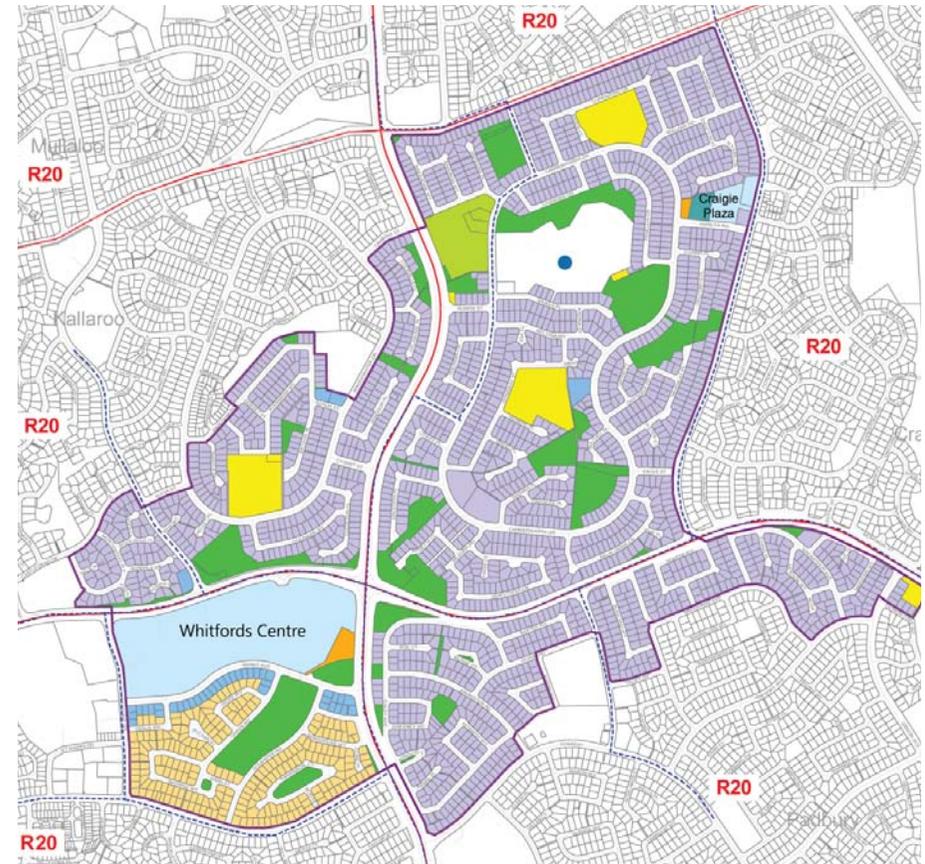


Figure 8. Draft Local Housing Strategy, Housing Opportunities Area 5

2.3.4 POLICIES

State Planning Policy 4.2 – Activity Centres for Perth and Peel (WAPC)

SPP 4.2 sets out planning and development requirements for new and existing activity centres in Perth and Peel and supersedes the WAPC's Metropolitan Centres Policy.

The policy defines activity centres as:

'Activity centres are communal focal points. They include activities such as commercial, retail, higher density housing, entertainment, tourism, civic/community, higher education and medical services. Activity centres vary in size and diversity and are designed to be well serviced by public transport.'

Activity centres are identified as priority locations for employment generating activities of various types, which should contribute to achieving employment self-sufficiency targets outlined in Directions 2031 for the sub-regions.

The policy defines a hierarchy of centres with the objectives to:

- Distribute activity centres to meet different levels of community need and enable employment, goods and services to be accessed efficiently and equitably by the community.
- Apply the activity centre hierarchy as part of a long term and integrated approach by public authorities and private stakeholders to the development of economic and social infrastructure.

The policy notes secondary centres, such as Whitford, 'share similar characteristics with strategic metropolitan centres but serve smaller catchments and offer a more limited range of services, facilities and employment opportunities. They perform an important role in the city's economy and provide essential services to their catchments.' Typical retail provision in secondary centres includes department stores, discount department stores, supermarkets and speciality shops. Secondary centres also include major offices, professional and service businesses and provide for an indicative service or trade area of up to 150,000 people. Activity diversity in secondary centres is measured by the percentage of floor space other than retail (or 'mix of land uses') which should cater for a minimum of 40% where retail floorspace is above 50,000m².

The policy sets housing targets, but notes that achieving these "will be influenced by the location of the activity centre and market demand for higher-density housing in the relevant area." Residential intensity for secondary centres is considered for the area within a 400 metre walkable catchment of the transport focus with a minimum density of 25 dwellings per gross hectare and a desirable gross density of 35 dwellings per gross hectare.



Figure 9. Source Public Transport for Perth 2031 Ultimate Network Plan

The policy prioritises walking, cycling and in particular public transport over private car access, referencing the WAPC's Development Control Policy 1.6 Planning to Support Transit Use and Transit Oriented Development. Secondary centres such as Whitford provide an important focus for a high frequency bus service.

Residential Design Codes (WAPC)

The Residential Design Codes are the key design and assessment tool for residential development in Western Australia. The codes generally set out requirement for setbacks, density, access arrangements and address issues such as privacy.

The R-AC Codes were created as a result of a review of the R-Codes in 2010 to recognise the exceptional potential for delivering well located high and medium density residential development in activity centres. The R-AC provisions were devised to create housing supply in mixed use environments where residential uses may not be the dominant land use type and therefore require specialised design control.

The proposed WACSP allocates R-AC 0 and R80 codings to the various districts within the Structure Plan area.

The R-AC 0 code in particular defers control of plot ratio, height, open space, setbacks and wall heights to development requirements in adopted Structure Plans and Local Development Plans. Consequently the primary design control elements for residential development allocated with the R-AC 0 coding are contained within Part 1 of the WACSP.

Further to these standards outlined in Part 1, where appropriate development shall also be guided by Local Development Plan(s).

2.3.5 OTHER APPROVALS AND DECISIONS

To lay the foundations for the implementation of the WACSP, a number of planning framework changes have had to occur and future steps will also be required to provide more detail for some districts within the structure plan area.

Consistent with the principles SPP 4.2, amendments to the planning framework have been made to provide a system that gives the WACSP sufficient control and scope to guide the development of the Whitford Activity Centre.

These changes and future stages primarily comprise of:

- Scheme Amendment No. 66 – in line with SPP 4.2, this amendment removed the arbitrary retail floorspace caps as applied to centres within the municipality, and inserted requirements for Activity Centre Structure Plans to be in place prior to major developments being approved.
- Rezoning of land within WACSP boundary to 'Centre' – this was required to provide for a more seamless transfer of land use and development control provisions to the WACSP.
- Local Development Plans – these plans are required for a number of districts where development parameters require further investigation and consultation, particularly in relation to the Endeavour Road District which will require detailed site-specific guidance.

These components were and are essential to providing a robust planning framework for the development of the Whitford Activity Centre.

Amendment No. 66 to City of Joondalup District Planning Scheme No.2

The City of Joondalup was delivered a direction from the Minister for Planning in July 2012 to initiate an amendment to its Scheme under s76 of the Planning and Development Act 2005. The scope of the amendment generally involved an alignment of the City's approach to activity centre development in its Scheme to that of SPP 4.2.

In summary, the amendment involved the following changes:

- The removal of retail floor space 'caps' in Schedule 3 of the Scheme, and the references to those caps within the Scheme text. This reflects the principles of SPP 4.2 which provide for a more form-based and locally responsive solution over rigid floorspace guidance.
- The insertion of a requirement for an Activity Centre Structure Plan should be in place prior to major developments being undertaken in major activity centres in the City, including Whitford.
- Allowing landowners as well as the City to prepare and submit Activity Centre Structure Plans (whereas previously the City was required to 'request' such plans be prepared).
- Inserting provisions for Local Development Plans in the Scheme.

The above changes were essential in providing a flexible framework for the WACSP, with retail floor space levels now subject to Retail Sustainability Assessments and/or Retail Needs Assessments as required under SPP 4.2. Whilst the Scheme was amended to allow landowners to prepare structure plans, the City of Joondalup did request Westfield Management Ltd to prepare an activity centre structure plan for the Whitford Activity Centre in September 2012.

Whitford Activity Centre Rezoning to Centre

All lots within the WACSP boundary are zoned 'Centre', replacing a number of zones including Commercial, Residential, Business, Civic and Cultural and Private Clubs and Recreation.

Placing the land within the WACSP boundary into a single zone enables an easier transfer of development control provisions to the WACSP, resulting in a more effective and implementable document. The Centre zone under the Scheme generally defers development and land use control to applicable structure plans – giving the WACSP clear statutory effect and positions it as the primary reference document for development within this centre. This is in contrast to the previous various zones which contained different sets of objectives and were subject to differing land use and development control provisions.

This rezoning, which was originally initiated by the City of Joondalup at its October 2012 Ordinary Council Meeting, provides the statutory basis for the WACSP and therefore was an essential part of the planning process for the centre.

The rezoning also clearly defined, in a statutory sense, the extent of the WACSP in the Scheme, with agreement from Westfield and the City. The boundary incorporates the Westfield Whitford City site as well as a number of uses west of Endeavour Road, including St Marks Anglican Community School and some residential properties along Banks Avenue. The extent of the Centre zoning allows for the community, developers and the City to understand where the key activity and development will take place in the wider Whitford Activity Centre.

Local Development Plans

A key component of the Scheme Amendment No. 66 was the incorporation of the Local Development Plan provisions. This provided the basis for particular districts within structure plans to defer more detailed development control parameters to Local Development Plans. This enables the development of another layer of control, where appropriate, for locations of strategic importance or sensitivity. This provision is particularly important for the Endeavour Road district within the WACSP, with the evolution of this road into a high amenity main street environment requiring careful planning and a detailed design framework.

Local Development Plans can be prepared by the City or a land owner and can outline details such as:

- Building envelopes.
- Distribution of land uses within a lot.
- Private open space.
- Services.
- Advertising signs, lighting and fencing.
- Vehicular access, parking, loading and unloading areas, storage yards and rubbish collection closures.
- The location, orientation and design of buildings and the space between buildings.
- Landscaping, finished site levels and drainage.
- Protection sites of heritage, conservation or environmental significance.
- Special development controls and guideline.
- Such other information considered relevant by the local government.

Local Development Plans require a public notification process, as outlined in the Scheme. Once approved, the plans constitute a variation of the structure plan, and therefore any Local Development Plans in place have the same statutory effect as the WACSP.

2.4 SITE CONDITIONS

The following section outlines the existing physical site conditions which have been taken into account during the preparation of the WACSP.

2.4.1 BIODIVERSITY AND NATURAL AREA ASSETS

The Structure Plan area is a 'brownfields' site. The whole area has been fully developed for some time and has no natural assets.

2.4.2 LANDFORM, SOILS AND MICROCLIMATE

Landform

There is a significant level difference from the high point at the Marmion-Whitfords Avenue intersection generally grading down to Endeavour Road. Ocean views are available from elevated west facing areas of Whitford Activity Centre, including from the retail core. Ocean vistas from the road network become more prominent west of Whitford Activity Centre.

Soils

Whitford Activity Centre is located on the western edge of the Spearwood dune system and there is significant limestone close to the surface, visible on the north side of the road cutting of Whitfords Avenue. This limestone has significant engineering and cost implications for construction of underground car parking or similar excavation. Geotechnical reports will be required prior to design of substantial buildings. In addition, tree growth is restricted due to lack of soil depth and alkaline conditions. Ideally tree root zones should be designed with consideration to utilities, civil and paving and include excavation of limestone replacement with improved soil, using best practices for improved tree growth and avoidance of impacts on paving.

Microclimate

Perth is influenced by a Mediterranean climate regime, experiencing hot, dry summers and mild, wet winters. Whitford Activity Centre is in an elevated, near coastal location and receives reliable sea breezes in summer making external activity typically more pleasant in summer than for the eastern suburbs, these breezes are often quite strong. The coastal proximity and elevation of the centre also increases exposure to high wind events often combined with rain associated with winter frontal systems. Wind is a significant factor in design of the built environment at Whitford Activity Centre.

Figure 10 indicates landform and microclimate in the structure plan area.

2.4.3 ENVIRONMENTAL CONSTRAINTS AND SITE CONTAMINATION

There is an existing fuel service station located on the corner of Whitfords Avenue and Endeavour Road. This site will need to be remediated in accordance with DEC requirements prior to redevelopment. There is also a former service station site that was located in the approximate location of the existing Woolworths loading bay, that has now been redeveloped. This site has previously been the subject of a Preliminary and Detailed Site Investigation and is in the process of being remediated.

2.4.4 HERITAGE

A desktop survey of the Heritage Council of Western Australia Online database has been undertaken in respect to European heritage sites. No European heritage sites are recorded on the data base over, or immediately surrounding, the subject land.

A desktop survey of the Department of Indigenous Affairs Aboriginal Heritage Enquiry System has been undertaken in respect to Aboriginal heritage sites. No Aboriginal heritage sites are recorded on the data base over the subject site.

-  Whitford Activity Centre Structure Plan Boundary
-  Existing Lot Boundary
-  1m Contours
-  Steeper Slopes
-  Views & Vistas
-  Coastal Breezes
-  Northern Aspect

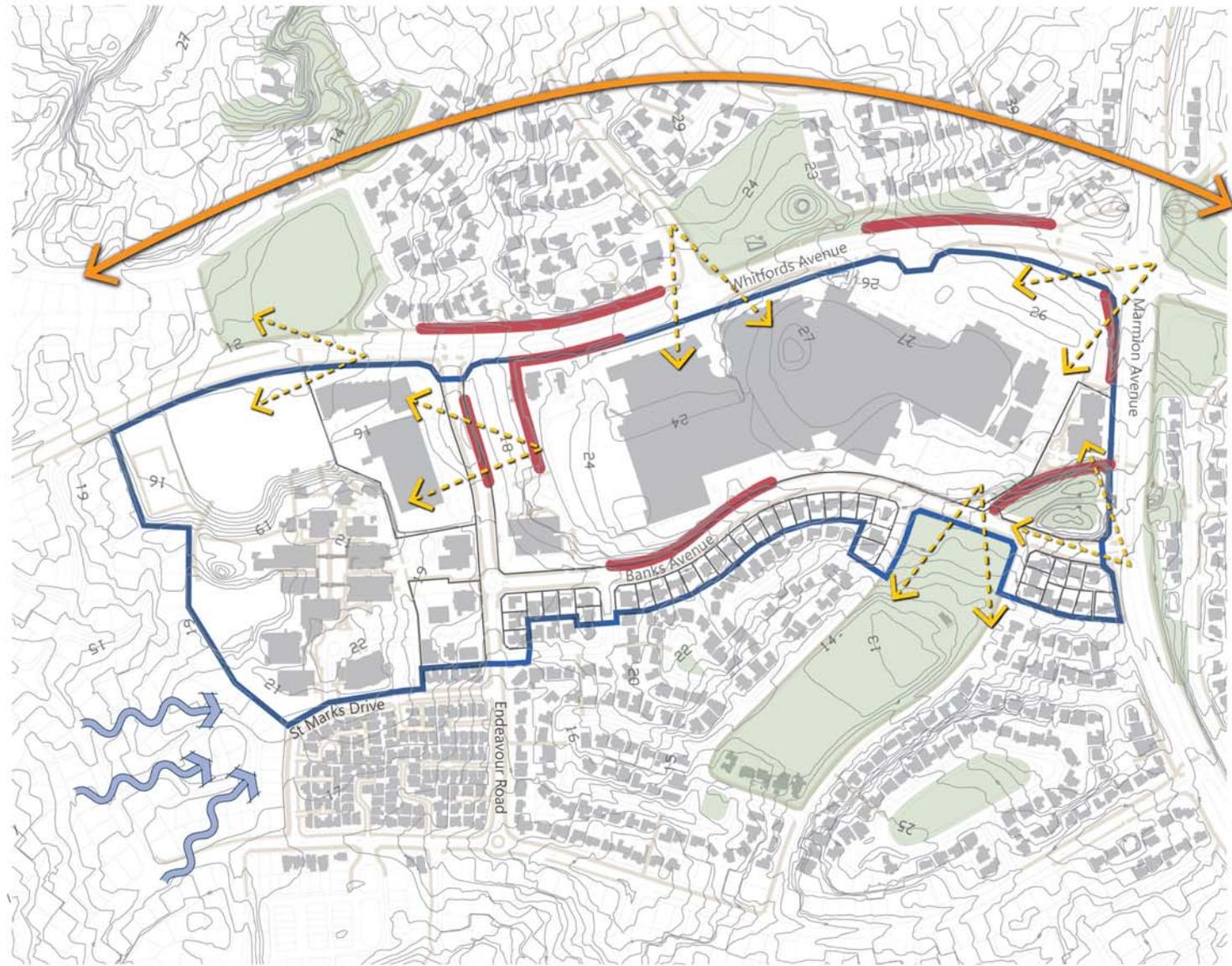


Figure 10. Landform and Microclimate

2.5 MODEL CENTRE FRAMEWORK CONSIDERATIONS

2.5.1 URBAN FORM

Directions 2031

"A liveable city: Living in or visiting our city should be a safe, comfortable and enjoyable experience."

Urban Structure and Character

The urban structure of Whitford Activity Centre is typified by 1970's suburban development with a circuitous impermeable street network and a series of larger land holdings dedicated to commercial and education purposes. The transition in character between detached predominantly single storey housing and large horizontal format retail and commercial buildings is abrupt, giving the centre a lack of cohesive structure and character. To improve the urban structure of Whitford Activity Centre, improved connectivity and spatial relationships between physical elements are proposed.

The predominant character areas within and around Whitford Activity Centre are indicated on Figure 11 and are:

- 'Big box' retail - internal retail mall infrastructure surrounded by car parking, generally inactive edges and hard vehicle surfaces.
- Low density residential - 1970-90's single storey detached dwellings set in the dunal topography and with a landscape character of a blend of indigenous and exotic species, with several stands of significant Tuarts.
- Low scale campus buildings - including St Mark's Anglican Community School, various low scale community buildings and strata dwellings.

These character areas have a sense of place and amenity appropriate to a separated and suburban setting. A new defining character that is more urban and integrated and provides for a greater level of activity within the centre, is proposed to meet the objectives of SPP 4.2.

Four districts are proposed that have differing predominant land uses and character, as described in the Structure Plan section 2.6.2 and indicated in Figure 12.



Existing Character

Proposed Character

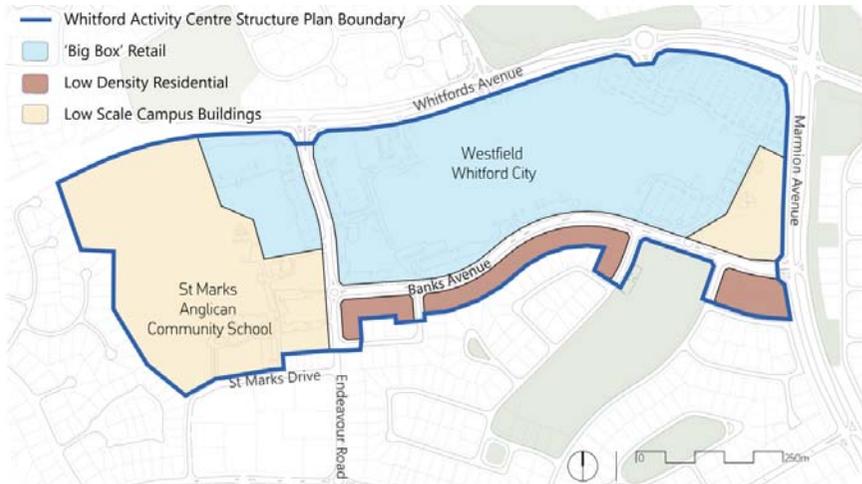


Figure 11. Existing character areas

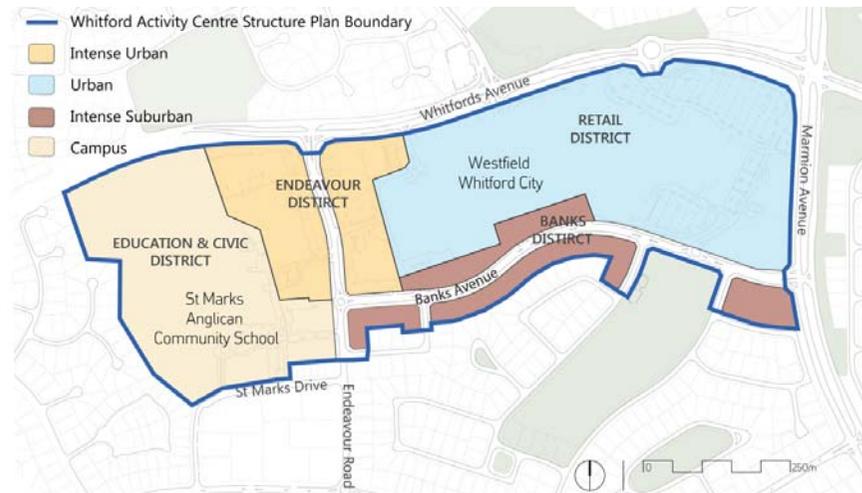


Figure 12. Proposed character areas or districts

Public Space Landscape

Provision and Character

Whitford Activity Centre has an abundance of public open space immediately surrounding it. However there is an absence of urban spaces (ie squares, piazzas). Surrounding open spaces provide passive and active recreation, with formal sporting fields in James Cook Park and St Mark's Anglican Community School (private). Some open spaces also have a stormwater function. There are landscaped spaces at the intersection of Marmion and Whitfords Avenues which provide a sense of arrival and a green edge to the centre, however, they are inactive and uninviting. The shopping centre provides a plaza at the intersection of Dampier Avenue and Whitfords Avenue, however, this is at an upper level and disconnected from the street.

Microclimate in public spaces

Existing public spaces in the centre provide limited microclimate improvement. Street tree planting is limited to the median of Banks Avenue, and the median and some verges of Whitfords Avenue. With the exception of some trees on Whitfords Avenue, street tree planting is not particularly successful, most probably due to wind and limestone soil. As the centre becomes more urban, it will have a larger proportion of hard surfaces increasing the heat island effect. Measures will need to be taken to ameliorate this effect through increased shade tree planting and soft landscape in public places.

Landscape

The City of Joondalup Landscape Master Plan provides guidance for the landscape of public spaces.

Landscape in the centre will be designed for functional and cultural requirements of outdoor spaces in an urban context and consideration will be given to activity and circulation; shade and wind protection and safety and security (CPTED principles). Best practice for installation and maintenance will be applied to all landscapes to be attractive and safe, fit for purpose and adaptable. Materials, furniture and fixtures will be selected for life cycle efficiency. They will have a consistent palette and reusable/recyclable content.

Planting in public spaces will use consistent themes, be selected for local soil and microclimate conditions (including limestone and wind) and be south west Australian species, where suitable. Tree rooting zones designed concurrently with paving, roads and infrastructure will be used for trees in street and plaza areas.



Existing Public Space

Proposed Public Space

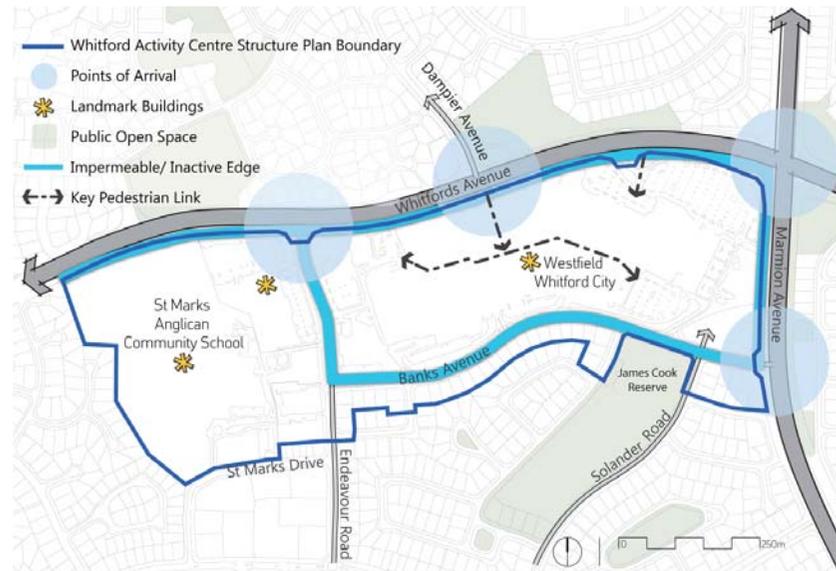


Figure 13. Existing Legibility

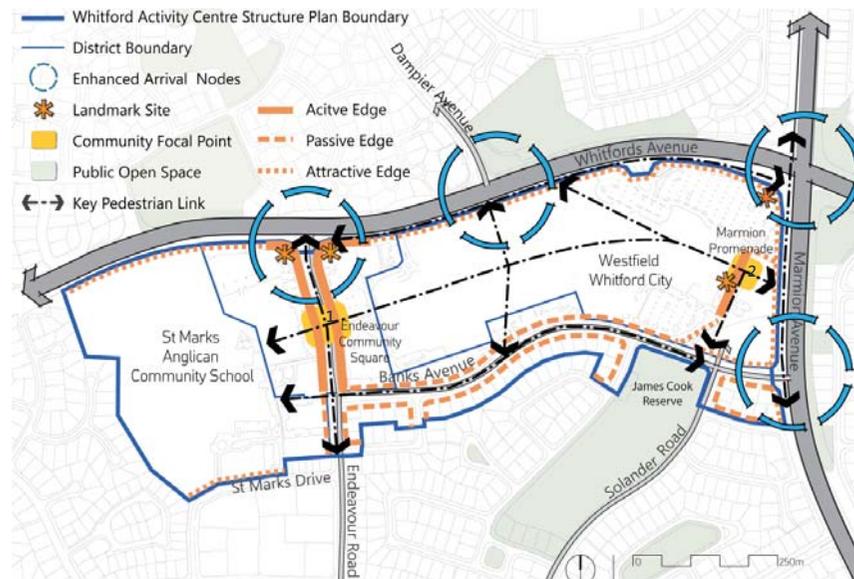


Figure 14. Proposed Legibility

Legibility and Sense of Place

Legibility at Whitford Activity Centre is generally poor due to a lack of logical connections in the street network and little defining and cohesive character in the urban form. The prominence of the shopping centre provides the primary reference point for visitors although the disconnection between internal and external pedestrian movement at the shopping centre limits legibility.

The sense of arrival is typical of a suburban shopping centre with a clear transition between surrounding roads, car parks and building entries. The existing road hierarchy provides orientation cues to the shopping centre at a vehicle scale and there are various pylon signs along Whitfords and Marmion Avenues to direct visitors.

There is currently no public space or street intersection that clearly signals arrival at the 'centre of town'. However, there are some existing features that provide a sense of place for the centre. These are:

- Westfield Whitford City.
- James Cook Reserve to the south of the centre.
- Bunnings Warehouse.
- St Mark's Anglican Community School.

The sense of place at Whitford is also influenced by the ocean views available from elevated west facing areas, including the shopping centre along with the ocean vistas from the road network west of the centre, contributing to the sense of place. Views and vistas into the centre are available from Dampier Avenue and Whitfords Avenue, however, views from Marmion Avenue are obscured by landscape and the community centre.

Figure 13 and Figure 14 depict existing and proposed legibility.

Landmark Locations

Landmark sites and community focal points are proposed to enhance the legibility and community focus at the centre. The proposed community focal points are:

- Endeavour Community Square.
- Marmion Promenade (on private land).

The proposed landmark sites are:

- Buildings at the intersection of Whitford Avenue and Endeavour Road which will signify arrival at the 'main street' of the centre.
- The retail building fronting Marmion Promenade which enhances the address of the centre from Marmion Avenue.
- Landscape elements at the intersection of Marmion Avenue and Whitfords Avenue which signify approach to the centre at a vehicle scale.

Development standards that apply to these community focal points and landmark sites are included in Part 1 Statutory Planning Section.

1. Endeavour Community Square

Endeavour Community Square on Endeavour Road will become the primary community focal point in the core area at Whitford Activity Centre. It will be alive at all times of the day and into the evening and weekend. The square will be surrounded by buildings with a diverse range of activities including street based retail, community facilities, restaurants, bars and cafes, workplaces and high density residential. It will be framed by 3 storey buildings with continuous active frontage and colonnades or awnings at ground level. The square will have direct pedestrian connections into the shopping centre and the education campus area. There will be alfresco dining and community gathering areas, with access to morning sun in winter and shade by trees and pergolas in summer.

2. Marmion Promenade

The promenade will be lit in the evening and with improved views in from Marmion Avenue, will provide a beacon for the eastern edge and an enhanced sense of arrival of Whitford Activity Centre. It will be an open air promenade, characterised by high end street treatments and substantial glazing. The promenade could be continued out to Marmion Avenue, providing a safer and more friendly environment for pedestrians using the Marmion Avenue bus stop.



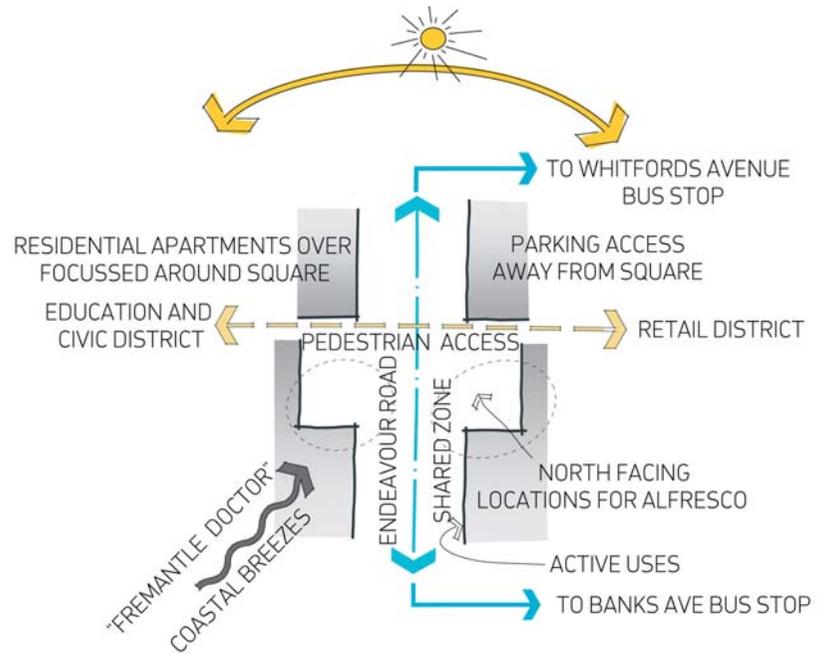


Figure 15. Endeavour Community Square

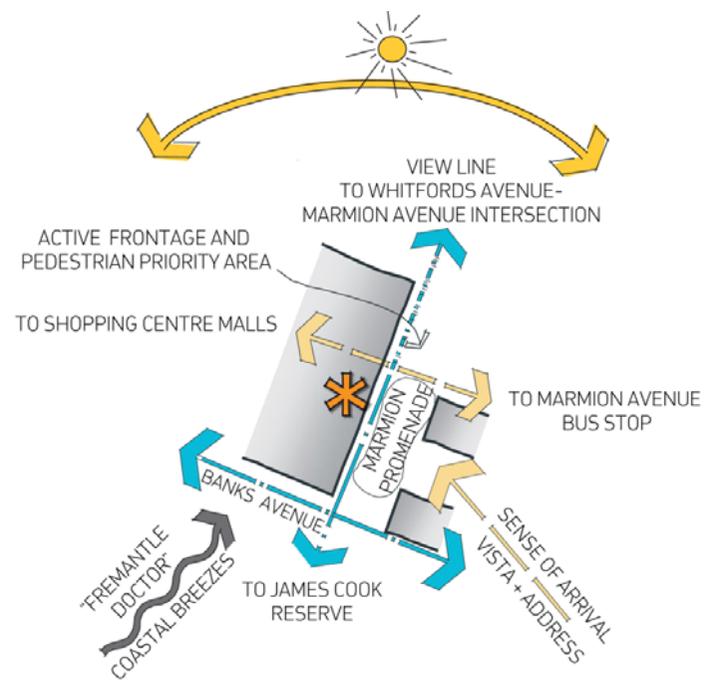


Figure 16. Marmion Promenade

Spatial Framework

The existing spatial framework of Whitford Activity Centre is formed in part by the predominance of the shopping centre and in part by the suburban residential surrounding it. The mass of the shopping centre and other large format buildings command the spaces surrounding them but do not frame or contain them. The surrounding suburban residential areas consist of detached smaller scale buildings with uncontained space and significant gaps between buildings.

Buildings that frame and contain public spaces and streets will be introduced to create an integrated urban setting.

Figure 17 and Figure 18 depict existing and proposed spatial framework.



Existing Building Typologies



Proposed Building Typologies

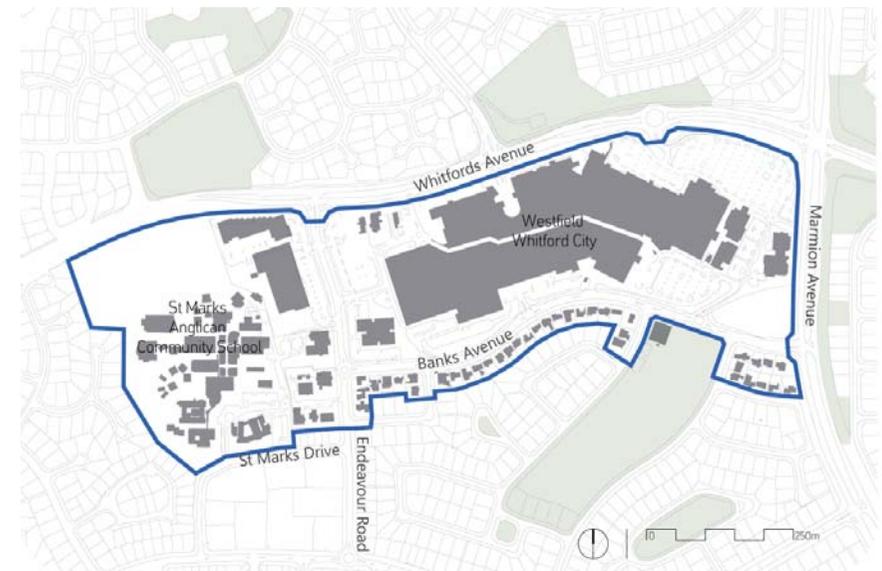


Figure 17. Existing spatial framework

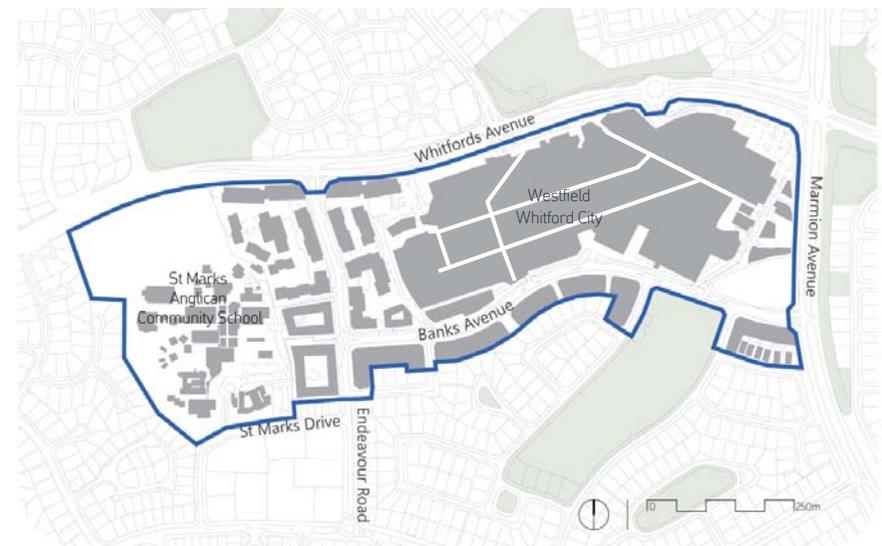


Figure 18. Proposed spatial framework

Building Envelope

Climate Response and Solar Access

Buildings that are designed in response to climate with good orientation, adjustable weather control and thermal mass will be encouraged at Whitford, to provide comfortable living and working environments. Importantly for the centre, external spaces designed in response to climate will also be more pleasant to use, attracting people to the centre both during the day and evening and encouraging people out on to the street.

The local mediterranean climate at Whitford requires both heating and cooling of habitable buildings during different times of the year. The 'Fremantle doctor' afternoon coastal breezes impact on microclimate in the centre, providing good natural ventilation, but also adverse wind conditions at times. Perth has a high proportion of clear skies throughout the year giving opportunities for passive heating of buildings and energy generation with photovoltaics.

Occupant Amenity

Established housing surrounding the centre is adequately separated so that impacts on residential amenity (such as noise, odour, overlooking and overshadowing) are minimised. In a more intense urban environment, these amenity issues will require more careful consideration. New buildings at Whitford Activity Centre, both residential and commercial will be designed to limit detrimental impacts from other uses. Issues of privacy and overlooking will be resolved through setbacks and screening consistent with the R codes.

Adaptability

The existing buildings at Whitford are generally separated and designed for a single purpose. SPP 4.2 establishes metrics for increased diversity and intensity of activity. There is no definition of appropriate ratios of uses that will make the centre vibrant and successful at different stages of development. New buildings that have the capacity for changed use will offer maximum flexibility to respond to market and community drivers. A 4.5m floor to floor height at ground level is required and structure to enable future additional floors to be added is encouraged.

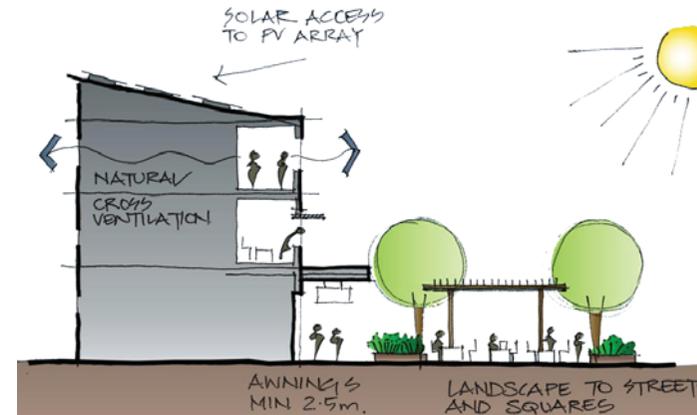


Figure 19. Climate response

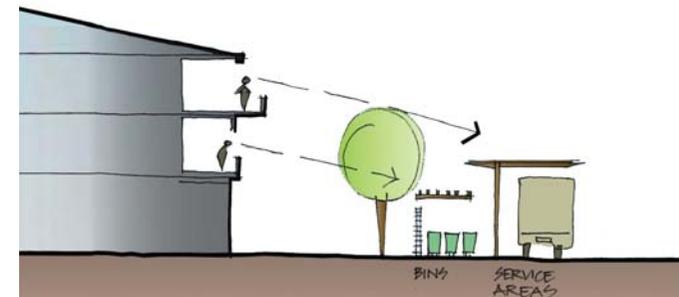


Figure 20. Visual screening of service areas

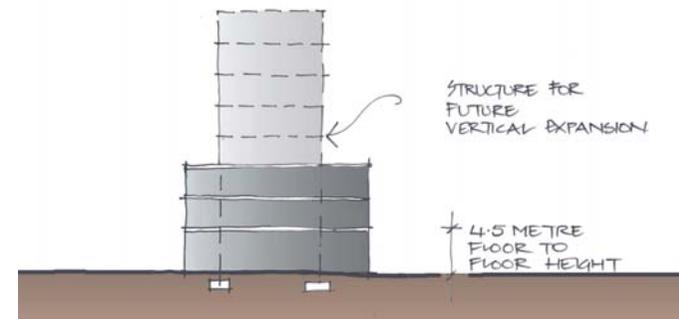


Figure 21. Adaptable Buildings

Response to Topography

Whitford Activity Centre is characterized by undulating dunal topography. Level differences are quite significant along Banks Avenue and between the shopping centre malls and Endeavour Road. The level changes will require innovative design solutions, including stepped and terraced buildings, to create an attractive and diverse built form.

Multi level buildings with podium apartments behind lower level buildings built to the street will be designed, to accommodate level changes. Generous and legible vertical circulation (stairs and ramps) will provide clear connections between the shopping malls and the street.

Roofs

Roofscapes that can be viewed from public spaces and streets will impact on the character and amenity of the centre. The appearance of roofs and their relationship with adjoining roofs is increasingly important, as intensity and the range of building heights and their uses increases. The use of roofs for landscape, energy generation and active uses will add a new dimension to buildings. The roofs of lower buildings, including parking decks, will be treated to provide outlook for taller buildings and limit heat island effects.

Private Open Space

As Whitford Activity Centre intensifies increasing numbers of people will come to live in the centre. Dwellings and household sizes may be smaller than surrounding housing and there will be greater demand for access to the surrounding green spaces and streets. Private open space will be predominantly provided in the form of deep balconies, terraces and roof gardens.

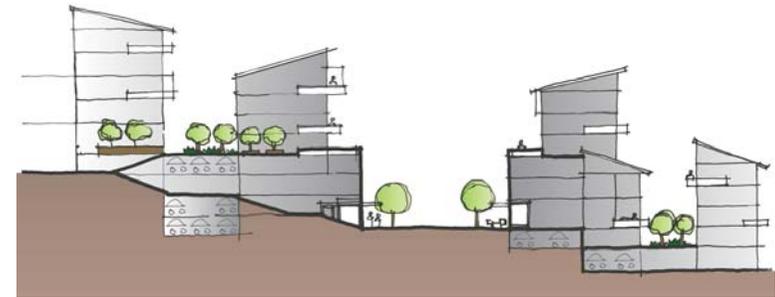


Figure 22. Response to topography

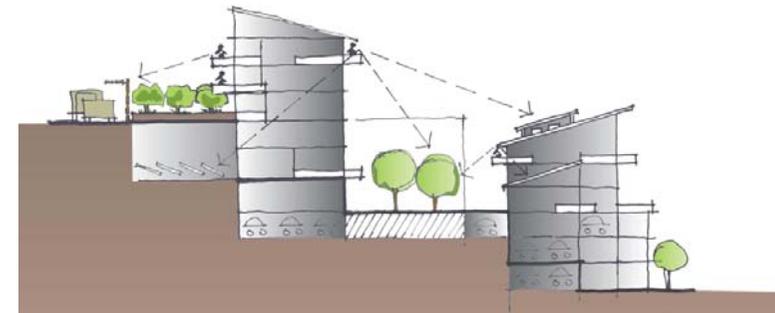


Figure 23. Attractive roofscapes

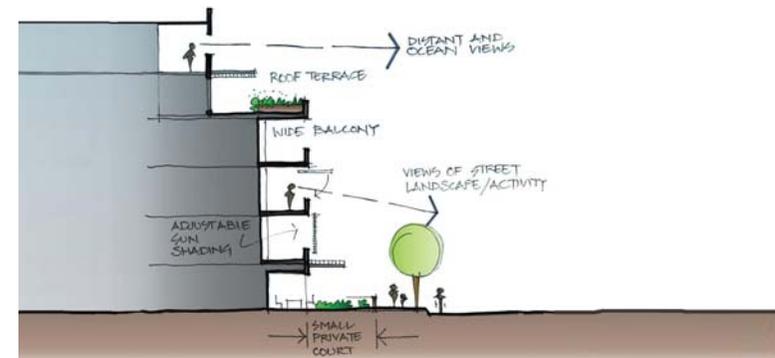


Figure 24. Private open space

Street Interface

The existing street interface at Whitford reflects the separated suburban nature and the topography of the centre and includes:

- Large format retail buildings with predominantly inactive edges or vehicle dominated frontages.
- Detached dwellings with front gardens providing a good passive surveillance.
- Strata residential which interfaces poorly with high walls on St Marks Drive.

The scale and operational requirements of the shopping centre limit the potential extent of street activation. This is due to factors such as:

- Large service docks and turning areas for delivery vehicles.
- Provision of large car parking areas in convenient locations.
- Retail anchor tenants with strict dimensioning and layout requirements.
- Limited uses appropriate to sleeve buildings in low footfall areas.

The air-conditioned shopping malls allow retailers to have open shop fronts and are seen by shoppers as refuge from both hot and wet weather. Outside, however, there is little weather protection and to encourage visitors out into the street it will be important to provide them with improved weather protection, as well as amenity and safety.

The Street Interface Plan (Part 1 Figure 3) indicates the graded level of building activation proposed based on projected pedestrian footfall in the centre. Three levels of activation are proposed being: active, passive and attractive. Street interface considerations in an active urban environment include fenestration; weather protection; signage and lighting at a pedestrian scale; limited plant and equipment on frontage and alfresco dining provision. Considerations at entries include: major entrances expressed in building form; vertical circulation (stairs and lifts) visible from the street; consistency between inside and outside levels; cycle parking, letter boxes and sheltered waiting areas. In a more passive street environment, landscaped front setbacks and windows overlooking the street are encouraged, whilst an attractive street interface where little pedestrian footfall is anticipated could include landscape and building facades and screens that have an artistic or sculptured character.



Figure 25. Active facade articulation



Figure 26. Passive facade articulation

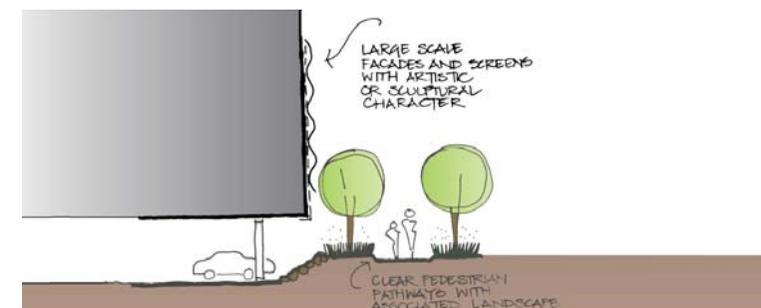


Figure 27. Attractive facade articulation



Existing Street Interface

Proposed Street Interface

Key Streets

Whitfords Avenue

Whitfords Avenue, between Marmion and Dampier Avenues, will ultimately have an improved pedestrian environment. Built form will vary along Whitfords Avenue frontage which includes parking and service areas and less active parts of the shopping centre. These areas of low footfall will be treated to be 'attractive' while locations such as around the intersection with Endeavour Road where pedestrians will be encouraged to cross at street level, will have active street interface.

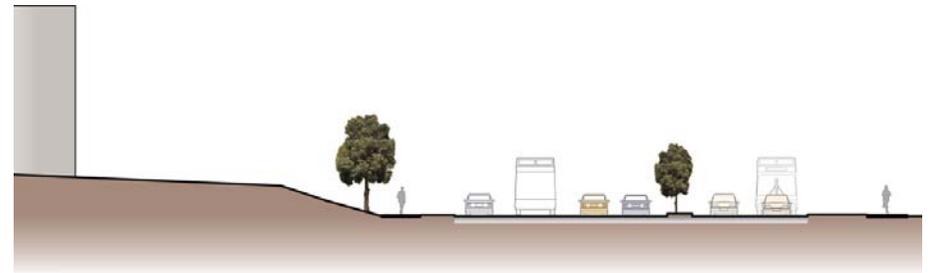


Figure 28. Existing Whitfords Avenue Street Section

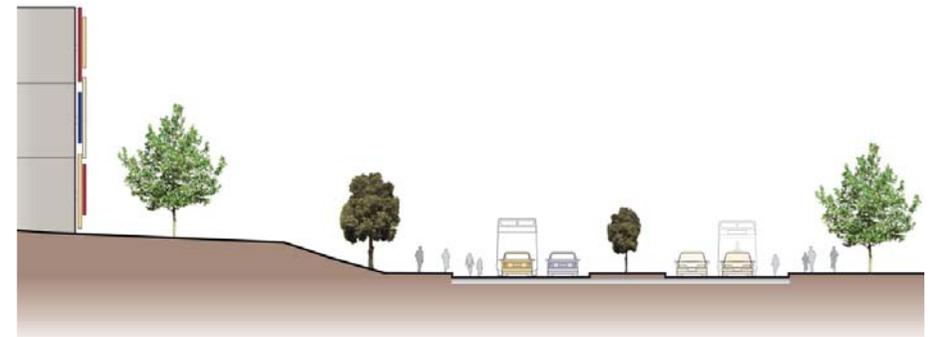


Figure 29. Proposed Whitfords Avenue Street Section

Endeavour Road - Main Street

The west end of the centre will be redeveloped from existing low scale separated buildings into an integrated urban form that 'climbs the hill' and connects to the shopping malls. Endeavour Road will become a vibrant and active main street environment with well articulated multi-storey buildings to both sides of the street. Apartment and commercial buildings up to 6 storeys (or 27metres) will sit above parking podiums with an active street of retail and commercial development at ground level. The difference in level between Endeavour Road (RL 17) and the retail malls (RL 27) will provide interest and character in the built form and enable parking structures to be sleeved behind active street edge buildings.

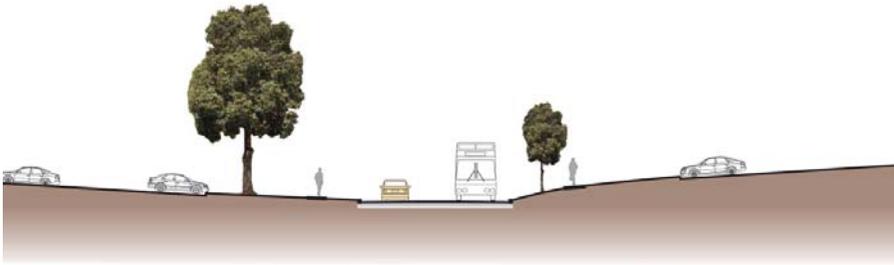


Figure 30. Existing Endeavour Road Street Section

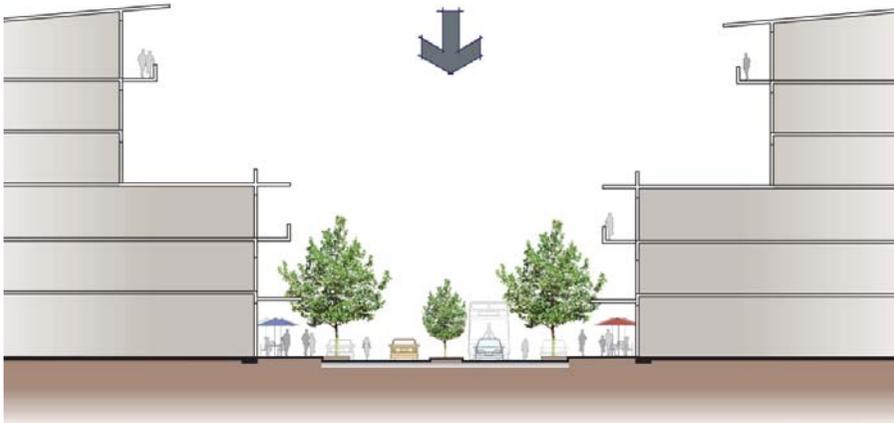


Figure 31. Proposed Endeavour Road Street Section

Banks Avenue

Banks Avenue will continue to provide a transition from the shopping centre to residential areas to the south. A street environment with mixed uses at ground level to both sides of the street and buildings of 3 storeys will provide an appropriate and improved transition in scale and activity. Buildings will have a passive street interface with pedestrian shelter at main building entrances. Landscaped frontages with permeable fencing will soften the streetscape.

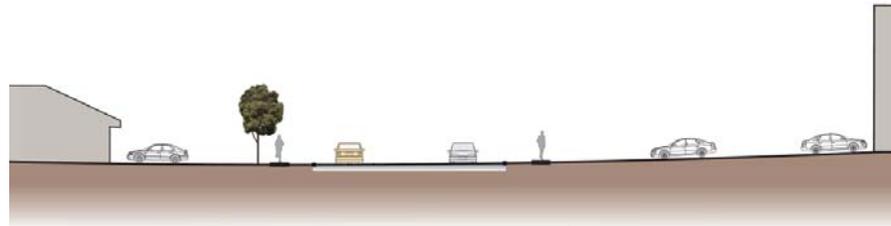


Figure 32. Existing Banks Avenue Street Section

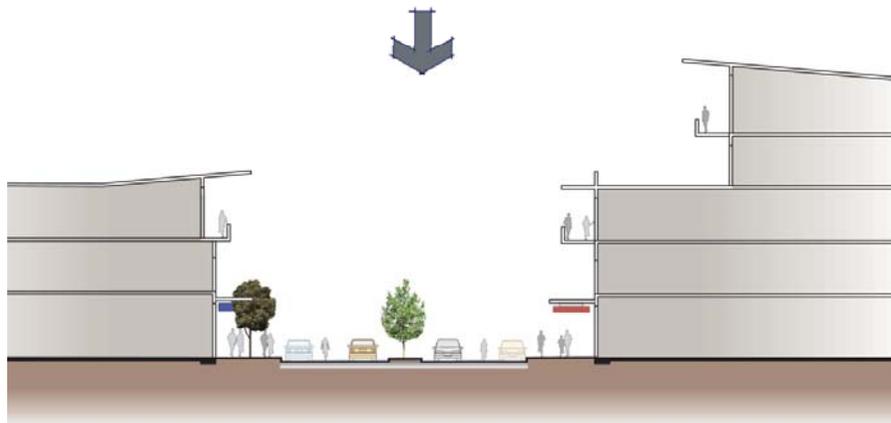


Figure 33. Proposed Banks Avenue Street Section

Urban Form Principles and Opportunities

Westfield Whitford City is a large suburban shopping centre with major anchor tenants in an internalised mall and a focus on private car access. The challenge is to integrate this large centre into a vibrant urban centre with a pedestrian friendly street environment, a broader range of activities and a unique sense of place.

In the west end of the centre, there is opportunity to create an urban street environment focused on Endeavour Road. This will connect a wide range of activities including the shopping centre malls and allow for more intensity and diversity. This is an appropriate location for a new urban square. This square is proposed as Endeavour Community Square.

The eastern frontage on Marmion Avenue offers an opportunity to create a new address and character for the activity centre as an activated urban place. This location is also appropriate for a new urban pedestrian space. This space is proposed as Marmion Promenade.

Significant level changes between the retail malls (RL 27.0) and Endeavour Road (RL 13.7) can be used to provide sleeved parking podiums behind active frontage development. The challenge will be to design the urban form to resolve level differences to integrate the malls into the new street environment and to create drama in the urban setting.

In the Endeavour District, there is significant opportunity to locate and configure residential apartment buildings to take advantage of ocean views from upper levels. These buildings will be typically 4 storey and potentially up to 6 to 8 storey in some locations where adjoining residential amenity is not affected. There is opportunity to take advantage of ocean views available at Whitford Activity Centre for upper floor apartments, to add to the appeal of Whitford Activity Centre as a place to live in the future.

Banks Avenue will naturally intensify and evolve to a more urban place, with both active and passive ground level uses with 2-3 storey residential over. It will be characterised by transition in scale and form to the residential area to the south.

A range of housing types will be developed in the centre including terraces and townhouses, as well as apartment buildings. This will provide housing choice and diversity. All new buildings, especially housing, will be designed with good climate response and with adaptability for changing uses and lifestyles.



Existing Street Interface



Source: Studio 505 Artist: John Warwicker



Proposed Street Interface

Source: Urban Art Projects Artist: Ned Kahn

2.5.2 MOVEMENT

Introduction

In the future, the Whitford Activity Centre will have increased intensity and diversity of activity including expansion of retail, increased housing and additional mixed-use office, residential and recreational facilities. This will offer advantages such as:

- Employees and residents will enjoy improved amenity, with retail, food, entertainment and employment within walking distance.
- Higher residential densities will generate a critical mass of patrons for improved public transport services.
- Adding substantial employment to Whitford Activity Centre will create a bi-directional public transport network with greater efficiencies.
- Proximity of different land uses will allow for a greater proportion of multi-purpose trips, reducing traffic generation.
- An increase in intensity over time will provide opportunities to improve efficiency of on-site parking, to create shared parking areas and to reduce total parking provision.
- Pedestrian friendly streets will provide access to diverse uses, thereby creating a communal space with inherent benefits to safety, legibility and amenity.

The following sub-sections consider the existing transport and traffic network and the upgrades required to adequately service the Whitford Activity Centre.

Transport Context

The Whitford Activity Centre is located approximately 20km north of the Perth CBD on Whitfords Avenue, adjacent to Marmion Avenue. This location can be easily accessed from the Mitchell Freeway via the Whitfords Avenue off-ramp and directly from Marmion Avenue, a primary north-south arterial road running parallel to Mitchell Freeway.

Whitfords rail station is located on Whitfords Avenue at the freeway interchange. High frequency bus services connect the Centre to Joondalup, Warwick and Whitfords rail stations, via suburbs west of the freeway. The road reserve along Whitfords Avenue presents the opportunity to provide additional capacity for public transport via bus lanes and high quality bus stop facilities. In the longer term this could provide part of the necessary infrastructure for a BRT route within the north-west suburbs.

The Whitford Activity Centre is also well located on regional cycle routes and future improvements to the local bicycle network will increase the attractiveness of cycling, with all its inherent benefits to sustainability, health and fitness.

The Centre therefore presents the ideal opportunity to develop an activity centre in the mould of the strategy set out in Directions 2031 and subordinate strategies and planning policies.

Figure 34 shows the Westfield Whitford Activity Centre in its regional context.

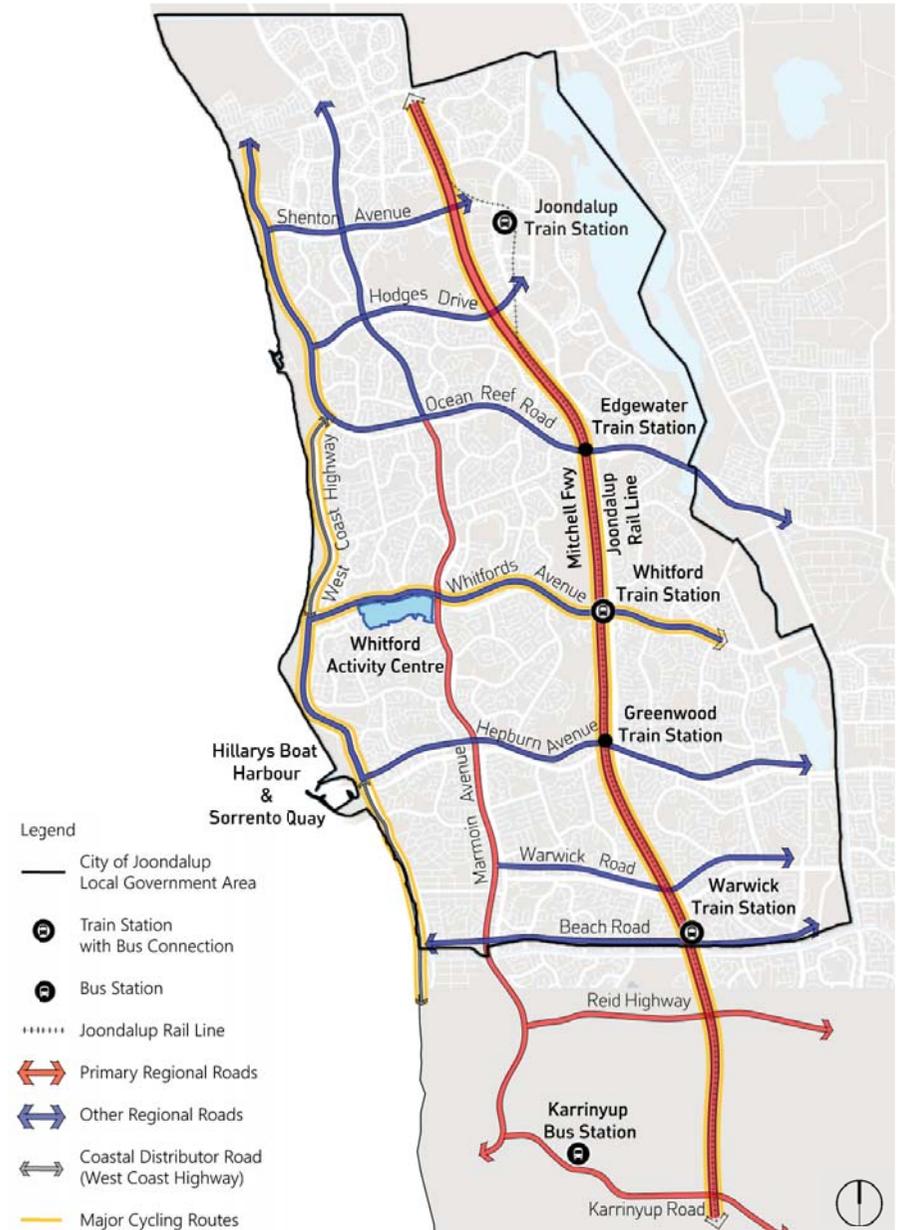


Figure 34. Regional Road Network

Public Transport

Whitford Activity Centre is located along several existing bus routes, connecting Whitfords, Joondalup and Warwick Train Stations. These bus routes act as feeder systems to the Perth-Joondalup rail line and primarily serve a commuter function, with a limited level of service provided to local beaches, Hillarys Boat Harbour and Sorrento Quay.

Due to the coverage and frequency of the existing bus services there is unlikely to be significant opportunities to address the general transport needs of the residents, students, workers and visitors of the area. Reflecting the network design and scheduling, the primary users of the existing services are likely to be commuters travelling to and from the Northern Train line.

Whitford Activity Centre has been identified as a potential location for a possible future BRT station along the BRT route proposed for the north-west suburbs. This will increase the frequency and coverage of public transport services and presents a significant opportunity for the centre. BRT will provide for convenient access for large numbers of passengers, including shoppers, staff and students, to visit the centre via sustainable modes. The centre will also provide a significant increase in residents living in the area, increasing potential patronage for the BRT. The centre should therefore enable the development of a vibrant and convenient, high frequency public transport node, positioned to appropriately support the introduction of the possible BRT station and services in future.

Figure 35, Figure 36 and Figure 37 indicate potential staged bus network changes.

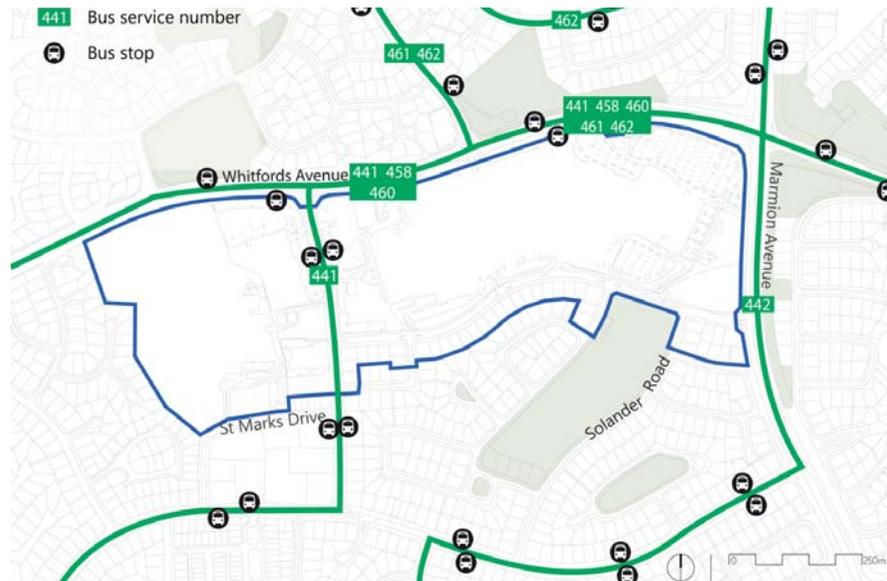


Figure 35. Existing Bus Network

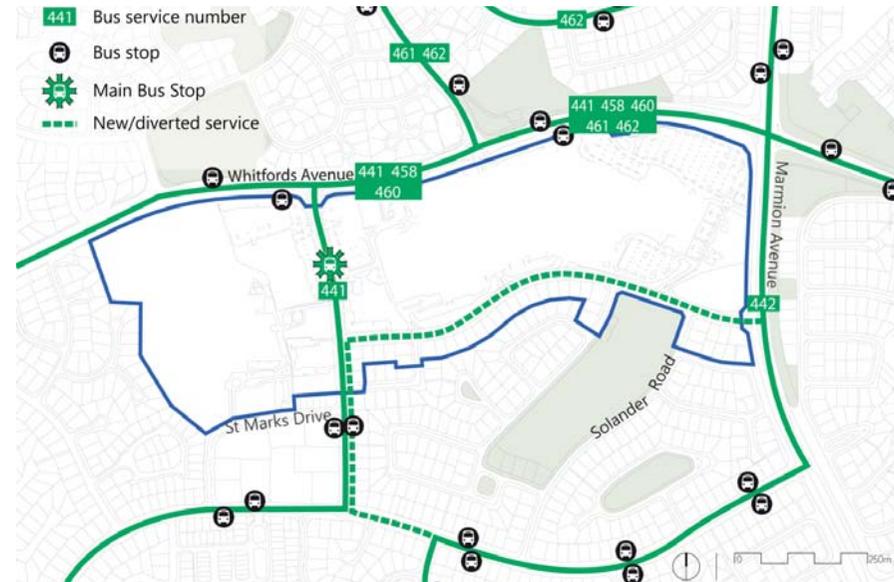


Figure 36. Proposed Interim Bus Network

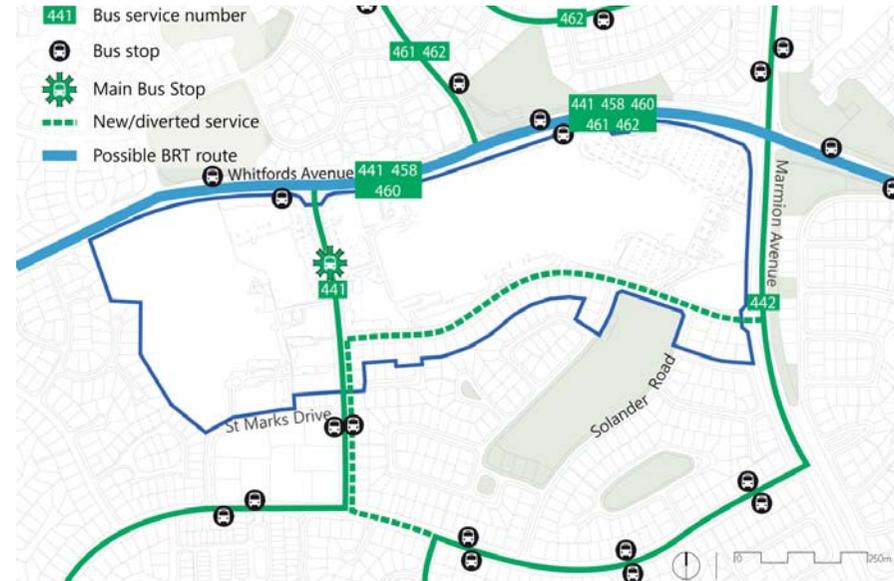


Figure 37. Proposed Ultimate Bus Network

The location of BRT stops on Whitfords Avenue has not been determined at this stage, however the location of the existing bus stops on Whitfords Avenue, to the east of the Dampier Avenue would provide a suitable location. Stops in these locations would provide the most convenient level of access and serve the majority of passengers associated with the centre. Figure 38 depicts a typical cross-section at bus stops along Whitfords Avenue and Appendix B3 outlines in detail how this possible future BRT stop could be configured within the existing road reserve.

To maximise sustainable transport mode share for the centre, high frequency bus services should be implemented to encourage greater use by the increasing working and residential population. This will support the growth of the activity centre prior to the potential introduction of the BRT. These services should connect the Centre to local and regional activity centres and deliver an integrated, efficient and legible transport network. Complimentary initiatives are also required in order to support increased public transport use, including consolidating bus stopping facilities along Banks Avenue and Whitfords Avenue, providing high quality supporting infrastructure and improving pedestrian connections. Through implementation of improved infrastructure and service levels, the centre could provide an exemplary standard of public transport delivery, achieving significant levels of patronage and mode share.

Pedestrian and Cycle Facilities

Within the Whitford Activity Centre, pedestrian infrastructure is currently of low quality and connectivity. Major access streets provide limited infrastructure for pedestrians, whilst residential streets do not provide continuous footpaths. Access for pedestrians is provided at the signalised intersections, via two underpasses and a school crossing for access to St Marks Anglican Community School.

The WA Bicycle Network (WABN) includes cycling provisions along Marmion Avenue and Whitfords Avenue; however infrastructure is not provided consistently.

The location of the Centre close to residential areas for pedestrians, and designated cycling routes, provides opportunities to encourage active transport for the employees, visitors and residents of the Centre. Improvements to the local active transport network will increase the attractiveness of cycling and walking, with inherent benefits to sustainability, health and fitness.

In order to support increased accessibility for the Centre, significant improvements are recommended. These include the construction of a comprehensive network of wide paths throughout the Centre and provision of additional high-quality crossing points along Whitfords Avenue linking bus stops to existing and future land uses. These improvements will improve legibility and safety for the community, increase accessibility, permeability and contribute to the development of a more attractive, walkable environment within the Centre and local area.

Recommended improvements to the local cycling infrastructure focus on eliminating gaps and providing opportunities for safe commuter cycling along Whitfords Avenue. This, combined with the promotion of a lower speed environment throughout the Centre will encourage cycling as an alternative transport mode.

These improvements will improve legibility and safety for the community, increase accessibility, permeability and contribute to the development of a more attractive, walkable environment within the centre and local area.

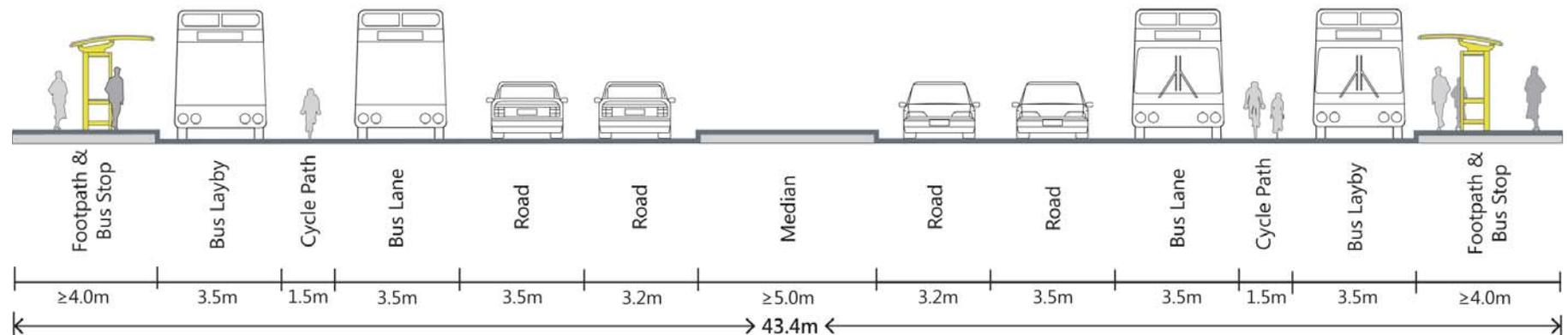


Figure 38. Typical Future Cross-Section of Whitfords Avenue upon BRT Implementation



Figure 39. Existing Pedestrian and Cycle Infrastructure

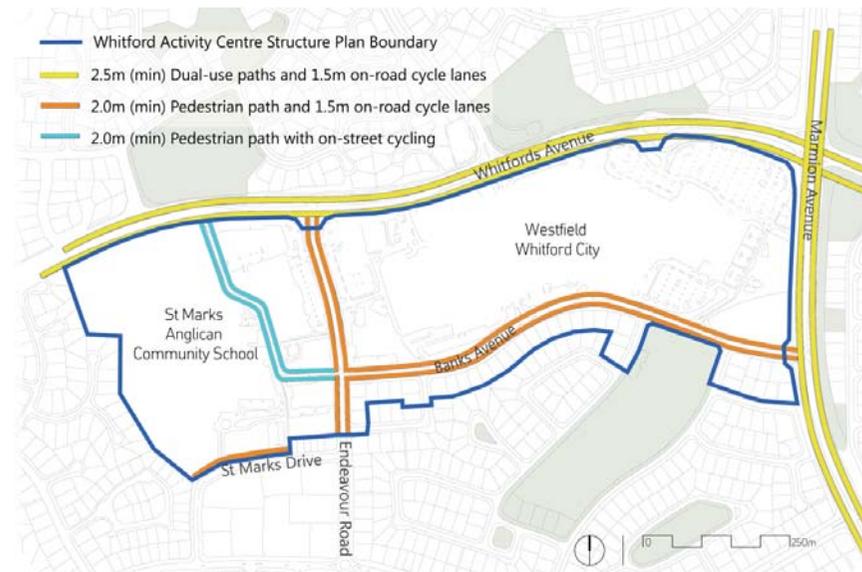


Figure 40. Proposed Pedestrian and Cycle Infrastructure

Vehicle Movement and Access

The bulk of the Whitford Activity Centre can be accessed from Marmion Avenue and Whitfords Avenue and can be accessed from Mitchell Freeway via the Whitfords Avenue interchange. Endeavour Road, Banks Avenue, Dampier Avenue and Cook Avenue provide connections through from major roads and the surrounding suburbs.

The proximity and high quality of access from Marmion Avenue and Whitfords Avenue implies that the majority of traffic demand will be accommodated within the regional road network without impacting adjacent residential areas, minimising future local traffic issues.

Changes to road infrastructure focus on improved pedestrian amenity and promoting communal use of the Endeavour Road 'main street'. This includes modifications to the road cross-sections along Endeavour Road to promote lower operational speeds and improve pedestrian safety. Traffic demands at the various access points to the Centre will need to be assessed further within future planning processes.

A new direct access to the shopping centre is proposed from the northbound carriageway of Marmion Avenue. This will be a left-in only access road connecting to the Whitford City Shopping centre car park. A full left turn lane from Marmion Avenue will be required to provide safe movement of traffic past this access point.

The existing geometry at the main Whitfords Avenue/Shopping Centre Access requires a series of turns for inbound vehicle access to the site. The manoeuvring required by this geometry may increase risks for some drivers and therefore future development would seek to improve this layout, most likely through the introduction of a signalised intersection. A detailed design for this upgrade will need to be provided at the time of the next major shopping centre expansion.

Access to the education district is to be improved by providing a link road from Whitfords Avenue (a left in/left out) connecting to Endeavour Road at a four-way intersection with Banks Avenue. The proposed link road will also provide access to the rear of Activity Centre buildings west of Endeavour Road. Local Area Traffic Management strategies area recommended to be implemented along the link road to provide a safe environment for access by school children moving between the Shopping Centre and St Marks Anglican Community School.

In terms of intersection spacing, it is considered that providing this intersection in the current configuration of Whitfords Avenue would result in a problematic left-right stagger junction. It is therefore proposed that the Whitfords Avenue median be extended to provide dual carriageway to Belrose Entrance. This would provide the opportunity to either prevent this right turn manoeuvre or construct a right turn lane from which it could safely take place.

Further detail on road function, cross-sections and intersection form is provided in the Road Infrastructure section of the Transport Report in Appendix B3.

Road Hierarchy

A road hierarchy has been developed based on the principles specified in Liveable Neighbourhoods and tailored to suit the existing road reserves in the structure plan area while the use of minimum dimensions allows flexibility in design across all the higher and lower order roads that predate Liveable Neighbourhoods. This will allow any upgrade treatments to be applied within existing road reserves, with more generous median and verge dimensions applied where necessary.

The proposed future road hierarchy for the structure plan road network is shown in Figure 42.

Integrator A

Marmion Avenue and Whitfords Avenue east of Endeavour Road can be classified as Integrator A roads as they operate at high volumes and with a design speed of 70km/hr. Limited access provision reduces friction caused by side streets and access points. No changes to these road cross-sections are proposed.

Figure 41 shows the adopted minimum dimension Integrator A cross-section.

Integrator B (Arterial/Sub-arterial)

Whitfords Avenue west of Endeavour Road operates as an Integrator B (Arterial), shown in Figure 43. An extension of the existing central median to the west is considered desirable to facilitate safe crossing for local school students, although the existing provision is sufficient for the purpose, provided that crossing numbers remain low. Whitfords Avenue also retains a limited access format through this section. There are no requirements for modifications to Whitfords Avenue as a result of the proposed Structure Plan.

Endeavour Road and Dampier Avenue currently both operate as Integrator B (Sub-arterial) and are proposed to continue in this function, albeit this form would continue south of Banks Avenue in Endeavour Road only. The relatively wide pavement area and painted central median diminishes the capacity for pedestrian crossing in its existing configuration. Banks Avenue, is also proposed to be re-configured to an Integrator B. This upgrade in the hierarchy is considered necessary to accommodate the significant existing and future traffic volumes that are largely influenced by shopping centre generated traffic. A median will be retained along this road to assist pedestrian movements.

Neighbourhood Connector A

Endeavour Road north of Banks Avenue is proposed as a narrower Neighbourhood Connector A road, with a focus on pedestrian legibility and cycling connections as shown in Figure 44. A reduction in vehicular movements along this section of

Endeavour Road will be promoted through relocation and closure of existing access points and introduction of horizontal and vertical frictional elements, such as narrow lanes and Local Area Traffic Management (LATM).

Neighbourhood Connector B

Beyond the central Activity Centre core in the existing suburban residential neighbourhood, lower traffic volumes and fewer transport alternatives suggest that a Neighbourhood Connector B, as shown in Figure 45, would be sufficient. This cross-section allows for bus service through the neighbourhood while still providing pedestrian and vehicular amenity.

Access Street B

The road is intended to serve an access function for the land uses it borders, in a low-speed environment. Liveable Neighbourhoods Access Street B is therefore used as a template for the road reserve, as shown below in Figure 46. Liveable Neighbourhoods indicates this road type would have a functional capacity of approximately 3,000 vehicles per day.

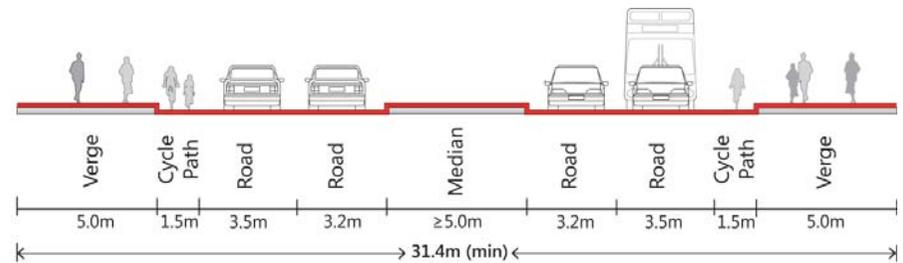


Figure 41. Integrator A

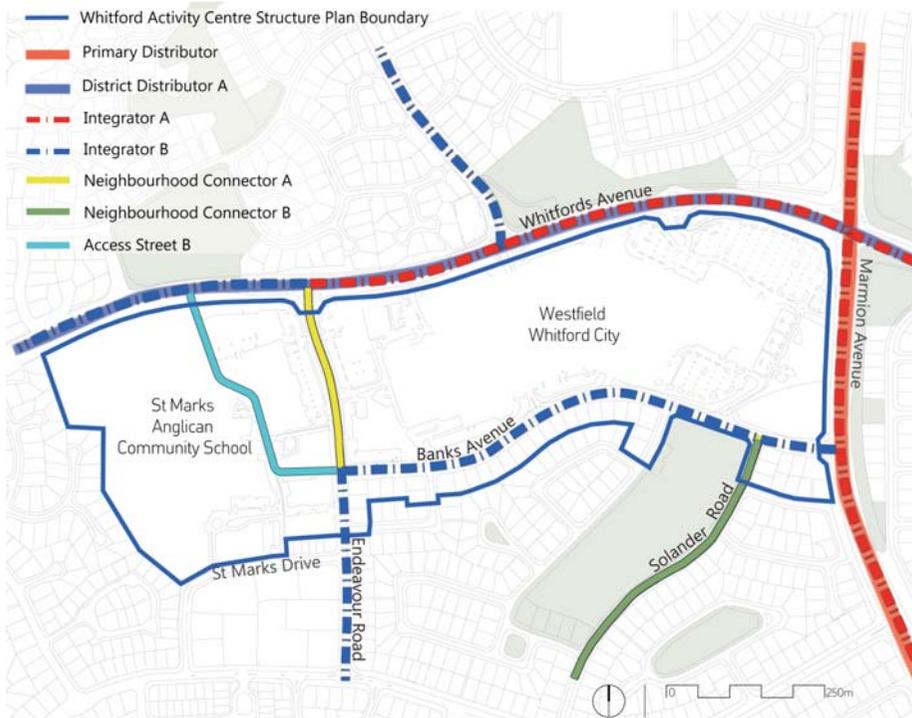


Figure 42. Proposed Future Road Hierarchy

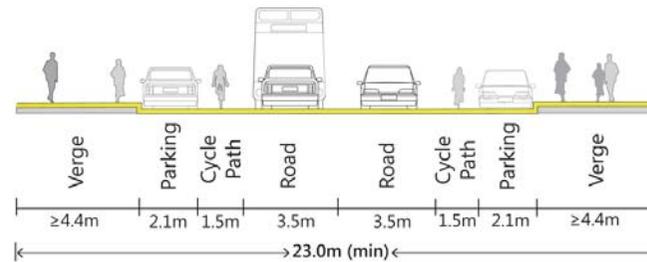


Figure 44. Neighbourhood Connector A

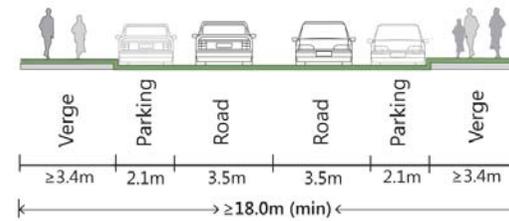


Figure 45. Neighbourhood Connector B

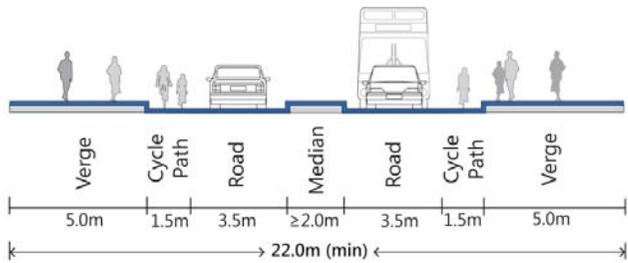


Figure 43. Integrator B (Arterial/Sub-arterial)

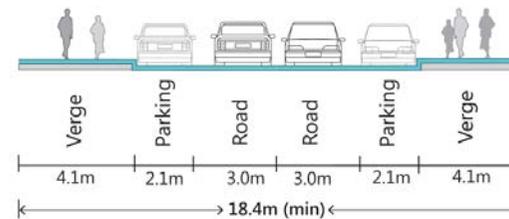


Figure 46. Access Street B

Traffic Volumes and Intersection Capacity

Existing Traffic

Existing traffic volumes have been extracted from a cordon around the Whitford Activity Centre, incorporating information obtained from MRWA signalised intersection induction loops (SCATS), and pneumatic tube counts.

Capacity analysis was undertaken at key intersections using SIDRA Intersection modelling software to assess the traffic operations for the existing situation. Existing traffic volumes, along with key intersection performances are illustrated in Figure 47.

Legend

000 AM Peak LOS (Level of service) A AM Peak
000 PM Peak A = highest level of service B PM Peak
000 Daily F = lowest level of service



Figure 47. Existing Link Volumes and Intersection Level of Service

Estimates of future traffic levels have been developed for Whitford Activity Centre at the design horizons of 2021 and 2031. Future development traffic generation rates have been sourced from best-practice engineering texts and local experience associated with shopping centre and mixed-use generation rates at equivalent developments.

Daily vehicular trip generation is summarised in Figure 48 below for the maximum future development scenario and is compared with the anticipated trip generation, which includes the effect of mixed-use and public transport benefits. The benefits of the proposed sustainable approach to public transport and the integration of residential and employment opportunities will result in a lower overall future trip generation profile.

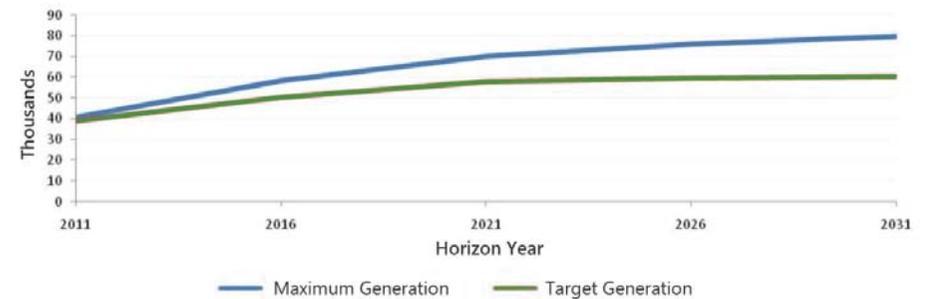


Figure 48. Future Trip Profile

The mix of uses proposed in this structure plan, particularly with respect to residential and office development, provides an opportunity to promote public transport modes. The close proximity and high frequency of bus services from the Northern train line implies attractiveness for public transport modes. The direction of high frequency bus services during the peak periods may need addressing, as these function effectively only for southbound trips in the AM peak, and northbound trips in the PM peak. Employees originating south of Whitfords Station are currently disadvantaged by the existing public bus service regime.

A maximum development scenario represents a potential increase in vehicular trips for the structure plan area of up to 70% by 2021 and 85% by 2031. However, it should be noted that this does not include the benefits of an integrated mixed-use development which will tend to foster a degree of self-containment. Improvements to public transport and pedestrian/cycling facilities are likely to further reduce vehicular travel, resulting in an anticipated increase of between 40% and 50% by a 2031 horizon.

Analysis of future traffic volumes has been carried out at key intersections in the vicinity of the centre using SIDRA. Forecast link volumes and Level of Service (LOS) for the adopted design years are shown in Figure 49 and Figure 50 for 2021 and 2031 horizons, respectively. The figures show that overall intersection performance is

adequate, with the exception of the Marmion Avenue/Whitfords Avenue intersection, which reaches overall LOS F during the PM peak by 2021; and would therefore be said to have failed.

The provision of additional right turn lanes on Marmion Avenue would return the intersection to a more manageable LOS E during the peak hour; this is considered acceptable on roads with tidal traffic flows.

Further detail on traffic volumes and analysis is provided in the Transport Report in Appendix B3.



Figure 49. 2021 Link Volumes and Intersection Level of Service



Figure 50. 2031 Link Volumes and Intersection Level of Service

Car Parking

General Principles – Retail District

Visitor and employee arrival at the shopping centre is currently predominantly by private car. This results in an environment dominated by car movements and parking areas. A shift toward alternative travel modes, including bus, cycle and walking will allow the centre to grow sustainably without being constrained by private car movements and decked car parking requirements. It will still be important to accommodate private cars, however a more balanced approach will be required.

To align with the strategic principles for the centre, changes will be required to the parking management structure to improve availability across all uses and to maximise efficiency. This will include short-term, managed on-street parking, at-grade and below-grade parking and secure basement car parking for residents and visitors. The transition to permanent seven-day retail trading has spread demand and further reduced heavy peaks in parking and traffic activity.

The impact of shared parking, due to the mix of land uses proposed, will result in a lower overall car parking requirements and therefore an improved residential and urban amenity outcome for all users. The convenience and accessibility of sustainable and active transport modes will also reduce the demand for private vehicle car parking for residents, workers and visitors to the centre.

The implementation of a parking cap will contribute to achieving development sustainability goals, and the introduction of a Parking Management and Travel Plan (PMTP) will further assist in maximising the efficient use of a reduced parking supply.

Parking Cap – Retail District

SPP 4.2 recommends an upper limit be set for the parking supply at an activity centre, along with shared and reciprocal parking and improved land use efficiency. It is therefore recommended that a parking cap be adopted for the centre, and agreed with the relevant approving authorities.

A parking cap is based on the capacity of the external road system; it is designed to reduce private vehicle travel by restricting on-site parking and forcing excess demand (if any) to use other modes of transport.

A cap sets a goal for parking levels that is expected to be reached by a future date; this will depend on:

- How development progresses in the centre.
- The mix of uses.
- Prevailing traffic conditions on the external road network.

Clearly assumptions have to be made regarding these points, and this makes the parking cap a somewhat dynamic process that should be reviewed and revised as future development applications are submitted. The full cap could be provided in the years leading up to the year of completion. This is allowable, and in fact, preferable in certain instances, as it allows the activity centre to remain well connected to the wider area and economically viable, whilst sustainable travel links such as public transport and walking/cycling facilities strengthen over time.

Parking cap has been determined using rates identified within the Institution of Transportation Engineers (ITE) Parking Generation Report, 3rd Edition. The outcomes of the parking cap assessment are as follows:

- 4,200 bays by 2031 (capped).

A parking rate of 4.5 bays per 100m² for all uses within the Retail District has been applied to determine this cap.

These rates are not proposed to be used rigidly and the amount of parking to be provided will be dependent upon staging and type of land use delivered. However, these rates should be of assistance to state and local government officers when assessing Development Applications (which will also be supported by supplementary parking strategies).

Further detail on parking generation is provided in the Transport Report in Appendix B3.

Parking Management

On the basis of the principles set out above, and to ensure the capped parking supply operates efficiently, the following parking management strategies are proposed for the centre:

- Prepare, implement and commit to an overall and dynamic Parking Management and Travel Plan PMTP for Whitford Activity Centre, this may be supplemented by PMTPs for individual land uses to address their specific needs as necessary.
- Provide a communal pool of car parking for all land uses as opposed to dedicated parking spaces.
- Prioritise parking for particular user groups such as ACROD and parents with children.
- Ensure the PMTP includes provision for the management of staff parking to ensure these users do not consume any prime parking.
- Locate parking to ensure major roads around the development are used in preference to lower order streets.
- Conceal parking in basements and behind or above street level properties to promote an active street environment.

Car Parking – All Other Districts

Car parking in all other districts shall be provided for in accordance with the Scheme, approved Local Development Plans and where required, an Access and Parking Strategy prepared by a suitably qualified Traffic Engineer.

2.5.3 ACTIVITY

Directions 2031

"A prosperous city: Our success as a global city will depend on building on our current prosperity"

"A responsible city: We have a responsibility to manage urban growth and make the most efficient use of available land and infrastructure."

SPP 4.2 aims to increase both diversity and intensity of activity within existing metropolitan centres that have historically been focused on retail.

Whitford Activity Centre is an established and well-known destination for shopping. If people will come to Whitford to shop they will potentially come for other reasons - to work, to eat, to do business, to recreate, to meet friends and to live. There is an opportunity to build on Westfield Whitford City's long held, successful reputation as a shopping destination by both improving and updating the existing retail offer and providing a range of other activities, including housing in the centre, to broaden its appeal.

Westfield Whitford City was built in 1978, during a decade of frenetic suburban retail development in Perth. In the subsequent 30 years the centre has been evolving into a multi-functional node of activity with Westfield Whitford City as the primary activity. The existing core around Whitford City comprises of 50,000m² of highly productive retail floorspace within a total core floorspace of 79,000m² including commercial, entertainment and bulky goods. This core is very active and busy with shoppers particularly during the day, while the surrounding area is less intensively developed, less busy and characterised by low-density residential, education and community activities. Figure 51 indicates the existing spatial relationships of activities.

Figure 52 illustrates the proposed spatial relationship of activities. The intent is to provide a main street environment integrating a wide range of uses that will encourage activity throughout the day, an improved public realm and community focus, multi-purpose trips to the centre and walking between destinations within the centre.

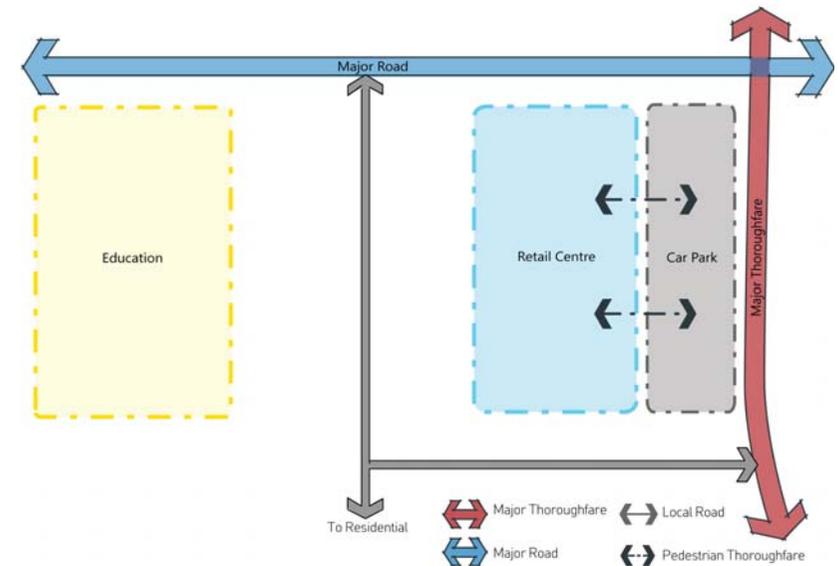


Figure 51. Existing spatial relationships of activities

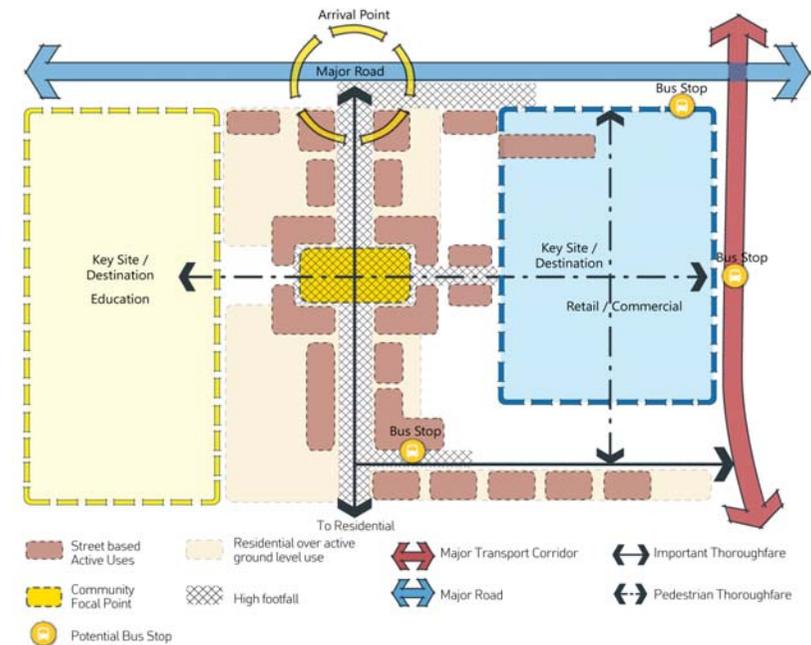


Figure 52. Proposed spatial relationships of activities

Diversity or 'mix of land uses'

The Diversity Performance Target or 'mix of land uses' outlined in the SPP 4.2 is used to measure the diversity within the activity centre. "Mix of land uses" includes office, civic, business, health, community, entertainment, cultural uses and showrooms, but excludes residential.

SPP 4.2 states that for secondary centres, such as Whitford, with greater than 50,000m² of retail NLA, the 'mix of land uses' floorspace target is 40%. Currently, Whitford Activity Centre has a 47% 'mix of land uses'. Over the evolution of the Whitford City Retail Core and broader Activity Centre Structure Plan area, this figure is expected to fluctuate. However, by 2031 Whitford Activity Centre will satisfy the Diversity Performance Target with a 42% 'mix of land uses' resulting from other activities stimulated by and following substantial retail development.

Table 1 indicates existing and proposed diversity of 'mix of land uses' in the Whitford Activity Centre.

Mix of Uses	Existing Floor space	2031 Floor space
Other Retail	8 500m ²	11 500m ²
Office/ Business	7 800m ²	22 800m ²
Health/ welfare/ Community Services	16 200m ²	16 200m ²
Entertainment/ Recreation/ Culture	9 500m ²	16 000m ²
Other (Including Manufacturing/ Processing/ Fabrication, Storage/ Distribution and Service Industry)	2 400m ²	2 500m ²
Total "Mix of Uses"	44 400m²	69 000m²
Shop Retail	49 900m ²	95 000m ²
Total Occupied Floor Space	94 300m²	164 000m²
Total Diversity (mix of uses)	47%	42%

Table 1. Diversity or Mix of Land Uses

Source: Pracsys

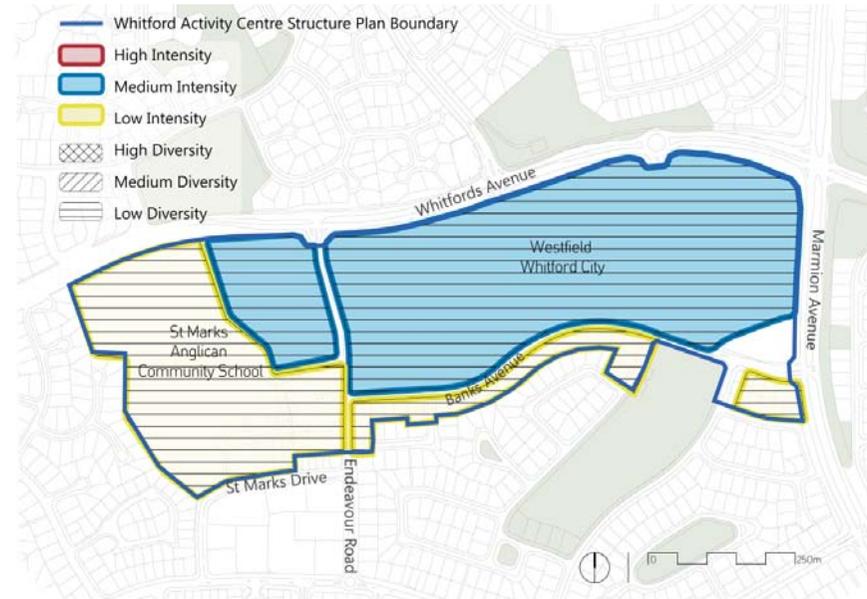


Figure 54. Existing Diversity of Activity

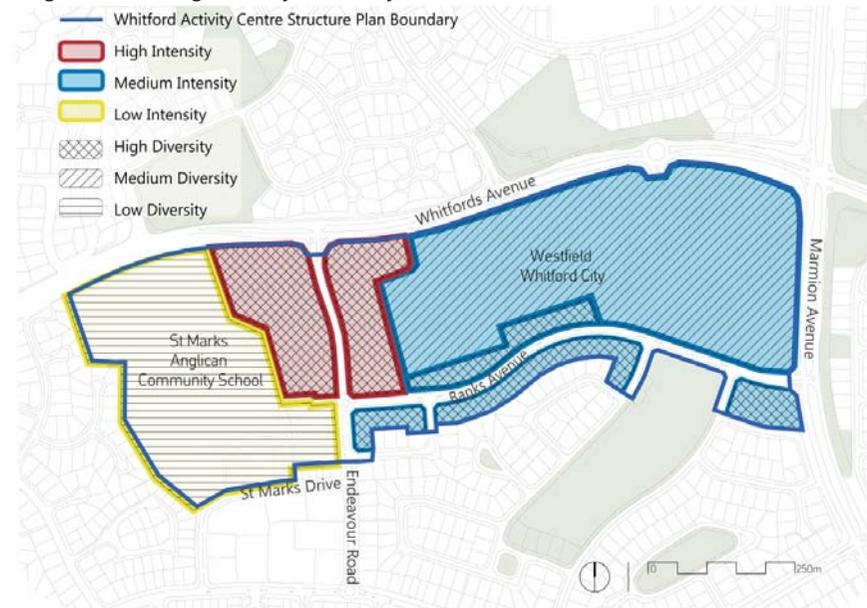


Figure 53. Proposed Diversity of Activity

Employment

As a secondary centre, the economic function of Whitford is fundamentally different from that of higher order centres such as Joondalup. Whitford will service a smaller catchment and offer a different quantity and type of employment opportunities. Given the above, the employment sectors that have the greatest potential for growth at Whitford Activity Centre are predominantly population driven and include: Shop Retail; other Retail; Office Business; Health/Welfare/Community Services; and Entertainment/Recreation/Culture.

The retail core will be a major generator of new employment within the activity centre, with shop retail, other retail and entertainment, recreation and culture generating an estimated 2,156 new employment opportunities by 2031. In addition, approximately 877 employment opportunities can be expected from office and business activity within the activity centre. This equates to a total of 3,033 new employment opportunities or more than double the current level of employment within the centre.

Directions 2031 aims to increase employment and self sufficiency in the North-West Sub-Region from 41% to 61%. This increase equates to an extra 73,000 jobs. Clearly, the jobs anticipated to be generated within the Whitford Activity Centre will be critical in achieving this target.

Compatibility and synergies between different employment generators will increase as the range of activity in the activity centre diversifies. In addition to workplace based jobs, there will be opportunities for small scale home based business with excellent amenity and access to transport in the mixed use areas of Whitford Activity Centre.

Table 2 indicates employment potential at Whitford Activity Centre.

Office Space

As the sub region matures, Whitford and other activity centres will be able to support a wider range of office space. Pracsys/Urbis estimate the North-West Sub-Region could support an estimated additional 190,000m² office floorspace by 2031. 123,100m² of this would be within the South Sector and as a share, it is estimated Whitford could support an additional 15,000m² to a total of 22,800m² office floorspace by 2031.

Activity (PLUC categories)	Existing Employment	2031 Proposed Employment	Gap
Shop Retail (PLUC 5)	1, 439	3, 442	2, 003
Other Retail (PLUC 6)	118	171	53
Office/ Business	370	1 247	877
Health/ Welfare/ Community Services	233	233	-
Entertainment/ Recreation/ Culture	202	302	100
Other (Including Manufacturing/ Processing/ Fabrication, Storage/ Distribution and Service Industry)	90	90	-
Total Jobs	2, 452	5, 485	3, 033

Table 2. Employment potential at Whitford Activity Centre

Source: Pracsys

Housing

SPP 4.2 aims to increase residential intensity in and around activity centres to meet future housing needs. Whitford Activity Centre is located in a well-established suburban area which consists predominantly of low density single dwellings. The age and quality of the housing stock and the property value of the location will limit organic change in dwelling density in this area. It is anticipated that density increases will occur very gradually as planning controls change and market preference for higher density living prompts redevelopment.

The City of Joondalup Local Housing Strategy nominates the area around Whitford Activity Centre as Opportunity Area 5 (refer to Figure 8 in Planning Context). Table 3 of SPP 4.2 sets housing intensity targets for Secondary Centres such as Whitford at 25 (minimum) to 35 (desirable) dwellings per gross hectare within a 400m walkable catchment. Gross hectareage is measured using the urban land coding under the

Metropolitan land coding under the Metropolitan Region Scheme (MRS) and excludes regional roads and regional open space. The applicable area is therefore:

Area of 400m walkable catchment	50.27 Ha
Less area of regional road	- 2.29 Ha
	= 47.98 Ha

This results in a dwelling target range of $47.98 \times 25 = 1200$ minimum and $47.98 \times 35 = 1680$ desirable dwellings.

Provision of a significant number of dwellings on the existing commercial land in the centre will go some way toward achieving these housing infill targets. The Indicative Development Plan (Figure 63) illustrates that a yield of about 500 to 800 dwellings is achievable within the centre, predominantly located in the vicinity of Endeavour Road. The dwellings will be mostly apartments above podium parking and mixed use development with some town houses.

It is likely housing will be provided in marketable stages of about 100 dwellings each, released progressively as demand grows. Demand for this housing will grow as the centre evolves into a more accessible and diverse place that offers good amenity and an alternative to the surrounding suburban housing. However, this future demand will lag behind other development such as retail expansion, and therefore, provision of housing will also lag below the projected target band in the early years.

The majority of additional dwellings within the centre will be located on land owned by Westfield. Much of this land, located in the Endeavour District, is currently encumbered by commercial leases with differing timeframes of up to 15 years. This will impact on the ability to deliver housing in the short term and will influence the staging of development in this area.

Figure 55 indicates how staged provision of housing could occur.

Residential Density Coding

It will be beneficial for density 'control' in the Whitford Activity Centre, and particularly within the Endeavour Road and Retail districts to be form based and to reflect the R-AC 0 Multi Unit Housing Codes for Activity Centres. This will not limit the number of dwellings and will encourage housing that is more innovative and diverse including smaller dwellings. Built form can then be guided through the codes, local development plans and through this structure plan.

Residential density within the Banks District is proposed as R80 to provide a transition between the retail and mixed use areas and the existing housing to the south of the centre.

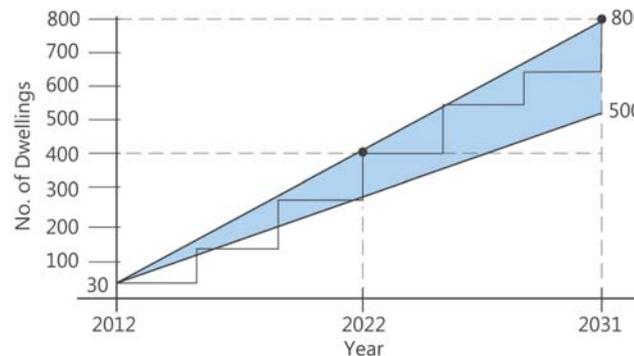


Figure 55. Staged provision of housing

Retail

The Retail Sustainability Assessment (RSA) prepared by Urbis for Whitford Activity Centre is included as Appendix B1. The purpose of the RSA is to justify the retail shop floorspace proposed in the context of the North-West Sub-Region, Joondalup municipality, and the Whitford Activity Centre catchment, its classification as a Secondary Centre in the hierarchy, and the impact of neighbouring centres. The main findings and conclusions of the RSA are as follows:

An established destination

Whitford Activity Centre, by way of the Westfield Whitford City shopping centre, has been performing an important shopping function for residents of the middle and outer northern coastal suburbs of Perth since it opened in 1978. The centre provides a key destination for both convenience and discretionary shopping needs. It is strategically located at the intersection of Marmion Avenue and Whitfords Avenue and easily accessible from existing and developing northern coastal suburbs of Perth. The centre is also well served by the suburban bus network with several routes linking with the Whitfords train station.

Whitford trade area

Whitford Activity Centre draws trade from throughout the North-West Sub-Region and beyond, notably the immediate suburbs to the south. Based on exit survey information and key trade area definition parameters, the main trade area extends between 5 and 7 km from the centre. Reflecting the typical dispersed nature of shopping patterns, some 25% of retail turnover at Whitford Activity Centre is sourced from markets outside this main trade area. This is and will continue to be an important market for retail at Whitford Activity Centre.

The main trade area for Whitford Activity Centre currently contains approximately 145,000 residents, which is within the indicative guidelines for secondary centres as set out in SPP 4.2. Over the period to 2031, the main trade area population is forecast to increase to 158,000 people. In the North-West Sub-Region of Perth resident population is forecast to increase from 322,000 residents in 2011 to almost 500,000 by 2031, an increase of 178,000 people.

Projected retail spending

Ongoing population growth and real growth in retail spending per capita will increase the size of the retail market available to Whitford Activity Centre and other centres throughout the region. Within the main trade area, retail spending is forecast

to increase by \$219 million between 2012 and 2016 and \$940 million between 2012 and 2031. Retail spending by residents in the North-West Sub-Region is forecast to increase by about \$4 billion to 2031 (all expressed in constant \$2012 excluding GST). This growth in retail spending will increase demand and market capacity for more retail (shop) floorspace at Whitford and other centres in the region.

Activity centre hierarchy

Joondalup serves as the Strategic Metropolitan Centre for the middle to outer northern coastal region of Perth. There is also several Secondary Centres in the general area, including Wanneroo, Clarkson and Warwick. These centres are smaller in scale and do not have as prominent a retail role as the Whitford centre. Within and on the border of the main trade area there are five District Centres which complement Whitford as one of the highest order centres in the area. The assessment to 2016 allows for new retail development at several centres including Joondalup; Clarkson, and Madeley.

Trading performance

Whitford is a popular centre and trades well with an average turnover productivity around 11% higher than comparable centre benchmarks. The centre's market share however is low at 12.8% of main trade area retail spending. This premium trading performance but low market share indicates there is good market capacity for a broader range of retailing at the Whitford centre.



Supportable shop floorspace

The market need and demand in support of expansion of Whitford Activity Centre to 90,000m² by 2016 and 95,000m² between 2016 and 2026 is demonstrated by the following:

- The major shopping centres in the North-West Sub-Region are generally trading well and above industry benchmarks, indicative of demand being in excess of supply.
- The demand for PLUC 5 shop floorspace is forecast to grow strongly on the back of population growth and increasing retail spending rates. Between 2012 and 2016, the North-West Sub-Region PLUC 5 shop floorspace demand is forecast to increase by 112,000m² and the Joondalup municipality increase by 32,000m². Between 2016 and 2026, shop floorspace demand is forecast to increase a further 246,000m² and 58,000m² respectively.
- A high 41% share of PLUC 5 shop floorspace demand by Joondalup residents, notably discretionary floorspace demand, is currently being directed to centres outside of the Joondalup municipality. This is a factor of an undersupply of PLUC 5 shop floorspace in the municipality which is resulting in residents not having adequate access to shop floorspace in the local centres hierarchy.
- Allowing for a more sustainable 25% escape expenditure level from the Joondalup municipality and forecast growth in shop floorspace demand, the centres located in the Joondalup municipality could support an additional 138,000m² of shop floorspace by 2016.
- Whitford, as a key higher order centre in the hierarchy and reflecting its existing role as a prominent fashion destination, will need to play a significant role in serving the shop retailing needs of Joondalup residents and broader markets. Joondalup and the District Centres in the municipality could not adequately accommodate this unmet demand.
- The expansion of PLUC 5 shop floorspace and improvement of the overall offer and shopping environments will be integral in addressing the challenges that centres are facing in light of the growth of online retailing and capitalising on the opportunity presented by the universal introduction of Sunday Trading in Perth.
- The development of another 5,000m² (to 95,000m²) would account for a minor share of demand and further enhance the offer at the Whitford centre to the benefit of the community.

- The proposed expansion of Whitford Activity Centre to 90,000m² by 2016, would account for a modest 21% of unmet PLUC 5 shop floorspace demand. About 80% or 110,000m² of unmet demand would therefore still be available for other centres in the municipality. With this amount of demand available to other centres it is clear that the Whitford expansion can be supported without impacting the expansion of shop floorspace at other centres.

Major stores

A key feature of the proposed expansion of retail facilities at Whitford by 2016, is the addition of a department store to Westfield Whitford City. There is sufficient market demand to support two department stores in the North-West Sub-Region within the period to 2016. The addition of a department store at Whitford therefore would cater to market demand and not compromise the inclusion of a department store at the Joondalup centre. As a Secondary Centre, a department store at Whitford is a compliant use.



Impact assessment

Impact modelling undertaken by Urbis indicates that:

- The development of Whitford Activity Centre to provide 90,000m² of PLUC 5 shop floorspace by 2016 is appropriate in scale and can be supported by the market without affecting the development potential of other centres in the hierarchy.
- The assessed level of impact on any one centre is manageable and the proposed expansion would not adversely impact the role, function and viability of other activity centres. Market growth is expected to off-set the one-off impacts and each affected centre is expected to achieve a higher turnover in 2016 than in 2012 following the proposed expansion of Whitford.
- A significant share of the impacts will be the result of a redirection of retail expenditure away from centres outside the Joondalup municipality. More expenditure undertaken locally will provide greater support for other uses, serve as a catalyst for other investment in centres and generally support the development of larger, vibrant and successful activity centres.

The primacy of Joondalup will not be impacted reflecting:

The trading impact of the Whitford expansion is manageable. Furthermore, the main street of Joondalup will not be affected as this area mainly caters to the convenience and services needs of local town centre residents, workers, students and visitors.

- The city centre of Joondalup will still have a substantially larger provision of PLUC 5 shop floorspace, i.e. 120,000m² (with the planned expansion of the Lakeside centre) compared with 90,000m² at Whitford (at 2016).
- Joondalup is more than a retail core and is the focus for commercial, civic, cultural, employment and services in the North-West Sub-Region of Perth.

In conclusion, the proposed expansion of the Whitford Activity Centre to 95,000m² is supportable by market demand and will not impact the role and viability of other centres in the hierarchy and the community will benefit from enhanced access to retail goods and services over time.

Other Retail

According to the Perth Land Use Survey, in 2007 Whitford had 8,500m² of Other Retail floorspace, including bulky goods such as furniture, hardware, floors coverings, tiles, light fittings. This represents a provision of 0.06m² per capita in the main trade area. This is lower than the average supply of PLUC 6 retail floorspace in Secondary Centres across Perth. A larger supply of Other Retail floorspace therefore could be supported by the market served by the Whitford Activity Centre, however, given site constraints, the potential to add additional Other Retail facilities which are typically characterised by larger format retailers requiring on-grade car parking, is limited. A reasonable provision would be in the order of 11,500m² or about 3,000m² more than currently provided. This could be developed at Whitford between 2016 and 2021.

Retail and Other Retail Floorspace

The shop and other retail floorspace at Whitford Activity Centre could develop in indicative staging as indicated in Table 3 below.

	2011	2016	2021	2026	2031
Shop Retail (PLUC 5)	49,900	90,000	90,000	95,000	95,000
Other Retail (PLUC 6)	8,500	8,500	11,500	11,500	11,500
Total Retail	58,400	98,500	101,500	106,500	106,500

Table 3. Retail and other retail floorspace staging

Source: Pracsys/ Urbis

Community, Health and Welfare

Existing facilities, including the Whitford Senior Citizens Centre, Whitford Family Centre, Jean Beadle Centre, St Marks Anglican Community School and the Whitford Public Library will be retained and enhanced as required to meet the needs of the local community and wider population.

Education

Whitford Activity Centre currently contains St Marks Anglican Community School which consists of 1500 students and 100 staff. This Structure Plan does not preclude the expansion of the school. There are also two senior high schools and five primary schools within approximately 1 kilometre of the centre.

Entertainment

The North-West Sub-Region has 115,000m² Entertainment, Recreation and Culture Floorspace (PLUC 9) according to the Perth Land Use Survey 2007. Whitford accounts for 8.3% or 9,500m² of this total. Westfield Whitford City currently has entertainment uses including a tavern, a six-screen cineplex and a Timezone amusement arcade totalling 5,883m², the balance of the 9,500m² floorspace is civic and cultural.

Analysis of typical entertainment provision (e.g. cinemas, bowling, tavern,) within Australian shopping centres indicates that centres with 100,000m² retail floorspace usually provide about 8,000-14,000m² pure entertainment. Having regard to population driven market share and industry benchmarks, it is therefore reasonable to provide an additional 6,500m² entertainment at Whitford in the next 15 to 20 years, increasing Whitford Activity Centre's share of the North-West Sub-Region entertainment provision to 9.7%.

Centre Maturity

The setting of targets for activity centres does not address how the centre will mature over time. This maturation process will be driven by the quality of economic activity rather than simply its quantity and is important to consider as different elements of activity (and therefore performance measures) are interrelated, with some occurring earlier and acting as a precursor for later activity.

In the case of Whitford Activity Centre, maturity modeling shows how activity centre performance across intensity, diversity, employment and accessibility measures changes over the 21 years to 2031.

The key observations are:

- Initially diversity of activity will decrease to accommodate immediate demand for retail.
- Increased intensity (particularly residential) and diversity performance is reliant on improvements in accessibility.
- Employment performance will initially depend on population-driven, consumer services before significant agglomerations of activity drive the presence of knowledge intensive consumer services and producer services.
- All performance measures are likely to meet average performance level by 2031.

In response to market demand and share in the North-West Sub-Region by 2031 Whitford Activity Centre will provide:

- 5366 jobs (2914 additional).
- 20,975m² (15,000m² additional) office.
- 95,000m² (43,000m² additional) shop retail.
- 15,500m² (7,000m² additional) bulky goods.
- 12,380m² (6,500m² additional) entertainment.

Figure 56 indicates the current and future performance scores for Whitford Activity Centre compared to "best of type" secondary centres as the centre matures.

Whilst the current and future "Diversity" scores are considered to be average (or just below average) when compared to other "best of type" secondary centres, it is critical to note that the minimum 40% diversity target required by SPP 4.2 is still being satisfied. It is also important to note that whilst the Whitford Activity Centre will mature to function as a more mixed use based centre, it does and will always have a larger retail component as compared to other smaller secondary centres. Furthermore, given the centres proximity to Joondalup, there is limited capacity and ability to provide additional commercial/office floor space that is and should predominantly be provided for by Strategic Metropolitan Centre such as Joondalup.

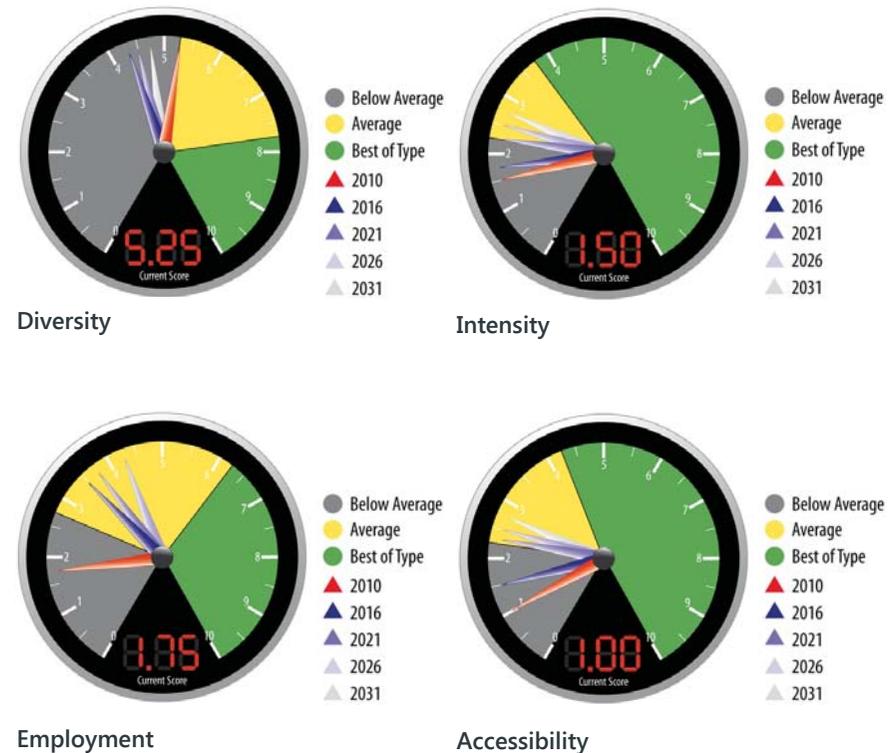


Figure 56. Centre maturity scores

Source: Pracsys

2.5.4 RESOURCE CONSERVATION

Directions 2031

A sustainable city-we should grow within the constraints placed on us by the environment we live in

Whitford Activity Centre will represent best practice sustainable development through increased intensity of uses including housing close to public transport; efficient use of scarce inner urban land and more effective use of resources and transport. This will be achieved through a range of measures including promotion of public and active modes of transport and through building and public space design.

The existing buildings at Whitford Activity Centre are of a variety of ages and generally do not comply with current best ESD practice. Redevelopment will provide an opportunity for innovative and best practice building design, construction and management. This is particularly important in a large retail core where energy demands are high. Westfield will adopt 4.5 star green star specifications (pilot) for any development within Whitford Activity Centre. Buildings will be designed to meet objectives such as to:

- Protect occupant health and improve employee productivity.
- Use energy, water, and other resources more efficiently.
- Reduce overall environmental impact.

Both building shells and tenancy fit-outs will be subject to green star specifications. In addition, Section J of the Building Code of Australia now requires energy efficiency in buildings and the National House Energy Rating Scheme (NatHERS) (minimum 5 Star) will be applicable to residential development. Where appropriate the reuse of existing buildings will be considered to contribute to resource conservation.

Energy

Energy saving will be promoted through encouraging alternatives to car travel with improved public transport, better pedestrian connectivity, walkable streets, cycle access and end of trip facilities. Buildings will be climate responsive with orientation for optimum solar access, natural ventilation, and daylight; and a thermally efficient building shell. Energy efficiency will be achieved through such measures as high-efficiency lighting systems with advanced controls and appropriately sized, energy-efficient air conditioning systems.

Renewable energy use will be optimised including use of solar water heating and on-site energy generation. Renewable energy and district-wide sources could be incorporated at Whitford Activity Centre subject to life cycle costing. This could include PV solar panels that also provide shading to car park decks as well as investigation into wind and geothermal energy in the future.

Materials and Waste

Whitford Activity Centre will adopt sustainable strategies for material use and waste both in construction and during occupancy. In retail development this can be significant as there are refurbishments on a regular basis and material reuse is often limited.

Groundwater and Surface Water

Consultants Essential Environmental were engaged to undertake a water balance report to identify and quantify opportunities for efficiency and innovation in water servicing for the site based on currently available information. The water balance report provides an estimate of the various water demands in the study area with consideration of land use, resident and student populations, water consumption records (where available) and typical Perth water consumption information from the Water Corporation. A copy of the Water Balance Report is provided as Appendix B4.

Key matters that were identified in the Water Balance Report include the following:

- Existing water used in the study area is sourced from the Water Corporation's Integrated Water Supply Scheme and from a number of privately operated groundwater bores.
- There are 3 listed groundwater abstraction licences in the area, including:
 - 22,000kL/year held by Westfield.
 - 40,500kL/year held by St Marks Anglican Community School.
 - 1,905,050kL/year held by the City of Joondalup for multiple properties.
- It is estimated that based on a 'business as usual' scenario total water demands for the Activity Centre Structure Plan area will increase from 158,233kL/year (Integrated Water Supply Scheme) to 313,456 kL/year, with groundwater demand continuing at 70,000 kL/year.
- Potential demands savings of 50,000kL/year associated with the Integrated Water Supply Scheme could potentially be achieved through increased efficiency and use of alternative 'fit-for-purpose purposes', including groundwater, rainwater and recycled water.
- Consider opportunities to incorporate fit-for-purpose water supplies through development of a local scale water balance which investigates opportunities to:
 - Recycle greywater from public bathroom basins for use in public toilets.
 - Harvest stormwater from roof areas for use in public bathroom basins.
- Develop and implement design guidelines which require water use efficiency measures to be implemented in private and public open spaces and within developments, including:
 - water efficient fixtures, fittings and appliances, including WELS (Water Efficiency Labelling and Standards) rated flow controllers, toilets, taps and urinals.
 - landscaping which incorporates the use of waterwise gardens, rain gardens, smart irrigation systems, and use of alternative sources of water.
 - smart metres for water use in all new developments.
- Incorporate fit-for-purpose supply options and requirements into design guidelines.

The Activity Centre Structure Plan makes provision for the implementation of a water efficiency strategy, based on the following actions:

- Maximise efficiency of groundwater usage for irrigation of any additional open spaces through appropriate landscape design so that additional allocations are not required.
- Consider opportunities to reduce irrigation needs of existing open space areas through re-landscaping and hydrozoning, whilst retaining drainage and recreational functions of these areas.

2.5.5 UTILITIES

An assessment of existing utilities and future requirements was completed by consultants Cardno. Their report is provided as Appendix B2 to this structure plan. The following provides a summary of the key findings.

Gas

ATCO Gas own and maintain the mains gas reticulation in the area. It is understood that the existing network has sufficient capacity to support the anticipated growth within the structure plan area. As the existing gas reticulation traverses the shopping centre development area, it is not anticipated that any additional mains supply will be required. Some upgrading of meters may be required, depending on the final requirements of Alinta. It is not expected that access to gas will be a significant constraint on development within the structure plan area.

Power

Western Power is the governing authority for the management and production of power in Western Australia. A detailed feasibility study will be required and it is proposed that such a study be completed in parallel with the progression of the structure plan and ahead of any significant development within the structure plan area. It is considered that any need for upgrading to existing substations and/or construction of new substations can be readily accommodated within the structure plan area.

Capacity within the existing power network may be a constraint in the short-term, however the progressive significant development of the structure plan area is capable of being effectively planned for, in conjunction with Western Power. Overall, it is not expected that access to power will be a significant constraint on development within the structure plan area.

Telecommunications

Telstra currently service the structure plan area through 2 x 200 leader cables, providing for 400 connections. Depending on detailed design, and if there is the need for in excess of 400 connections, an additional leader cable may be required and it is understood that this can be pulled through the existing pit and pipe network.

With regard to the proposed residential component of the development, a much larger amount of cabling and trenching will be required. It differs from the shopping centre in that there is not one central leader cable that can service all the residences. Each dwelling will require a separate cable and connection which would increase costs due to traffic management as well as the material and trenching expenses. It is not expected that access to telecommunications infrastructure will be a significant constraint on development within the structure plan area.

Water

Currently there is infrastructure within the structure plan area including a 150mm concrete water reticulation pipe along Banks Avenue and a 610mm distribution main running along Whitfords Avenue and Marmion Avenue. With the proposed development, it is anticipated that demand may increase from 350-400L/min at peak times to between 600-700L/min. A full breakdown of the anticipated annual consumption is provided within the water balance report provided as Appendix B4.

To accommodate the proposed development within the structure plan area, some minor upgrading of infrastructure is expected to be required, including for example the connection of the 150mm reticulation main running along Banks Avenue to the 610mm distribution main along Marmion Avenue, in order to provide sufficient pressure. It is not expected that access to water related infrastructure will be a significant constraint on development within the structure plan area.

Wastewater

The structure plan area is currently situated between two Water Corporation catchment areas, one transporting waste to the north and the other transporting wastewater to the south. As a result, there are two current major connections being a 150mm connection on endeavour road, transporting wastewater to the south and a 230mm connection across Whitfords Avenue into the Dampier Avenue wastewater pump station. The existing pump station has sufficient capacity to accommodate an additional 5L/sec.. Should volumes exceed 5L/sec, a new storage tank may be required within the structure plan area.

A detailed feasibility study will be required and it is proposed that such a study be completed in parallel with the progression of the structure plan and ahead of any significant development within the structure plan area. It is not expected that access to water related infrastructure will be a significant constraint on development within the structure plan area.

Drainage

The existing Retail District catchment is predominantly impervious (hard surface) therefore any further development within the catchment would arguably require minimal upgrade to the existing detention/ infiltration capacity of the existing system. There is the possibility that existing detention/infiltration capacity may need to be upgraded. The Retail District will require approximately 24,400m³ of total detention/ infiltration capacity. Further detailed assessment and design will be required ahead of any significant development within the structure plan area.

The development area does present the opportunity for the reuse of stormwater for irrigation and greywater, as part of the detailed planning for the site. The water balance report prepared by Essential Environmental is provided as Appendix B4. It is not expected that access to drainage related infrastructure will be a significant constraint on development within the structure plan area.

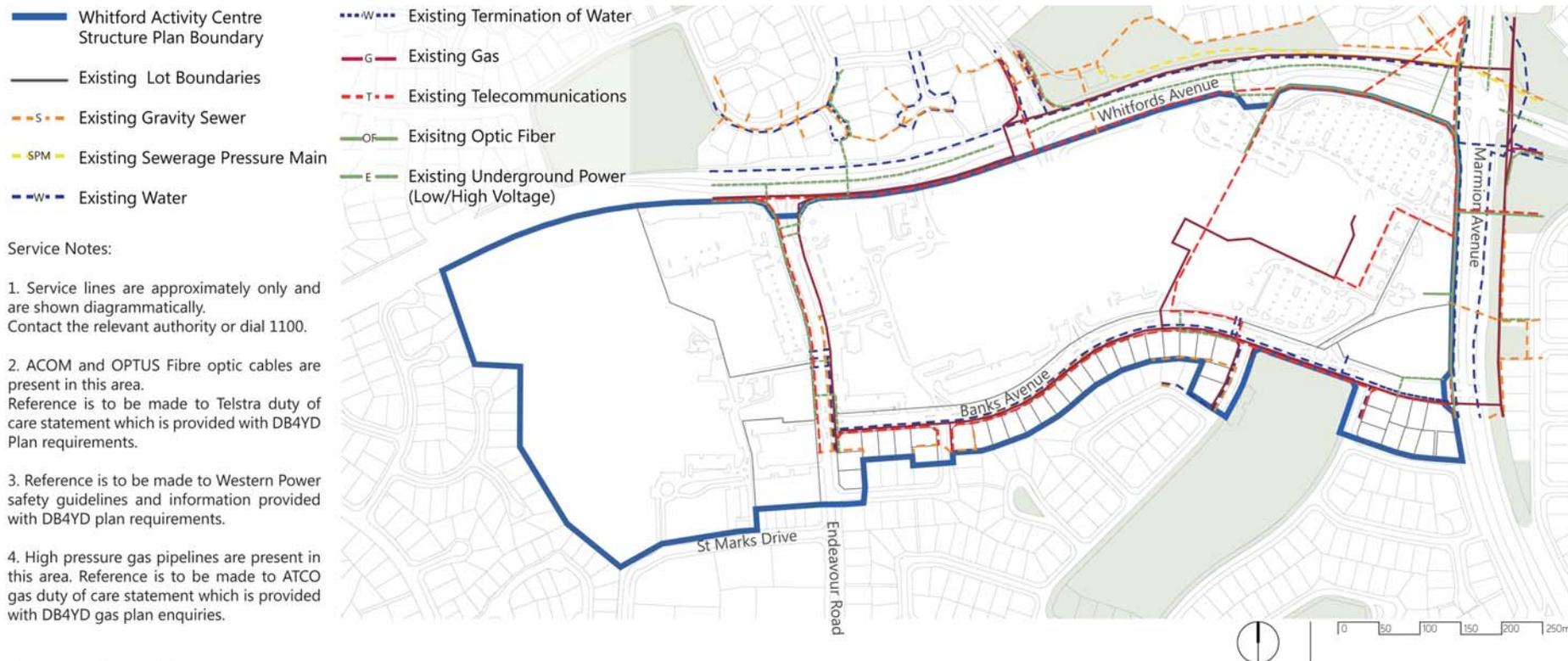


Figure 57. Site Utilities

2.6 PROPOSED ACTIVITY CENTRE STRUCTURE PLAN

The WACSP provides a framework for future development within the boundary of the Whitford Activity Centre, consistent with Directions 2031 and beyond and SPP4.2. It has been prepared having regard to the WAPC's employment and housing targets and to the demographic and socio economic context of the North-West Sub-Region. The existing site conditions and the Model Centre Framework considerations described in the previous chapters have also been taken into account.

This section describes the various elements of the Structure Plan including:

2.6.1 VISION AND OBJECTIVES

2.6.2 STRUCTURE PLAN MAP

2.6.3 DISTRICT DESIRED CHARACTER

2.6.4 INDICATIVE DEVELOPMENT PLAN

2.6.1 VISION AND OBJECTIVES

The overall vision for the Whitford Activity Centre is:

Whitford Activity Centre will become the vibrant commercial, cultural and residential heart of Hillarys and the wider area. Some people will live in the centre, while others will visit to work, learn, be entertained, to meet others, or to participate in community and cultural activities. Changing lifestyle demands, sustainability considerations and an overriding objective to satisfy the needs of the local community and wider metropolitan area, will drive the future urban structure and physical fabric of the activity centre. The intensity of the urban form and the blending of uses will foster accessibility, with emphasis on walking, cycling and public transport. The everyday experience of the main street will make it as easy and attractive to walk, cycle or take public transport, as it is to travel by car. A diverse mix of activities, including a more diverse range of housing types, will promote day and night time activity in an interesting and safe environment.

Successful transformation of Whitford Activity Centre in the next 20 years will be reliant on continuing successful retail activity acting as a catalyst to attract other activities. The retail core will provide the intensity and visitation necessary to stimulate and support other diverse activities leading to an increased range and intensity of employment within the centre.

Redevelopment of the retail core in response to market demand in the next few years will facilitate the amenity and urban structure to support apartments and other dwellings, thereby increasing residential intensity and diversity in the centre. This increase will contribute to state and local government housing targets, whilst limiting detrimental impacts on the amenity of the surrounding suburbs.

Contemporary urban form will be showcased and set in tree-lined, pedestrian scaled streets. The various design elements will come together to create an activity centre of intensity and substance that is distinct from, although integrated with, the surrounding areas and has a unique and appropriate sense of place.

The objectives of the WACSP are to provide:

Context

Development guidance consistent with Whitford Activity Centre's role and function as a secondary centre as defined by SPP 4.2.

Movement

Access to an improved regional high frequency bus service and a cycle network connecting Whitford with other sub regional attractors, the Whitfords train station and the Perth CBD.

A public realm that encourages walking and use of alternative modes of transport whilst enabling adequate access and parking for private vehicles, to ensure a wide range of activities where high visitation can flourish.

Activity

A focus for intense and diverse retail, commercial, residential, education, community and cultural, entertainment and leisure activities to serve the catchment population; and that are complementary to other centres in the North-West Sub-Region and the City of Joondalup.

Appropriate levels of hard and soft infrastructure for these activities to co exist and flourish at Whitford as an important community node.

A local employment focus contributing to employment self sufficiency targets for the North-West Sub-Region and the City of Joondalup.

Urban Form

A robust and flexible urban structure and built form that is responsive to changing community aspirations and increased intensity and diversity of activity, whilst respecting the amenity of surrounding residential areas.

A vibrant and pedestrian friendly street based public realm.

A unique and appropriate visual character and identity using high quality architectural, spatial and landscape design.

Resource Conservation

Reduced dependency on private cars thereby reducing energy consumption through aggregation of activities in a walkable centre and improved public transport access to the centre.

Energy and water efficiency in buildings and open spaces through application of ESD principles.

Implementation

A development framework that provides certainty for staged investment, whilst offering flexibility to account for changing market conditions and community needs.

2.6.2 STRUCTURE PLAN MAP

The Structure Plan Map indicates the general planning framework for land within the WACSP boundary. Four districts are defined within the centre boundary. A new main street district (Endeavour District) is proposed along Endeavour Road as the focus for increased intensity and diversity of activity within the centre. Three other districts, with different functions and characters are shown adjacent and connected to the main street district to the west, east and south.

The Structure Plan Map indicates residential density coding applicable to each district. Housing is encouraged to provide for people to live within walking distance of the amenities of the centre and an increased diversity of dwelling choice. The focus for this housing will be the Endeavour District with housing also encouraged in the Banks and Retail Districts.

The Structure Plan Map indicates key movement and access elements within the centre. Primary vehicle access points are also indicated on the map.

The Structure Plan Map indicates six landmark and community focal point locations within the centre. These locations are within the Retail and Endeavour Districts. Development standards for these landmark locations are included in Part 1 Statutory Planning Section with the intention of enhancing the sense of arrival and place at the centre.

-  Whitford Activity Centre Structure Plan Boundary
 -  District Boundary
 -  Existing Lot Boundary
- Districts**
-  Retail
 -  Banks
 -  Endeavour
 -  Education and Civic
- Residential Coding**
-  R-AC 0
 -  R80
- Other**
-  Main Street
 -  Landmark Site
 -  Community Focal Point
 -  Primary off street pedestrian connection
 -  Future vehicle connection (subject to Detailed Area Plan)
 -  Indicative primary vehicle access point
 -  Indicative primary vehicle access point (Left-in/ left-out only)
 -  Indicative primary vehicle access point (Left-in only)
 -  Existing controlled intersection (Traffic Lights)
 -  Proposed controlled intersection (Traffic Lights)

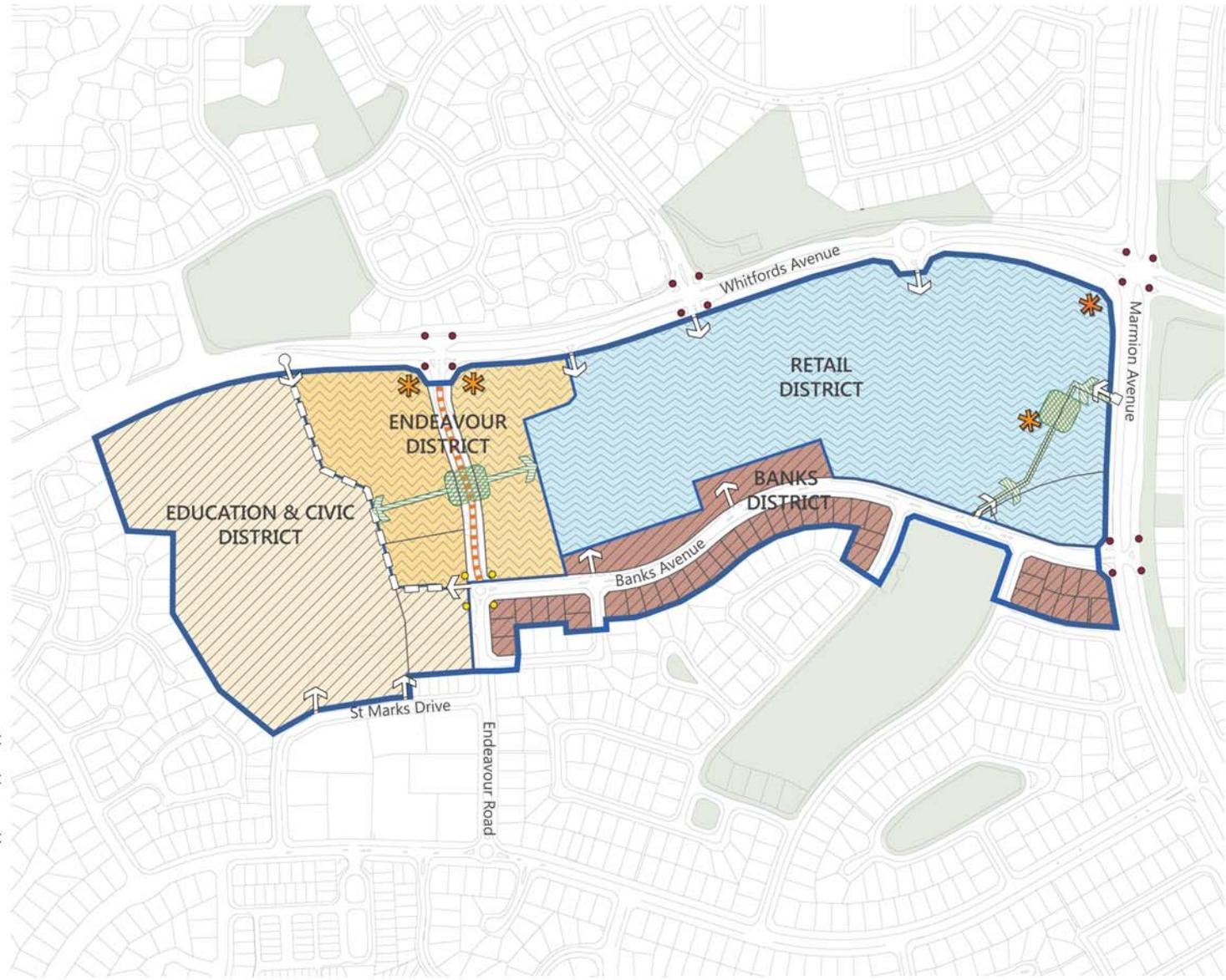


Figure 58. Structure Plan Map



2.6.3 DISTRICT DESIRED CHARACTER

Each district indicated on the Structure Plan Map has a proposed desired character and objectives for future development. The desired character for the four districts is described below and also included in the Part 1 provisions of this document.

Endeavour District

The Endeavour District will become an intense and diverse urban environment with a focus on street based activity. It will be vibrant, well landscaped and pedestrian friendly and will provide a diverse range of activity including housing, shops, offices and community uses. Activities that contribute to evening street life and provide interesting and activated frontages will be encouraged. Rear access for vehicles will be resolved in Local Development Plans to limit vehicle crossovers along Endeavour Road and buildings will be up to 8 storeys , set back behind 3 storey elements at the street front.

The focus of the district will be the Endeavour Community Square which will connect the retail district with the education and civic district and will become a community meeting place for surrounding residents.

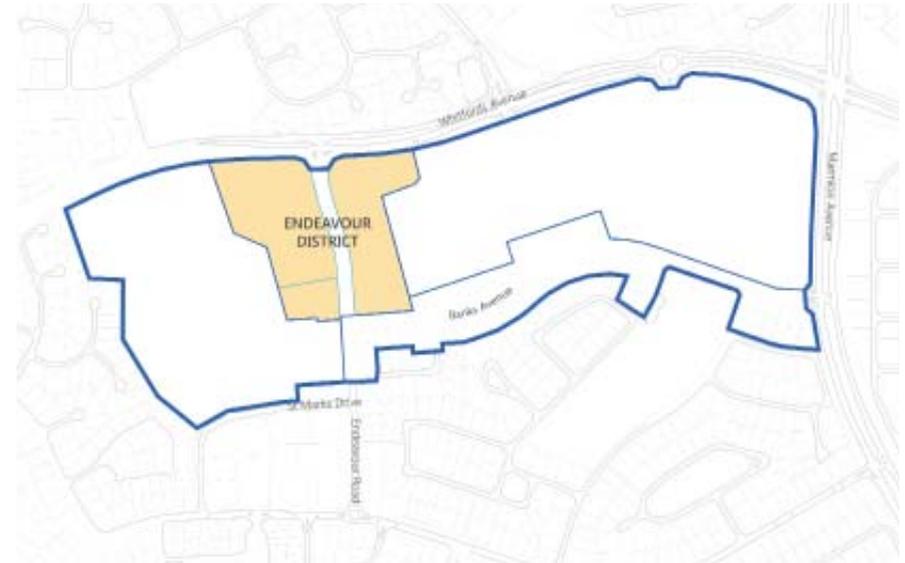


Figure 59. Endeavour District location map



Diversity and Intensity

Retail District

The Retail District will provide residents and visitors with convenient access to a mix of retail, office, leisure, entertainment, recreation and community facilities within both new and renovated buildings that respond to current consumer and community demands and desires. The district will be characterised as a destination that is vibrant and accessible with a unique character and sense of place, evolving from the retail activity of the centre. Multi level connections that address the districts existing topography will maximise accessibility.

New buildings to the eastern end of the shopping centre will provide an enhanced address to Marmion Avenue as well as attractive frontages to both Whitfords Avenue and Banks Avenue. Buildings will be similar in height to existing whilst providing for deck car parking and two floor levels(20.0m) of retail activity. A new north-south pedestrian connection (Marmion Promenade) will add to this sense of arrival and address, whilst the southern edge of the retail buildings will respond to the character of the Banks District.

To the west end, the retail district will interface with the Endeavour District. There will be a pedestrian mall connection leading to Endeavour Community Square. The large format retail buildings will be sleeved with buildings in the Endeavour District.

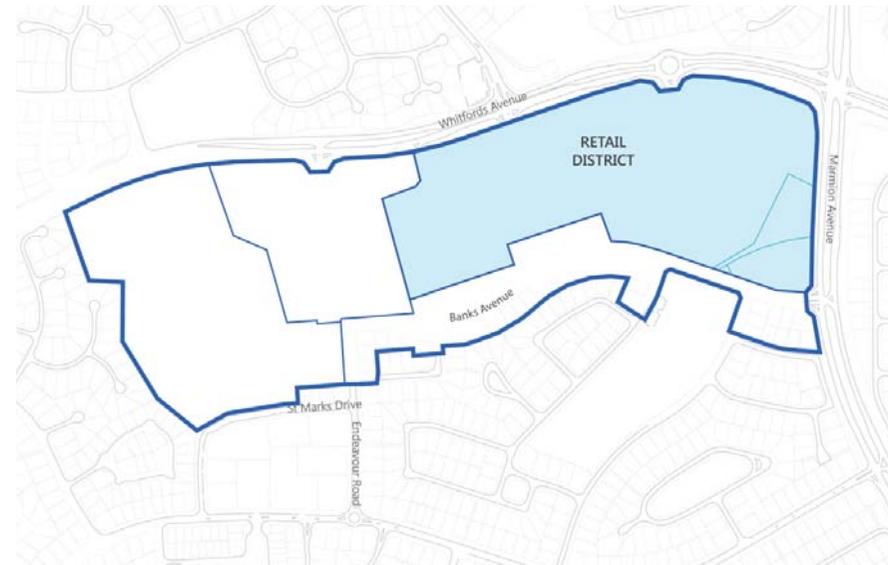


Figure 60. Retail District location map



Banks District

The Banks District will be characterised by transition in both activity and built form. A range of uses including residential and offices will be encouraged. Banks Avenue will become more urban in character with buildings up to 3 storeys fronting the street on both sides. On the south side, adjacent developments will potentially have shared access to rear parking areas. Care will be taken to retain the amenity of residential properties that back on to development in this district.

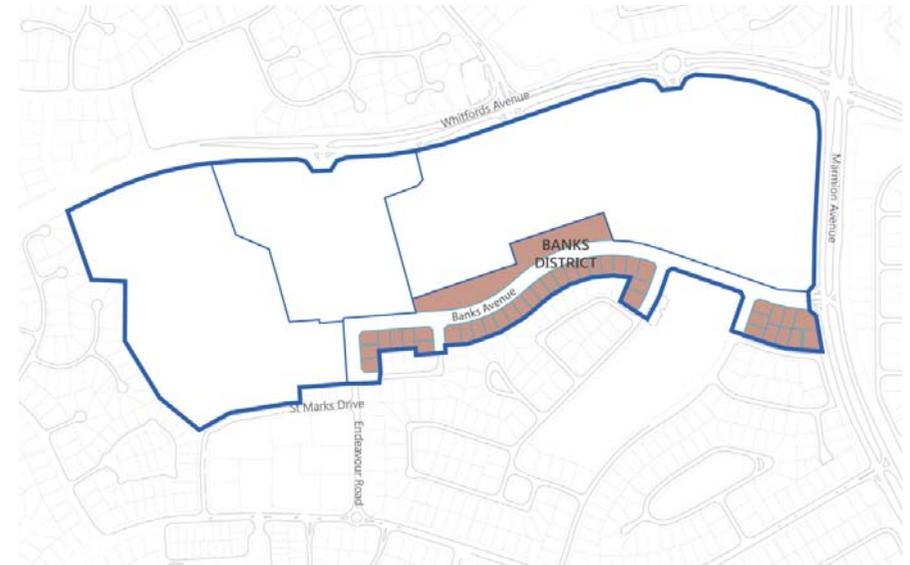
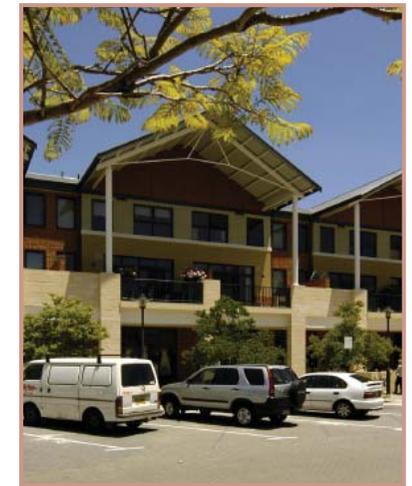


Figure 61. Banks District location map



Education and Civic District

The Education and Civic District will generally be characterised by campus style buildings set in landscape. There is potential for additional community facilities to be located in this district to provide diversity of activity in proximity to Endeavour Road. Buildings within the district will take account of R code requirements for overlooking and overshadowing impact on the school and community buildings.

Improvements to vehicle access in the district will be detailed in future local development plans.

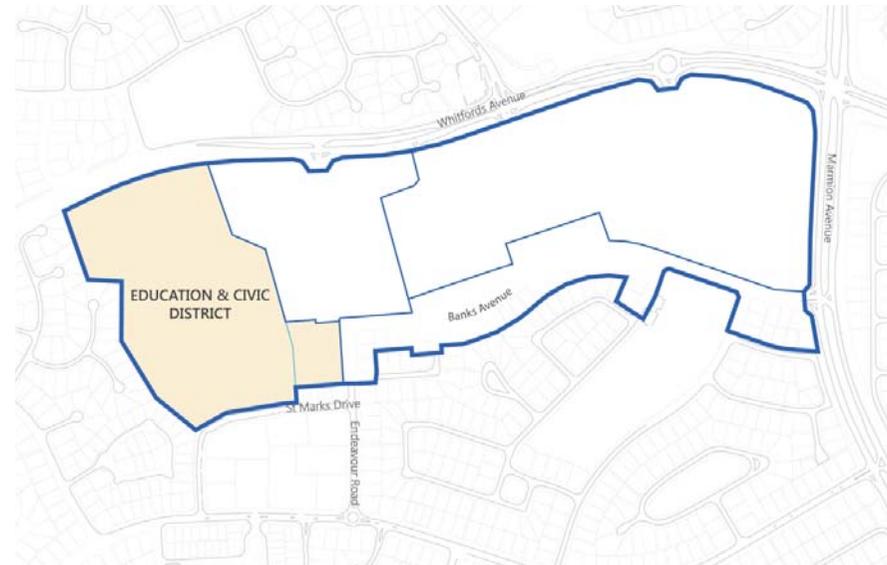


Figure 62. Education and Civic District location map



2.6.4 INDICATIVE DEVELOPMENT PLAN

The Indicative Development Plan for Whitford Activity Centre illustrates one scenario for future development that is consistent with the vision and objectives for the centre. Specifically, the plan illustrates the full expansion of the shopping centre with new internal malls and retail outlets as well as a refreshed exterior appearance, that reflects the transition of Whitford from a suburban shopping centre to an urban activity centre with increased intensity and diversity of activity and urban form.

The shopping centre will have improved street interface and connections to all surrounding streets to suit anticipated pedestrian footfall. 2 community nodes are proposed to enliven the 2 ends of the centre. Marmion Promenade will be developed at the east end on Westfield land in the retail district. It will give the centre a new character and address on Marmion Avenue. Endeavour Community Square, to the west end of the centre, will be connected to the shopping centre via an activated laneway. It will be the focal point of the mixed use Endeavour district where the majority of new housing will be located in future years.

The plan illustrates the development of approximately 670 dwellings in the Endeavour district. These dwellings will be predominantly apartments above podiums for parking. Where the podiums front Endeavour Road, the ground level will be predominantly active commercial uses, particularly around the square which will become a lively evening destination. The housing will be provided in a range of building types from apartments to terrace housing, with heights generally about 3 to 4 storeys and up to 6 to 8 storeys in some locations.

The Banks District is indicated as a transitional mixed-use area between the evolving urban activity centre and the suburban setting to the south. The Indicative Development Plan reflects that the area will evolve over a longer period of time, given the age and value of existing housing stock.

Residential Yields for the Endeavour district indicated on the plan are as follows:

Apartments	- 582 dwellings.
Walk-up Apartments	- 66 dwellings.
Terraces	- 25 dwellings.
Total	- 673 dwellings.



Figure 63. Indicative Development Plan

2.7 IMPLEMENTATION

Statutory Approval Process

The WACSP is required to be considered and adopted by the City of Joondalup in accordance with the provisions of Section 9 of the Scheme. It is important to note that pursuant to Clause 9.1 of the Scheme, the City of Joondalup requested the preparation of the WACSP at its 18 September 2012 Ordinary Council Meeting.

As part of this process, following adoption by the City, the WACSP is then required to be determined by the WAPC (as required by Section 6.4.1 of SPP 4.2). Amendments to the WACSP thereafter initial approval will be required to be considered and determined in accordance with Clause 9.7 of the Scheme.

Subdivision and development within the WACSP area, is to be determined in accordance with (but not limited) the requirements of the approved Structure Plan and the Scheme.

Development Staging

This Structure Plan has been prepared to assist and guide development of the centre for the next 20 years (2031) to align with Directions 2031.

The Retail District identified within the Structure Plan is composed predominantly of the large single land ownership of Westfield Whitford City shopping centre. There is substantial investment in the built form of the shopping centre which undergoes revitalisation on a regular basis. This gives Whitford Activity Centre a significant opportunity to redevelop from the core outward, in well planned stages that are co-ordinated and sustainable.

Staging of development at Whitford Activity Centre will be dependent on market driven demand for services and housing. The current lag in supply of retail floorspace in the North-West Sub-Region created by the now removed floorspace caps, provides an opportunity for a major redevelopment in the very short term. This will bring benefits of a revitalised shopping centre that will act as a catalyst for further investment in the area and will be designed in accordance with the principles set out in the structure plan. Furthermore this expansion and revitalization will establish a built form character precedent for the broader Whitford Activity Centre.

It is not appropriate to identify definitive staging in the WACSP. There are many factors that will influence the rate and extent of redevelopment as Whitford Activity Centre evolves from the existing suburban separated model to an integrated street based urban structure.

Factors influencing staging and timing include:

- Sub regional population employment growth.
- Existing tenure and leasing arrangements.
- Planning context enabling development to proceed in a timely, unencumbered manner.
- Transport context-improvements to bus services and street walking environment.
- Local community acceptance and market desire for a more urban intense residential model including apartments.
- Provision of appropriate community and utility infrastructure.
- Local and sub regional commercial competition-the impact of other activity centres.
- Construction costs and industry conditions.
- Sense of place, ambience (and branding) that will attract more diverse activities inc housing to co-locate.
- Visitation rates and commercial success of Whitford Activity Centre that will also attract activity.

Westfield Limited are however, committed to the broader redevelopment of their Whitford landholdings (which includes almost all of the Endeavour Road District, as well as the Retail District) and striving to achieve a diverse and vibrant mixed use centre, consistent with the intent and requirements of SPP 4.2.

Ongoing Initiatives

To ensure the successful implementation of the project, it is necessary that the commitment to undertake works and ongoing responsibilities that will be carried out by the stakeholders are defined clearly outlining those requirements and initiatives.

ITEM	ACTION	RESPONSIBILITIES
Statutory and Strategic Planning Framework		
WACSP Approval	WACSP to be adopted by City of Joondalup and approved by the WAPC in accordance with the Scheme and SPP 4.2	City of Joondalup and the WAPC.
Modification of Draft Local Commercial Strategy	Modify the Draft City of Joondalup Local Commercial Strategy to align with SPP 4.2.	City of Joondalup
Local Development Plans	Preparation of individual Detailed Ares Plans as required by the relevant District Development Standards	Westfield Ltd and other landowners as required.
Management Plans and Strategies		
Urban Water Management Plans	Preparation of Urban Water Management Plans for major development or development areas as required.	Westfield Ltd. or other landowners as required
Community Engagement Strategy	Preparation of Community Engagement Strategy for WACSP and redevelopment and expansion thereof	Westfield Ltd and City of Joondalup.
Environmental Management Plan	Prepare of various environmental management plans (i.e. site contamination) as required	Westfield Ltd or other landowners as required
Traffic Management Plans	Preparation of traffic and access strategy's and statements as required by the City of Joondalup.	Westfield Ltd or other landowners as required.
Provision of Services		
Internal Service Infrastructure	Westfield Ltd to design and implement all internal service and infrastructure upgrades associated with the Whitford City Shopping Centre, to the satisfaction of the City of Joondalup.	Westfield Ltd
Other		
Community Facilities	Identification and delivery of a new community facilities building within the WACSP	City of Joondalup.

Table 4. Ongoing initiatives

2.8 APPENDICES

Appendix A - Schedule of Existing Lots

LOT	PLAN	AREA	DESCRIPTOR	ADDRESS	ZONE
501	P11792	19.781ha	Main Westfield lot	470 Whitfords Avenue	Commercial
503	D56725	8001m ²	Library, senior citizens centre etc.	Lot 503 Banks Avenue	Civic and Cultural
9089	P183920	8797m ²	Open space next to community centre near intersection of Marmion Avenue and Banks Avenue	Lot 9089 Banks Avenue	Parks and Recreation (local reserve)
6	D71688	2.8732ha	Bunning's and showroom lot	37 Endeavour Road	Business
14284	P28236	8594m ²	Commercial/child care uses and Department of Child Protection etc.	21 Endeavour Road	Civic and Cultural
181	P28236	10.718ha	St Marks Anglican Community School	20 St Marks Drive	Private Clubs/ Recreation
278	P9878	697m ²	Residential Property on Venus Way (corner of Endeavour Road)	1 Venus Way	Residential 20
279	P9878	690m ²	Residential Property on Endeavour Road (middle)	22 Endeavour Road	Residential 20
280	P9878	697m ²	Residential Property on Endeavour Road (At corner with Banks Avenue)	24 Endeavour Road	Residential 20
281	P9878	684m ²	Residential Property on Banks Avenue (between Banks Avenue and Venus Way)	62 Banks Avenue	Residential 20
282	P9878	684m ²	Residential Property on Banks Avenue (between Banks Avenue and Venus Way)	60 Banks Avenue	Residential 20
283	P9878	684m ²	Residential Property on Banks Avenue (between Banks Avenue and Venus Way)	58 Banks Avenue	Residential 20
272	P9878	697m ²	Residential Property on Venus Way (corner of Banks Av)	23 Venus Way	Residential 20
273	P9878	690m ²	Residential Property on Venus Way	21 Venus Way	Residential 20
226	P9878	909m ²	Residential property on Banks Avenue (corner Venus Way)	54 Banks Avenue	Residential 20
227	P9878	684m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	54 Banks Avenue	Residential 20

227	P9878	684m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	52 Banks Avenue	Residential 20
228	P9878	683m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	50 Banks Avenue	Residential 20
229	P9878	683m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	48 Banks Avenue	Residential 20
230	P9878	683m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	46 Banks Avenue	Residential 20
231	P9878	683m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	46 Banks Avenue	Residential 20
232	P9878	684m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	42 Banks Avenue	Residential 20
233	P9881	684m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	40 Banks Avenue	Residential 20
234	P9881	683m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	38 Banks Avenue	Residential 20
235	P9881	683m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	36 Banks Avenue	Residential 20
236	P9881	683m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	34 Banks Avenue	Residential 20
237	P9881	683m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	32 Banks Avenue	Residential 20
238	P9881	683m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	30 Banks Avenue	Residential 20
239	P9881	683m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	28 Banks Avenue	Residential 20
240	P9881	683m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	26 Banks Avenue	Residential 20
241	P9881	715m ²	Residential Property on Banks Avenue (between Venus Way and Green Road)	24 Banks Avenue	Residential 20
242	P9881	714m ²	Physiotherapy clinic on Banks Avenue (between Venus Way and Green Road)	22 Banks Avenue	Residential 20 A16 (Medical Centre)
243	P9881	949m ²	Dental Clinic on Banks Avenue (at corner of Green Road)	20 Banks Avenue	Residential 20 A15 (Medical Centre)

244	P9881	683m ²	Commercial Property on Green Road	31 Green Road	Residential 20 A17 (Medical Centre)
245	P9881	968m ²	Medical Centre on Green Road 29 Green Road	29 Green Road	Residential 20 A18 (Medical Centre)
3	P9880	682m ²	Residential Property on Solander Road (at corner of Banks Avenue)	48 Solander Road	Residential 20
4	P9880	683m ²	Residential Property on Banks Avenue (between Solander Road and Marmion Avenue)	6 Banks Avenue	Residential 20
5	P9880	683m ²	Residential Property on Banks Avenue (between Solander Road and Marmion Avenue)	4 Banks Avenue	Residential 20
6	P9880	1246m ²	Residential Property on Banks Avenue (at corner of Marmion Avenue)	2 Banks Avenue	Residential 20
7	P9880	955m ²	Residential Property on Solander Road (at corner of Marmion Avenue)	22 Monkhouse Way	Residential 20
8	P9880	687m ²	Residential Property on Monkhouse Way (between Marmion Avenue and Solander Road)	24 Monkhouse Way	Residential 20
9	P9880	684m ²	Residential Property on Monkhouse Way (between Marmion Avenue and Solander Road)	26 Monkhouse Way	Residential 20
10	P9880	688m ²	Residential Property on Monkhouse Way (between Marmion Avenue and Solander Road)	28 Monkhouse Way	Residential 20
11	P9880	683m ²	Residential Property on Solander Road (at corner with Monkhouse Way)	44 Solander Road	Residential 20
12	P9880	684m ²	Residential Property on Solander Road (between Monkhouse Way and Banks Avenue)	46 Solander Road	Residential 20

Appendix B - List of accompanying documents

- 1 - Retail Sustainability Assessment, Whitford Activity Centre Expansion (November 2012) Urbis
- 2 - Whitford City Shopping Centre Servicing Report (October 2012) Cardno
- 3 - Whitford Activity Centre Structure Plan Transport Report (November 2012) Cardno
- 4 - Whitfords Shopping Centre Urban Water Balance Assessment (November 2012) Essential Environment



Retail Sustainability Assessment

Whitfords Activity Centre Expansion

November 2012

DISCLAIMER

This report is prepared on the instructions of the party to whom or which it is addressed and is thus not suitable for use other than by that party. As the report involves future forecasts, it can be affected by a number of unforeseen variables. It represents for the party to whom or which it is addressed the best estimates of Urbis Pty Ltd, but no assurance is able to be given by Urbis Pty Ltd that the forecasts will be achieved.

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Executive Summary

The main findings and conclusions in relation to the Retail Sustainability Assessment outlined in this report are as follows:

- The Whitfords Activity Centre, by way of the Westfield Whitford City shopping centre, has been performing an important shopping function for residents of the middle and outer northern coastal suburbs of Perth since it opened in 1978. Whitfords Activity Centre serves a key destination for both convenience and discretionary shopping needs.
- Whitfords Activity Centre is strategically located at the intersection of two main arterial roads in the region, namely Marmion Avenue and Whitfords Avenue. This high profile location enables the centre to be easily accessible from the existing and developing northern coastal suburbs of Perth. The centre is well served by the suburban bus network, with several routes linking with the Whitfords railway station.
- The retail facilities within the Whitfords Activity Centre draw trade from throughout the North West Sub-Region of Perth and beyond this area, notably the immediate suburbs to the south. Based on exit survey information and key trade area definition parameters, the main trade area served by the Whitfords Activity Centre extends between 5 and 7 km from the centre. Reflecting the centre's usage by consumers and the typical dispersed nature of shopping patterns, some 25% of retail turnover at Whitfords Activity Centre is sourced from markets outside the main trade area. This is and will continue to be an important market in support of retail facilities at the Whitfords Activity Centre.
- As of June 2011, the main trade area of the Whitfords Activity Centre contained approximately 145,000 people, which is within the indicative guidelines as set out in the Activity Centres Policy for Perth and Peel. Over the period to 2031, the main trade area population is forecast to increase to 158,000 people. In the North West Sub-Region of Perth, resident population is forecast to increase by approximately 176,000 between 2011 and 2031, to 498,000 by 2031.
- Ongoing population growth and real growth in retail spending per capita will increase the size of the retail market available to Whitfords Activity Centre and other centres throughout the region. Within the main trade area, the retail spending market is forecast to increase by \$219 million between 2012 and 2016 and \$936 million between 2012 and 2031. Retail spending by residents in the North West Sub-Region is forecast to increase by about \$4.3 billion to 2031 (all expressed in constant \$2012 excluding GST). This growth in retail spending will increase demand and market capacity for more retail floorspace at Whitfords and other centres in the region.
- Joondalup serves as the Strategic Metropolitan Centre for the middle to outer northern coastal region of Perth. There is also several Secondary Centres in the general area, including Wanneroo, Clarkson and Warwick. These centres are smaller in scale and do not have as prominent a retail role as the Whitfords centre. Within and on the border of the main trade area there are five District Centres which complement Whitfords as one of the highest order centres in the area. The assessment to 2016 allows for new retail development at several centres including Joondalup; Clarkson, and Madeley.
- Whitfords is a popular centre and trades well with an average turnover productivity around 11% higher than comparable centre benchmarks. The centre's market share however is low at 12.8% of main trade area retail spending. This premium trading performance but low market share indicates there is good market capacity for a broader range of retailing at the Whitfords centre.
- The market need and demand in support of expansion of Whitfords activity centre to 90,000 sq.m by 2016 and 95,000 sq.m between 2016 and 2026 is demonstrated by the following:
 - The major shopping centres in the North-West Sub-Region are generally trading well, including Joondalup which has a turnover productivity rate that ranks 8th out of 87 of the largest centres in Australia. As mentioned before Whitfords is also trading at a significant premium to industry benchmarks.

- The demand for PLUC 5 shop floorspace is forecast to grow strongly on the back of population growth and increasing retail spending rates. Between 2012 and 2016, the North-West Sub-Region PLUC 5 shop floorspace demand is forecast to increase by 112,000 sq.m and the Joondalup municipality increase by 32,000 sq.m. Between 2016 and 2031, shop floorspace demand is forecast to increase a further 372,000 sq.m and 86,000 sq.m respectively.
- A high 41% share of PLUC 5 shop floorspace demand by Joondalup residents, notably discretionary floorspace demand, is currently being directed to centres outside of the Joondalup municipality. This is a factor of an undersupply of PLUC 5 shop floorspace in the municipality which is resulting in residents not having adequate access to shop floorspace in the local centres hierarchy.
- Allowing for a more sustainable 25% escape expenditure level from the Joondalup municipality and forecast growth in shop floorspace demand, the centres located in the Joondalup municipality could support an additional 138,000 sq.m of shop floorspace by 2016.
- Whitfords, as a key higher order centre in the hierarchy and reflecting its existing role as a prominent fashion destination, will need to play a significant role in serving the shop retailing needs of Joondalup residents and broader markets. Joondalup and the District Centres in the municipality could not adequately accommodate this unmet demand.
- There is sufficient market demand to support two department stores in the North-West Sub-Region within the period to 2016. The addition of a department store at Whitfords therefore would cater to market demand and not compromise the inclusion of a department store at the Joondalup centre. As a Secondary Centre, a department store at Whitfords is a compliant use.
- The proposed expansion of Whitfords activity centre to 90,000 sq.m by 2016, would account for a modest 21% of unmet PLUC 5 shop floorspace demand in the Joondalup municipality. About 80% or 110,000 sq.m of unmet demand would therefore still be available for other centres in the municipality. With this scale of demand available to other centres it is clear that the Whitfords expansion can be supported without impacting the expansion of shop floorspace at other centres.
- Other need considerations:
 - The expansion of PLUC 5 shop floorspace and improvement of the overall offer and shopping environments will be integral in addressing the challenges centres are facing in light of the growth of online retailing and capitalising on the opportunity presented by the universal introduction of Sunday Trading in Perth.
 - As the highest order centres in the Joondalup municipality, and considering the scale of shop floorspace demand, both Joondalup and Whitfords will need to play a significant role in delivering more shop floorspace and an improved offer to Joondalup residents and broader markets.
- Detailed impact modelling has been undertaken to determine whether the development of the Whitfords Activity Centre to include 90,000 sq.m of PLUC 5 shop floorspace by 2016 would adversely impact the role and function of the existing and planned centres hierarchy. Centre specific impacts are assessed using a 'turnover allocation approach' which estimates the extent to which turnover at one centre will be diverted to another centre based on the estimated usage of centres.
- This modelling indicates the following:
 - The development of Whitfords Activity Centre to provide 90,000 sq.m of PLUC 5 shop floorspace by 2016 is appropriate in scale and can be supported by the market without affecting the development potential of other centres in the hierarchy
 - The assessed level of impact on any one centre is manageable and the proposed expansion would not adversely impact the role, function and viability of other activity centres. Market growth is expected to off-set the one-off impacts and each affected centre is expected to achieve a higher turnover in 2016 than in 2012 following the proposed expansion of Whitfords.

- A significant share of the impacts will be the result of a redirection of retail expenditure away from centres outside the Joondalup municipality. More expenditure undertaken locally will provide greater support for other uses, serve as a catalyst for other investment in centres and generally support the development of larger, vibrant and successful activity centres.
- The primacy of Joondalup will not be impacted reflecting:
 - The trading impact of the Whitfords expansion is manageable. Furthermore, the main street of Joondalup will not be affected as this area mainly caters to the convenience and services needs of local town centre residents, workers, students and visitors.
 - The city centre of Joondalup will still have a substantially larger provision of PLUC 5 shop floorspace, i.e. 120,000 sq.m (with planned expansion of the Lakeside centre) compared with 90,000 sq.m at Whitfords (at 2016).
 - Joondalup is more than a retail centre and is the focus for commercial, civic, cultural, employment and services in the North-West Sub-Region of Perth.
- The proposed smaller stage of development at Whitfords that will provide an additional 5,000 sq.m between 2016 and 2026 would not have any adverse impact on the centres hierarchy and can be easily supported by market demand.
- In conclusion, the proposed expansion of the Whitfords Activity Centre to 95,000 sq.m is supportable by market demand and will not impact the role and viability of other centres in the hierarchy and the community will benefit from enhanced access to retail goods and services over time.

Introduction

REPORT OBJECTIVE

Westfield has commissioned Urbis to prepare a Retail Sustainability Assessment (RSA) as required under Section 6.5 – Retail Sustainability Assessments of the State Planning Policy 4.2 (SPP 4.2) – Activity Centres for Perth and Peel. This report forms an appendix to the Whitfords Activity Centre Structure Plan.

WHITFORDS DESIGNATION

Westfield Whitford City is the main retail complex within the Whitfords Activity Centre and currently provides approximately 77,300 sq.m of leasable floorspace, including approximately 50,000 sq.m of retail (PLUC 5) floorspace. Whitfords is classified as a Secondary Centre within SPP 4.2, which was gazetted on 31 August 2010.

Under the SPP 4.2, Secondary Centres are intended to “*perform an important role in the city’s economy, and provide essential services to their catchments*”. In terms of retail, they can include department stores, discount department stores, supermarkets and specialty shops. In this regard, Secondary Centres are expected to serve a higher order retail role in the centres hierarchy and be a key destination for both discretionary and convenience based shopping needs. The main trade area population for Secondary Centres is designated as up to 150,000 persons, however the policy does recognise that this parameter is indicative and will vary between centres.

FUTURE DEVELOPMENT

As outlined in the Structure Plan for Whitfords Activity Centre, PLUC 5 shop floorspace could be expanded to 95,000 sq.m by 2031. Expansion to 95,000 sq.m will occur in incremental stages of development. The next stage of expansion to 90,000 sq.m is expected to occur between now and 2016. The addition of a further 5,000 sq.m of PLUC 5 shop floorspace (and development of Whitfords Activity Centre including 95,000 sq.m) is expected to occur between 2016 and 2026.

The next stage of expansion to 90,000 sq.m is proposed to include the addition of a department store and a range of mini-majors and specialty shops. The centre will also be upgraded and provide a high quality shopping environment for the community.

A further expansion between 2016 and 2026 would add about another 5,000 sq.m, mostly in the form of additional specialty shops within a strip environment along Endeavour Road.

RETAIL SUSTAINABILITY ASSESSMENT

The Activity Centres Policy states that a Retail Sustainability Assessment is required for a ‘*major development and scheme amendment or structure plan that provides for a Major Development*’ which is defined as “*Development of any building or extension/s to an existing building where the building or extensions are used or proposed to be used for shop-retail purposes and where the shop-retail n/a of the:*

- *proposed building is more than 10,000 sq.m; or*
- *extension/s is more than 5,000 sq.m.”*

As described in the Activity Centres Policy, “*A Retail Sustainability Assessment (RSA) assesses the potential economic and related effects of a significant retail expansion on the network of activity centres in a locality. It addresses such effects from a local community access or benefit perspective, and is limited to considering potential loss of services, and any associated detriment caused by a proposed development. Competition between existing businesses of itself is not considered a relevant planning consideration.*”

The RSA outlined in this report addresses the following:

1. The need and demand for additional PLUC 5 shop floorspace at Whitfords Activity Centre.
2. The impact of expansion of PLUC 5 shop floorspace at Whitfords Activity Centre on the existing and planned centres hierarchy.

Other elements, such as employment generation and effects of the proposed expansion on public infrastructure are also addressed in the Structure Plan document for the Whitfords Activity Centre and not covered specifically in this RSA report.

REPORT OUTLINE

The report has six sections as follows:

- **Section 1** discusses the local and regional context of Whitfords Activity Centre, including the Westfield Whitford City shopping centre, the centre's current composition and the key features of the additional PLUC 5 shop floorspace.
- **Section 2** presents an analysis of the trade area market, including forecast population growth, retail spending by residents and the socio-economic profile of residents.
- **Section 3** outlines an overview of the retail supply in the region of relevance to the Whitfords Activity Centre.
- **Section 4** outlines a summary of the current performance of Westfield Whitford City.
- **Section 5** presents the need, demand and impact assessment in relation to the proposed expansion of PLUC 5 shop floorspace at Whitfords Activity Centre.
- **Section 6** outlines the main conclusions of the Retail Sustainability Assessment.

1 Centre Description

1.1 REGIONAL CONTEXT

As shown in Map 1.1, Whitfords Activity Centre is located within the municipality of Joondalup, approximately 20 km from the Perth Central Business District (CBD). The centre is located within the North-West Sub-Region of Perth as specified within Directions 2031. Whitfords Activity Centre is classified as a Secondary Centre and is one of five of this type of centre in the North-West Sub-Region. Joondalup and Yanchep are designated as Strategic Metropolitan Centres in this Sub-Region of Perth.

Westfield Whitford City shopping centre, which comprises the majority of PLUC 5 floorspace within the activity centre, has been performing an important shopping function for residents of the middle and outer northern coastal suburbs of Perth since it opened in 1978. Over the past 35 years, the centre has undergone a number of expansions and refurbishments in response to growing and evolving market demand in the region. The last significant development of the centre was completed 8 years ago in 2004 which added new mini-majors and specialty shops.

1.2 LOCAL CONTEXT

Whitfords Activity Centre is located at the south-western corner of the Marmion Road and Whitfords Avenue intersection, as shown in Map 1.2. This gives the centre a high profile and accessible location in the region.

Marmion Road is a major north-south arterial linking with the West Coast Highway and Stirling Highway in the south that provides access between the developing outer northern suburbs and established coastal suburbs of Perth. Whitfords Avenue connects with the Mitchell Freeway and Wanneroo Road in the east. The grid like main road network in the region facilitates access to the centre.

In terms of public transport, Whitfords Activity Centre is served by the Perth suburban public transport network, with at least three bus routes connecting Whitfords Train Station with the Centre itself.

Also within the Whitfords Activity Centre there is a range of bulky goods retailing, including a Bunnings store, commercial offices and community facilities, including medical suites. Westfield Whitford City shopping centre also includes a six screen cinema complex adding to the centre's role as a leisure and entertainment destination in the region.

The area surrounding Whitfords is characterised by mainly detached housing in established suburbs. Some dwellings along the southern side of Banks Avenue are used for commercial purposes. The area is maturing and higher density development that is occurring throughout the region is attracting a different demographic to the mainly family based households prevalent today.

1.3 WHITFORDS COMPOSITION AND LAYOUT

The Whitfords activity currently provides 49,924 sq.m of PLUC 5 shop floorspace according the Perth Land Use Survey undertaken in 2008 and adjustments reported in the draft Joondalup Local Commercial Strategy (JLCS).

All of this PLUC 5 shop floorspace is provided on Westfield's land holding, including shops within the main shopping centre and various freestanding uses in the balance of the activity centre.

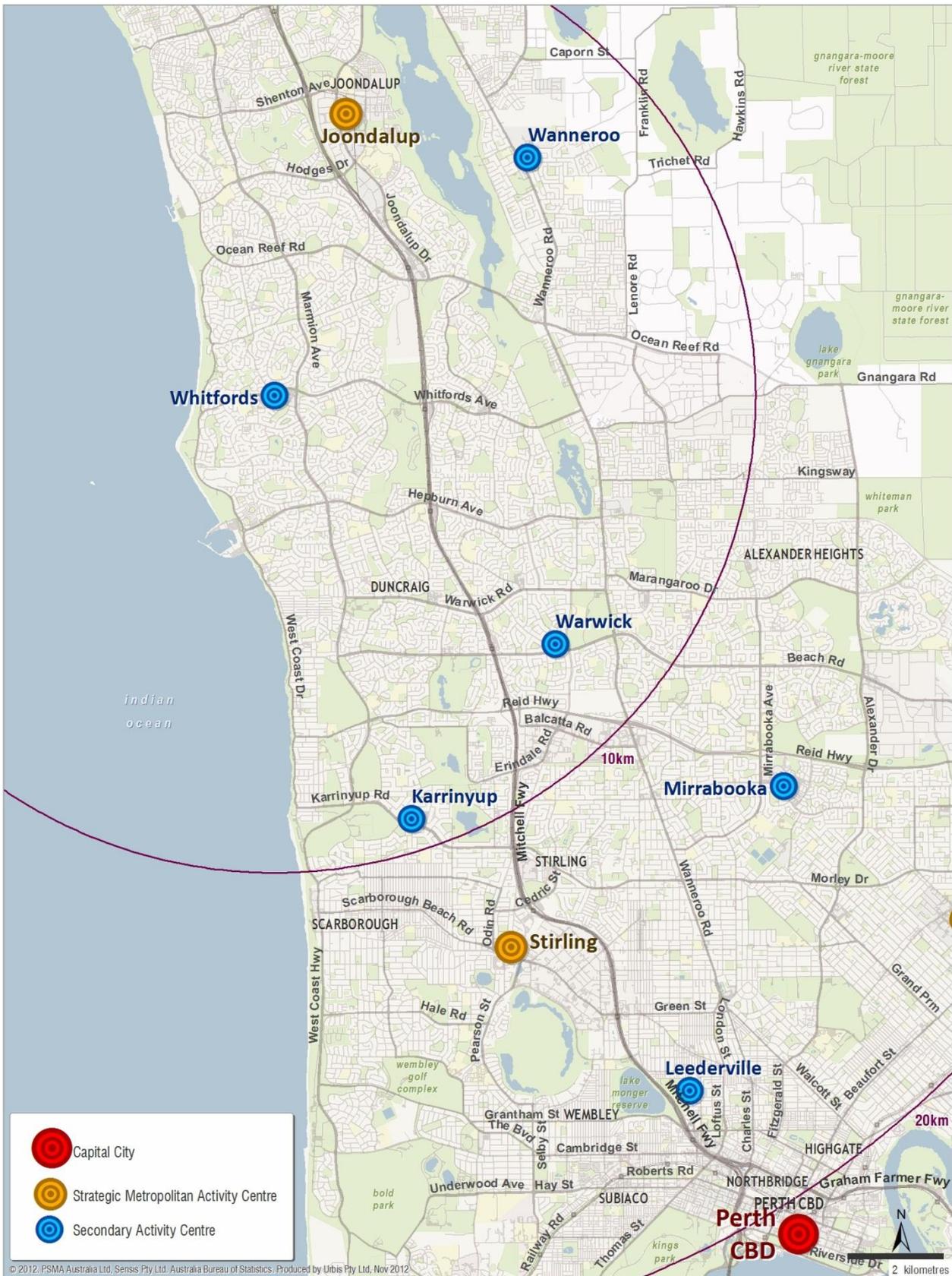
The main shopping centre is anchored by Big W and Target discount department stores and Woolworths and Coles supermarkets. The centre also includes a range of mini-majors, including JB Hi Fi, Best & Less, Rebel Sport, City Beach, Kathmandu, Dick Smith, Lincraft, Chemist Warehouse and Terry White Chemist. The centre serves both convenience and discretionary shopping needs.

The shopping centre is a relatively modern and well-presented centre that is popular with the local community. Despite this, however, parts of the centre are aging and in need of renewal to offer a shopping experience that aligns with the expectations of consumers today. The centre is essentially fully leased and trading well.

The centre is predominantly one level, with a small upper level. Undercroft and on-grade customer carparking are also provided.

The shopping centre is oriented in an east-west direction on the site bounded by Whitfords Avenue, Marmion Avenue, Banks Avenue and Endeavour Road. On the western side of Endeavour Road there are several retail and commercial uses, including a Bunnings warehouse and Chipmunks play centre, as well as the St Mark's Anglican Community school.

Overall the Whitfords activity centre is estimated to provide around 77,000 sq.m of PLUC uses.



2 Market Analysis

This section of the report outlines analysis of the market served by Whitfords Activity Centre.

2.1 TRADE AREA DEFINITION

The main trade area for Whitfords Activity Centre is based on the latest exit survey conducted at the Westfield shopping centre and recognition of other factors, such as the role of the Whitfords activity centre, the pattern of urban development, location of other activity centres, road and public transport infrastructure and any natural and physical barriers. This area reflects the future indicative service population (trade) area as defined in State Planning Policy 4.2, Activity Centres for Perth and Peel, which will be referred to as the **main trade area** in the remainder of this report.

Map 2.1 illustrates the results of the exit survey undertaken at Westfield Whitford City in April 2011. The Westfield Whitford City shopping centre attracts visitation from throughout the North-Western suburbs of Perth, with the majority of customers coming from within a 7 km radius of the centre. Westfield Whitford City also draws well from the northern coastal suburbs (extending to Butler) and from the east, reflecting the direct and convenient road access to the centre. Residents around Lake Joondalup, Wanneroo, Warwick and Karrinyup also visit the centre for shopping purposes.

The dispersed nature of a centre's draw is reflective of the unpredictable and irregular behaviour of shoppers. Shoppers use a variety of centres for a variety of reasons and will not always use the centre which is closest and most convenient to them. This behaviour is dictated by a range of reasons including people choosing to shop while at work, wanting to visit a particular retailer, the quality of the shopping environment, undertaking shopping while visiting friends or relatives or undertaking other activities, shopping while on holidays, etc.

For example, the results of the survey illustrate that residents in the areas surrounding Joondalup utilise the centre for their shopping needs. These residents would mainly shop at Joondalup but for the reasons described above direct a share of their spending to Westfield Whitford City. As a result of this diverse shopping behaviour, the trade area for any one centre therefore does not represent the sole market that supports the scale of a centre. Based on the exit survey information (and estimation of relative penetration rates) and key trade area definition parameters, the **main trade area** served by Whitfords is defined to include an area broadly extending between 5 km and 7 km from the centre. As shown in Map 2.2 and 2.3, the service trade area or in other words main trade area extends to Currambine in the north, Woodvale and Greenwood in the east and Carine in the south. This area currently contains around 150,000 people and would account for the majority of visitors to the activity centre. The main trade area population is therefore consistent with the indicative guidelines as outlined in SPP 4.2.

The main trade area defined for Westfield Whitford City shopping centre is the most important market for the centre but not the only market that supports its role, scale and performance. This is a relevant consideration in the assessment of market support for additional PLUC 5 shop floorspace at Whitfords Activity Centre. In the case of Whitfords, our analysis indicates that approximately 25% of business is derived from outside the main trade area.

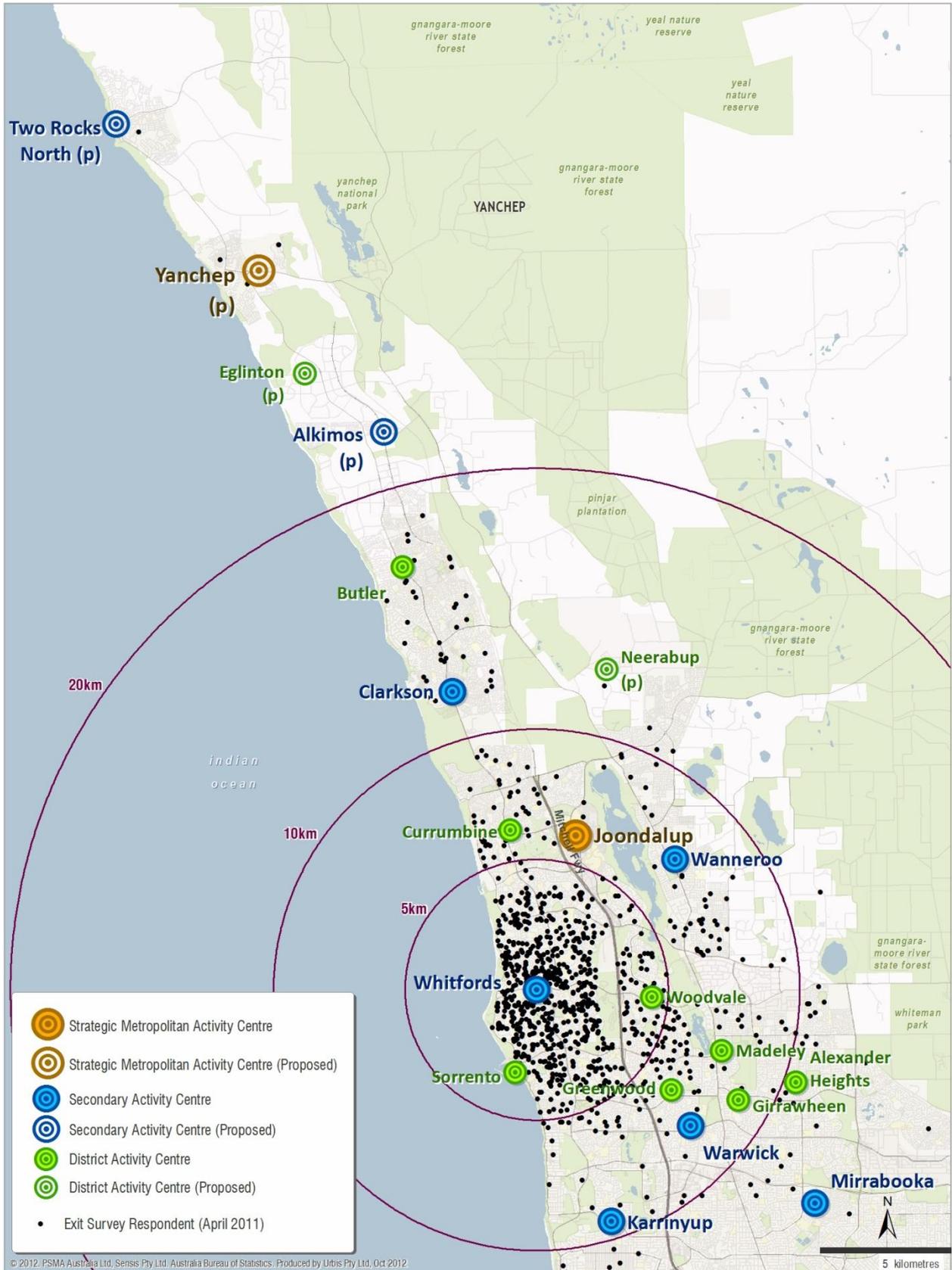
The shopping patterns of consumers also mean that trade areas for individual centres are not mutually exclusive. The overlapping of trade areas is common in all markets and is recognised in the activity centres policy.

For the purposes of the analysis in this report, the area of the North-West Sub-Region not covered by the main trade area for Whitfords Activity Centre has been divided into north and south sectors. These sectors together with the main trade area form a broader **study area** for the market demand and impact analysis.

Customer Distribution

WHITFORD CITY SHOPPING CENTRE, APRIL 2011

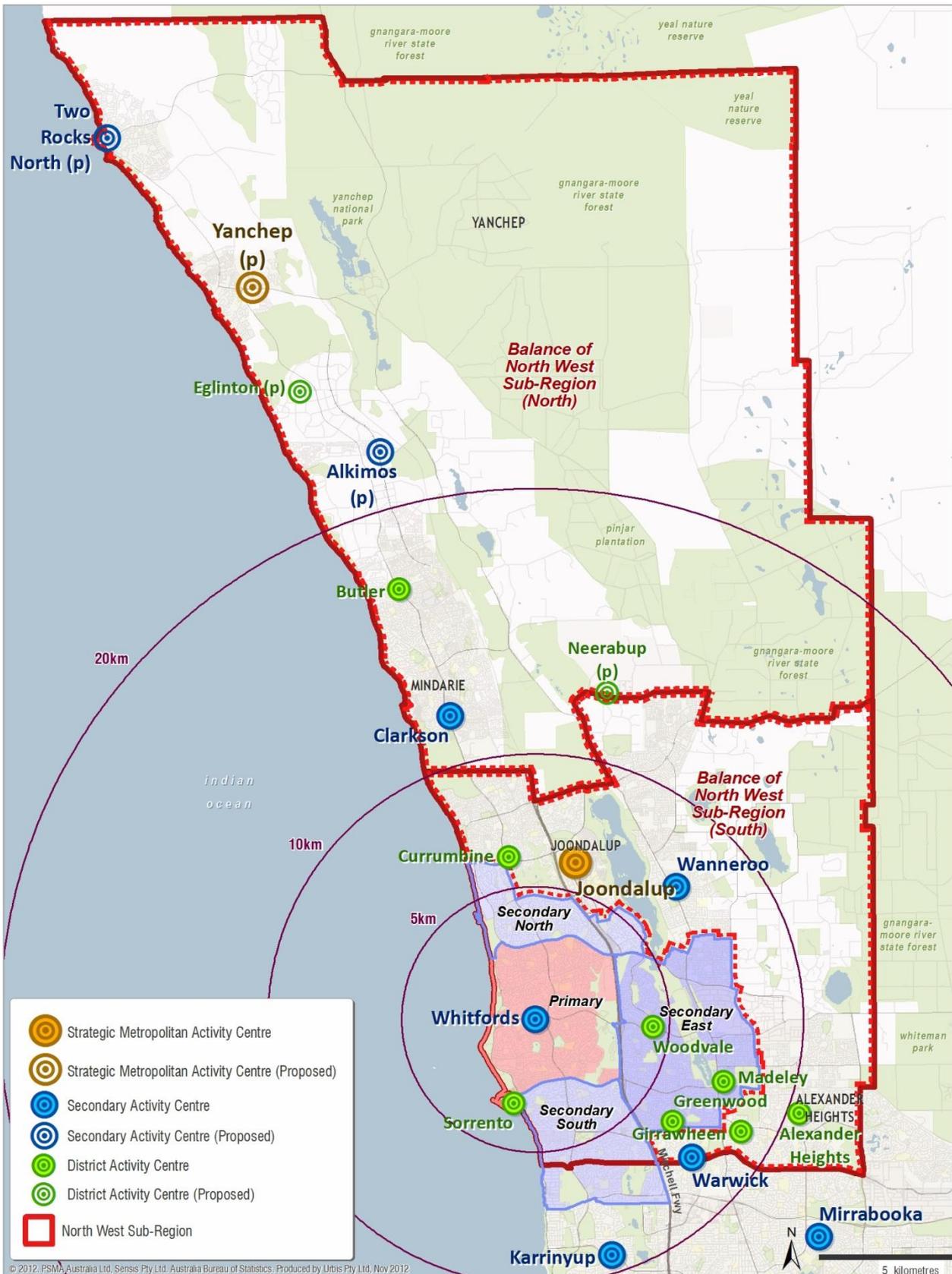
MAP 2.1



Main Trade Area

WHITFORDS ACTIVITY CENTRE

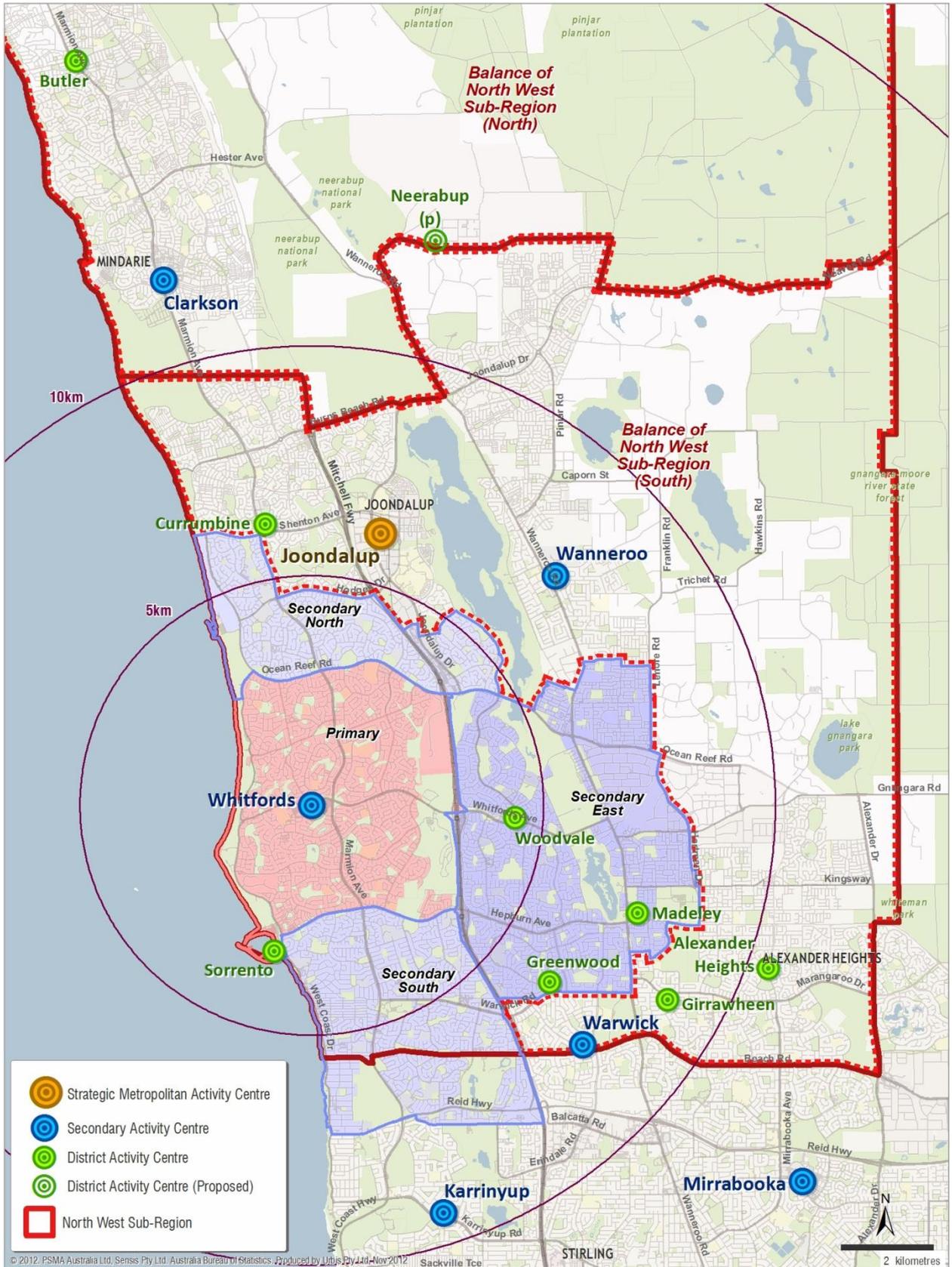
MAP 2.2



Main Trade Area (Zoomed in View)

WHITFORDS ACTIVITY CENTRE

MAP 2.3



2.2 POPULATION TRENDS

The analysis of the current and forecast resident population in the region of relevance to Whitfords activity centre is based on a range of inputs including:

- The results of the 2011 Census of Population and Housing released by the ABS.
- The latest estimates of Estimated Resident Population (ERP) for Local Government Areas (LGA) and Statistical Local Areas (SLAs) prepared by the ABS.
- Projections prepared by Forecast Id for the City of Wanneroo Council (2010).
- The Western Australian Tomorrow Population Report No. 7, 2006-2026, released by the WAPC. We have used Band C (or medium) projections to inform resident population forecasts.
- The masterplan proposed for the Whitfords activity centre which includes allowance for between 500 and 800 dwellings. For the purposes of the analysis in this report it is assumed 200 of these dwellings are developed by 2021, 600 dwellings by 2026 and 800 dwellings by 2031.

2.2.1 NORTH-WEST SUB-REGION AND JOONDALUP MUNICIPALITY

Table 2.1 below outlines population forecasts for the North-West Sub-Region and the Joondalup and Wanneroo LGAs based on the WAPC forecasts, rebased to take into account the latest 2011 Census of Population and Housing results. Map 2.4 indicates the extent of both the Joondalup and Wanneroo Local Government Areas. As of June 2011, the North-West Sub-Region resident population was an estimated at 322,110, including 161,780 people in the Joondalup municipality. The North-West Sub-Region resident population is forecast to grow to 369,810 by 2016, 458,710 by 2026, and 498,460 in 2031. Over the period 2011-31, the resident population of the Sub-Region is therefore expected to increase by approximately 176,000 people or 55%.

As illustrated in Table 2.1 the majority of population growth in the North-West Sub-Region will be focussed in the Wanneroo LGA. Solid levels of population growth are expected to continue in the Joondalup municipality over the period to 2031, estimated at approximately 1,300 people per annum. This population growth will be driven by new residential development in greenfield areas as well as higher density infill development.

North-West Sub-Region Population

RESIDENT POPULATION

TABLE 2.1

Local Government Area	Estimated Residential Population ¹			Forecast Population		
	2007	2011	2016	2021	2026	2031
Joondalup LGA	157,700	161,780	169,480	175,780	183,180	187,930
Wanneroo LGA	<u>126,409</u>	<u>160,330</u>	<u>200,330</u>	<u>237,730</u>	<u>275,530</u>	<u>310,530</u>
Total North-West Sub Region	284,109	322,110	369,810	413,510	458,710	498,460
Average Annual Change (No.)		2007-11	2011-16	2016-21	2021-26	2026-31
Joondalup LGA		1,020	1,540	1,260	1,480	950
Wanneroo LGA		<u>8,480</u>	<u>8,000</u>	<u>7,480</u>	<u>7,560</u>	<u>7,000</u>
Total North-West Sub Region		9,500	9,540	8,740	9,040	7,950
Average Annual Change (%)		2007-11	2011-16	2016-21	2021-26	2026-31
Joondalup LGA		0.6%	0.9%	0.7%	0.8%	0.5%
Wanneroo LGA		<u>6.1%</u>	<u>4.6%</u>	<u>3.5%</u>	<u>3.0%</u>	<u>2.4%</u>
Total North-West Sub Region		3.2%	2.8%	2.3%	2.1%	1.7%

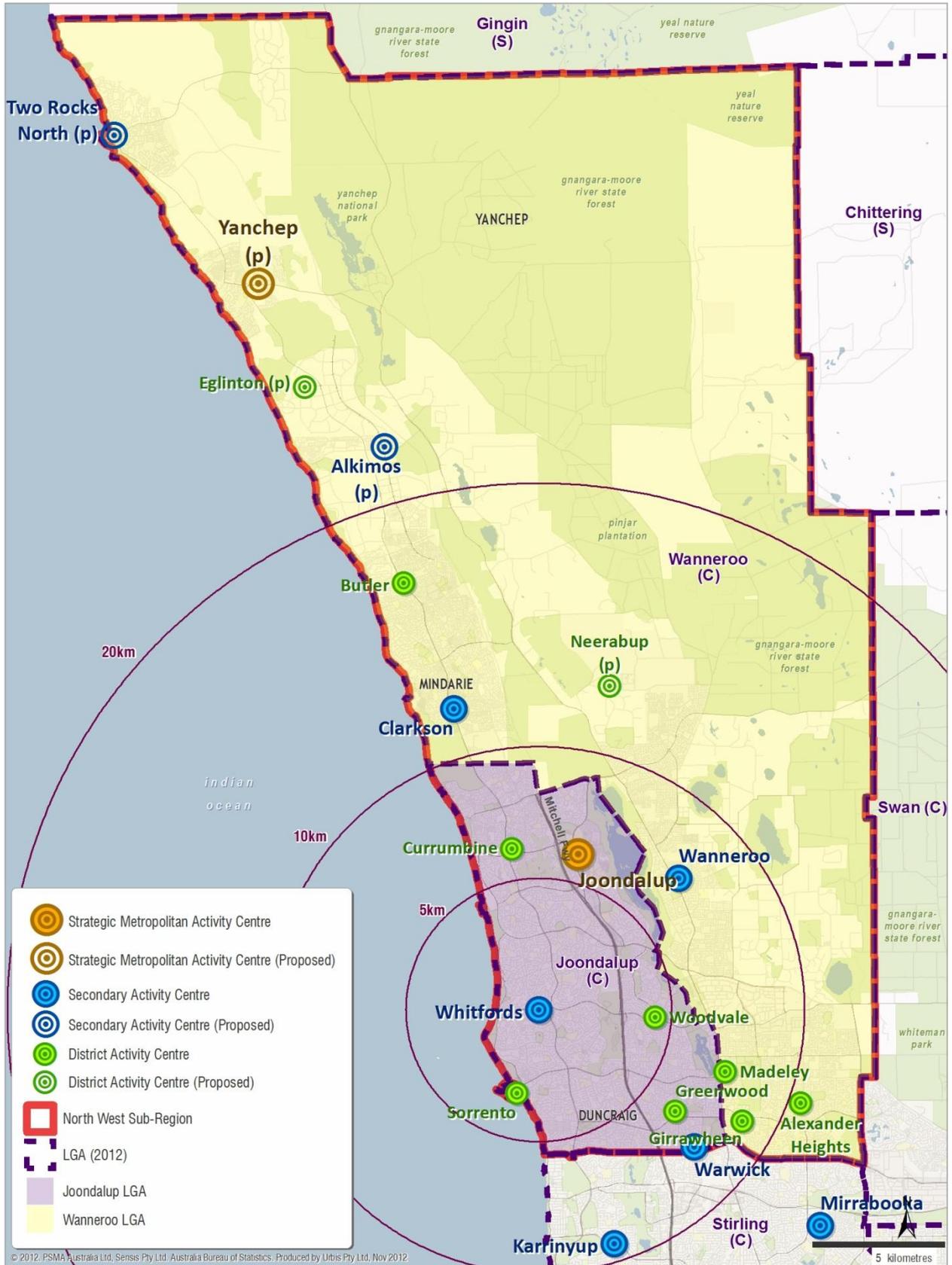
1. as at June

Source : ABS Cdata 2006 and 2011; ABS, Regional Population Growth, Australia 2010-2011 (3218.0); WA Dept. of Planning, Western Australian Tomorrow Population Report No.7, 2006-2026; Urbis

Joondalup and Wanneroo Municipalities

LOCAL GOVERNMENT AREA BOUNDARIES

MAP 2.4



2.2.2 MAIN TRADE AREA

Population forecasts for the main trade area of Whitfords Activity Centre and broader study area are presented in Table 2.2.

In 2011, the main trade area of Whitfords had a resident population of 145,320 people, including 42,170 in the primary trade area. The population in the balance of the North-West Sub-Region not covered by Whitfords activity centre main trade area was 186,110 people.

The main trade area is a reasonably well-established residential area but will continue to attract population growth on the back of higher density development including planned residential development within the Whitfords activity centre.

By 2016, the main trade area population is forecast to be 149,600, including 43,280 in the primary trade area. By 2026, the main trade area is forecast to be 155,880, including 46,360 in the primary. The population as at 2031 is expected to reach 157,780 in the main trade area, including 47,450 in the primary.

Overall, this represents population growth of around 700 people or 0.5% per annum between 2011 and 2026. After this population growth up to 2031 is expected at approximately 460 people per annum or 0.2%.

The resident population is forecast to increase to 508,400 people across the whole study area by 2031.

2.2.3 SOCIO-ECONOMIC CHARACTERISTICS

As indicated in Table 2.3, along with a range of other relevant socio-economic characteristics, the main trade area is an increasingly affluent area. Average per capita incomes are above the Perth average (+6.3%), with the highest incomes in the secondary south (+16.4%) and primary (+5.6%) sectors. Furthermore, from 2006 to 2011 average per capital incomes in primary and main trade areas have been rising slightly faster than in Perth overall. Incomes are highest to the south of the Whitfords activity centre (refer Map 2.5) towards Karrinyup and along the coast. Incomes are also slightly above average in the secondary east sector, around Woodvale. Extending inland to Joondalup and Wanneroo and to the north towards Yanchep incomes are significantly lower and below the Perth average.

Other key socio-economic features of the main trade area and broader study area are as follows:

- The main trade area is well represented by families, with half of the population living in households with dependent children. Families account for 43% of the total Perth population.
- A high 46% of households have a mortgage (which compares with a lower 36% for Perth as a whole). The proportion of households that have own their home outright in the main trade area, at 36%, is above the level in the remainder of the study area at 22%. There is a limited rental market in the main trade area at present.
- A high proportion of European born residents are evident in the main trade area, 21% compared with the Perth average of 16% (notably from the United Kingdom in particular and South Africa).

The main trade area is an established suburban area characterised by families with good income levels who own or are in the process of paying off a mortgage. These socio-economic characteristics indicate the core market of the Whitfords activity centre is a socio-economically advantaged area, particularly when compared with the remainder of the study area including Joondalup. This demographic is consistent with the preferred market characteristics for David Jones stores and is one of the key reasons why David Jones is looking to establish a store at Whitford rather than Joondalup.

The socio-economic profile of residents of Whitfords' main trade area support above average retail spending rates.

Resident Population

WHITFORDS MAIN TRADE AREA AND STUDY AREA, 2007-2031

TABLE 2.2

Trade Area Sector	Resident Population ¹			Forecast Population		
	2007	2011	2016	2021	2026	2031
Primary Trade Area	41,100	42,170	43,280	44,410	46,360	47,450
Secondary Trade Area						
• North	19,521	19,550	19,900	20,160	20,440	20,640
• East	44,848	48,220	50,310	51,250	51,580	51,770
• South	<u>35,186</u>	<u>35,380</u>	<u>36,110</u>	<u>36,800</u>	<u>37,500</u>	<u>37,920</u>
Total Secondary	99,555	103,150	106,320	108,210	109,520	110,330
Main Trade Area	140,655	145,320	149,600	152,620	155,880	157,780
Balance of NW Sub-Region						
• North	44,827	59,270	76,510	94,370	115,730	141,110
• South	<u>107,908</u>	<u>126,840</u>	<u>153,230</u>	<u>176,170</u>	<u>196,920</u>	<u>209,510</u>
Total Balance of NW Sub-Region	152,735	186,110	229,740	270,540	312,650	350,620
Total Study Area	293,390	331,430	379,340	423,160	468,530	508,400
Average Annual Change (No.)		2007-11	2011-16	2016-21	2021-26	2026-31
Primary Trade Area		268	222	226	390	218
Secondary Trade Area						
• North		7	70	52	56	40
• East		843	418	188	66	38
• South		<u>49</u>	<u>145</u>	<u>138</u>	<u>140</u>	<u>84</u>
Total Secondary		899	633	378	262	246
Main Trade Area		1,166	855	604	652	464
Balance of NW Sub-Region						
• North		3,611	3,448	3,572	4,272	5,076
• South		<u>4,733</u>	<u>5,278</u>	<u>4,588</u>	<u>4,150</u>	<u>2,518</u>
Total Balance of NW Sub-Region		8,344	8,725	8,160	8,422	7,594
Total Study Area		9,510	9,580	8,764	9,074	8,058
Average Annual Change (%)		2007-11	2011-16	2016-21	2021-26	2026-31
Primary Trade Area		0.6%	0.5%	0.5%	0.9%	0.5%
Secondary Trade Area						
• North		0.0%	0.4%	0.3%	0.3%	0.2%
• East		1.8%	0.9%	0.4%	0.1%	0.1%
• South		<u>0.1%</u>	<u>0.4%</u>	<u>0.4%</u>	<u>0.4%</u>	<u>0.2%</u>
Total Secondary		0.9%	0.6%	0.4%	0.2%	0.1%
Main Trade Area		0.8%	0.6%	0.4%	0.4%	0.2%
Balance of NW Sub-Region						
• North		7.2%	5.2%	4.3%	4.2%	4.0%
• South		<u>4.1%</u>	<u>3.9%</u>	<u>2.8%</u>	<u>2.3%</u>	<u>1.2%</u>
Total Balance of NW Sub-Region		5.1%	4.3%	3.3%	2.9%	2.3%
Total Study Area		3.1%	2.7%	2.2%	2.1%	1.6%

1. Estimated Resident Population (ERP) as at June.

Source : ABS Cdata 1991, 1996, 2001 and 2006; ABS, Regional Population Growth, Australia 2010-2011 (3218.0);

WA Dept. of Planning, Western Australia Tomorrow Population Report No.7, 2006-2026; Urbis

Socio-Economic Characteristics

WHITFORDS MAIN TRADE AREA AND STUDY AREA, 2011

TABLE 2.5

Characteristics	Secondary Trade Area					Main TA	Balance of North West Region			Study Area	Perth Average	Australia Average
	Primary TA	North	East	South	Total		North	South	Total			
Household Income												
\$Nil	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%
\$1-\$20,800	7%	7%	7%	6%	6%	7%	7%	8%	8%	7%	10%	12%
\$20,800-\$52,000	22%	21%	20%	19%	20%	21%	24%	22%	23%	22%	24%	29%
\$52,000-\$78,000	16%	16%	15%	13%	14%	15%	18%	16%	17%	16%	16%	17%
\$78,000 - \$104,000	13%	14%	14%	11%	13%	13%	15%	15%	15%	14%	13%	13%
\$104,000 - \$130,000	11%	12%	13%	9%	11%	11%	11%	12%	12%	12%	10%	9%
\$130,000-\$156,000	13%	12%	13%	15%	14%	14%	11%	11%	11%	12%	12%	9%
\$156,000-\$182,000	8%	8%	8%	11%	9%	9%	6%	7%	7%	8%	7%	5%
\$182,000-\$208,000	3%	4%	4%	5%	4%	4%	3%	3%	3%	3%	3%	2%
\$208,000 plus	6%	5%	5%	9%	6%	6%	3%	4%	4%	5%	5%	4%
Average Household Income	\$101,502	\$100,281	\$102,288	\$116,137	\$106,711	\$105,183	\$90,206	\$94,456	\$93,133	\$98,615	\$93,009	\$82,357
Var'n from Perth Avg.	9.1%	7.8%	10.0%	24.9%	14.7%	13.1%	-3.0%	1.6%	0.1%	6.0%	0.0%	-11.5%
Var'n from Australian Avg.	23.2%	21.8%	24.2%	41.0%	29.6%	27.7%	9.5%	14.7%	13.1%	19.7%	12.9%	0.0%
Average Household Size	2.6	2.7	2.7	2.7	2.7	2.7	2.8	2.9	2.9	2.8	2.5	2.6
Per Capita Income (Persons aged 15 - 64) (%)												
\$Neg/Nil	10%	10%	9%	9%	10%	10%	11%	11%	11%	10%	10%	10%
\$1 - \$20,800	19%	21%	20%	19%	20%	20%	21%	22%	22%	21%	21%	24%
\$20,800 - \$41,600	20%	20%	20%	17%	19%	19%	21%	21%	21%	20%	20%	23%
\$41,600 - \$78,000	29%	29%	29%	25%	28%	28%	28%	29%	29%	28%	28%	27%
\$78,000 +	23%	20%	22%	29%	24%	24%	19%	17%	18%	20%	21%	16%
Avg. Per Cap. Income (aged 15-64)	\$54,156	\$51,016	\$52,462	\$59,705	\$54,638	\$54,499	\$48,282	\$47,210	\$47,539	\$50,650	\$51,288	\$45,060
Per Capita Income Var'n	+5.6%	-0.5%	+2.3%	+16.4%	+6.5%	+6.3%	-5.9%	-8.0%	-7.3%	-1.2%	+0.0%	-12.1%
Age Distribution												
Aged 0-14	20%	19%	20%	18%	19%	19%	25%	23%	24%	22%	19%	19%
Aged 15-19	7%	8%	7%	7%	7%	7%	8%	8%	8%	8%	7%	7%
Aged 20-34	19%	20%	18%	15%	17%	18%	20%	21%	21%	20%	22%	21%
Aged 35-49	22%	22%	22%	21%	22%	22%	24%	23%	24%	23%	22%	21%
Aged 50-64	21%	22%	21%	24%	22%	22%	13%	16%	15%	18%	18%	18%
Aged 65-79	8%	8%	8%	11%	9%	9%	7%	7%	7%	8%	9%	10%
Aged 80+	2%	2%	3%	3%	3%	3%	2%	2%	2%	2%	3%	4%
Average Age	37	37	38	40	38	38	33	34	34	35	37	38
Dependency Ratio ¹	30%	29%	31%	32%	31%	31%	34%	31%	32%	32%	32%	33%
Household Composition (%)												
Couples with no children	29%	28%	29%	30%	29%	29%	27%	25%	26%	27%	27%	27%
Family with children <15	30%	30%	31%	29%	30%	30%	40%	36%	38%	34%	28%	28%
Family with children >15	19%	21%	20%	21%	21%	20%	14%	18%	17%	18%	15%	15%
Total Family (with children)	48%	51%	51%	50%	51%	50%	54%	54%	54%	52%	43%	43%
Group Household	3%	3%	2%	2%	2%	2%	2%	3%	3%	3%	4%	4%
Lone Person	18%	17%	17%	17%	17%	17%	16%	16%	16%	17%	24%	24%
Other	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Housing Status												
Owner ^c	34%	32%	34%	44%	37%	36%	17%	24%	22%	28%	30%	33%
Purchaser ^c	46%	49%	50%	41%	47%	46%	52%	54%	53%	50%	41%	36%
Renter ^c	20%	19%	15%	14%	15%	17%	29%	21%	23%	20%	28%	30%
Car Ownership												
% 0 Cars	3%	3%	3%	3%	3%	3%	3%	4%	4%	3%	6%	9%
% 1 Car	28%	28%	27%	25%	26%	27%	34%	28%	30%	29%	34%	37%
% 2 Cars +	69%	70%	70%	72%	71%	70%	63%	68%	66%	68%	60%	54%
Birthplace												
Australian Born	63%	56%	66%	68%	65%	64%	56%	56%	56%	60%	63%	74%
Overseas Born	37%	44%	34%	32%	35%	36%	44%	44%	44%	40%	37%	26%
• Asia	3%	4%	4%	3%	4%	4%	3%	7%	6%	5%	9%	8%
• Europe	22%	27%	20%	18%	20%	21%	27%	22%	24%	22%	16%	9%
• Other	12%	13%	10%	11%	11%	11%	14%	14%	14%	13%	12%	9%

1. Dependency ratio refers to the proportion of the population between 0-14 and over 65 years.

2. "Other" Tenure Types have not been included.

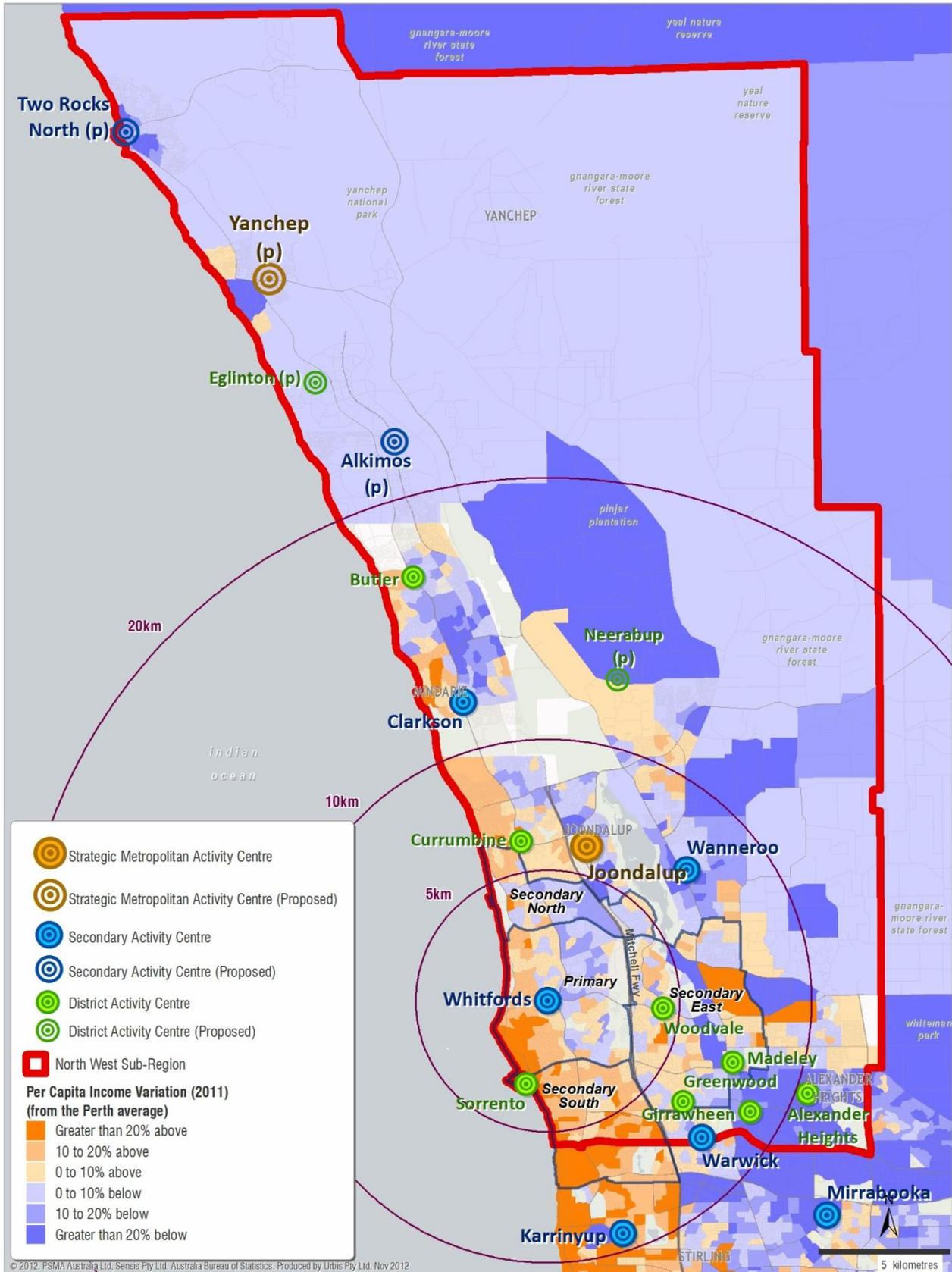
3. As a percentage of household income.

Source : ABS Census of Population and Housing 2011, Cdata 2011; Urbis

Per Capita Income

WHITFORDS STUDY AREA, VARIATION FROM THE PERTH AVERAGE, 2011

MAP 2.5



2.3 RETAIL SPENDING

2.3.1 METHODOLOGY & DEFINITIONS

The retail spending market has been estimated using *MarketInfo*, a micro-simulation model developed by MDS Market Data Systems Pty Ltd. This model is based on information from the ABS' Household Expenditure Survey (HES), the Census of Population and Housing (2006) and other information sources that provide up-to-date information on changes in spending behaviour and/or income levels (e.g. Australian National Accounts, Australian Taxation Statistics, etc.). *MarketInfo* is used widely by stakeholders in the retail industry.

The model uses micro-simulation techniques to combine propensity to spend on particular commodities with the socio-economic characteristics of individuals to derive spending per capita estimates on a small area basis (i.e. the Census Collector District level).

The retail expenditure estimates throughout the report exclude the component of turnover attributable to goods and services tax, and that all values are expressed in calendar years in constant 2012 dollar terms (i.e. inflation is not included).

The retail spending estimates outlined in this report represent the categories of retail goods and services which are served by retailers within the PLUC 5 definition. A summary of the types of retail expenditure within the PLUC 5 retail definition is provided in Table A.1 in Appendix A. Throughout this report PLUC 5 retail expenditure is referred to as retail expenditure or spending.

2.3.2 RETAIL SPENDING PER CAPITA RATES

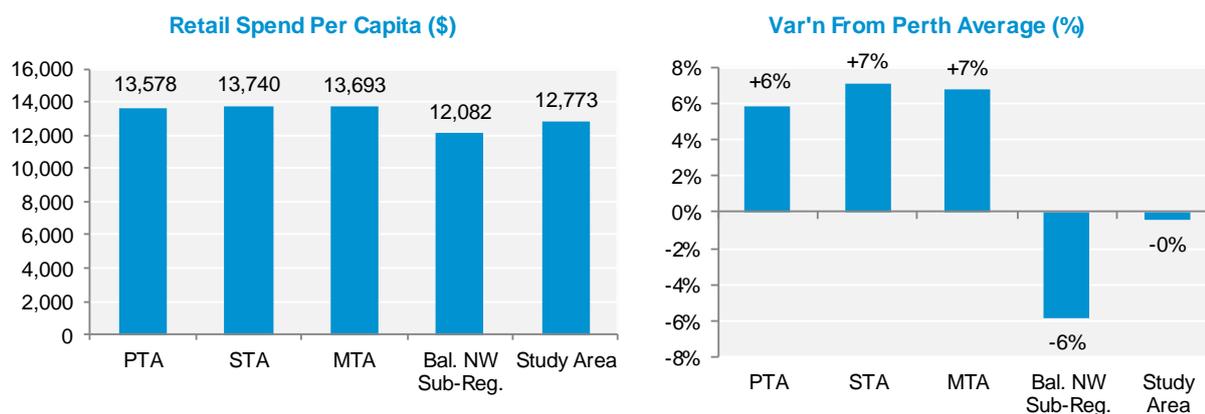
Chart 2.1 outlines estimates of retail spending per capita levels for residents of the main trade area and broader study area. Consistent with above average income levels, retail spend per capita in the main trade area for Whitfords activity centre is 7% higher than the Perth average. Spending levels are strong in both the primary (+6%) and secondary sectors (+7%). Significantly lower spending rates in the balance of the North-West Sub-Region result in the study area overall having a lower retail spending rate similar to the Perth average.

Spending levels in the main trade area are high in the discretionary spending categories, as shown in Chart 2.2. Across the main trade area, for example, apparel spending is 11% above the Perth average and homewares spending +9%.

Retail Spending Per Capita

WHITFORDS MAIN TRADE AREA/STUDY AREA VS PERTH BENCHMARK , 2012 (\$2012, EX GST)

CHART 2.1

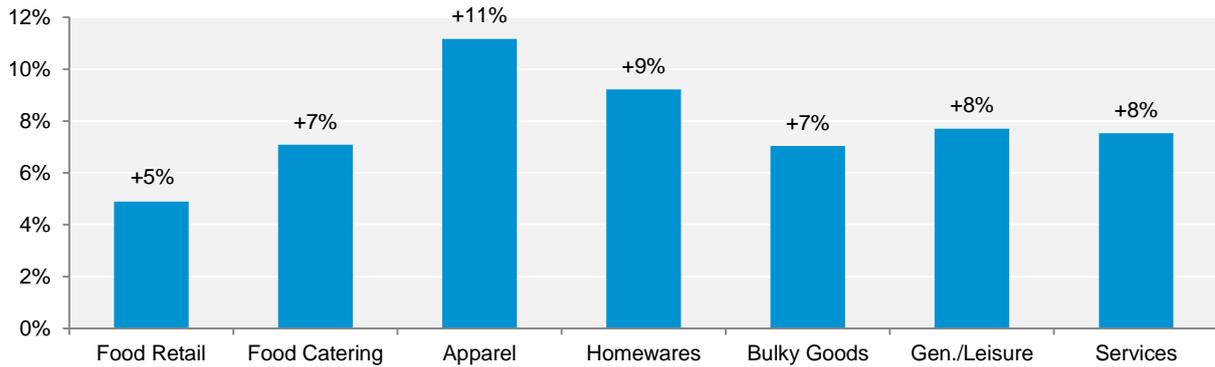


Source: MDS, MarketInfo 2010; ABS, Australian National Accounts: National Income, Expenditure and Product Accounts (5206.0); Urbis

Retail Spending Per Capita by Product Group

WHITFORDS MAIN TRADE AREA, 2012

CHART 2.2



Source: MDS, MarketInfo 2010; ABS, Australian National Accounts: National Income, Expenditure and Product Accounts (5206.0); Urbis

2.3.3 RETAIL SPENDING VOLUME

The retail spending market generated by the main trade area and the broader study area residents is presented in Table 2.4. The main trade area retail market is currently estimated at just over \$2 billion, including \$576 million in the primary trade area (expressed excluding GST) in the year to December 2012. Throughout the balance of the North-West Sub-Region (Study Area) retail spending amounts to around \$2.4 billion. The main trade area of the Whitfords activity centre therefore accounts for 46% of total retail spending in the study area.

Forecast growth in retail spending is estimated by combining forecast population growth with anticipated growth in real retail spending capita. The assumptions relating to these contributors to spending growth are as follows:

- Population growth, i.e. 0.4% per annum in the main trade area and 2.2% per annum across the balance of the study area.
- Real retail spending per capita growth, i.e. 1.5% per annum including varying rates for different categories of retail.

Over the next 19 years to 2031, retail spending generated by main trade area residents is forecast to increase by approximately \$936 million to \$2.9 billion (\$2012 excluding GST). In the balance of the North-West Sub-Region (including a small area to the south of the North-West Sub-Region) retail spending is forecast to more than double to \$5.7 billion by 2031. By 2031, retail spending generated by North-West Sub-Region residents is expected to exceed \$8.5 billion (\$2012, excluding GST).

Retail Spending

WHITFORDS ACTIVITY CENTRE MAIN TRADE AREA AND STUDY AREA (\$2012, EX. GST)

TABLE 2.4

Year	Primary (\$M)	Secondary (\$M)	Main TA (\$M)	Bal. NW Sub-Region ¹ (\$M)	Study Area (\$M)
2012	575.6	1,425.9	2,001.5	2,354.1	4,355.7
2016	636.8	1,583.9	2,220.7	3,002.8	5,223.5
2021	702.7	1,734.6	2,437.3	3,796.8	6,234.1
2026	790.4	1,893.2	2,683.6	4,721.1	7,404.7
2031	874.6	2,062.7	2,937.3	5,714.0	8,651.4

Average Annual Growth

2012-16	2.6%	2.7%	2.6%	6.3%	4.6%
2016-21	2.0%	1.8%	1.9%	4.8%	3.6%
2021-26	2.4%	1.8%	1.9%	4.5%	3.5%
2026-31	2.0%	1.7%	1.8%	3.9%	3.2%

1. Includes a small area to the south of the North-West Sub-Region boundary

Source: MDS, MarketInfo 2010; ABS, Australian National Accounts: National Income, Expenditure and Product Accounts (5206.0); Urbis

3 Retail Supply

This section of the report outlines a review of the existing and future supply of retail centres in the region of relevance to Whitfords Activity Centre. The location of the activity centres throughout and south of the North-West Sub-Region is shown in Map 3.1, with detailed competition shown in Map 3.2. Details on the provision of PLUC 5 shop floorspace and key traders in each centre are provided in Table 3.1.

3.1 CENTRES POLICY

On the 31st of August 2010, the Western Australian State Government released State Planning Policy 4.2, *Activity Centres for Perth and Peel*. This document outlines the centres hierarchy across metropolitan Perth and covers seven types of activity centres as follows:

- Perth Capital City
- Primary Centres
- Strategic Metropolitan Centres
- Secondary Centres
- Specialised Centres
- District Centres
- Neighbourhood Centres

The Activity Centres Policy outlines the requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres. In terms of the activity centres hierarchy, a number of provisions are specified to meet the Policy's objectives:

- *"The responsible authority should not support activity centre structure plans or development proposals that are likely to undermine the established and planned activity centre hierarchy.*
- *Activity centre structure plans and developments should be consistent with the centre's classification in the hierarchy.*
- *The responsible authority should consider the main role/function and typical characteristics for each centre type" as outlined in Table 3.1.*

3.1.1 DRAFT JOONDALUP LOCAL COMMERCIAL STRATEGY

The draft Joondalup Local Commercial Strategy and background research (JLCS) was released in August 2012 by the City of Joondalup. The document was prepared by MGA Town Planners and Syme Marmion and Co and is supported by Part A Background Research, Economic Analysis and Retail Needs Assessment.

The purpose of the Local Commercial Strategy is to guide decision making in relation to commercial centres with respect to future rezoning applications, development applications, centre plans and amendments to existing structure plans. The document therefore plays a pivotal role in determining the future geography and extent of retail facilities in Joondalup.

The document provides recommended retail floorspace maximums for each locality to 2026 within Joondalup. A key outcome is the designated maximum retail provision for Whitfords City of 50,000 sq.m, which has significant implications for the future growth of the centre – essentially preventing any further development.

Westfield commissioned Urbis to review the document from planning and economic perspectives. This review raised a number of concerns with the draft JLCS, including the imposition of floorspace caps on centres and the methodology and assumptions used in the retail modelling to inform the future PLUC 5 shop floorspace needs of Joondalup residents.

In particular:

- The gravity modelling and 'health checks' approach to determining the level of PLUC 5 shop floorspace that can be supported in the Joondalup municipality and allocation across activity centres is too simplistic to represent the complexities of spending patterns.
- The retail analysis incorrectly assumes the market is sufficiently supplied currently. In fact, as discussed in Section 5 to this report, the Joondalup municipality is significantly undersupplied in PLUC 5 shop floorspace.
- The future growth in the demand for PLUC 5 shop floorspace by Joondalup residents appears understated.

A better approach is to use Retail Sustainability Assessments as the tool for assessing market need, demand and impact of centre expansions. The points raised in the response to the draft JLCS are raised and addressed in this report as they relate to the proposed expansion of PLUC 5 shop floorspace at Whitfords activity centre.

3.2 RETAIL CENTRES HIERARCHY

The retail centres hierarchy is guided by the state policy *Activity Centres for Perth and Peel (August 2010)*, as well as the municipal *Local Commercial Strategy (November 2009)*. The main role and function and indicative service (trade area) population for each group of activity centres is outlined in the State Policy and summarised in Table 3.2.

In the North-West Sub-Region of Perth, there are (existing and planned):

- Two Strategic Metropolitan Centres (Joondalup and Yanchep)
- Five Secondary Centres (Whitfords, Wanneroo, Warwick, Clarkson and Alkimos)
- Eleven District Centres (Currambine, Sorrento Quay, Woodvale, Greenwood Village, Madeley, Alexander, Girrawheen, Neerabup, Butler, Eglinton and Two Rocks).

Within the defined main trade area (service population trade area) for Whitfords Activity Centre, there are four District Centres (Woodvale, Madeley, Sorrento Quay and Greenwood Village). Other centres which would be expected to capture a significant amount of trade from the Whitfords main trade area, include Joondalup, Wanneroo, Warwick, Currambine and Girrawheen centres.

Other centres of competitive relevance, due to their relative proximity and role as Secondary Centres or Strategic Regional Centres include Clarkson, Stirling (Innaloo) and Karrinyup.

These are the range of centres most relevant in assessing market capacity for future development of PLUC 5 shop floorspace at Whitfords Activity Centre.

Estimates of retail floorspace and performance of other activity centres is based on a number of data sources including:

- Perth Land Use Survey 2008 conducted by the Department of Planning, WAPC
- Australian Shopping Centre Database, Property Council of Australia
- Big Guns 2012 and Little Guns 2011, Shopping Centre News

Centre Hierarchy

SPP 4.2 ACTIVITY CENTRES HIERARCHY FOR PERTH AND PEEL

TABLE 3.1

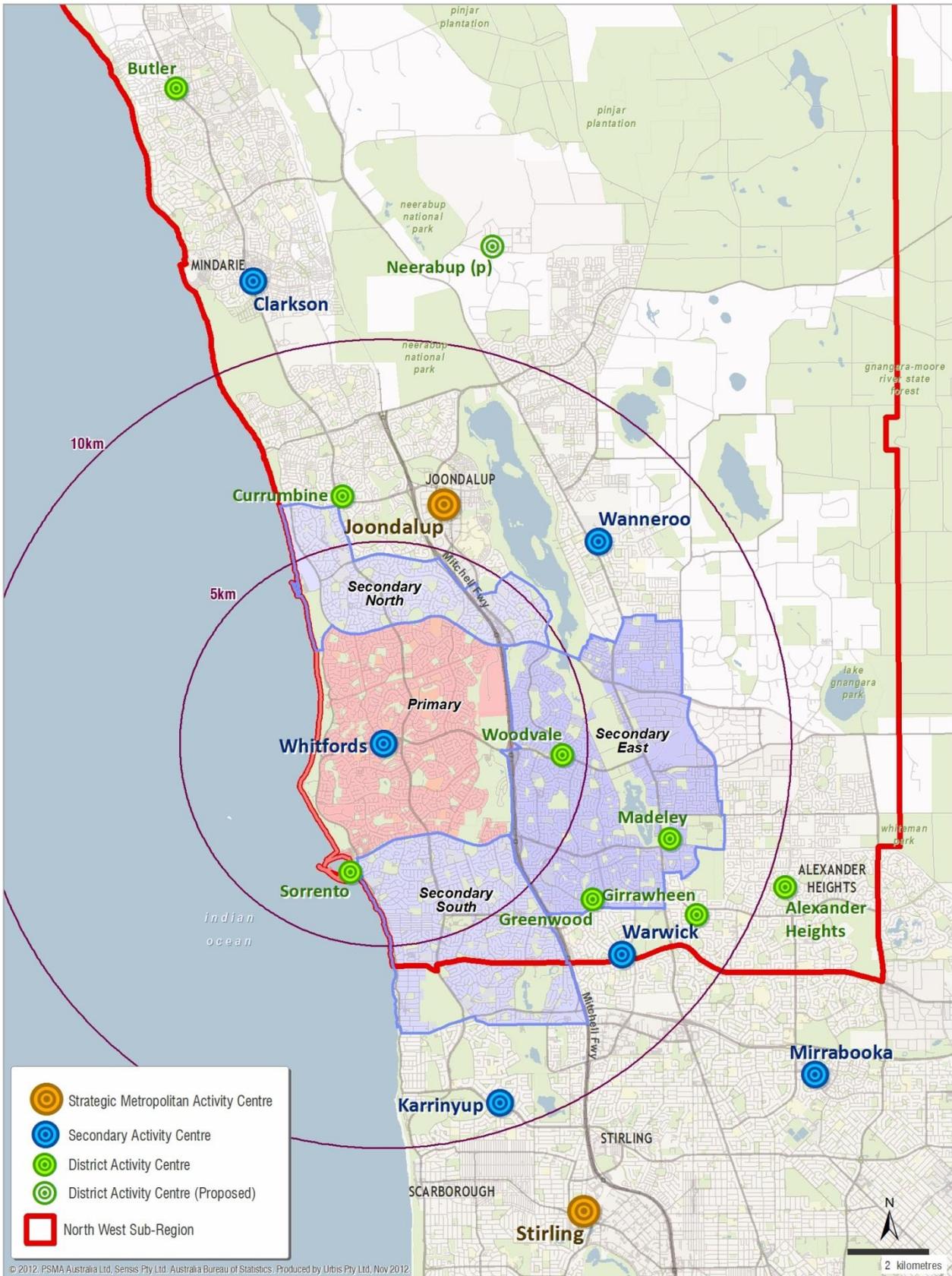
CENTRE TYPE	MAIN ROLE/FUNCTION	FUTURE INDICATIVE SERVICE POPULATION (TRADE AREA)
Perth Capital City	Perth Capital City is the largest of the activity centres, providing the most intensely concentrated development in the region. It has the greatest range of high order services and jobs, and the largest commercial component of any activity centre.	Greater Metropolitan Region
Primary Centres	Identified in <i>Directions 2031</i> but not specifically discussed in the final <i>Activity Centres for Perth and Peel</i> policy as no centre in Perth currently has been classified as a primary centre, although Rockingham and Joondalup have been mooted. Primary centres should house major institutions and become the preferred location for investment in high order public and employment generating infrastructure outside the CBD. The concept of primary centres is somewhat similar to a 'second CBD' for Perth.	Not given; assumed to be 300,000 +
Strategic Metropolitan Centres	Strategic metropolitan centres are the main regional activity centres. They are multipurpose centres that provide a diversity of uses. These centres provide the full range of economic and community services necessary for the communities in their catchment.	150,000 -300,000
Secondary Centres	Secondary centres share similar characteristics with strategic metropolitan centres but serve smaller catchments and offer a more limited range of services, facilities and employment opportunities. They perform an important role in the city's economy, and provide essential services to their catchments.	Up to 150,000
District Centres	District centres have a greater focus on servicing the daily and weekly needs of residents. Their relatively smaller scale catchment enables them to have a greater local community focus and provide services, facilities and job opportunities that reflect the particular needs of their catchments.	20,000-50,000
Neighbourhood Centres	Neighbourhood centres provide for daily and weekly household shopping needs, community facilities and a small range of other convenience services.	2,000-15,000

Source: SPP 4.2, *Activity Centres for Perth and Peel*, WA Government; *Directions 2031*, WA Government

Activity Centres

WHITFORDS STUDY AREA

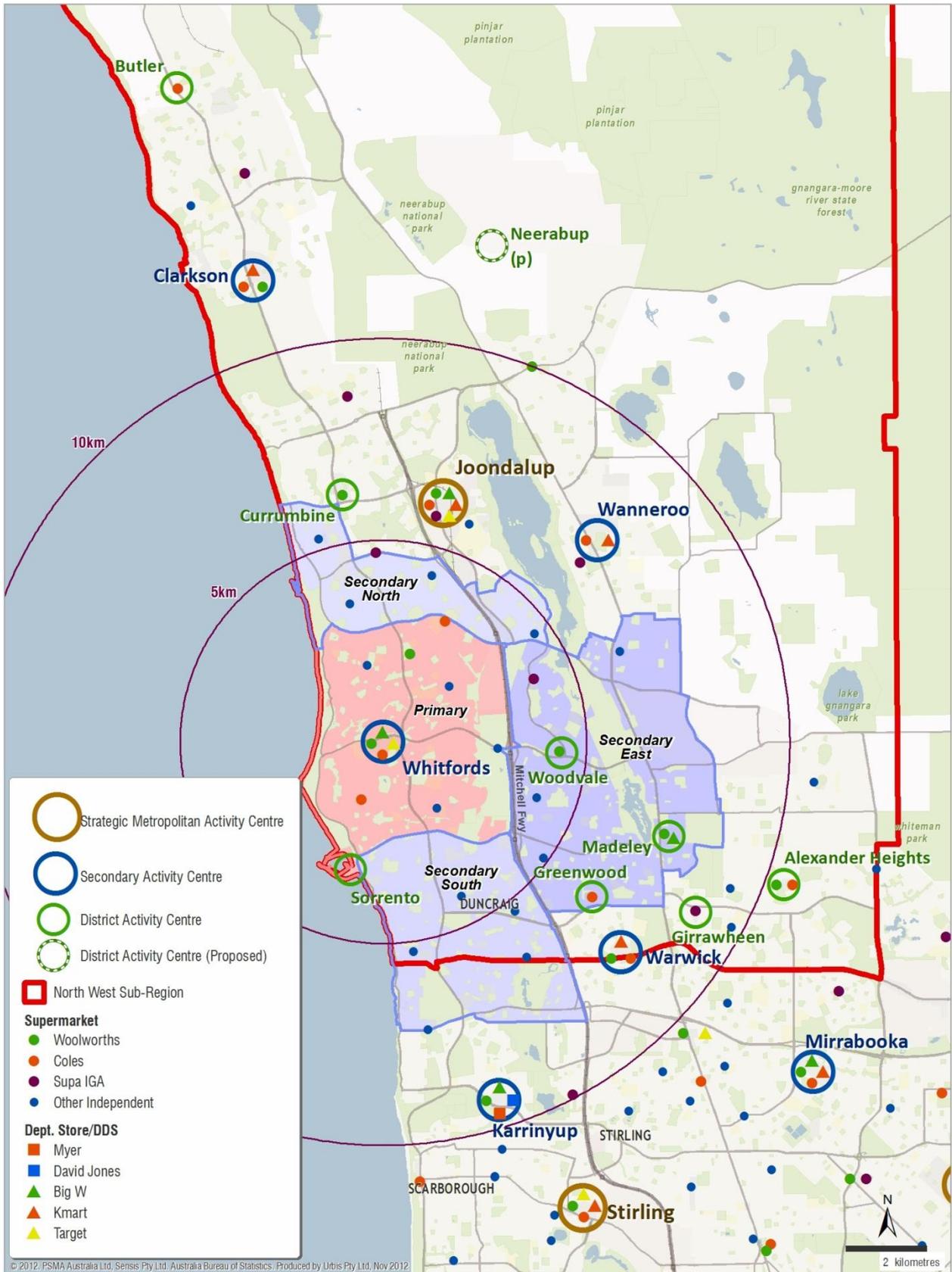
MAP 3.1



Retail Supply

WHITFORDS STUDY AREA

MAP 3.2



3.3 STRATEGIC METROPOLITAN CENTRES

Strategic Metropolitan Centres of competitive relevance to Whitfords are as follows:

- **Joondalup.** Joondalup is a multi-functional town centre incorporating major retail, commercial, leisure, residential and education uses, with major uses including a hospital, two university campuses, local government offices, a library, sporting facilities and Lakeside Joondalup shopping centre. Whilst retail is an important element of the centre, it is the wide range of commercial and community facilities that define the role of Joondalup as a Strategic Metropolitan Centre. Retailing in the town centre is mostly focussed within and around the Lakeside shopping centre with a mix of cafes, take away food shops and services dispersed throughout the town centre. Total PLUC 5 shop floorspace currently amounts to around 92,000 sq.m. The main trade area for Joondalup town centre would cover a broad area encompassing parts of the Westfield Whitford City main trade area.

According to the Big Guns Journal published by Shopping Centre News, the Lakeside Joondalup centre achieved a productivity level of \$8,631 per sq.m in 2012 (\$2012, including GST), ranking the centre 8th out of 87 centres in Australia. The centre is therefore trading well and above the industry average.

- **Stirling.** Westfield Innaloo, located on the corner of Scarborough Beach Road and Ellen Stirling Boulevard, is a major retail destination for the northern suburbs of Perth. Total PLUC 5 shop floorspace for Stirling is around 58,000 sq.m. Westfield Innaloo is the focus of retail comprising around 34,000 sq.m including two discount department stores (Target and Kmart) and two supermarkets (Coles, Woolworths). The adjacent shopping centre includes a Supa IGA.

3.4 SECONDARY CENTRES

Secondary centres of competitive relevance to Whitfords are as follows:

- **Karrinyup** is the closest centre to Whitfords which includes a department store. The centre provides around 50,000 sq.m of PLUC 5 shop floorspace and is anchored by two department stores (i.e. David Jones 9,400 sq.m and Myer 13,900 sq.m). Due to the inclusion of two department stores the Karrinyup centre would likely be drawing a significant amount of trade from residents living in the Whitfords centre's main trade area and other parts of the North-West Sub-Region. Research indicates that Karrinyup is used regularly by residents from the main trade area. Based on 2012 Big Guns publication, Karrinyup's trades well with an average trading rate of approximately \$7,796 per sq.m (\$2012, including GST), ranking it 15th of 87 centres in Australia.
- **Wanneroo** - This centre provides around 18,200 sq.m of PLUC 5 shop floorspace and is anchored by a Kmart DDS and Coles and IGA supermarkets. The main trade area of Wanneroo would comprise the suburbs to the east of Lake Joondalup and have some overlap with the main trade area of the Whitfords activity centre.
- **Clarkson (Ocean Keys Shopping Centre)** - Currently the northernmost Secondary Centre in the North-West Sub-Region, the activity centre overall comprises roughly 28,000 sq.m of PLUC 5 floorspace. The centre is understood to trade well benefiting from access to relatively sizeable captive trade area and developing suburbs to its north. The Ocean Keys shopping centre provides approximately 20,000 sq.m of PLUC 5 shop floorspace and is anchored by a Kmart DDS as well as Coles and Woolworths supermarkets. The centre is well positioned to serve local daily/weekly shopping requirements and some non-food discretionary shopping needs of its catchment population. Given the centre's distance from Whitfords (12 km) and urban break around 2 km, the main trade areas of the Clarkson and Whitfords activity centres would not be expected to overlap. Based on data published in Little Guns 2011, Ocean Keys Shopping Centre also trades relatively well, at an approximate trading level of \$9,459 per sq.m (\$2011, excluding GST), ranking it 6th of 103 centres of its type in Australia
- **Warwick** is a Secondary Centre anchored by a Kmart DDS, Woolworths and Coles supermarkets and cinemas. The centre was redeveloped in 2003 to include Best and Less, a new fresh food precinct and new speciality stores, expanding the centre to approximately 25,600 sq.m of PLUC 5 retail floorspace. The Warwick centre has a well-established position in its local market which includes parts of the secondary east and south sectors of Whitfords' main trade area.

- **Alkimos** is a planned Secondary Centre located between the Clarkson and future Yanchep centres. Due to its distance from Whitfords its competitive relevance would be minimal. Expansion of retail facilities at Whitfords would therefore be expected to have no effect on development of the Alkimos centre.

3.5 DISTRICT CENTRES

District centres of competitive relevance to Whitfords are as follows:

- **Currambine Marketplace.** This centre is well positioned on two major arterial roads and is accessible to residents in Currambine, Kinross, Ocean Reef and Connolly. The centre currently provides around 8,000 sq.m of PLUC 5 shop floorspace and is anchored by a Woolworths supermarket.
- **Woodvale.** The centre is well located east of the Mitchell Freeway on Whitfords Avenue and Trappers Drive. The centre would primarily serve a catchment of Woodvale and Kingsley. A Woolworths supermarket anchors the centre which would comprise around 7,500 sq.m of PLUC 5 shop floorspace in total.
- **Greenwood Village.** The centre is situated on Warwick Road east between the Mitchell Freeway and Allenswood Road. The total amount of PLUC 5 shop floorspace is around 5,000 sq.m and is anchored by a Coles supermarket. The centre serves its local catchment of Greenwood and part of Warwick for convenience shopping needs primarily.
- **Sorrento Quay.** The centre is situated at the Hilary's Boat Harbour and contains around 7,800 sq.m of PLUC 5 shop floorspace. Sorrento Quay is a popular recreation destination for both locals and tourists. The retail offer comprises restaurants and fashion and gift boutiques targeting the tourist segment.
- **Madeley (Kingsway City).** This centre is anchored by a Big W DDS and Woolworths supermarket and serves a mix of convenience and basic discretionary non-food shopping needs. Total PLUC 5 shop floorspace amounts to 20,000 sq.m.
- **Girrawheen.** The centre is situated on Warrangaroo Road with good access to the residents of Girrawheen, Marangaroo and part of Greenwood. Girrawheen has a total PLUC 5 shop floorspace of around 8,200 sq.m and is anchored by a Supa IGA supermarket.

3.6 PROPOSED DEVELOPMENTS

For the purposes of the retail sustainability assessment, future competitive development taken into account are those developments which have been approved or are currently being pursued through the planning process. They are summarised below:

- **Lakeside Joondalup:** shopping centre has Development Application approval to add a Myer department store of around 10,000 sq.m, a decked car park, and approximately 18,300 sq.m of additional mini-majors and specialty stores.
- **Clarkson.** An expansion to Ocean Keys Shopping Centre has been approved which adds around 14,000 sq.m of retail floorspace including a second Discount Department Store (DDS).
- **Madeley.** Plans to expand Kingsway City by approximately 16,500 sq.m were approved last year – which include a Coles supermarket and Target DDS – however, timing is as yet unknown. For the purposes of this analysis we have assumed that the development goes ahead sometime between now and 2016.
- **Currambine Marketplace.** Approval has been given to continued expansion of Currambine Marketplace, which will comprise approximately 7,600 sq.m floorspace.

Perth North-West Sub-Region Activity Centre Hierarchy

INCLUDES MAJOR CENTRES OUTSIDE OF THE NORTH-WEST SUB-REGION

TABLE 3.2

Activity Centre	Status	Main Uses ¹
Strategic Metropolitan Centres		
Joondalup	Existing	Lakeside Joondalup, Joondalup Interchange (Railway & Bus), Joondalup Health Campus, Commercial Offices, Education Facilities (Edith Cowan University, West Coast Institute of Training, Australian Institute for University Studies, Western Australia Police Academy) Joondalup Library, Council Chambers, Arena Joondalup
Stirling	Existing	Westfield Innaloo and Mega Centre, GU Cinema Complex, Restaurant Precinct, Chiropractic Centre, Stirling Train Station, Woodlands Retirement Village, Odin Road Medical Centre, Osbourne Park Industrial Area, IKEA Perth
Yanchep	Proposed	
Secondary Centres		
Whitfords	Existing	Whitford City, Whitford Public Library, Jean Beadle Commercial Centre, Whitfords Avenue Medical Centre and Health Related Services, Animal Hospital, Whitfords Family Centre, External Other Retail Uses (Bunnings, Supercheap Auto etc), St Marks School
Wanneroo	Existing	Wanneroo Central, Wanneroo City Council, Wanneroo Aquamotion, Limelight Theatre, Wanneroo Vet Hospital
Warwick	Existing	Centro Warwick, Grand Cinemas, Warwick Superbowl, Grace Chapel
Clarkson	Existing	Ocean Keys, Clarkson Library, Large format/Bulky retailing, Bunnings, Vet, Chiropractic Centre,
Karrinyup	Existing	Karrinyup, Shopping Centre, Bus Station, Karrinyup Library, Serapis Day Hospital and Medical Services,
Alkimos	Proposed	
Two Rocks	Proposed	
District Centres		
Madeley	Existing	Kingsway City, Kingsway Vet Centre
Carrambique	Existing	Currambique Marketplace, Grand Cinemas
Woodvale	Existing	Woodvale Shopping Centre, Medical Centres, Woodvale Public Library
Greenwood	Existing	Greenwood Village Shopping Centre, Medical Centre
Alexander Heights	Existing	Alexander Heights Shopping Centre, Medical Centre
Girrawheen	Existing	Newpark Shopping Centre
Butler	Existing	Brighton Village Shopping Centre
Sorrento Quay	Existing	Sorrento Quay, Western Australia, Aquarium, Marina Apartments, Diving Academy, Naturaliste Marine Discovery Centre, Education Centre, Yacht Club, Restaurant Precinct, Fun Park
Nerrabup	Proposed	
Eglinton	Proposed	

¹ Includes indicative main uses for each centre

Source: Activity Centres for Perth and Peel 2010; Urbis

4 Existing Centre Performance

This section of the report outlines the current performance of the existing Whitfords activity centre. As the Westfield centre accounts for all of the PLUC 5 shop floorspace within the Whitfords Activity Centre it provides the relevant indicator of the trading performance of retail facilities in the activity centre.

It should be noted that based on figures provided by Westfield, the main shopping centre includes some 52,000 sq.m of PLUC 5 shop floorspace (gross leasable area). The difference between this figure and the 49,924 sq.m estimate outlined in the draft JLCS could be due to differing reporting methods, amongst other factors. For the purposes of the retail demand and supply analysis outlined in this report, the 49,924 sq.m figure is used to ensure consistency with the draft JLCS.

4.1 TURNOVER PERFORMANCE

As of September 2012, the 52,000 sq.m of PLUC 5 shop floorspace (GLA) generated approximately \$342 million in moving annual turnover at an average trading level of \$6,582 per sq.m (refer to Table 4.1).

Turnover Performance

WHITFORD CITY COMPARED WITH AUSTRALIAN AVERAGES

TABLE 4.1

Tenant Type	Unit	Whitfords ¹	Benchmarks ² :		Var'n from Benchmark:	
			Double DDS	Other Regionals	Double DDS	Other Regionals
Retail Floorspace	sq.m	52,035	37,105	64,769	+40%	-20%
Retail Turnover	\$M	342	222	381	+54%	-10%
Average Trading Level	\$/sq.m	6,582	5,984	5,881	+10%	+12%

¹ Whitfords retail turnover is based on annualised turnover estimates for tenants at Westfield Whitford City at September 2012

² Data for Benchmarks are for the year to June 2011 from Urbis Retail Averages 2011/12

Source : Westfield ; Urbis, Urbis Retail Averages 2011/12

Table 4.1 also shows the turnover performance of Westfield Whitford City compared with the average turnover and productivity of double DDS based centres and regional centres (excluding the 10 highest volume regional centres), as sourced from the 2012 Urbis Retail Averages. This comparison shows that Westfield Whitford City is achieving a turnover productivity higher than both the double DDS based centres and other regional centres, at +10% and +12% respectively. This premium performance indicates that market demand could support a larger provision of PLUC 5 shop floorspace at Westfield Whitford City.

4.2 MARKET SHARE PERFORMANCE

Based on the estimated geographic distribution of trade, which is derived from the 2011 exit survey conducted at Westfield Whitford City shopping centre, the current market shares achieved by the PLUC 5 shop floorspace at the centre are calculated. This analysis is summarised in Table 4.2.

Table 4.2 shows that Westfield Whitford City is attracting a 12.8% share of all expenditure by main trade area residents on retail goods and services. The remaining 87% of this expenditure is being directed to other centres within and mostly outside of the trade area.

The non-food market share is higher at 19.1% reflecting the centre's role as a key centre for discretionary shopping needs. About 25% of the centre's retail turnover, including a 30% of non-food turnover, is sourced from markets outside of the trade area. The majority of this 'beyond' business is sourced from residents living elsewhere in the North-West Sub-Region.

Centre Market Shares

WHITFORD CITY MAIN TRADE AREA, 2012 (EXCLUDING GST AND \$2012)

TABLE 4.2

	Resident Spending (\$M)			Market Share Potential			Forecast Turnover		
	Food	NF	Total	Food	NF	Total	Food	NF	Total
Primary Trade Area	343.7	231.9	575.6	17.4%	34.8%	24.4%	60.0	80.7	140.6
Secondary Trade Area									
• North	154.1	103.8	258.0	5.5%	15.3%	9.4%	8.4	15.9	24.3
• East	388.3	262.8	651.1	4.0%	12.8%	7.6%	15.6	33.8	49.4
• South	<u>302.8</u>	<u>214.1</u>	<u>516.9</u>	<u>5.5%</u>	<u>11.8%</u>	<u>8.1%</u>	<u>16.5</u>	<u>25.3</u>	<u>41.8</u>
Total Secondary	845.3	580.7	1,425.9	4.8%	12.9%	8.1%	40.6	74.9	115.5
Main Trade Area	1,189.0	812.6	2,001.5	8.5%	19.1%	12.8%	100.5	155.6	256.1
<i>Plus Turnover From Beyond TA</i>				16.6%	29.9%	25.2%	20.0	66.4	86.4
Centre Retail Turnover (\$M)							120.5	222.0	342.5

Source : Westfield; Urbis

5 Need, Demand and Impact Assessment

This section of the report outlines the assessment of need, demand and impacts for development of additional PLUC 5 shop floorspace at Whitfords Activity Centre.

5.1 FUTURE RETAIL DEVELOPMENT

As shown in Table 5.1, following the redevelopment of the Whitfords Activity Centre, the completed centre would provide almost 90,000 sq.m of PLUC5 shop floorspace. The expansion includes the addition of a David Jones department store of 14,000 sq.m and a range of new mini-majors and specialty shops.

A second stage of development is proposing the addition of another 5,000 sq.m (to 95,000 sq.m) of PLUC5 shop floorspace. This additional floorspace is envisaged to flank a revamped Endeavour Road precinct.

The development will also include an upgrade of the centre and deliver the community a high quality shopping environment.

Proposed PLUC 5 Shop Floorspace

WHITFORDS ACTIVITY CENTRE

TABLE 5.1

Tenant Type	PLUC 5 Floorspace (sq.m)	
	2016	2016-2026
Department Store	14,000	14,000
Discount Department Stores	16,200	16,200
Supermarkets	8,600	8,600
Mini-Majors	18,000	18,000
Total Majors & Mini-Majors	56,800	56,800
Specialty Shops	33,200	38,200
Total Centre	90,000	95,000

Source : PLUS 2008 ; Westfield ; Urbis

5.2 ASSUMPTIONS

The key assumptions factored into the assessment of need, demand and impacts are as follows:

- The expansion of Whitfords Activity Centre to 90,000 sq.m of PLUC 5 shop floorspace is assumed to open between now and the beginning of 2016. For the purposes of this analysis the assessment (initial trading) year is 2016. The additional 5,000 sq.m is assumed to be completed by 2026.
- Population growth in the main trade area and broader North-West Sub-Region is forecast as outlined in Section 2 of this report.
- The existing and future centres hierarchy is as outlined in Section 3.
- There are no major shocks to the Australian or Western Australian economies over the forecast period.
- The analysis takes into account the effect of online retailing and the introduction of universal Sunday Trading on future demand for PLUC 5 shop floorspace. This is discussed later in this section of the report.

5.3 NEED AND DEMAND ASSESSMENT

The need and demand for retail facilities is now considered in terms of the need for retail facilities for the broader North-West Sub-Region and the need for facilities to serve the Joondalup municipality.

Firstly, the North-West Sub-Region is examined. Analysis of the North-West Sub-Region is relevant to Joondalup and Whitfords centres (which are the highest order centres currently servicing this region) and allows for consideration of planned major centres, such as Yanchep, as well as other centres that are servicing or will service this region.

Secondly, the demand for retail facilities in the municipality of Joondalup is examined as the majority of the Whitfords Activity Centre PLUC 5 shop floorspace will be supported by this area. This analysis therefore allows a closer examination of the capacity of the market to support the Whitfords expansion and market demand remaining for other Joondalup centres to expand.

5.3.1 DEMAND FOR RETAIL FLOORSPACE IN THE NORTH-WEST SUB-REGION

Table 5.2 provides Urbis' assessment of the current and future demand for shop floorspace in the North-West Sub-Region. The analysis demonstrates that:

- In 2012, there was demand among the North-West Sub-Region's residents for approximately 702,000 sq.m of shop floorspace based on a retail spending market of \$4.2 billion and application of an average trading rate of around \$6,000 per sq.m.
- The demand for shop floorspace by North-West Sub-Region residents is forecast to increase to 1.2 million sq.m by 2031, representing an increase of around 485,000 sq.m over the next 19 years.
- On the estimate that 90% (or 399,000 sq.m) of the 444,000 sq.m of shop floorspace currently provided in the North-West Sub-Region is supported by North-West Sub-Region residents, some 303,000 sq.m of shop floorspace demand is being directed outside of the sub-region.
- An estimated high 43% of shop floorspace demand is therefore currently escaping the North-West Sub-Region. Without additional retail facilities this will continue to increase to 66% or 788,000 sq.m in 2031.

PLUC 5 Shop Floorspace Demand

NORTH-WEST SUB-REGION

TABLE 5.2

	Methodology	Unit	2012	2016	2021	2031
Population			331,655	369,815	413,477	498,427
PLUC 5 Spending Market	A	\$M	4,217.0	5,070.2	6,066.2	8,449.3
<u>Total PLUC 5 Floorspace Demand</u>						
Average Trading Density	B	\$psm	6,005	6,223	6,508	7,118
Floorspace Demand	C = A / B	sq.m	702,307	814,696	932,087	1,187,116
<u>Gross Escape of Demand Based on Current Supply</u>						
Current NW Region PLUC 5 Floorspace	D	sq.m	443,672	443,672	443,672	443,672
Current Floorspace Supported by NW Region Residents (@ 90%)	E = 90% of D	sq.m	399,305	399,305	399,305	399,305
NW Resident PLUC 5 Demand Directed Outside NW Region	F = C - E	sq.m	303,003	415,391	532,782	787,812
Gross Escape of NW Region PLUC 5 Demand	G = F / C	%	43%	51%	57%	66%

Source : PLUS 2008; Urbis

This high level of escape expenditure is largely due to the undersupply of higher order retailing in the region which is evidenced by a range of measures including:

- The lack of department stores in the area. As detailed later, two department stores could be supported in the North-West Sub-Region of Perth today. The Joondalup and Whitfords centres are the only centres in this Sub-Region which could support a department store for at least another 15 years. A third department store could be potentially supported longer term.

- The average size of a regional (essentially department store based) centre in Perth is 20% smaller than regional centres elsewhere in Australia. Whitfords is 30% smaller than the average Australian regional (department store based) centre. The development of major shopping centres in Perth has been historically constrained by the old regime of floorspace caps and lack of the universal introduction of Sunday Trading in Perth. Both of these constraints have now been removed, thus paving the way for centres to adequately expand to meet market demand.
- High trading levels of local centres. According to the Big Guns Journal published by Shopping Centre News, Lakeside Joondalup achieved a productivity level of \$8,631 per sq.m in 2012, ranking the centre 8th out of 87 centres in Australia. Whitford City achieved a productivity level of \$7,315 per sq.m in this publication, ranking the centre 18th. Both centres are clearly performing well above the average indicating demand is therefore outstripping supply.

A significant increase in the provision of shop floorspace in the region would be required just to bring the level of escape expenditure back to a reasonable level. This suggests significant potential to increase the supply of PLUC 5 shop floorspace in the North-West Sub-Region today.

In terms of future planning for the region, a more sustainable approach for the North-West Sub-Region would be to target a lower 20% gross escape expenditure for the region. As detailed in Table 5.3, growth in the market and reduced escape expenditure will provide the requirement for an additional 280,000 sq.m of PLUC 5 shop floorspace in the North-West Sub-Region by 2016. With market growth this additional supportable supply of PLUC 5 shop floorspace would increase to approximately 612,000 sq.m by 2031.

Whitfords would account for a modest 12% of this unmet demand in 2016, leaving 246,000 sq.m for the development of other centres throughout the North-West Sub-Region. By 2031, Whitfords' proportion of unmet demand would decrease to just 6%, after allowing for the further expansion of the centre by 5,000 sq.m to 95,000 sq.m. This leaves sufficient market capacity to support the expansion of Joondalup as well as improvements to other centres and expansion of new centres.

Sustainable PLUC 5 Shop Floorspace

NORTH-WEST SUB-REGION

TABLE 5.3

	Methodology	Unit	2012	2016	2021	2031
PLUC 5 Spending Market		\$M	4,217	5,070	6,066	8,449
Total PLUC 5 Floorspace Demand						
Average Trading Density	A	\$psm	6,005	6,223	6,508	7,118
Floorspace Demand	B	sq.m	702,307	814,696	932,087	1,187,116
Floorspace Need						
Gross Escape of Trade Area PLUC 5 Demand	C	%	20%	20%	20%	20%
PLUC 5 Demand Directed Outside NW Sub-Region	D = C * B	sq.m	140,461	162,939	186,417	237,423
Floorspace Supported by North-West sub-Region Residents	E = B - D	sq.m	561,846	651,757	745,669	949,693
Floorspace Supported by Non-NW Sub-Region Residents (@10%)	F = 12% of G	sq.m	62,427	72,417	82,852	105,521
Supportable North West Sub-Region PLUC 5 Floorspace	G	sq.m	624,273	724,174	828,522	1,055,214
Additional Floorspace Supportable Beyond 2012 Supply	H = G - D (Tble 5.2)	sq.m	180,601	280,502	384,850	611,543
Whitfords Expansion						
Whitfords	I	sq.m		38,000	38,000	43,000
Floorspace Supported by NW Sub-Region Residents (@ 90%)	J = 90% of I	sq.m		34,200	34,200	38,700
% of Additional Supportable Floorspace	K = J / H	%		12%	9%	6%
Floorspace Remaining for Other Developments	L = H - J	sq.m		246,302	350,650	572,843

Source : PLUS 2008; Urbis

5.3.2 DEMAND FOR RETAIL FLOORSPACE IN JOONDALUP

This second analysis of demand provides a more detailed assessment, isolating the analysis to the Joondalup municipal area. This area is relevant as it is where Whitfords' draws a majority of its business and enables the analysis to be interpreted in line with the Joondalup Local Commercial Strategy (when finalised). It also specifically allows the demand analysis to consider the capacity of the market to support expansions at the Joondalup and Whitfords centres. The key findings of the analysis are as follows:

- In 2012, there was demand among Joondalup residents for approximately 368,000 sq.m of shop floorspace which is forecast to increase to 485,000 sq.m by 2031; representing a net increase of about 118,000 sq.m over the next 19 years.
- On the estimate that 70% (or 215,600 sq.m) of the 308,000 sq.m of shop floorspace currently provided in the Joondalup municipality is supported by Joondalup residents, some 152,000 sq.m (41%) of shop floorspace demand is being directed outside of the municipality. Without additional retail facilities this will continue to increase to an estimated 56% by 2031.
- The level of demand escaping the municipality and forecast growth in demand confirms that there is local demand and need to support the expansion of retail facilities in Joondalup at the key strategic centres of Whitfords and Joondalup. Given the retail role of these two centres would be the most effective in retaining expenditure that is directed to centres outside of the municipality.

PLUC 5 Shop Floorspace Demand

JOONDALUP LGA

TABLE 5.4

	Methodology	Unit	2012	2016	2021	2031
Population			163,320	169,480	175,780	187,930
PLUC 5 Spending Market	A	\$M	2,207.1	2,483.3	2,770.6	3,452.5
Total PLUC 5 Floorspace Demand						
Average Trading Density	B	\$psm	6,005	6,223	6,508	7,118
Floorspace Demand	C = A / B	sq.m	367,579	399,021	425,704	485,071
Gross Escape of Demand Based on Current Supply						
Current Joondalup PLUC 5 Floorspace	D	sq.m	308,056	308,056	308,056	308,056
Floorspace Supported by Joondalup Residents (@ 70%)	E = 70% of D	sq.m	215,639	215,639	215,639	215,639
Joondalup Resident Demand Directed Outside Joondalup	F = C - E	sq.m	151,939	183,381	210,064	269,431
Gross Escape of Joondalup PLUC 5 Demand	G = F / C	%	41%	46%	49%	56%

Source : PLUS 2008; Urbis

As shown in Table 5.5, allowing for a lower and more sustainable 25% gross escape expenditure for the municipality and taking into account forecast growth in PLUC 5 shop floorspace demand, an additional 139,000 sq.m of PLUC 5 shop floorspace could be supported by 2016. With market growth the requirement for additional PLUC 5 shop floorspace would increase to 235,000 sq.m by 2031.

The expansion of Whitfords to 90,000 sq.m of PLUC 5 shop floorspace would account for 21% of this unmet demand in 2016, leaving 110,000 sq.m for the development of other activity centres including the existing approved expansion of Joondalup by 28,000 sq.m (including a department store). By 2031, Whitfords' proportion of unmet demand would decrease to just 14%, after allowing for the further expansion of the centre by 5,000 sq.m.

There is clearly more than sufficient demand in the market to support the expansion of Whitfords to 90,000 sq.m and major expansion of PLUC 5 shop floorspace at the Joondalup centre. Furthermore, given the expansion of Whitfords to 90,000 sq.m would take up only a modest proportion of the additional PLUC 5 shop floorspace supportable in the Joondalup municipality there is also a clear need for the expansion of Whitfords to cater to the retail needs of Joondalup residents.

	Methodology	Unit	2012	2016	2021	2031
PLUC 5 Spending Market		\$M	2,207.1	2,483.3	2,770.6	3,452.5
<u>Total PLUC 5 Floorspace Demand</u>						
Average Trading Density	A	\$psm	6,005	6,223	6,508	7,118
Floorspace Demand	B	sq.m	367,579	399,021	425,704	485,071
<u>Floorspace Need</u>						
Gross Escape of Trade Area PLUC 5 Demand	C	%	25%	25%	25%	25%
PLUC 5 Demand Directed Outside Joondalup	D = C * B	sq.m	91,895	99,755	106,426	121,268
Floorspace Supported by Joondalup Residents	E = B - D	sq.m	275,684	299,265	319,278	363,803
Floorspace Supported by Non-Joondalup Residents (@33%)	F = 33% of G	sq.m	135,785	147,399	157,256	179,187
Supportable Joondalup Region PLUC 5 Floorspace	G	sq.m	411,469	446,665	476,534	542,990
Additional Floorspace Needed Beyond 2012 Supply	H = G - D (Tble 5.4)	sq.m	103,413	138,609	168,478	234,933
<u>Proposed Whitfords Expansion</u>						
Whitfords	I	sq.m		38,000	38,000	43,000
Floorspace Supported by Joondalup Residents (@ 75%)	J = 75% of I	%		28,500	28,500	32,250
% of Additional Floorspace Supportable	K = J / H	%		21%	17%	14%
Floorspace Remaining for Other Developments	L = H - J	sq.m		110,109	139,978	202,683

Source: Urbis

5.4 MARKET CAPACITY FOR DEPARTMENT STORES

A key gap in the retail offer in the Joondalup municipality and broader across the North-West Sub-Region of Perth are department stores. The North-West Sub-Region is the relevant catchment for department stores when considering the potential at Whitfords and Joondalup given the potential for both centres to draw trade from outside the Joondalup municipality and from Wanneroo (which forms part of the North-West Sub Region).

As shown in Table 5.6, the North-West Sub-Region currently has a resident population of 332,000. This resident population is forecast to grow to 413,000 by 2021. Having regard to the benchmarks for capital cities, a reasonable population per department store for the North-West Sub-Region is 150,000 people. On this basis, the sub-region could support two department stores in 2012 and three by 2026.

As Joondalup and Whitfords serve as the most logical centres to accommodate market demand for department stores in the North-West Sub-Region, given their retail role and size of markets they serve, there is potential for a department store at each centre.

The allocation of a department store to Joondalup and Whitfords is appropriate on the basis:

- David Jones has expressed interest in opening a store at Whitfords, which provides the retailer with (relative to the Joondalup centre) better access to its target market (higher income customers). The Whitfords centre serves an affluent market which exhibits the highest rates of DSTM spending in the North-West Sub-Region of Perth.
- Whitfords is already an established destination for fashion shopping and as a Secondary Centre can include a department store.
- There are no examples where a centre adds two department stores within a single development and a second department store is usually not added for decades.

If Whitfords is not supported in expanding and adding a department store then the market will have access to only one department store for a long period and residents demand for department stores will not be adequately served. The unmet demand for department stores and associated retailing (which would have been developed in conjunction with a second department store) will therefore be directed elsewhere, thus continuing a high rate of expenditure leaking from the Joondalup municipality.

North-West Sub-Region

SUPPORTABLE DEPARTMENT STORES

TABLE 5.6

	2012	2016	2021	2026	2031
Population	331,655	369,815	413,477	458,677	498,427
Typical Population per Department Store	150,000	150,000	150,000	150,000	150,000
Supportable No. of Department Stores	2.2	2.5	2.8	3.1	3.3

Source : ABS Cdata 2011; ABS, Western Australia Tomorrow Population Report No. 7, 2006 to 2026; Urbis

5.4.1 OTHER NEED CONSIDERATIONS

There is significant need to improve the centres in the Joondalup municipality to adequately meet the shopping requirements of local residents as well as broader markets in the region. Demand for retail floorspace in the future is ultimately driven by market growth and the extent by which centres can contain expenditure locally.

Retail is a dynamic industry that is constantly evolving and changing to meet new trends and consumer preferences as well as new entrants to the marketplace. The amount and type of shop floorspace but also critically the quality of shopping environments and access to complementary services will determine the extent to which markets are adequately served by retail facilities.

The expansion of PLUC 5 shop floorspace and improvement of the overall offer and shopping environments will be integral in addressing the challenges centres are facing in light of the growth of online retailing and capitalising on the opportunity presented by the universal introduction of Sunday Trading in Perth. These two factors and the implications for the need for more PLUC 5 shop floorspace in Joondalup municipality (but also broader Perth) are discussed below

ONLINE RETAIL

Urbis has recently undertaken detailed research of online retailing in Australia and its implications and challenges for the retail industry. Across Australia as a whole, online retailing is estimated to capture 5% of the retail market. This share is expected to continue to grow to potentially reach 10%.

The growth and impact of online retail on shopping centres in Australia will be moderated by market growth, the low online potential in a substantial portion of the retail sector (food and services make up 59% of retail spending), involvement of physical stores in fulfilling online orders (expected at over 40% of online spending), an abundant supply of good quality shopping centres and stores, and the conveniences and immediacy of in-store shopping.

Retailer "clawback" will influence the extent of online retail leakage. Australian retailers are rapidly rolling out multi-channel strategies, including delivery of online sales through physical shops. Customers of these multi-channel retailers can combine shopfront and online shopping, browsing and seeking information through the stores and purchasing either in-store or online. These multi-channel retailers will still need retail floorspace to support the complementary sales derived from online shopping. The clawback factor could halve the expected online penetration on physical shopfronts, including shopping centres.

There is an opportunity in Western Australia to mitigate the impact of online retail through improvements and expansions of centres. According to the NAB Online Retail Index residents of Perth have one of the highest online spending rates in Australia and over the past year online retailing has grown more strongly in Western Australia than any other state in Australia. These higher online retail spending rates can be attributed to the relatively smaller size and quality of centres in the state where improvements to centres have been historically been impeded by the old regime of floorspace caps. Increasing the quantum of supply and improving the shopping experience through redevelopments and expansion of shopping centres will better position and in turn increase visitation at bricks and mortar centres at the expense of online retailing. Whitfords and Joondalup will be both integral in ensuring residents have convenient and accessible access to a sufficient supply of shop floorspace and limiting the effect of online retailing. Supporting retail activity in centres is important to the overall vibrancy and success of activity centres.

SUNDAY TRADING

Shopping patterns in Western Australia are expected to change with the recent lifting of restrictions on Sunday Trading. While the true effects of this are yet to be measured, Urbis predicts that Sunday trading will provide significant benefits to Perth's retail market.

Urbis has monitored the effect of Sunday trading in other states. Following the introduction of Sunday trading in both South East Queensland and Victoria, clothing and footwear sales grew at levels well above the previous year and above the national rate over the same period. Sunday trading has the following effects:

- Increases retail sales, with fashion and footwear shops realising the largest spike in sales
- Increases retail employment as businesses employ more workers to staff the stores on Sundays
- Changes shopping patterns with Sunday becoming one of the busiest days of the week

These effects benefit retailers, consumers and the wider economy and the outcomes for Perth are expected to be similar. Providing consumers with more opportunities to shop for fashion or any form of retail for that matter will expand the market for retailers but also provide support for a greater level of investment in the improvement of the overall shopping offer. However, if the local retail facilities are inadequate to meet this increased demand residents will look beyond the local area for centres that meet their needs.

The expansion of Whitfords is necessary to address the need for larger major centres that cater to the fashion and complementary discretionary shopping requirements of the market.

IMPROVING THE LOCAL SHOPPING EXPERIENCE

In the face of increasing competition from online retailing it is more important than ever that centres provide a unique and interesting experience for shoppers. The 'experience' is supported through high quality environments and provision of a broad range of shops and other facilities in one location.

The proposed expansion of Whitfords will have the scale and provide a new shopping experience well aligned with the needs and wants of consumers of its trade area, Joondalup and the wider region. In turn the proposed development will be essential in improving the accessibility of retail floorspace and retaining more shopping trips locally to the benefit of community facilities and other co-located or nearby businesses.

5.5 TURNOVER POTENTIAL ASSESSMENT

This section of the report outlines analysis of the turnover potential for the proposed expansion of the Whitfords. The turnover potential of the centre is based on the main trade area to enable small area analysis of where business is expected to be derived from and in turn the level of potential impact on other centres in the hierarchy.

5.5.1 NO EXPANSION SCENARIO

Table 5.7 outlines the retail turnover potential for Whitfords on the basis the centre is not expanded and expected future competitive developments between 2012 and 2016 (as outlined in Section 3 of this report).

Retail Turnover Potential: No Expansion

WHITFORDS ACTIVITY CENTRE, 2016 (\$2012, EX. GST)

TABLE 5.7

	Resident Spending (\$M)			Market Share Potential			Forecast Turnover		
	Food	NF	Total	Food	NF	Total	Food	NF	Total
Primary Trade Area	366.6	270.2	636.8	17.1%	33.3%	24.0%	62.7	90.1	152.8
Secondary Trade Area									
• North	163.3	120.2	283.5	5.1%	12.9%	8.4%	8.3	15.5	23.8
• East	419.5	310.3	729.8	3.9%	11.9%	7.3%	16.3	37.0	53.3
• South	<u>322.2</u>	<u>248.4</u>	<u>570.5</u>	<u>5.4%</u>	<u>11.3%</u>	<u>8.0%</u>	<u>17.2</u>	<u>28.1</u>	<u>45.4</u>
Total Secondary	905.0	678.9	1,583.9	4.6%	11.9%	7.7%	41.8	80.6	122.4
Main Trade Area	1,271.6	949.1	2,220.7	8.2%	18.0%	12.4%	104.5	170.7	275.2
Plus Turnover From Beyond TA				17.5%	30.6%	26.2%	22.2	75.3	97.5
Centre Retail Turnover (\$M)							126.8	246.0	372.8

Source: Urbis

Based on the assumptions for market growth and competitive developments, Westfield Whitford City shopping centre has the potential to achieve a turnover of around \$372.8 million by 2016 (\$2012 excluding GST). This represents turnover growth of \$30.3 million or approximately 2.1% p.a. relative to the current turnover of \$342.5 million.

5.5.2 RETAIL EXPANSION SCENARIO

The turnover potential of Whitfords activity centre, expanded to provide 90,000 sq.m of PLUC 5 shop floorspace by 2016, takes into account the following:

- Consistent with our experience with other centre expansions, average trading levels generally do not increase but are lower following an expansion. This is particularly the case with the addition of a department store, which will account for almost a third of the additional floorspace and trade at a rate per square metre significantly lower than the current centre average.
- The addition of a department store and complementary retailing will facilitate the capture of a significant share of current spending being directed to higher order centres outside the main trade area (e.g. Karrinyup and the Perth CBD). The Whitfords centre therefore is expected to attract higher market share from the main trade area, notably in the non-food category.
- The amount of business drawn from outside the main trade area will be expected to increase but this will be moderated by the expansion of Joondalup (which includes the addition of a department store).

The Whitfords centre market share has the potential to increase to 18.3% across the main trade area, including 28.8% in the non-food category. The proportion of turnover sourced from the main trade area is assumed to remain essentially unchanged. These are achievable market shares and leaves the vast majority of demand in support of other centres.

On this basis and with a main trade area market size of \$2.2 billion in 2016, and a relatively similar percentage draw from beyond the main trade area, the Whitfords centre providing 90,000 sq.m as proposed has the potential to achieve a PLUC 5 retail turnover of \$547.3 million, as shown in Table 5.8.

Retail Turnover Potential: Expansion Scenario

WHITFORDS ACTIVITY CENTRE, 2016 (\$2012, EX. GST)

TABLE 5.8

	Resident Spending (\$M)			Market Share Potential			Forecast Turnover		
	Food	NF	Total	Food	NF	Total	Food	NF	Total
Primary Trade Area	366.6	270.2	636.8	21.5%	43.5%	30.8%	78.8	117.5	196.4
Secondary Trade Area									
• North	163.3	120.2	283.5	6.0%	22.0%	12.8%	9.8	26.5	36.2
• East	419.5	310.3	729.8	5.0%	23.5%	12.9%	21.0	72.9	93.9
• South	<u>322.2</u>	<u>248.4</u>	<u>570.5</u>	<u>7.1%</u>	<u>22.6%</u>	<u>13.9%</u>	<u>22.9</u>	<u>56.2</u>	<u>79.2</u>
Total Secondary	905.0	678.9	1,583.9	5.9%	22.9%	13.2%	53.7	155.6	209.3
Main Trade Area	1,271.6	949.1	2,220.7	10.4%	28.8%	18.3%	132.5	273.1	405.7
<i>Plus Turnover From Beyond TA</i>				17.5%	29.3%	25.9%	28.2	113.4	141.6
Centre Retail Turnover (\$M)							160.7	386.5	547.3

Source : Urbis

The net additional turnover at Whitfords following the proposed expansion by 2016 is therefore \$174.5 million, including \$140.5 million in non-food turnover. Of the \$174 million, \$130.4 million is estimated to be drawn from the main trade area and \$44 million from outside the main trade area. The net additional turnover that is expected to be achieved at the Whitfords centre following expansion to 90,000 sq.m is detailed in Table 5.9.

Net Additional Retail Turnover Potential

WHITFORDS ACTIVITY CENTRE, 2016 (\$2012, EX. GST)

TABLE 5.9

	Resident Spending (\$M)			Market Share Potential			Forecast Turnover		
	Food	NF	Total	Food	NF	Total	Food	NF	Total
Primary Trade Area	366.6	270.2	636.8	4.4%	10.2%	6.8%	16.1	27.5	43.6
Secondary Trade Area									
• North	163.3	120.2	283.5	0.9%	9.1%	4.4%	1.5	11.0	12.5
• East	419.5	310.3	729.8	1.1%	11.6%	5.6%	4.7	35.9	40.6
• South	<u>322.2</u>	<u>248.4</u>	<u>570.5</u>	<u>1.8%</u>	<u>11.3%</u>	<u>5.9%</u>	<u>5.7</u>	<u>28.1</u>	<u>33.8</u>
Total Secondary	905.0	678.9	1,583.9	1.3%	11.0%	5.5%	11.9	75.0	86.9
Main Trade Area	1,271.6	949.1	2,220.7	2.2%	10.8%	5.9%	28.0	102.4	130.4
<i>Plus Turnover From Beyond TA</i>				17.6%	27.1%	25.2%	6.0	38.1	44.0
Centre Retail Turnover (\$M)							34.0	140.5	174.5

Source : Urbis

The net additional turnover represents the amount of spending that will be directed from other centres or in other words the combined trading impact on other centres.

5.6 IMPACT ASSESSMENT

An impact assessment can reasonably be expected to provide an indication of the trading environment and average trading conditions which retailers are likely to operate within, and implications for likely turnover declines or turnover gains, on average, for the retailers involved. Because an impact assessment seeks to forecast how groups of people are likely to alter their shopping behaviour in response to a given change in the competitive environment, it is not possible to be so precise as to estimate exactly what will happen to each individual retailer, or each group of retailers in each location.

It is therefore not possible in any impact assessment of this type to estimate precisely what will be the trading impacts on any specific individual retailer. The impact on any one individual retailer, or any small group of retailers in a given location, would depend on many factors, some of which are within their control. The actions which each of these retailers take will determine the eventual impact on each of them, and furthermore the actions which they each take will also determine the eventual impact on the other retailers involved.

All of these factors need to be kept in mind when considering the likely impact of any relocation and expansion of a retailer within the existing retail network. Existing retailers are not passive participants, but rather will play a major role in the eventual impact which they will experience.

It should also be noted that the effects of new competition on individual businesses or centres are not a relevant planning consideration in most situations. The relevant consideration in planning terms relates to the ongoing ability for a centre to continue to provide for the needs of the community which they serve, and to ensure that new development does not fundamentally undermine the viability and role of existing and planned centres, particularly their role as community focal points for a range of needs.

5.6.1 GENERAL IMPACT

Table 5.10 outlines an analysis of the average impact of the expansion of the Whitfords centre (to 90,000 sq.m) in terms of the proportion of PLUC 5 retail turnover that will be diverted from other centres and stores that serve the main trade area population. This analysis is presented for the year 2016.

The key points to note from this analysis are as follows:

- Retail spending by main trade area residents is forecast to grow by \$219.2 million between 2012 and 2016.
- The expansion of the Whitfords centre to 90,000 sq.m is estimated to capture an additional \$149.6 million in retail turnover from main trade area retail spending (above the 2012 level).
- Other retailers serving the main trade area therefore would still have access to \$69.6 million of the forecast growth in the market between 2012 and 2016. As a consequence, the turnover derived by retailers from the main trade area would be 1.0% higher than the current 2012 level.
- The one-off impact of - 6.7% would be more than offset by market growth to 2016.
- This analysis demonstrates that the expansion of the Whitfords centre would serve growing demand in the market and could be supported by the market.

General Impact on Retail Spending

WHITFORDS ACTIVITY CENTRE MAIN TRADE AREA, 2016 (\$2012, EX. GST)

TABLE 5.10

Description	Current 2012	Forecast 2016	Increase/ Decrease	Avg. Ann. Growth ¹
Est./Fcast Trade Area Retail Spending (\$M)	2,001.5	2,220.7	219.2	2.6%
No Whitfords Expansion				
Whitfords Activity Centre Turnover From TA (\$M)	256.1	275.2	19.1	1.8%
Other Centres/Stores-Excl. Whitfords (\$M)	1,745.4	1,945.5	200.1	2.7%

Whitfords Activity Centre Development

Post Whitfords Expansion

Whitfords Activity Centre Turnover From TA (\$M)	256.1	405.7	149.6	12.2%
Other Centres/Stores-Excl. Whitfords (\$M)	1,745.4	1,815.0	69.6	1.0%

Average Impact Levels Post Expansion

	Vs. 2016 levels	Vs. 2012 levels
Turnover Change, 2016-Other Centres (\$M)	-130.4	+69.6
Turnover Change, 2016-Other Centres (%)	-6.7%	+4.0%

¹ Over the 2012-2016 period

Source : Urbis

5.6.2 SPECIFIC CENTRE IMPACTS

Shopper behaviour is related to the satisfaction of particular requirements, and decisions regarding where to shop are based on the sum total of a number of judgements, including relative accessibility, the availability of particular traders, convenience, variety, carparking, and others. As a result, residents like to spread their purchases across a wide variety of shopping centres and areas, and to use the full range of facilities available to satisfy particular needs.

The method of analysis used to assess the impacts on individual centres from a retail development is based on a "competitive usage" model. This model is based on the principle that if shoppers choose to direct some of their retail expenditure to the subject development proposal then they will reduce their expenditure at other centres in direct proportion to their usage of each centre or location, as reflected by each centre's market share from the various trade area sectors. In assessing the potential impacts on other centres in the hierarchy we have adopted a "turnover allocation approach".

The assessment of impacts on specific retail centres relies upon an understanding of the existing turnover and level of usage of centres in the trade area and beyond. The model estimates the degree to which various shopping locations within and beyond the trade area are used for retail shopping by allocating a proportion of turnover to each trade area sector (i.e. source of sales). These estimates result in market share calculations for each competitive centre and thereby form the basis by which the impact of the proposed retail development is distributed to all other centres used by residents of the trade area for retail shopping.

It is also relevant to consider the dollar impacts in relation to the turnover that would potentially be generated by these and other shopping centres over the intervening period. The impact analysis therefore details the turnover loss or net impact which is expected for each centre/location, expressed as a reduction in turnover and as a percentage of the turnover level for each centre in 2016.

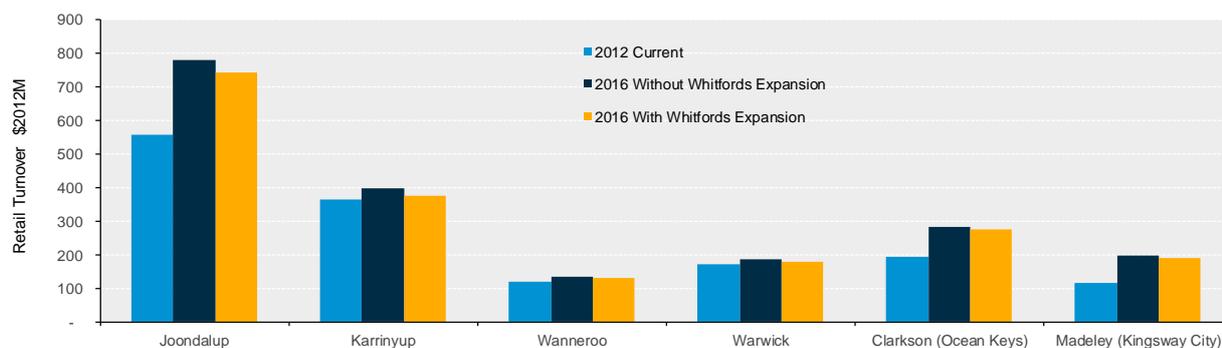
A detailed review of the impacts on Joondalup centres, as shown in Table 5.11 below, indicates the following:

- Market change is a relevant consideration when assessing trading impacts, particularly in strong growing retail markets. Market growth will more than offset the one-off impact of the Whitfords expansion and centres in the area are expected to trade better in the future than they do today (refer to Chart 5.1).
- The Joondalup activity centre is expected to experience a \$39.5 million one-off trading impact in 2016. A 5.1% diversion of trade would be more than offset by the forecast growth in the market. Despite the impact of the Whitfords expansion, the Joondalup activity centre in 2016 is expected to trade at a higher level than in 2012.
- The Joondalup activity centre will continue to maintain its role as the strategic centre for the Joondalup municipality. In 2016, the Joondalup city centre has the potential to achieve a retail turnover volume in the order of \$740 million, almost \$200 million higher than Whitfords, making Joondalup easily the largest and highest volume retail centre in the hierarchy.
- A significant share of the impacts will result in a redirection of expenditure away from centres outside the Joondalup municipality and particularly from established centres in the inner and middle northern suburbs of Perth. This is a positive outcome for Joondalup residents as less expenditure would leave the municipality. As a result, travel times and distance undertaken for higher order shopping needs would be reduced. More expenditure and shopping trips would be undertaken locally in support of the local centres hierarchy. This diversion of trade back to the Joondalup municipality is in part represented by the impacts on the Karrinyup and Stirling centres.
- Of the Secondary Centres, the highest impact is expected on the Warwick centre, estimated as a one-off reduction in turnover of – 4.3%. Again market growth would be expected to offset this impact and turnover is estimated to be 3% higher in 2016 than the 2012 level.
- The overall impact on District Centres will be low. With the expansion focussed on the discretionary segment of the market, the impact on lower order centres is expected to be between – 0.5% and – 4%. In all cases assessed, market growth would offset the assessed one-off impact and will not affect the performance and role of the lower order centres.

Turnover Change at Key Activity Centres

IMPACT FROM WHITFORDS ACTIVITY CENTRE EXPANSION, 2016 (\$2012, EX. GST)

▪ CHART 5.1



Note: Turnover expressed in \$2012, excluding GST. Impacts relate to Whitfords centre with 90,000 sqm of PLUC 5 floorspace
Source: Urbis

Distribution of Impact on Key Centres

WHITFORDS ACTIVITY CENTRE EXPANSION, 2016 (\$2012, EX. GST)

TABLE 5.11

Shopping Area	Turnover Incr./Decr. (\$M)						
	Est. Retail Turnover (\$M) ¹			Relative to:		IMPACT	
	Existing 2012 (1)	Pre-Exp ¹ 2016 (2)	Post Exp. 2016 (3)	Existing 2012 (4)=(3)-(1)	Pre-Exp 2016 (5)=(3)-(2)	Relative to: 2012 2016 (6)=(4)/(1) (7)=(5)/(2)	
Competing Centres							
Joondalup	557.0	781.9	742.4	+185.4	-39.5	+33.3%	-5.1%
Wanneroo	118.7	135.0	131.5	+12.8	-3.5	+10.8%	-2.6%
Warwick	172.9	186.4	178.4	+5.5	-8.0	+3.2%	-4.3%
Clarkson (Ocean Keys)	195.1	282.4	276.2	+81.1	-6.1	+41.6%	-2.2%
Currambine	75.2	121.5	118.8	+43.6	-2.7	+58.0%	-2.2%
Woodvale	60.6	64.0	61.3	+0.8	-2.7	+1.3%	-4.2%
Madeley (Kingsway City)	115.8	197.6	189.7	+74.0	-7.8	+63.9%	-4.0%
Sorrento Quay	50.8	54.5	54.0	+3.2	-0.4	+6.3%	-0.8%
Greenwood Village	40.5	43.1	42.1	+1.6	-1.0	+4.1%	-2.4%
Girrawheen	46.8	51.0	50.3	+3.5	-0.7	+7.6%	-1.4%
Alexander Heights	79.5	89.3	88.8	+9.4	-0.5	+11.8%	-0.5%
Karrinyup	366.0	398.6	375.1	+9.2	-23.5	+2.5%	-5.9%
Stirling (Innaloo)	335.0	361.0	353.4	+18.5	-7.6	+5.5%	-2.1%
Total Above Centres	2,213.7	2,766.4	2,662.3	+448.6	-104.1	+20.3%	-3.8%
Total 'Other' New Additions		58.2	56.1	n.a.	-2.1	n.a.	-3.6%
Total All Above Centres	2,213.7	2,824.6	2,718.4	504.8	-106.2	+22.8%	-3.8%
Other centres					-68.6		
Total Competing Centres					-174.8		

¹ Year ending June

² Turnover CHANGE is a comparison to current 2012 turnover

Turnover IMPACT is a comparison to expected turnover would otherwise be in the forecast year if the subject development did not occur.

Source : Property Council 'Australian Shopping Centre Directory', 2012; Shopping Centre News 'Big Guns 2012, Little Guns and Mini Guns 2011; Urbis

JOONDALUP ACTIVITY CENTRE

The retail impacts illustrated are sustainable and will not impact the role and function of local activity centres. In particular, the proposed impacts will not affect the role of Joondalup as a strategic centre in the hierarchy. Following the redevelopment of Whitfords, residents are expected to continue to travel to Joondalup to shop, irrespective of the size of Whitfords, to experience diversity in shopping experience due to the different retailers, amenity and other services provided at Joondalup.

Joondalup is more than a retail centre. The activity centre is the focus for commercial activity for the region, includes the Edith Cowan University and health campus, Joondalup Council municipal offices, as well as other office uses. The rail network provides support for the 'strategic' uses in the Joondalup activity centre. The proposed Whitfords expansion will not impact these important functions of the Joondalup activity centre which are vital to creating the vibrancy of the town centre.

The impacts on Joondalup will mostly affect the core retail centre, Lakeside Joondalup not the surrounding retail facilities. Due to the discretionary focus of the expansion of Whitfords would have negligible impact on the bulky goods retailing. The main street retailing will also experience negligible impacts given the focus of the main street is on services and convenience retailing mostly serving the local workforce, students and visitors.

6 Conclusions

There is strong need for a substantial increase in the supply of PLUC 5 shop floorspace in Joondalup to:

- Meet the existing demand for retail facilities, which outstrips the current supply and results in a large share of retail expenditure by Joondalup residents being directed to centres outside of the municipality.
- Improve accessibility to retail for local residents and reduce the need for residents to shop outside the municipality and online, addressing the current high levels of escape expenditure.
- Address the strong growth in retail spending which will increase future levels of demand for retail facilities
- Improve higher order shopping opportunities and the quality of the shopping experience in the City of Joondalup.

The proposed expansion of the Whitfords centre to 90,000 sq.m of PLUC 5 shop floorspace by 2016 and 95,000 sq.m between 2016 and 2026 can be supported by the market and is necessary to ensure the shop floorspace needs of residents of Joondalup and wider markets are adequately served. As a Secondary Centre and reflecting its accessible location and established retail role in the region, Whitfords must continue to be a major contributor to the delivery of shop floorspace demand.

The impact analysis indicates that the proposed expansion of Whitfords activity centre to 90,000 sq.m of PLUC 5 shop floorspace would not have an adverse impact on any one centre in the region as all affected centres would be expected to achieve a turnover level in 2016 following Whitfords expansion that is higher than the 2012 level. The impact on any centre is manageable and the proposed expansion would not adversely impact the role, function and viability of other activity centres.

In particular, the role and primacy of the Joondalup activity centre would not be impacted as the retail impacts are sustainable and the expansion of Whitfords would not affect the centre's strategic role from a civic, cultural, employment and service perspective. Furthermore, Joondalup would still have substantially more PLUC 5 shop floorspace than Whitfords, i.e. the city centre of Joondalup following expansion of the Lakeside centre would provide around 120,000 sq.m or 30,000 sq.m (+33%) more PLUC 5 shop floorspace than Whitfords (post its proposed expansion in 2016).

The impacts (or diversion of trade) resulting from the expansion of Whitfords activity centre are to a large extent the result of the retention of local spending in Joondalup that was previously escaping to outside the municipality. This would be a positive outcome for residents with reduced travel times and distance needed for residents to undertake higher order shopping needs. More expenditure undertaken locally will also provide greater support for other uses, serve as a catalyst for other investment in centres and generally support the development of larger, vibrant and successful activity centres.

In conclusion, the proposed expansion of the Whitfords Activity Centre to 95,000 sq.m is supportable by market demand and will not impact the role and viability of other centres in the hierarchy and the community will benefit from enhanced access to retail goods and services over time.

Appendix A

PLUC5 Categories

PLUC 5 Shop/Retail Definition

RETAIL EXPENDITURE INCLUDED, BY PRODUCT GROUP

TABLE A1

Product Group	Commodity Items	Food/Non-Food
Food Retail	Food, Groceries, Tobacco, Liquor	Food
Food Catering	Take-Away, Meals	Food
Apparel	Clothing, Footwear, Jewellery, Accessories	Non-Food
Homewares	Household, TV/Sound, Small Electricals, Manchester	Non-Food
Bulky Goods	Furniture, Large Electricals	Non-Food
General/Leisure	Books, Music, Sports, Toys, Chemist, News	Non-Food
Services	Hair, Optician, Film Processing, Dry Cleaning, Video Hire, Repairs	Non-Food

Source : WAPC; Urbis

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Whitfords Activity Centre

Structure Plan Transport Report

CEP02039



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Executive Summary

Background

Directions 2031 is the strategic plan for the Perth Metropolitan Area and guides planning for a city expected to approach 2.88 million people by 2031 and 3.5 million by 2050. It recognises much of the demand for land to support the growing population will be derived from intensified residential development in suburbs beyond Perth CBD.

The current transportation system in Perth is, by and large, complete from a network perspective and within current constraints. This presents a particular problem for transportation across Perth as a whole, if the population is to continue to expand spatially but the Perth CBD remaining the focus of employment.

Activity centres present opportunities to achieve a sustainable mass of residential, employment, education and retail land uses, servicing both the immediate and broader catchments, supporting public transport, reducing the need for travel into Perth CBD. There are a number of transport advantages of higher density, mixed-use development:

- > Enables increased transport options including public transport services and active transport infrastructure
- > Allows for a greater proportion of multiple-purpose trips and shorter travel distances, reducing traffic generation;
- > Differing parking demand profiles provide opportunities to improve the efficiency of on-site parking and to reduce the quantum of parking required; and
- > Promotes the development of pedestrian-friendly environments.

Whitfords Activity Centre (The Centre) is already a focal point of retail activity, education and business. The location, maturity and existing characteristics of the Centre enable it to be readily expanded to achieve the intent of planning strategies. Transport connectivity within the site, local linkages and to the wider area is excellent. Infrastructure and services are provided for a variety of modes, including:

- > The Mitchell Freeway, and Whitfords Rail Station, located 3km to the east of the centre;
- > Whitfords Rail Station provides a major transport interchange point, including rail services, bus services, park and ride, kiss and ride and connections with the Principal Cycle Network;
- > The arterial route of Marmion Avenue, and sub arterial of Whitfords Avenue, bound the Centre to the east and north respectively;
- > To the south and west of the site, residential areas are connected to the centre by local distributors Banks Avenue and Endeavour Road;
- > Regular bus services are currently provided on Marmion Avenue, Whitfords Avenue and Endeavour Road, connecting with Whitfords Station, as well as residential suburbs to the north and south;
- > A potential future bus rapid transit station has been identified at Whitfords City; and
- > Whitfords Avenue, and Marmion Avenue both provide cycling facilities while Endeavour Road is designated as a local cycling route,

The Structure Plan for the development of Whitfords Activity Centre proposes an intensification of existing retail development and residential land uses together with the addition over time of mixed-use office/residential and recreation facilities.

The composition for the proposed development consists of the following:

- > Expansion of the Westfield Whitford City Shopping Centre to accommodate approximately 95,000 sq.m of 'Retail' floor area by 2031;
- > Expansion of the existing 'Entertainment' uses from approximately 9,500 sq.m to 16,000 sq.m;
- > An increase in the 'Other Retail' land uses to approximately 11,500 sq.m;
- > Consistent increase in 'Office' land uses from almost 6,000 sq.m at present to approximately 22,800 sq.m at ultimate build-out, providing employment for approximately 1,100 people; and

- > Intensification of residential dwelling numbers resulting in an additional 1,100 dwellings by 2031, providing homes for approximately 2,200 people in a medium-rise mixed-use environment. This has been considered as a worst case and it is understood that more recent planning entails a yield of 500-800 dwellings in addition to the existing residential lots.

Public Transport

The Centre is located along several existing bus routes, connecting Whitfords, Joondalup and Warwick Stations. These bus routes act as feeder systems to the Perth-Joondalup rail line and primarily serve a commuter function, with a limited level of service provided to local beaches, Hillarys Boat Harbour and Sorrento Quay.

Due to the coverage and frequency of the bus services provided at present, the services are unlikely to provide significant opportunities to address the general transport needs of the residents, students, workers and visitors of the area. Reflecting the network design and scheduling, the primary users of the existing services are likely to be commuters travelling to and from the Northern Train line.

Whitford City has been identified as a potential location for a possible future Bus Rapid Transit (BRT) station along the potential BRT route proposed for the north-west suburbs. This plans to increase the frequency and coverage of public transport services and presents significant opportunity for the Centre. BRT will provide the opportunity for convenient access for large numbers of passengers, including shoppers, staff and students, to visit the Centre via sustainable modes. The development of the Centre will also result in a significant increase in the residential densities in the area, increasing potential patronage for the BRT. Whitfords Activity Centre Structure Plan should therefore enable the development of a vibrant and convenient, high frequency public transport node, positioned to appropriately reflect the development of the surrounding land uses and support the introduction of the possible BRT station and services in future.

To maximise sustainable transport mode share for the Centre, high frequency bus services should be implemented to encourage greater use by the increasing working and residential population. This will support the growth of the Centre prior to the potential introduction of the BRT. These services should connect the Centre to local and regional activity centres and deliver an integrated, efficient and legible transport network. Complimentary initiatives are also required in order to support increase public transport use, including consolidating bus stopping facilities along Endeavour Road and Whitfords Avenue, providing high quality supporting infrastructure and improving pedestrian connections. Through implementation of improved infrastructure and service levels, the Centre could provide an exemplary standard of public transport delivery, achieving significant levels of patronage and mode share.

Active Transport Provisions

Within the Centre, pedestrian infrastructure is currently of low quality and connectivity. Major access streets provide limited infrastructure for pedestrians, while residential streets do not provide continuous footpaths. Access into the Centre for pedestrians is provided at the signalised intersections, via two underpasses and a school crossing for access to St Marks Anglican Community School.

The WA Bicycle Network (WABN) includes cycling provisions along Marmion Avenue and Whitfords Avenue; however infrastructure is not provided consistently.

The location of the Centre close to residential areas for pedestrians, and designated cycling routes, provides opportunities to encourage active transport for the employees, visitors and residents of the Centre. Improvements to the local active transport network will increase the attractiveness of cycling and walking, with inherent benefits to sustainability, health and fitness.

In order to support increased accessibility for the Centre, significant improvements are recommended. These include the construction of a comprehensive network of wide paths throughout the Centre and provision of additional high-quality crossing points along Whitfords Avenue linking bus stops to existing and future land uses. These improvements will improve legibility and safety for the community, increase accessibility, permeability and contribute to the development of a more attractive, walkable environment within the Centre and local area.

Recommended improvements to the local cycling infrastructure focus on eliminating gaps and providing opportunities for safe commuter cycling along Whitfords Avenue. This, combined with the promotion of a lower speed environment throughout the Centre will encourage cycling as an alternative transport mode.

Freight

The location of the Centre adjacent to Marmion Avenue and Whitfords Avenue provides excellent access for both existing and future freight movements. While these primarily take place outside of peak times, future intensification of retail and commercial land uses will have some minor impact on traffic operations. By restricting freight movements to the primary road network, local impacts will be minimised, whilst maintaining efficient access to the Centre.

Road Infrastructure

The Centre is adjacent Marmion Avenue and Whitfords Avenue and can be accessed from Mitchell Freeway via the Whitfords Avenue interchange. Endeavour Road, Banks Avenue, Dampier Avenue and Cook Avenue provide connections through from major roads and the surrounding suburbs.

The proximity and high quality of access from Marmion Avenue and Whitfords Avenue implies that the majority of traffic demand will be accommodated within the regional road network without impacting adjacent residential areas, minimising future local traffic issues.

Changes to road infrastructure are likely to focus on improved pedestrian amenity and promoting communal use of the Endeavour Road 'main street'. This includes modifications to the road cross-sections along Endeavour Road to promote lower operational speeds and improve pedestrian safety. Traffic demands at the various access points to the Centre will need to be assessed further within future planning processes.

Access to the education district is to be improved by providing a link road from and Whitfords Avenue connecting to Endeavour Road at a four-way intersection with Banks Avenue. The proposed link road will also provide access to the rear of Activity Centre buildings west of Endeavour Road. Local Area Traffic Management strategies are recommended to be implemented along the link road to provide a safe environment for access by school children moving between the Shopping Centre and St Marks Anglican Community School.

Existing traffic volumes have been extracted from AADT counter information and MRWA SCATS traffic data. Forecasts of future development traffic have been undertaken and added to the existing background traffic. The road network has been assessed for the existing traffic during AM and PM peak periods as well as the future 2021 and 2031 *with development* scenarios. This analysis shows that overall intersection performance is adequate, with the exception of the Marmion Avenue/Whitfords Avenue intersection which reaches overall Level of Service (LOS) F during the PM peak by 2021, and would therefore be said to have failed.

The provision of additional right turn lanes on Marmion Avenue would return the intersection to a more manageable LOS E during the peak hour; this is considered acceptable on roads with tidal traffic flows.

Car Parking Management

Visitor and employee arrival at the Centre is currently predominantly by private car. This results in an environment dominated by car movements and parking areas. A shift toward alternative travel modes, including bus, cycle and walking will allow the Centre to grow sustainably without being constrained by private car movements and deck car parking requirements. It will still be important to accommodate private cars, however a more balanced approach is recommended.

Therefore, to align with the strategic principles for the Centre, changes will be required to the parking management structure to improve availability across all uses and to maximise efficiency. This will include short-term, managed on-street parking, at-grade and below-grade parking and secure basement car parking for residents and visitors. The transition to permanent seven-day retail trading will spread demand and further reduce heavy peaks in parking and traffic activity.

The convenience and accessibility of sustainable and active transport modes will reduce the demand for private vehicle car parking for residents, workers and visitors to the Centre. The impact of shared parking, due to the mix of land uses proposed, will result in a lower overall car parking requirements and therefore an improved residential and urban amenity outcome for all users.

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1 Introduction

Westfield has commissioned Cardno to prepare a Transport Report in support of the structure plan for the Whitford Activity Centre. This report includes consideration of transport requirements, opportunities, constraints and assessment of potential future development scenarios both in the medium to long-term.

The development of the Whitford Activity Centre (the Centre) will embrace the principles outlined in current strategic planning for the Perth Metropolitan Area. A dominant theme of this strategy is the recognition that the current transport system in Perth is largely complete from a network perspective, and current travel patterns are unsustainable as the city continues to grow. The planning intent is to utilise and develop existing as well as new activity centres as places for living, working and relaxing. This will reduce the need for people to travel to the Perth CBD as a primary destination and will negate the capital cost of simply providing additional private vehicle capacity.

1.1 Scope of Assessment

In preparing this report, the following tasks were undertaken:

- > Review of relevant planning documentation.
- > Assessment of existing public transport infrastructure and the development of public transport strategy for the redeveloped Centre;
- > Assessment of the existing and proposed future pedestrian and cycling infrastructure in terms of accessibility, legibility and safety.
- > Review of key roads and intersections affected by the proposed redevelopment, along with a suggested road hierarchy to be adopted to assist future road planning.
- > Estimation of the Centre's traffic generation and distribution;
- > High level analysis of the effects of additional development traffic in the medium to long term design years, 2021 and 2031 respectively.
- > Development of a parking cap for the overall Centre in line with best practice.

1.2 References

The following documents have been used as a guide to the preparation of this report:

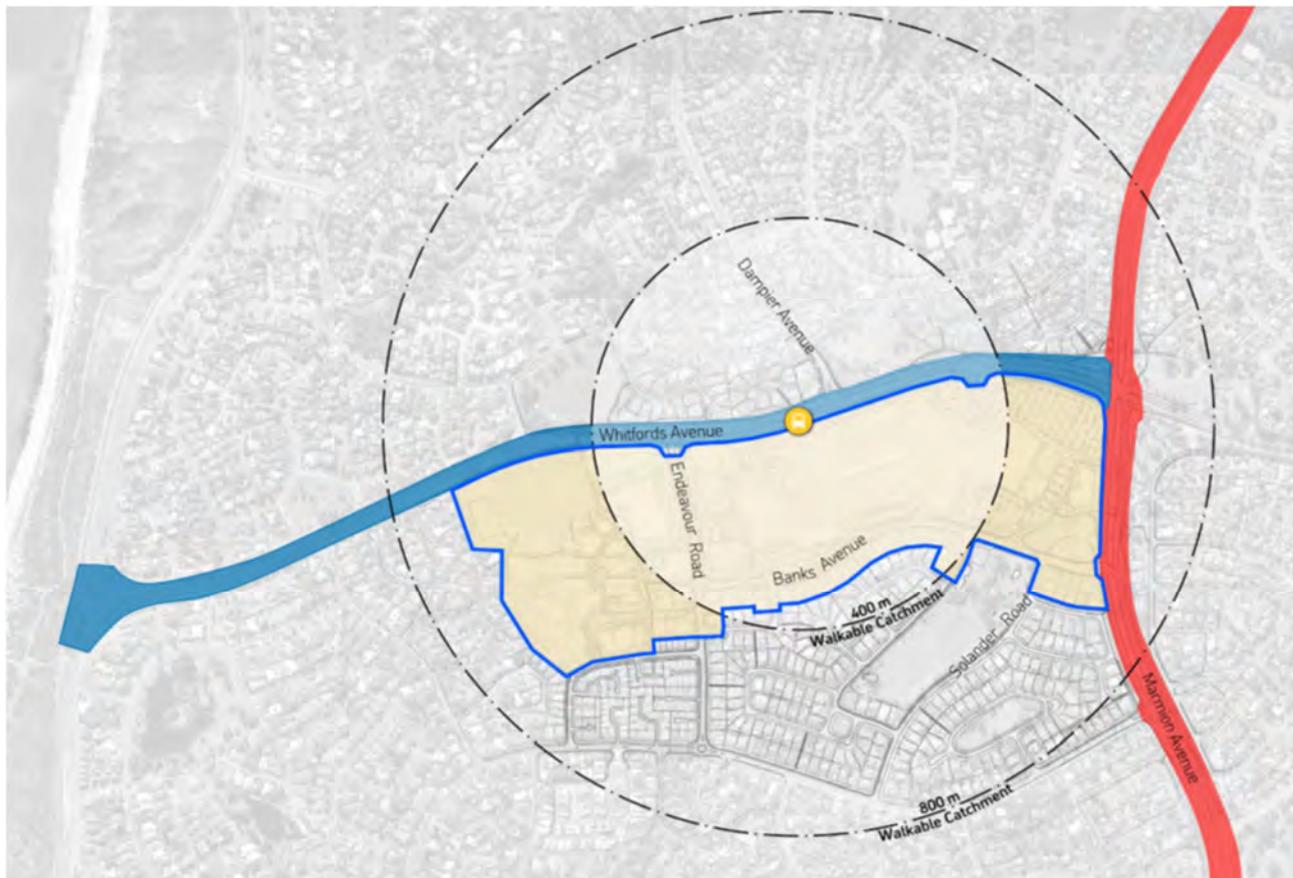
- > *Structure Plan Preparation Guidelines* – Department of Planning, August 2012
- > *Directions 2031 and Beyond – Metropolitan Planning Beyond the Horizon*, Department of Planning, August 2010
- > *Outer Metropolitan Perth and Peel – Sub-regional Strategy*, Department of Planning, August 2010
- > *Public Transport for Perth in 2031* – Department of Transport, July 2011
- > *State Planning Policy 4.2 – Activity Centres for Perth and Peel*, Government of Western Australia, August 2010
- > *Transport Assessment Guidelines for Developments – Volume 2 – Structure Plans*, Department of Planning, August 2006
- > *City of Joondalup – Local Planning Strategy*
- > *Bike Plan 2009 – City of Joondalup*, Aurecon, June 2009
- > *Metropolitan Region Scheme*, Department of Planning
- > *Liveable Neighbourhoods*, Department of Planning, January 2009, Update 02
- > *Parking Generation*, Third Edition, The Institute of Transportation Engineers, 2004
- > *Trip Generation*, Seventh Edition, The Institute of Transportation Engineers, 2003

2 Planning Context

2.1 Site Location

Whitfords Activity Centre is located on the south side of Whitfords Avenue, to the east of Marmion Avenue, in the City of Joondalup. This area is bounded by Whitfords Avenue to the north and Marmion Avenue to the east, incorporating the existing Westfield Whitfords City Shopping Centre and adjacent commercial areas. In addition, the proposed structure plan includes St. Marks Anglican Community School, mixed-use development along Banks Avenue and development within existing residential neighbourhoods to the south and west.

Figure 2-1 Whitfords Activity Centre – Site Location



2.2 Directions 2031 and Beyond

Directions 2031 and Beyond is the spatial strategy for a city with a population of potentially 2.88 million people by 2031 and further planning to facilitate development to 2050 by which time the population could reach 3.5 million people.

Under these population increases, the current transportation system will not be able to accommodate current residential and employment patterns in a “Perth CBD centric” metropolitan area. To overcome this business-as-usual approach, the strategy is to develop a “connected city” that includes focusing residential, employment and retail on activity centres such as Whitford City.

In terms of transportation, the 2031 plan encourages the planning and developing of key public transport corridors, urban corridors and transit oriented developments to accommodate increased housing needs and encourage reduced vehicle use. The 2031 encourages connectivity through creating and enhancing transport and freight movement networks between activity centres and industrial centres.

The Centre is ideally placed to assist in achieving these outcomes, as described below.

2.2.1 Outer Metropolitan Perth and Peel Sub-Regional Strategy (Draft, 2010)

The sub-regional strategy is a supplementary document of *Directions 2031 and Beyond* within the Perth and Peel strategic planning hierarchy. It sets out guidance for implementing the 2031 plan at a local level, ensuring a seamless approach to planning issues that traverse local government boundaries, such as housing, employment and transport accessibility.

The north-west sub-region, of which the Centre is part, is expected to experience population growth of 110,000 people by 2031. This will require development of 65,000 dwellings and 69,000 additional jobs to support the growing population in the area.

In acknowledgement of this, one of the key characteristics of the strategy is that all people should be able to easily meet their education, employment, recreation, service and consumer needs within a reasonable distance of their home. This is to be achieved through:

- > Connecting communities with jobs and services.
- > Improving the efficiency and effectiveness of public transport.
- > Encouraging a shift to more sustainable transport modes.
- > Maximising the efficiency of road infrastructure.
- > Managing and reducing congestion.
- > Protecting freight networks and the movement economy.
- > Considering parking in the overall transport picture.
- > Planning and developing urban corridors to accommodate medium-rise higher density housing development.
- > Plan and developing transit oriented developments to accommodate mixed use and medium-rise higher density housing development.

The Centre will provide residential intensification of up to 1,100 dwellings in a medium-rise, mixed-use environment, with the jobs and facilities required to support the local population within and beyond the activity centre boundary in a self-sufficient manner, reducing the need to travel long distances on the external road network. The Centre is designed to be accessible by a number of transport modes, and is carefully arranged to promote active and sustainable travel for residents and those travelling from the wider area.

2.3 Public Transport for Perth in 2031

The aim of this plan is to increase the level and quality of public transport provision in Perth; this will entail improvements in speed, frequency, reliability, safety and security. The current mass transit system is the rail network; however, it is very much constrained to within its existing corridors, with expansion through land acquisition or tunnelling being prohibitively expensive.

The plan is focused on the delivery of a new mass transit system for Perth, using existing road transport corridors. This will be implemented through provision of Light Rail Transit (LRT) in more active, central areas and Bus Rapid Transit (BRT) in outer areas.

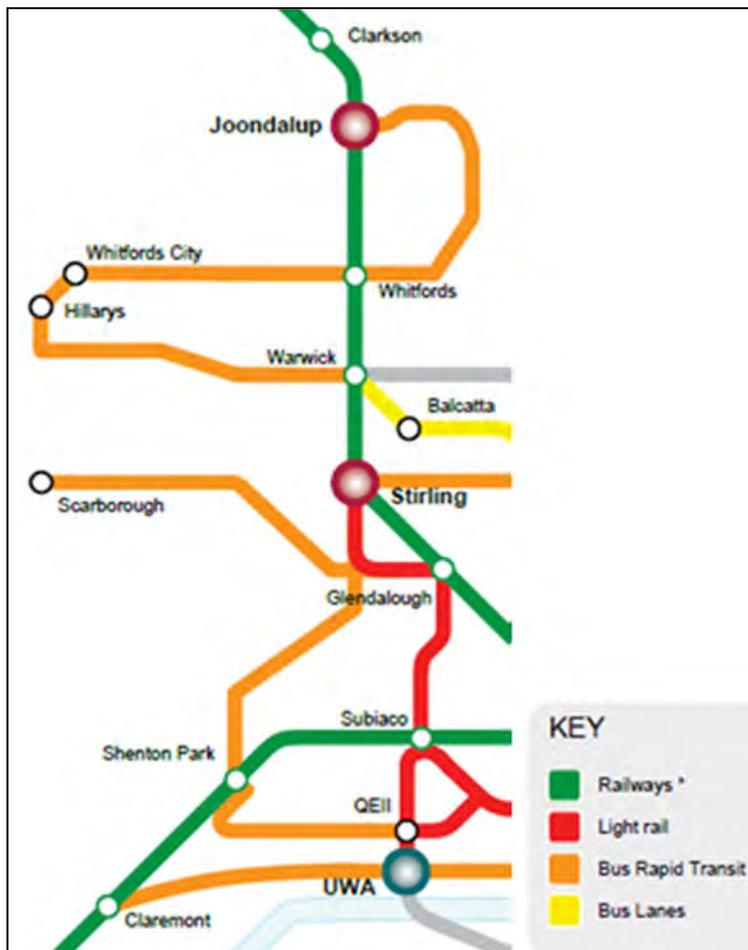
The Public Transport for Perth in 2031 document indicates Whitfords Avenue currently serves 3,000-10,000 bus passenger journeys per day. Patronage along Whitfords Avenue is anticipated to remain of that order but is likely to increase toward the higher end of that scale towards 2031 with Joondalup rail line showing a large increase in patronage between Whitfords train station and Perth CBD

A possible future BRT route has been shown along Whitfords Avenue, between Whitfords and Warwick rail stations, as shown in Figure 2-2 (note this currently awaits government approval and differs significantly from the plan in the published draft). According to Figure 2-2 the proposed BRT corridor would likely take the following route:

- > Joondalup Station
- > Wanneroo Road
- > Whitfords Avenue
- > Hepburn Avenue
- > Marmion Avenue
- > Beach Road
- > Warwick Station

BRT at Whitfords has been tentatively indicated as part of the post-2031 network but is assumed to depend on patronage projections and economic viability and therefore sections could be brought forward/reworked/removed as required.

Figure 2-2 Possible Rapid Transit Infrastructure – 2031



Source: Department of Transport

2.4 Activity Centres for Perth and Peel

The main purpose of State Planning Policy 4.4.2 *Activity Centres for Perth and Peel* is to specify broad planning requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in Perth and Peel.

SPP 4.4.2 defines a hierarchy of activity centres as follows:

- > Perth Capital City
- > Strategic metropolitan centres
- > Secondary centres
- > Specialised centres
- > District centres
- > Neighbourhood centres (supplemented by local centres)

Whitfords City is designated a secondary centre, which is defined as follows:

“Secondary centres share similar characteristics with strategic metropolitan centres but serve smaller catchments and offer a more limited range of services, facilities and employment opportunities. They perform an important role in the city’s economy, and provide essential services to their catchments.”

Secondary centres also provide important focus for passenger rail and/or high frequency bus services, and have a residential walking catchment density target of 400m.

Similar to the high-level documents, SPP 4.2 recognises that future demands for access and movement cannot be met efficiently if there is a continued reliance on private cars and only a limited mode shift towards public transport, walking and cycling. Therefore, like the high-level strategy documents, SPP 4.2 is concerned with the integration of activity centres with public transport and to consolidate residential and commercial development in activity centres, contributing to a balanced transport network and reducing carbon emissions.

Specific guidance on the layout and management of the activity centre is also provided in SPP 4.2 such as:

- > main access points of high trip-generating activities should be located within 400m of a high frequency public transport service;
- > balance regional traffic requirements for travel to, through (where appropriate) and around a centre with local traffic access needs;
- > sustain high levels of pedestrian movement and an external street-based retail and business environment by providing suitable traffic volumes and permeability within and around the activity centre;
- > provide an efficient supply of parking with equitable distribution of parking for different users
- > parking in higher order centres to be communal or public rather than being reserved for a specific class of user.
- > initiate a parking cap for the development within the boundary of the activity centre to encourage reciprocal parking, addressing the need for efficient land use
- > provide parking at a rates approximating:
 - 2 space per 100sq.m offices
 - 4 to 5 spaces per 100sq.m retail
- > option for developers to negotiate cash-in-lieu payments to provide for services that offset the need to provide parking provided at the required standard.

2.5 Whitford City as an Activity Centre

2.5.1 Transport Context

The Centre is located approximately 20km north of the Perth CBD on Whitfords Avenue, adjacent Marmion Avenue. This location can be easily accessed from the Mitchell Freeway via the Whitfords Avenue off-ramp and directly from Marmion Avenue, a primary north-south arterial road running parallel to Mitchell Freeway.

Whitfords rail station is located on Whitfords Avenue at the freeway interchange. High frequency bus services connect the Centre to Joondalup, Warwick and Whitfords rail stations via suburbs west of the freeway. The road reserve along Whitfords Avenue presents the opportunity to provide additional capacity for public transport via bus lanes and high quality bus stop facilities. In the longer term this could provide part of the necessary infrastructure for a BRT route within the north-west suburbs.

The Centre therefore presents the ideal opportunity to develop an activity centre in the mould of the strategy set out in Directions 2031 and subordinate strategies and planning policies.

Figure 2-3 shows the Westfield Whitfords Activity Centre in its regional context.

Figure 2-3 Whitfords Activity Centre – Regional Context



2.5.2 Development Context

The proposed quantum of land uses proposed within the structure plan has been derived from an Economic Development Assessment undertaken by Pracsys / Urbis. This assessment has been used to identify the potential mix of land uses in the study area and the associated broad-scale traffic impacts of intensification in this area.

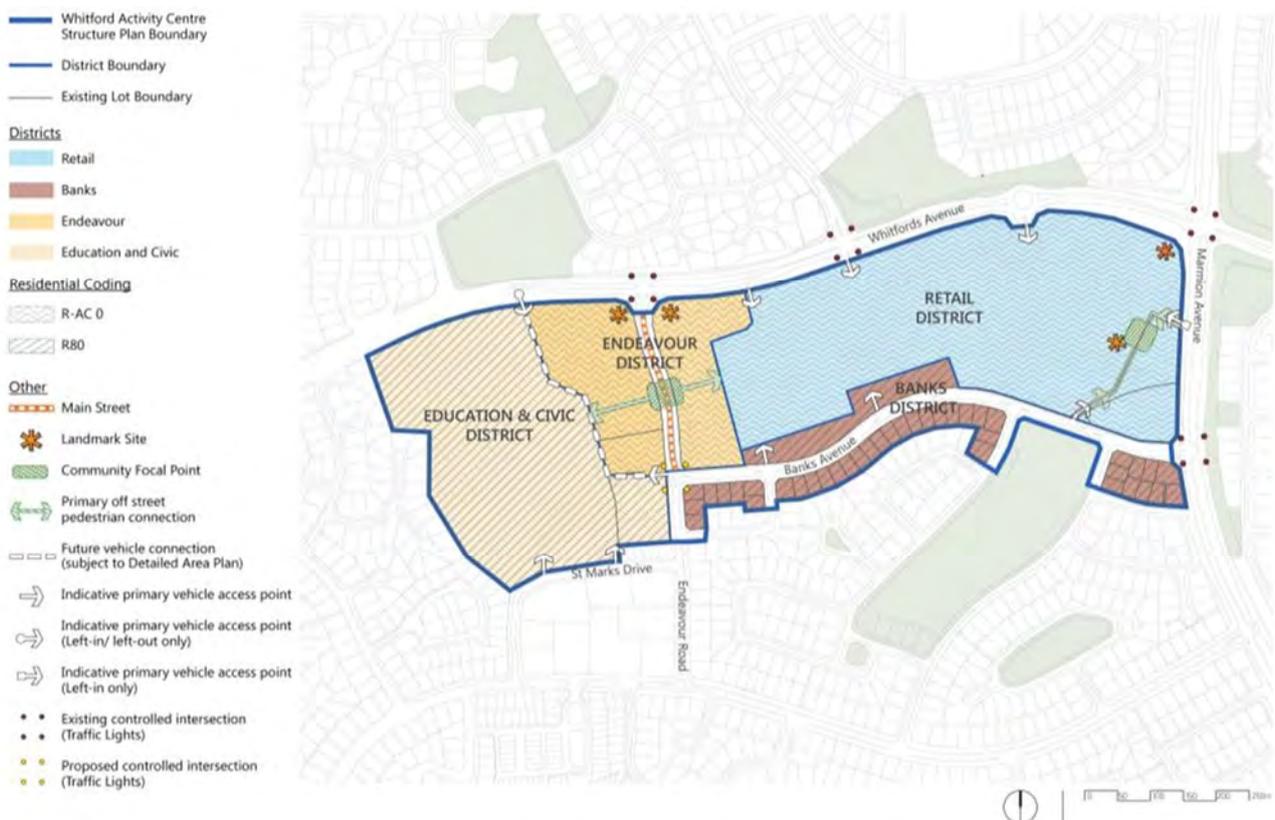
The proposed development will consist of a mix of uses including intensification of existing retail development and residential land uses, with the addition of mixed-use office/residential and recreation facilities.

The composition for the proposed development consists of the following:

- > Expansion of the Westfield Whitfords City Shopping Centre to accommodate approximately 95,000 sq.m of 'Retail' floor area by 2031;
- > Expansion of the existing 'Entertainment' uses from approximately 9,500 sq.m to 16,000 sq.m;
- > An increase in the 'Other Retail' land uses to approximately 11,500 sq.m;
- > Consistent increase in 'Office' land uses from almost 6,000 sq.m at present to approximately 22,800 sq.m at ultimate build-out, providing employment for approximately 1,100 people; and
- > Residential densification resulting in an additional 1,100 dwellings by 2031, providing homes for approximately 2,200 people in a medium-rise mixed-use environment. This has been considered as a worst case and it is understood that more recent planning entails a yield of 500-800 dwellings in addition to the existing residential lots.

Figure 2-4 shows the proposed Westfield Whitfords Activity Centre structure plan.

Figure 2-4 Whitfords Activity Centre Structure Plan



3 Public Transport

3.1 Existing Public Transport Provision

Existing public transport in the vicinity of the Centre is provided by Transperth feeder bus services. The majority of these services run east-west along Whitfords Avenue to service the Whitfords Train Station. Bus shelters have been provided along Whitfords Avenue, though not along most other local roads. Figure 3-1 shows the existing bus network in and around the Whitfords Activity Centre.

Figure 3-1 Existing Transperth Bus Routes



Table 3-1 describes the existing bus services and frequencies to the Whitfords Activity Centre.

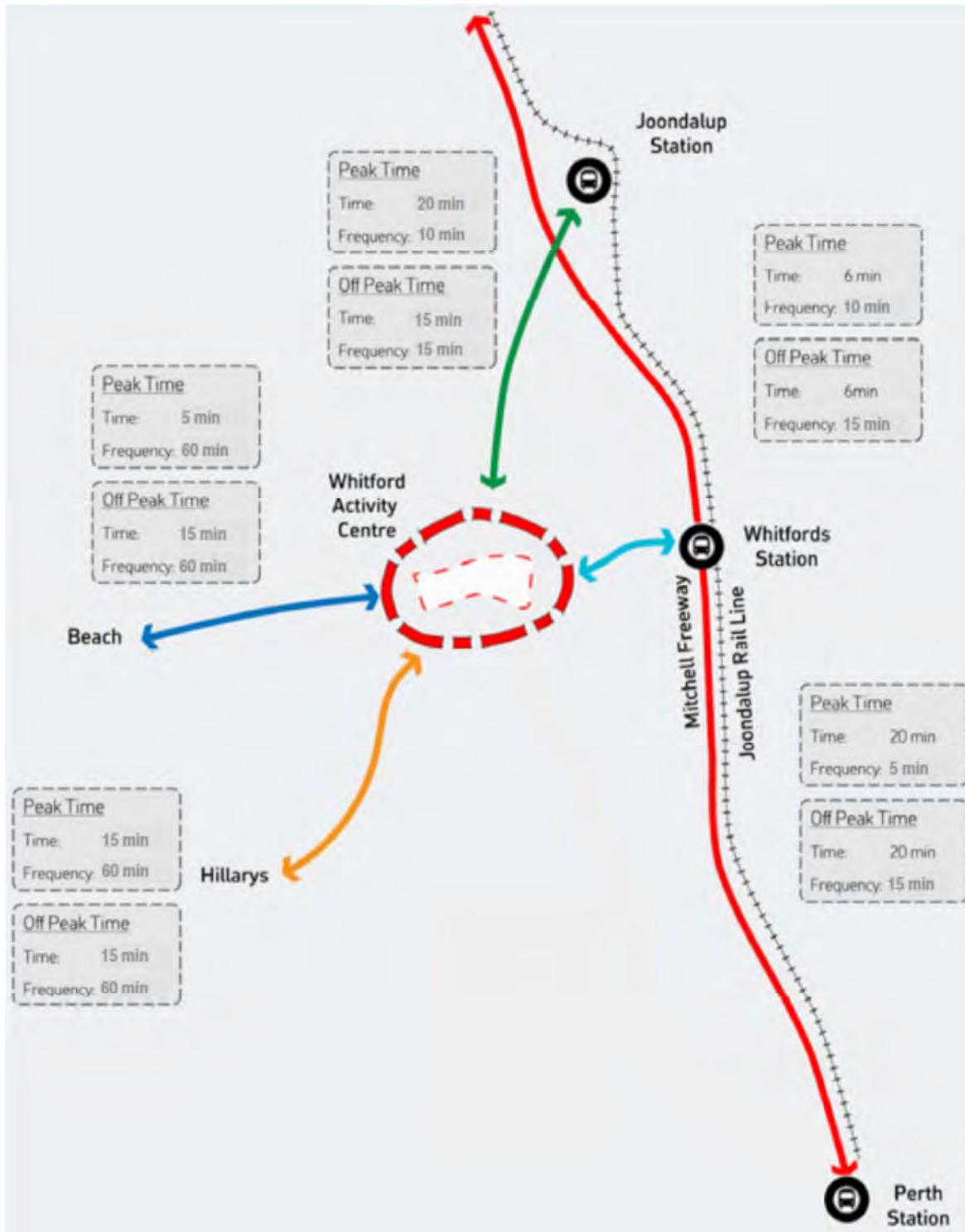
Table 3-1 Bus Routes and Service Frequencies

Route	Destination	Peak Frequency	Off-Peak Frequency
441	Whitfords Station – Warwick Station	15 min	60 min
442	Whitfords Station – Warwick Station	15 min	60 min
458	Whitfords Station – Warwick Station	60 min	60 min
460	Joondalup Station – Whitfords Station	20 min	30 min
461	Joondalup Station – Whitfords Station	20 min	30 min
462	Joondalup Station – Whitfords Station	15 min	30 min

While all services are bi-directional, service frequencies between Whitfords and Warwick are dependent upon the peak period. Peak frequencies in this case apply for southbound (to Warwick) services in the AM peak, and for northbound (to Whitfords) services in the PM peak.

Public transport between the Centre and major transport destinations is of a high standard, with efficient and frequent connections to Joondalup and the Perth CBD, among others. Figure 3-2 shows the average journey times between these destinations and the Whitfords Activity Centre.

Figure 3-2 Public Transport Frequency and Journey Time



From the information shown above, it is clear that the Centre is well served by public transport for the purpose of connecting passengers to the Northern Train Line and Joondalup. Local service from the surrounding catchment into the Centre is also reasonable.

Pedestrian access to the Centre from local bus stops is primarily from Whitfords Avenue, with passengers crossing via the existing pedestrian facilities as well as at mid-block locations. Signalisation of the Whitfords Avenue/Endeavour Road intersection will provide additional safe crossing points for bus passengers. The

signalisation of the existing roundabout on Whitfords Avenue at the time of the next major retail expansion will also add an additional crossing point midway between Marmion Avenue and Dampier Avenue.

The mix of uses proposed in the Structure Plan, particularly with respect to office uses, provides an opportunity to promote public transport modes. The close proximity and high frequency of bus service from the Northern Train Line implies a high attractiveness for public transport modes. The direction of high frequency services during the peak periods may need addressing, as these function effectively only for southbound trips in the AM peak, and northbound trips in the PM peak. Employees originating south of Warwick station are disadvantaged by the existing public transport service.

3.2 Regional Strategy – Bus Rapid Transit

The Department of Transport document *Public Transport in Perth 2031* indicates a large increase in patronage between Whitfords train station and Perth CBD and a subsequent increase in bus passenger patronage along Whitfords Avenue

The 2031 plan shows Whitfords Avenue forming part of a bus rapid transit (BRT) corridor between Joondalup and Warwick Stations. This has been tentatively indicated for after 2031 but is assumed to depend on patronage projections and economic viability facilitated by appropriate development, and could therefore be brought forward in the right circumstances.

The BRT corridor will provide the north-west subregion with a supplementary means of mass transit as an alternative to the existing suburban rail system. The proposed corridor will make cost effective use of existing transport (road) reserves such as Marmion Avenue and Whitfords Avenue, where the space exists and it would be preferable to implement a more sustainable solution with a view to changing people's travel behaviour and means of travel rather than providing additional traffic lanes.

Whitfords City has been determined as a possible location for a BRT stopping point; the development of the proposed Activity Centre will therefore play a crucial part in providing the people massing along this corridor when making the economic case for BRT implementation, benefitting the north-west subregion as a whole.

3.2.1 Discussion with Department of Transport

Cardno has liaised with the Department of Transport (DoT) to determine the likely alignment of this corridor as it passes Whitfords; the currently published draft plan shows a BRT corridor between Joondalup Station and Claremont Station, however the latest thinking is to run a BRT route from Joondalup to Warwick Stations, and then bus lanes (assumed to be lower bus priority than BRT) to Balcatta and onward, as shown in Figure 2-2 in Section 2.3.

According to Figure 2-2 the potential future BRT corridor would likely take the following route:

- > Joondalup Station
- > Wanneroo Road
- > Whitfords Avenue
- > Hepburn Avenue
- > Marmion Avenue
- > Beach Road
- > Warwick Station

Cardno will continue to liaise with DoT with regard to the corridor alignment as part of the ongoing development of the Centre and will update public transport proposals accordingly.

The Whitfords Activity Centre Structure Plan should aim to facilitate a high frequency public transport node, positioned to suit the development of the Activity Centre around the Shopping Centre and surrounding land uses and also to facilitate the future introduction of the rapid transit system.

3.3 Structure Plan Public Transport Strategies

3.3.1 Short to Medium Term – Changing Travel Behaviour

The intention of the strategy should be to increase the use of the existing services while allowing for the potential future provision of BRT along Whitfords Avenue.

It is anticipated that public transport services to and from the Centre will improve over time as a result of the creation of a robust activity centre. To reflect this shift towards sustainable transport modes, a number of initiatives are proposed. These measures include the provision of premium bus stops, a higher end facility that provides a larger sheltered and seating area than a standard bus stop and may also include real-time travel information displays.

3.3.1.1 Bus Stop Locations

The existing location of bus stops on Whitfords Avenue are ideally placed to serve the Centres retail district and will therefore be the focus of development of a high frequency system of bus routes serving the Centre between Joondalup and Whitfords Station.

The construction of premium bus stops on Endeavour Road would provide high quality access to public transport for the main street area as well as the shopping centre. Reinstatement of a bus route along Banks Avenue is also proposed. This would be designed for bus services between Warwick Station and Whitfords Station, requiring some minor deviations to existing routes. By modifying the bus network as proposed, public transport services can be brought into the heart of the area. The realignment of services would also require additional bus stops to support residential uses in the area.

Bus services currently operate frequently only during the weekday peak periods and only in the prevailing direction (southbound during the AM peak and northbound in the PM peak). To improve service levels for public transport and promote bi-directional flow to and from Joondalup, frequencies should be increased in the opposite direction. To fully integrate public transport modes as a viable and attractive alternative to private vehicles, bus frequencies would need to be increased to 10 minute intervals during peak periods.

3.3.1.2 Additional Measures to Encourage Patronage

In addition to the above, the following measures should also be considered as part of an interim program:

- > real-time information to advise patrons of incoming services to minimise existing uncertainty in the system. This would be particularly effective in during the off-peak
- > provide secure bicycle parking/storage for commuters at high quality public transport nodes
- > investigate potential for providing queue-jump lanes and signal phasing for buses at signalised intersections.

This will greatly assist in changing travel attitudes in the both the local residents and those that commute to the Centre. Once these practises are established, it helps better make the case for a more engineered mass transit solution such as BRT.

The existing bus network in the vicinity is shown in Figure 3-3, with the proposed bus network shown in Figure 3-4.

Figure 3-3 Existing Bus Network

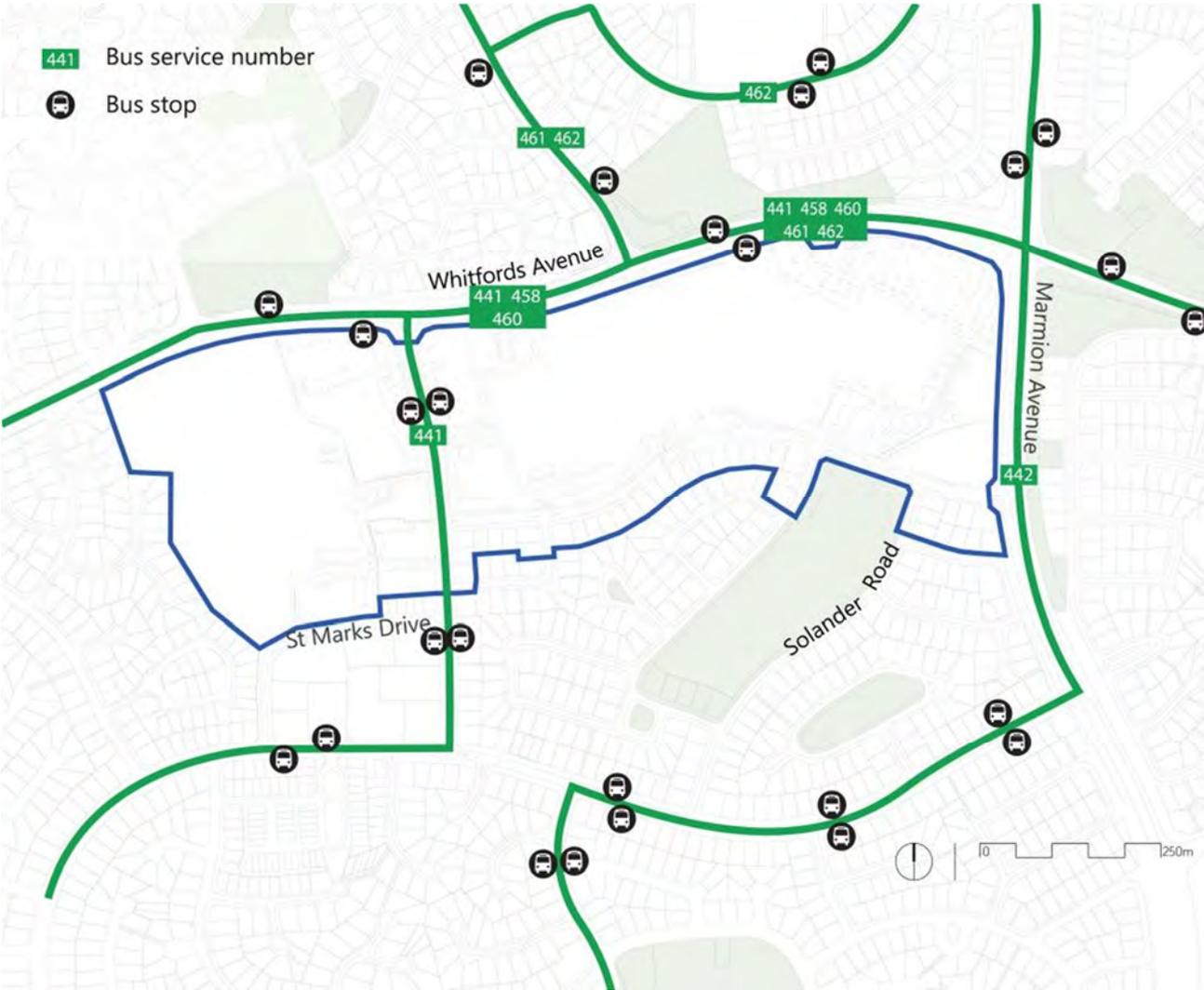
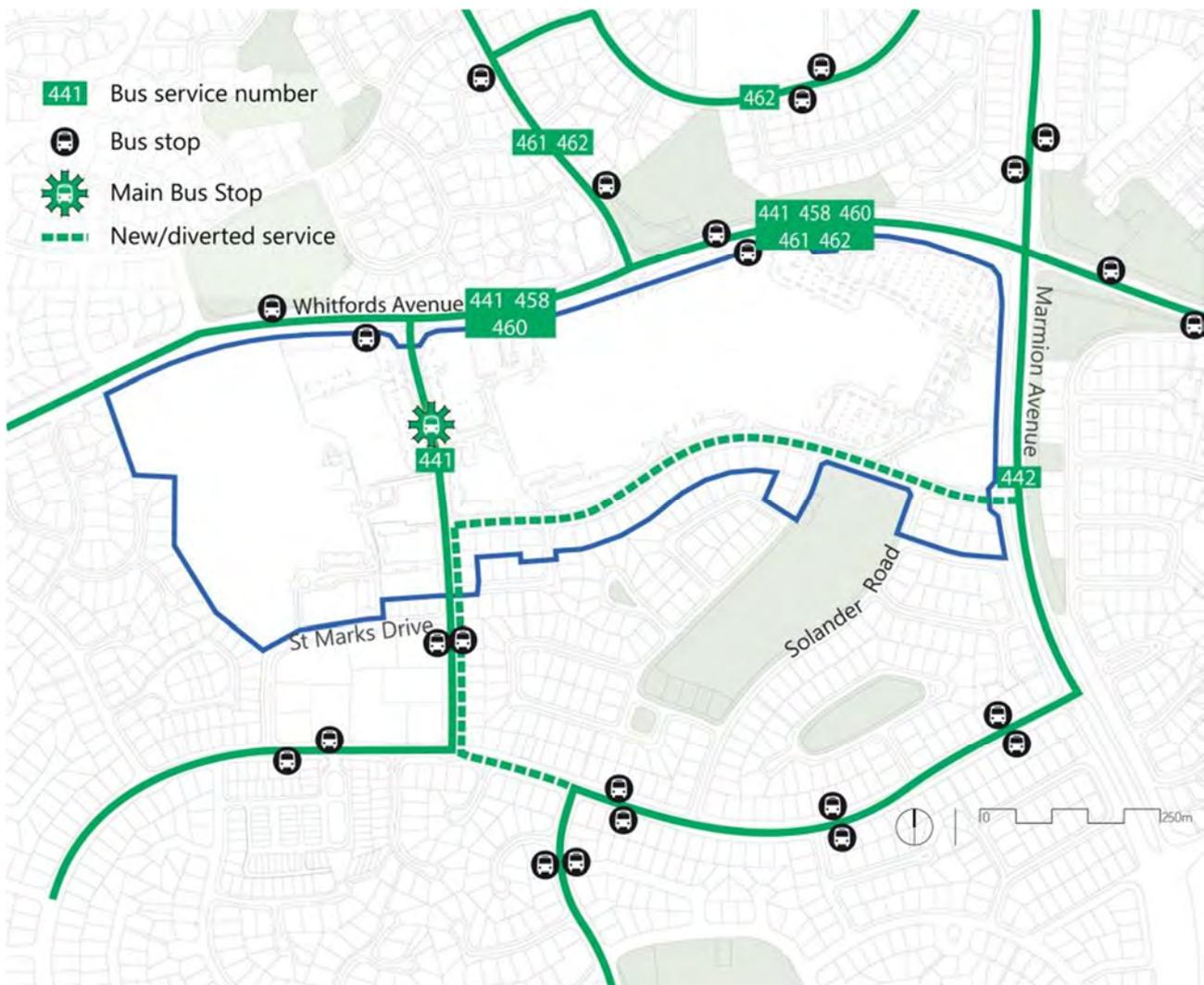


Figure 3-4 Proposed Interim Bus Network



3.3.2 Long term – Rapid Transit for Perth’s North-West

In the long term, the potential future BRT route would pass the Centre on Whitfords Avenue, as shown in Figure 3-5. Therefore, the by-then existing high frequency bus service nodes would be within convenient walking distance of this future express service.

The aim of rapid transit is to deliver something akin to a suburban rail service. BRT would run on a limited stop, express service basis, providing a convenient, reliable service with as little interruption to journeys as possible. It is assumed, due to the planning of the BRT corridor between Joondalup and Warwick, and the subsequent downgrade to bus lanes towards Balcatta, that BRT vehicles will have higher priority over traffic along the BRT route. This would entail provision of bus lanes and signal phasing that would allow bus priority through selected (or potentially all) signalised intersections.

3.3.2.1 BRT Vehicle Priority

The provision of bus priority indicates the need for a signalised intersection at the entrance to the Centre on Whitfords Avenue, replacing the existing roundabout. It would be difficult to provide bus priority through this roundabout and priority control at the roundabout would somewhat undermine the ideals of BRT. It is accepted that the usually applied minimum spacing between signals is around 400 metres however any concerns can be overcome through signal coordination to provide good progression of traffic in a “green wave” along Whitfords Avenue in the dominant direction of traffic. The distance between intersections indicates that storage of traffic from minor arms along Whitfords Avenue, between major arm traffic phases, would not be of concern.

The provision of traffic signals would also permit the introduction of controlled pedestrian crossings within the intersection phasing. This would provide a safe at-grade alternative to the existing pedestrian underpass, and would provide a more convenient, amenable form of access to the bus stops on the north side of Whitfords Avenue compared to what is currently available. Provision of this crossing point would lessen pedestrian severance caused by the width of the Whitfords Avenue road reserve and the undesirable use of pedestrian underpasses. Therefore the provision of a signal controlled intersection replacing the existing roundabout would provide a benefit to the area north of Whitfords Avenue by providing a safe crossing point to the Centre, while also encouraging use of the bus stops for services between Joondalup and Whitfords City.

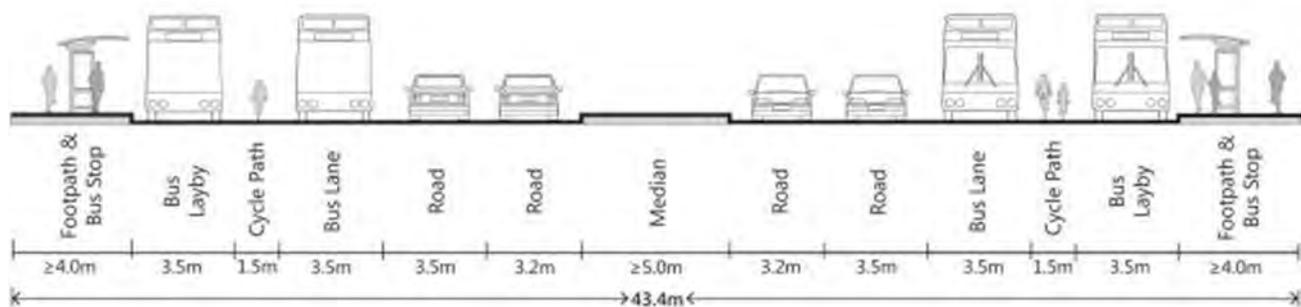
3.3.2.2 BRT Stop Location

The location of the BRT stops on Whitfords Avenue has not be finally determined at this stage, however it is tentatively planned the locations of the existing bus stops on Whitfords Avenue, east of Dampier Avenue would provide the most convenient location and would serve the majority of passengers associated with the Centre.

3.3.2.3 Whitfords Avenue with BRT

It is noted that road widening would be required to facilitate the introduction of bus lanes along with accommodating bus embayments, passenger waiting facilities and pedestrian footways. A typical cross-section at bus stops along Whitfords Avenue is shown in Figure 3-5.

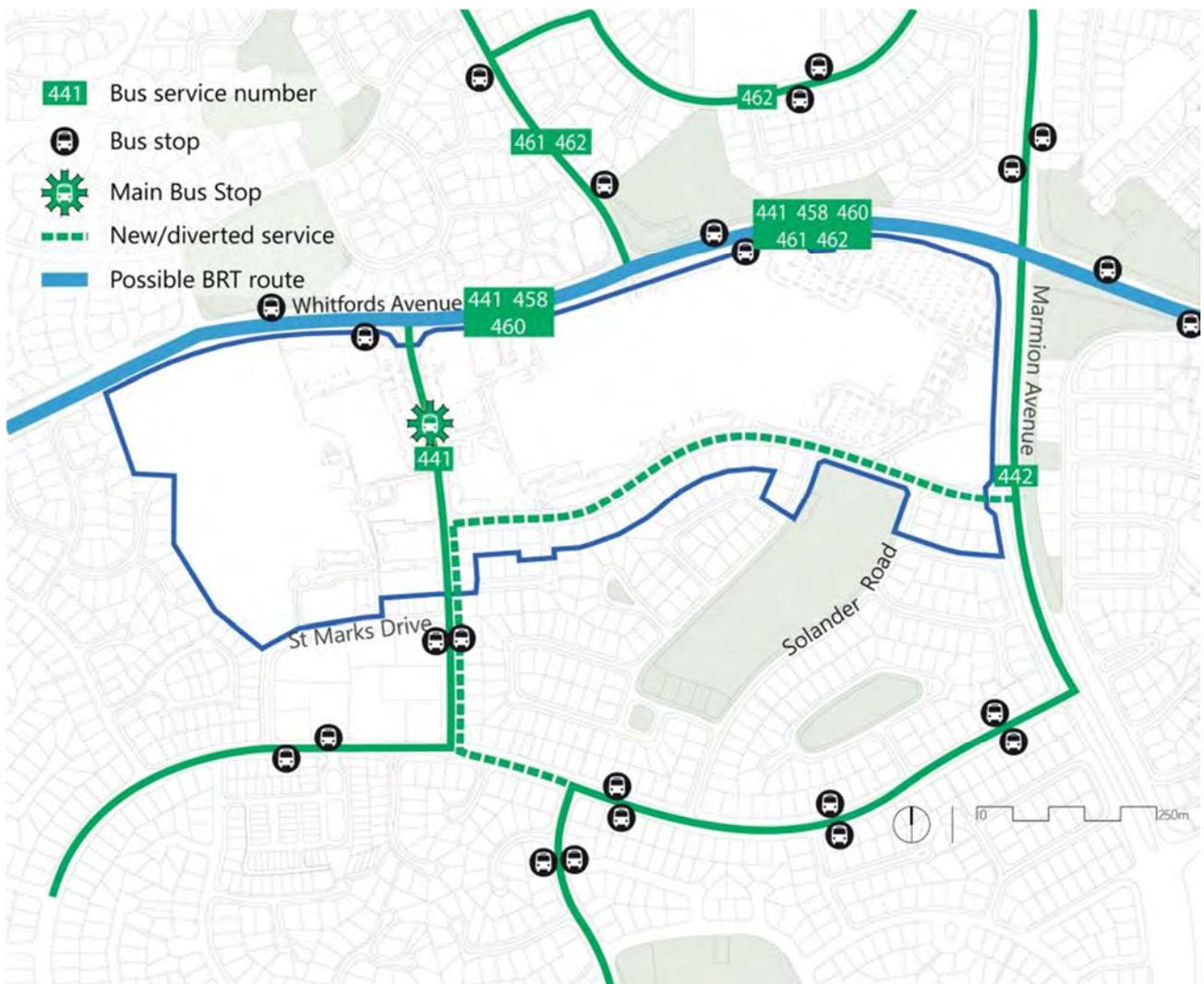
Figure 3-5 Typical Future Cross-Section of Whitfords Avenue upon BRT Implementation



The Whitfords Avenue Road reserve is 40 metres in the vicinity of the Centre, therefore land may be required from the areas of Public Open Space (POS) to the north and from the shopping centre south of the road reserve. The widened parts of the road extending into POS will be paths and bus passenger waiting areas and not additional traffic lanes. Moreover, any road widening will be provided to deliver a more sustainable transport solution for the north-west subregion that will benefit the wider area and not just those living in the vicinity of the Centre.

The long term public transport strategy is outlined in Figure 3-6 below.

Figure 3-6 Proposed Ultimate Bus Network

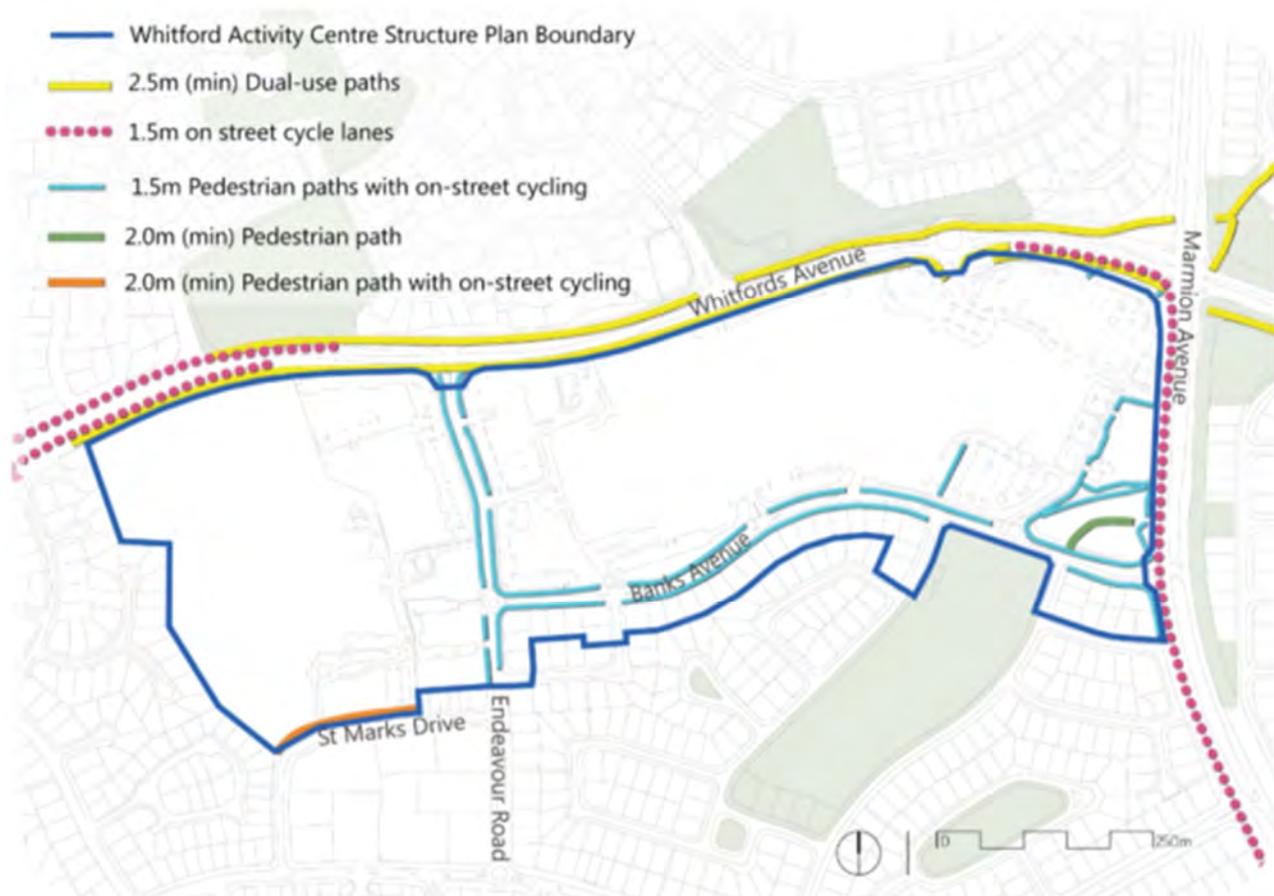


4 Active Transport

4.1 Active Transport Strategic Vision

The proposed Structure Plan is designed to provide maximum opportunities for pedestrian and cyclist access from the surrounding residential neighbourhood and within its boundaries. Through the use of integrated mixed-use development, residents and employees will be located within close walking distance to a variety of destinations, including retail, business and entertainment precincts. Existing pedestrian and cycling facilities are shown in Figure 4-1.

Figure 4-1 Existing Pedestrian and Cycling Infrastructure



4.1.2 Endeavour Road

Changes to land uses on the western side of Endeavour Road will require additional consideration for movement of pedestrians and cyclists across this corridor. The intention for this road to become a main street activity corridor suggests a much higher degree of interaction between pedestrians, cyclists and vehicles. This creates an opportunity to improve the overall walking and cycling accessibility of the precinct and to foster better use of public space for community purposes.

Similarly, proposed changes to retail and mixed land uses on the north side of Banks Avenue creates opportunities for a functional and attractive high street environment with a significant focus on sustainable travel modes and community facilities.

4.1.3 Pedestrian Access

Improvements to the existing subway connections across Whitfords Avenue and Marmion Avenue will enhance the use of these connections as safe alternatives to at-grade crossing.

Recommended upgrades include the addition included wall treatments and artwork along with inventive lighting that will make these spaces more attractive and improve pedestrian amenity, safety and connectivity. Entry treatments such as canopies and landscaping will help better define these connections; provision of consistent and legible routes and signage will also help increase usage and thereby increase passive surveillance.

This would require significant investment to improve quality and create attractive and safe links to the Centre, but would have substantial benefits for local residents. Integrating any potential improvements into the public transport and pedestrian networks would further promote active and sustainable transport modes.

There are significant constraints associated with pedestrian access to the major retail and entertainment attractors south of Whitfords Avenue. Existing at-grade and subway connections across Marmion Avenue are widely spaced and of generally low amenity. With the proposed signalisation of the existing roundabout on Whitfords Avenue east of Dampier Avenue, crossing opportunities at Whitfords Avenue will be increased. Improvements to existing bus facilities on Whitfords Avenue are proposed to include better pedestrian connections, enhancing public transport attractiveness and providing amenity to all users.

4.1.4 School Students

There is a critical interaction between the existing St Marks Anglican Community School on the western side of Endeavour Road, and the existing and proposed land uses along this corridor. The large numbers of students moving across Endeavour Road, combined with the increased volume of vehicles during school peak periods, creates the potential for conflict. The current layout for school access limits the interface to a single controlled point, manned during school peaks by a crossing guard.

Discussions have taken place with representatives of the school and this has resulted in proposed improvements to the safety of access across Endeavour Road by way of pedestrian phases at a four-way signalised intersection at Banks Avenue. While this will tend to restrict free access by pedestrians, it will fulfil its purpose by minimising pedestrian-vehicle conflict at this point.

4.1.5 Cycling

The existing cycling infrastructure links the Structure Plan and surrounding area to Mitchell Freeway. The network is not sufficiently comprehensive or continuous to maximise its use by commuters on-street, nor does it provide a coherent off-street network for access to trip attractors in the precinct.

It is noted that the current Joondalup Bike Plan from 2009 proposes new on road cycle paths on Whitfords Avenue, east of Dampier Avenue and an Arterial Shared Path along Marmion Avenue; however, these are not constructed as yet.

Upgrades to on-street cycle links including improvements to neighbourhood connectors such as Endeavour Road, Banks Avenue and Cook Avenue would greatly increase the attractiveness of cycling for commuters accessing the Centre and for cyclists in the region to connect to regional transport links.

Improvements to off-street paths through the creation of a comprehensive network of safe shared facilities will similarly promote a mode shift towards active transport modes and away from vehicular modes. This is particularly important for members of the community with minimal access to motorised transport such as students, elderly persons and persons with disabilities. In particular, safe and secure road crossings are imperative for providing accessibility.

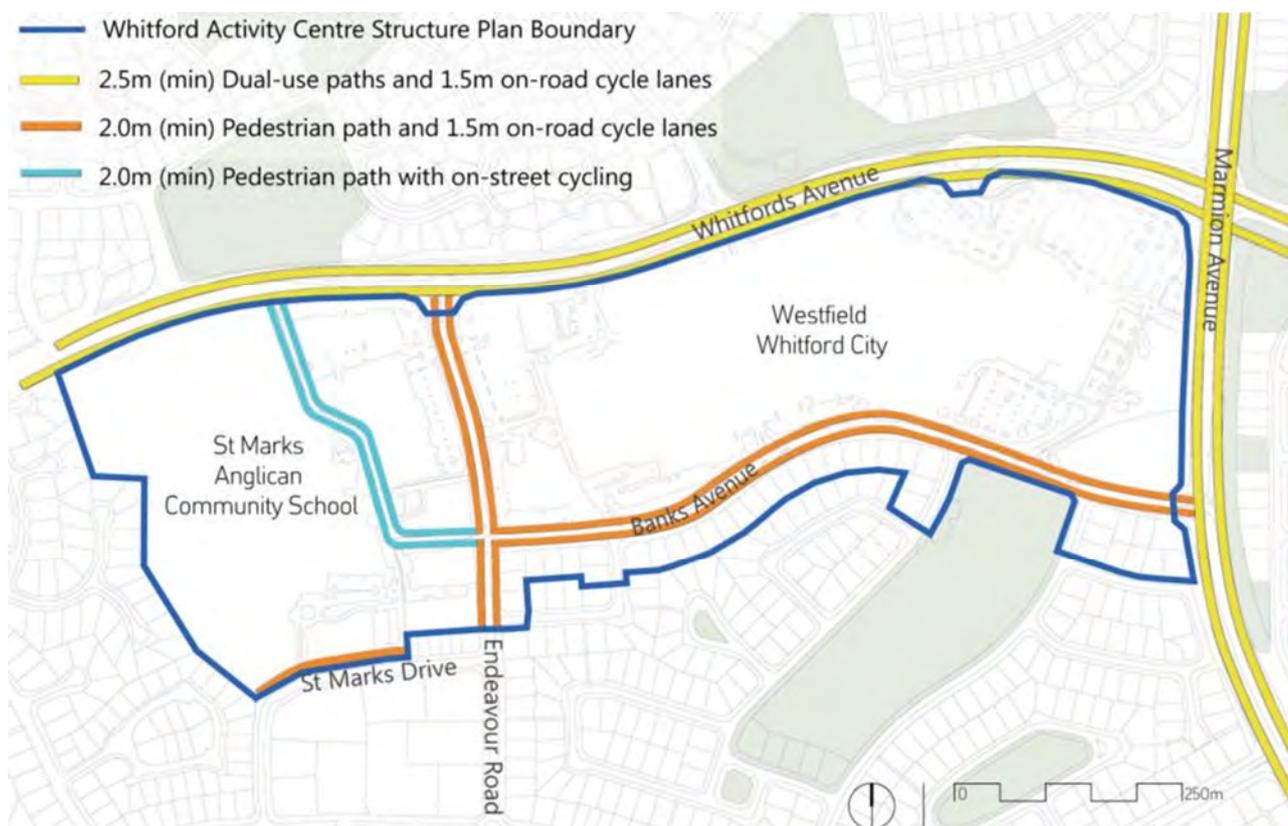
Proposed pedestrian and cycling facilities are shown in Figure 4-2.

4.2 Structure Plan Active Transport Strategies

The development of the Centre will place a focus on the improvement of existing and provision of new facilities to promote the use of active transport modes within the site and to/from the surrounding residential area, including:

- > providing an improved network of footways around the and within the Centre
- > improved access across customer car parks accessing main building entrances, adhering to pedestrian/cyclist desire lines from outside the Activity Centre
- > careful consideration of new public transport infrastructure and how this is to link with entrances to buildings within the Centre and existing/new pedestrian/cyclist facilities.
- > provision of a main street environment along Endeavour Road, between Banks Avenue and Whitfords Avenue
- > placing high quality end-of-trip facilities at key locations within the Centre, such as:
 - secure parking for cyclists for all land uses in line with national standards
 - lockers, showers and changing facilities for staff
 - commuter end of trip facilities at public transport nodes
- > improving amenity within subways across Whitfords Avenue and Marmion Avenue

Figure 4-2 Proposed Pedestrian and Cycling Infrastructure



5 Road Infrastructure

5.1 Structure Plan Road Network

5.1.1 Marmion Avenue

Marmion Avenue functions as the areas primary north-south arterial road, connecting the north-west subregion with West Coast Highway and onward to Fremantle. It is a Red Road (primary regional road) under the MRS and is therefore controlled by Main Roads WA (MRWA). Marmion Avenue is a four-lane divided road within a road reserve of approximately 60 metres and a speed limit of 60km/h in the vicinity of the Centre.

5.1.2 Whitfords Avenue

Whitfords Avenue functions as an east-west sub-arterial, connecting the suburbs of Kallaroo, Craigie, Hillarys and Padbury with Mitchel Freeway. It is a Blue Road (other regional road) under the MRS and is therefore controlled by WAPC. Whitfords Avenue is a four-lane divided road within a road reserve of approximately 40 metres and a speed limit of 60km/h in the vicinity of the Centre, increasing to 70km/h either side of the Centre. The road downgrades to a two lane undivided road between Endeavour Road and Belrose Entrance.

5.1.3 Endeavour Road

Endeavour Road functions as a north-south local distributor, connecting the Hillary suburb to Whitfords Avenue and is controlled locally by the City of Joondalup. Endeavour Road is a two-lane undivided road with a painted median strip in a road reserve of approximately 25m. The speed limit is generally 50km/h along this road.

5.1.4 Banks Avenue

Banks Avenue functions as an east-west local distributor connecting Marmion Avenue with Endeavour Road. The road is locally controlled by the City of Joondalup. Banks Avenue is a two-lane undivided road with a painted median strip in a road reserve of approximately 25m. The speed limit is 50km/h along this road.

5.2 Structure Plan Functional Road Hierarchy

Roadways serve a variety of functions including the provision of direct access to properties, pedestrian paths, bus routes and catering for through traffic that is not related to the immediate land uses.

The concept of a hierarchy of roadways is thus used to define the main functional objectives of each roadway type, which can then form the basis of ongoing planning and system management aimed at reducing the mixing of incompatible functions.

A four level road hierarchy is based on the functional objectives of each element within each level of the hierarchy. The four levels are arranged in terms of an increasing degree of detail with respect to functional objectives. These four levels are Purpose, Function, Management, and Design and are defined as follows:-

Level 1: Purpose - relates to the primary objective of the element, whether to carry through traffic or to provide property access;

Level 2: Function - relates to the relationship between the element and the land use it serves. This level of hierarchy is common to traditional road hierarchy concepts;

Level 3: Management - relates to the emplacement of policies to achieve the envisaged role based upon the attributes of the element;

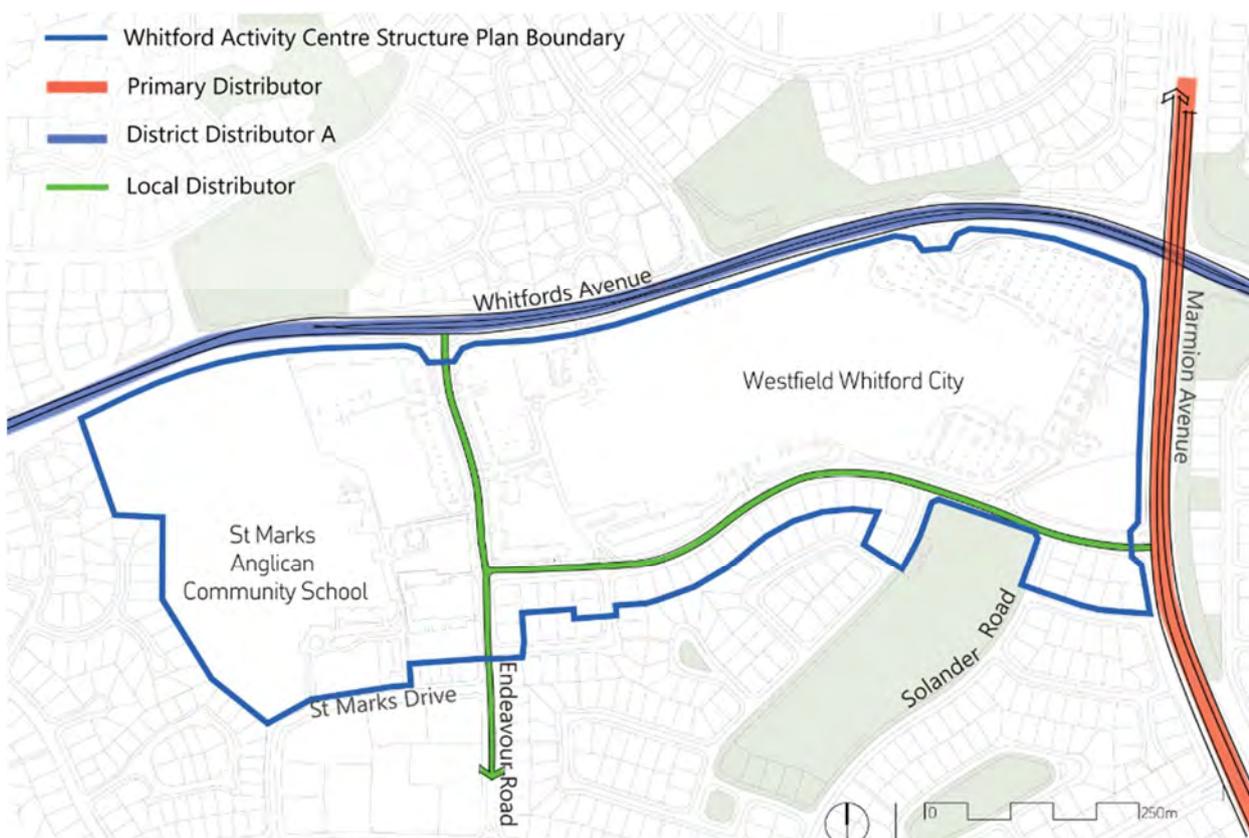
Level 4: Design - relates to specification of the form of the element in order to achieve its functional objectives.

Road classifications for the Whitfords area have been specified under the MRWA Main Roads Functional Hierarchy (MRFH) and are defined as follows:

- > Primary Distributor: These provide for major regional and inter-regional traffic movement. They are managed by Main Roads;
- > District Distributor A: These carry traffic between industrial, commercial and residential areas and generally connect to Primary Distributors. They are managed by Local Government;
- > Local Distributor: Carry traffic within a cell and link District Distributors at the boundary to access roads. These roads should accommodate buses but discourage trucks. They are managed by Local government; and
- > Access Road: Provide access to properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly. They are managed by Local government.

Under the MRFH Marmion Avenue has been classified as a Primary Distributor, while Whitfords Avenue has been classified as a District Distributor A. Endeavour Road, Banks Avenue and Cook Avenue have been classified as Local Distributors. All other roads within the Whitfords Activity Centre have been classified as Access Roads in the MRFH. Figure 5-1 shows the roadway classifications in a graphical form.

Figure 5-1 Existing Structure Plan Road Hierarchy



5.2.2 Liveable Neighbourhoods Road Hierarchy

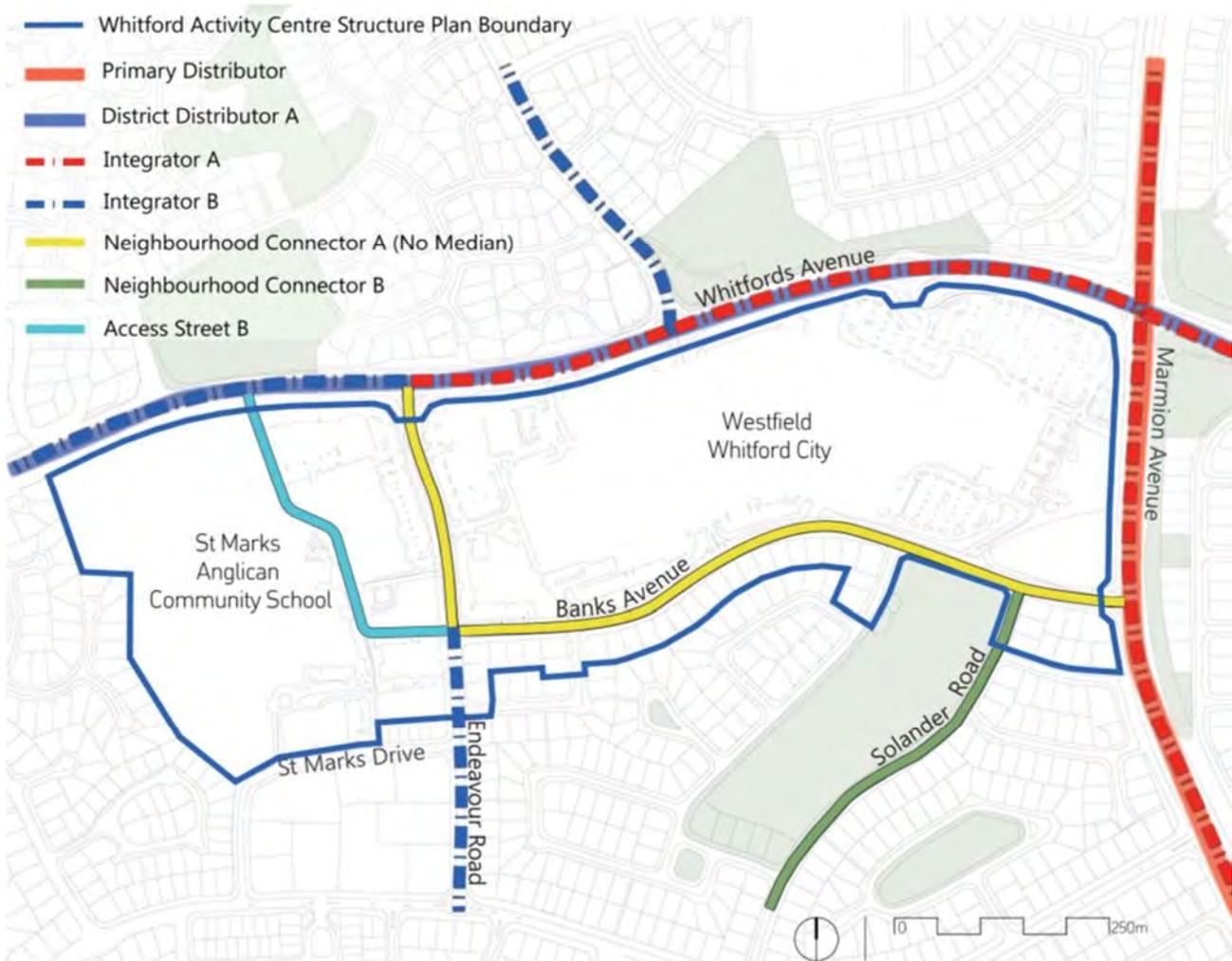
The location of the Centre with respect to major road infrastructure implies that changes will not be required to improve access to the centre. However, the shift in land use type and density suggests that a new road hierarchy may be desirable, affecting the design and treatment of Endeavour Road and Banks Avenue.

The road classifications shown in Liveable Neighbourhoods have been used as a basis for indicative road cross-sections in the future development scenario, based on the anticipated traffic volumes and planning intent. Proposed Road Hierarchy

A road hierarchy has been developed based on the examples given in Liveable Neighbourhoods and tailored to suit the existing road reserves in the structure plan area while the use of appropriate dimensions allows flexibility in design across all the higher and lower order roads that predate Liveable Neighbourhoods. This will allow any upgrade treatments to be applied within existing road reserves, with more generous median and verge dimensions applied where necessary.

The proposed future road hierarchy for the structure plan road network is shown in Figure 5-2 below, and the various categories are described overleaf.

Figure 5-2 Future Structure Plan Road Hierarchy

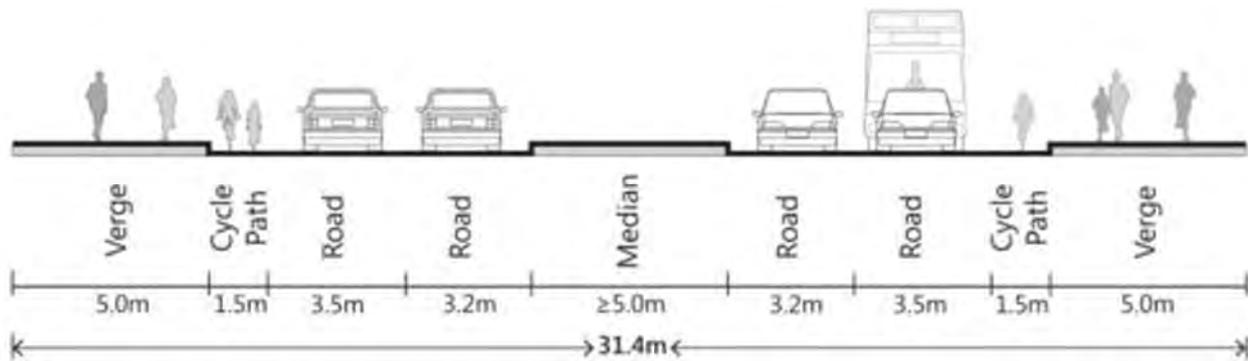


5.2.2.2 Integrator A

Marmion Avenue and Whitfords Avenue east of Endeavour Road can be classified as Integrator A roads as they operate at high volumes and with a design speed of 70km/hr. Limited access provision reduces friction caused by side streets and access points. No changes to these road cross-sections are proposed.

Figure 5-3 shows the adopted minimum dimension Integrator A cross-section.

Figure 5-3 Integrator A

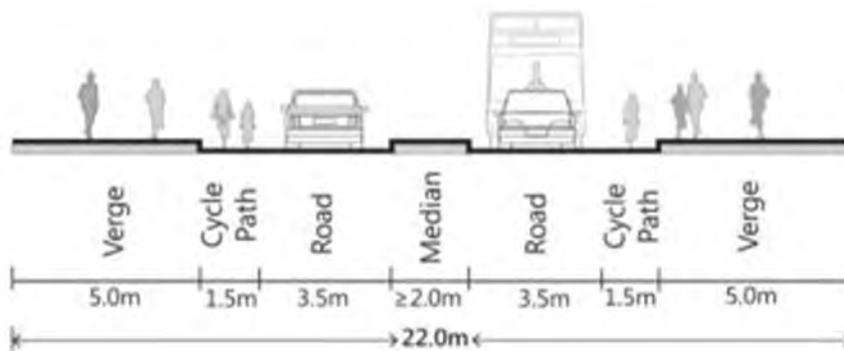


Note minimum dimensions are quoted

5.2.2.3 Integrator B (Arterial/Sub-arterial)

Whitfords Avenue west of Endeavour Road operates as an Integrator B (Arterial), shown in Figure 5-4, without on-street parking or a central median. An extension of the existing central median to the west is considered desirable to facilitate safe crossing for local school students, though the existing provision is sufficient for the purpose, provided crossing numbers remain low. Whitfords Avenue also retains a limited access format through this section.

Figure 5-4 Integrator B (Arterial/Sub-arterial)



Note minimum dimensions are quoted

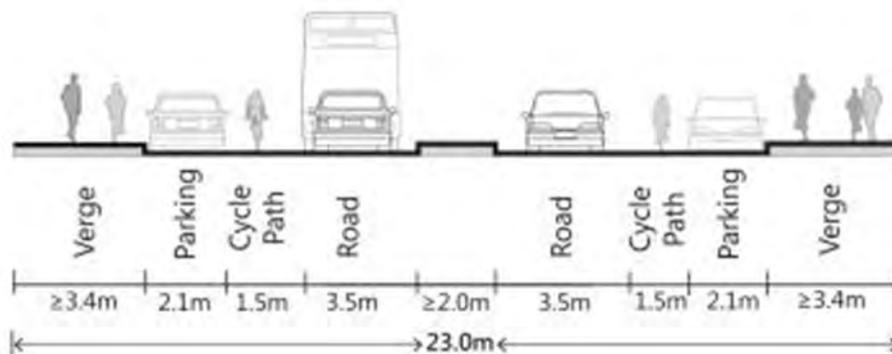
Endeavour Road and Dampier Avenue currently both operate as an Integrator B (Sub-arterial) and are proposed to continue in this function, albeit at Endeavour Road this form would continue south of Banks Avenue only. The relatively wide pavement area and painted central median diminishes the capacity for pedestrian crossing in its existing configuration.

5.2.2.4 Neighbourhood Connector A

North of Banks Avenue, Endeavour Road is proposed as a narrower Neighbourhood Connector A road, with a focus on pedestrian legibility and cycling connections as shown in Figure 5-5. A reduction in vehicular movements along this section of Endeavour Road will be promoted through relocation and closure of existing access points and introduction of horizontal and vertical frictional elements such as narrow lanes and Local Area Traffic Management (LATM).

The existing three-way roundabout intersection of Endeavour Road and Banks Avenue includes a one-way egress driveway from school parking areas. To improve the operational safety of this intersection, a four-way signalised intersection is proposed. This will provide an improved, safer crossing point for school children as well as more convenient bus access to Banks Avenue.

Figure 5-5 Neighbourhood Connector A



Note minimum dimensions are quoted

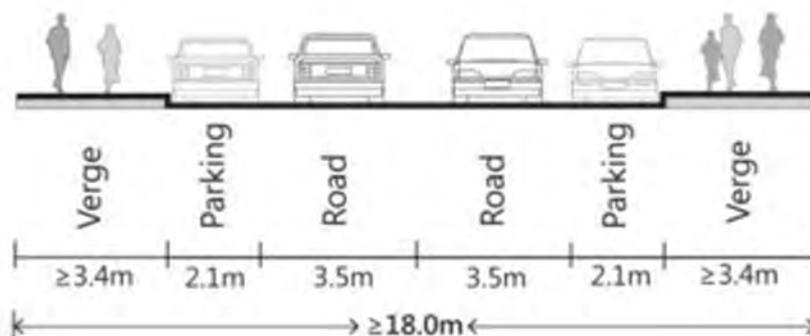
Traffic volumes along Banks Avenue are likely to increase as a result of the changes to Endeavour Road as existing through traffic and development traffic is redistributed through the Centre. However, the existing cross-section for these roads, which includes a defined central median, should be sufficient to meet future vehicular demands.

Introducing on-street cycle lanes along Banks Avenue will improve the amenity for cyclists, while the construction of bus embayments and possible on-street parking will also assist in improving local services. The cross-section of these roads would therefore transition towards a Neighbourhood Connector A or Integrator B classification, as defined by Liveable Neighbourhoods.

5.2.2.5 Neighbourhood Connector B

Beyond the central Activity Centre core in the existing suburban residential neighbourhood, lower traffic volumes and fewer transport alternatives suggest that a Neighbourhood Connector B, as shown in Figure 5-6, would be sufficient. This cross-section allows for bus service through the neighbourhood while still providing pedestrian and vehicular amenity.

Figure 5-6 Neighbourhood Connector B



Note minimum dimensions are quoted

5.2.2.6 Roadway Intersection Forms

Access to the Centre is provided primarily via Marmion Avenue and Whitfords Avenue. Local access is also available from the south and west via the local road network. Endeavour Road and Cook Avenue provide connections through the Centre from major roads. The major intersections in the vicinity of Whitford City are outlined below.

Whitfords Avenue/Endeavour Road – A 3-way signal controlled intersection including left and right turning pockets along Whitfords Avenue and a wide central median sufficient for storage of two right-turning cars as shown in Figure 5-7.

Figure 5-7 Whitfords Avenue/Endeavour Road Intersection



Whitfords Avenue/Dampier Avenue/shopping centre access – A 4-way signalised intersection including left and right turning pockets on Whitfords Avenue as shown in Figure 5-8. Provision for crossing pedestrians is explicitly included within the signal phasing.

Figure 5-8 Whitfords Avenue/Dampier Avenue Intersection



Whitfords Avenue/Marmion Avenue – A major 4-way signalised intersection including right turning pockets and left-turn unsignalised slip lanes on all approaches. The existing layout of this intersection is shown in Figure 5-9. Pedestrian provision has not been explicitly included within the signal phasing; however actuated crossing facilities are provided. Long red phases for all approaches provide sufficient crossing time for pedestrians intending to cross at this location.

Figure 5-9 Whitfords Avenue/Marmion Avenue Intersection



Marmion Avenue/Banks Avenue – A 3-way signalised intersection including a right turning pocket and unsignalised left turn slip lanes on Marmion Avenue and Banks Avenue, as shown in Figure 5-10.

Figure 5-10 Marmion Avenue/Banks Avenue Intersection



Marmion Avenue/Cook Avenue – A 3-way priority controlled intersection including a right turning pocket and left turn slip lane on Marmion Avenue, as shown in Figure 5-11. The seagull island within the central median allows for staged crossing for right-turning traffic, with sufficient space for queuing of up to two cars. This significantly improves traffic operations for right-turning vehicle movements.

Figure 5-11 Marmion Avenue/Cook Avenue Intersection



The proximity of higher order roads including Whitfords Avenue and Marmion Avenue allows for efficient access to and from the Centre. The location of these roads and the high quality of access from the Centre implies that the majority of traffic demands will be accommodated within the regional road network and will minimise future local traffic issues.

5.3 District Access Strategy

Access to Whitford City Shopping Centre and adjacent retail and commercial land uses is provided from Whitfords Avenue, Endeavour Road and Banks Avenue. There is no direct access via Marmion Avenue. A total of ten access intersections are currently in operation for the shopping centre, making access convenient for visitors from all directions. These include:

Whitfords Avenue

- > 3-way main roundabout intersection west of Marmion Avenue
- > 4-way signalised intersection with Dampier Avenue into basement car parking
- > Priority controlled intersection east of Endeavour Road, restricted to left-in/left-out only

Endeavour Road

- > Minor priority controlled 3-way intersection south of Whitfords Avenue
- > Priority controlled 3-way intersection north of Banks Avenue into Endeavour Business Centre

Banks Avenue

- > Priority controlled 3-way intersection east of Endeavour Road into Endeavour Business Centre
- > 4-way priority controlled intersection opposite Venus Way, restricted egress to left-out only
- > 3-way priority controlled intersection east of Venus Way into basement car park
- > Minor priority controlled 3-way intersection west of Green Road
- > 3-way main roundabout intersection east of Green Road

5.3.1 Distributing Demand

The large number of available shopping centre access points tends to spread demand over a range of intersections. As a result, traffic impacts at individual access points are decreased. However, site observations suggest that some accesses attract a substantial proportion of the demand with resulting peak period delays and queuing for both inbound and outbound traffic. Any future expansion of the shopping centre would provide an opportunity to improve existing access intersections to increase capacity, reduce delays and minimise queuing. This may be through changes to access geometry or by improving wayfinding and directional signage to promote alternative access points.

5.3.2 Endeavour Road as a “Main Street”

While the Bunnings development remains in operation, the existing access on the west side of Endeavour Road will need to be retained. However, in the 2021 and 2031 scenarios, access along the west side of Endeavour Road is proposed to be consolidated to the northern end to allow access to a centrally managed car park intended for use by main street retail and entertainment uses. The location of this car park is designed to improve activation of the public street and a reduction in vehicle movements and speed along Endeavour Road.

Access to the shopping centre and commercial uses currently located off Endeavour Road are proposed to be relocated or closed to encourage vehicles to use alternative routes to major generators. This implies that the majority of vehicles will access commercial and retail uses via existing access points along Whitfords Avenue and Banks Avenue. Requirements for the accommodation of these additional trips have been considered in this assessment.

5.3.3 Access from Marmion Avenue

Direct access from the northbound carriageway of Marmion Avenue is proposed to be taken at a left-in only access road connecting to the Whitford City Shopping Centre car park. A full left turn lane from Marmion Avenue will be required to provide safe movement of traffic at this access point. It is noted the provision of this access will relieve the northbound left turn at the Marmion Avenue/Whitfords Avenue intersection as much of the shopping centre traffic will be provided with a more direct access to the area of the car park currently fed by the main access roundabout on Whitfords Avenue.

5.3.4 Whitfords Avenue Roundabout

The existing geometry at the roundabout access to Whitfords City Shopping Centre creates issues for traffic entering and exiting the Centre, as well as for traffic circulating in the car park. The existing geometry at this location requires a series of turns for inbound vehicle access to the site, as shown in Figure 5-12. The manoeuvring required by this geometry may increase risks for some drivers and therefore future development would seek to improve this layout, most likely through the introduction of a signalised intersection.

The provision of signals at this location would also provide a more convenient and amenable crossing point for pedestrians and would facilitate implementation of BRT, as discussed in Section 3.3.2.

It is accepted that the usually applied minimum spacing between signals is around 400 metres however any concerns can be overcome through signal coordination to provide good progression of traffic in a “green wave” along Whitfords Avenue in the dominant direction of traffic. The distance between intersections indicates that storage of traffic from minor arms along Whitfords Avenue, between major arm traffic phases, would not be of concern.

The provision of traffic signals would also permit the introduction of controlled pedestrian crossings within the intersection phasing. This would provide a safe at-grade alternative to the existing pedestrian underpass, and would therefore provide a more convenient, amenable access to the bus stops on the north side of Whitfords Avenue of what is currently available. Provision of this crossing point would lessen pedestrian severance caused by the width of the Whitfords Avenue road reserve and the undesirable use of pedestrian underpasses. Therefore the provision of a signal controlled intersection replacing the existing roundabout would provide a benefit to the area north of Whitfords Avenue by providing a safe crossing point to the Centre, while also encouraging use of the bus stops for services between Joondalup and Whitfords City.

A detailed design for this upgrade will need to be provided at the time of the next major shopping centre expansion.

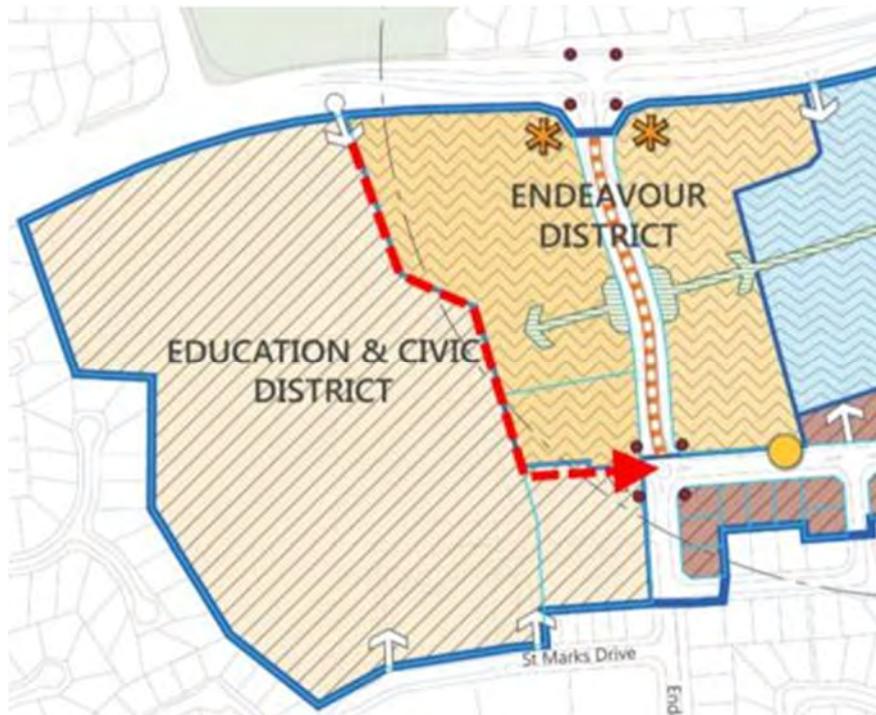
Figure 5-12 Roundabout Access via Whitfords Avenue



5.3.5 “Endeavour District” and “Education & Civic District”

Access to this area of the Centre is proposed to be taken from a link road between Endeavour Road and Whitfords Avenue, as indicatively shown on Figure 5-13 below.

Figure 5-13 Indicative Alignment of Access to “Endeavour District” and “Education & Civic District”



This link will provide rear access to the buildings located west of Endeavour Road, while also facilitating safer access for school children by bypassing the main street at Endeavour Road.

The proposed access at Endeavour Road is planned as a four-way signal controlled intersection in place of the existing three-way roundabout (with access driveway adjunct). This will have the benefit of incorporating pedestrian phases that will greatly improve safety for school access as well as improving bus access to Banks Avenue.

It is envisaged at this stage that access to and from Whitfords Avenue would be limited to left-in/left-out movements only. The left-in movement would be provided with a dedicated deceleration lane and would therefore not impede traffic flow along Whitfords Avenue. The absence of right turns will mean no traffic queuing on Whitfords Avenue while removing the possibility for right angle crashes either in to or out of the proposed link road.

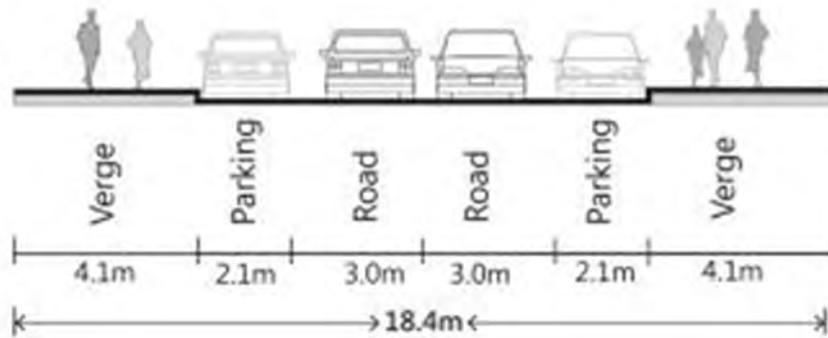
In terms of intersection spacing, it is considered that providing this intersection in the current configuration of Whitfords Avenue would result in a problematic left-right stagger junction. It is therefore proposed that the Whitfords Avenue median be extended to provide dual carriageway to Belrose Entrance. This would provide the opportunity to either prevent this right turn manoeuvre or construct a right turn lane from which it could safely take place.

Furthermore, it is recognised that the link road could be used as a rat-run to avoid the traffic lights at Whitfords Avenue/Endeavour Road. If the link road is left open to through traffic, this has the potential to encourage higher vehicle speeds. This is of particular concern given the road is to be used by school children. It is therefore recommended that Local Area Traffic Management (LATM) devices are installed along this link road. Such treatments include:

- > Entry statements – clear definition of the area as separate from the distributor road network;
- > Shared surface – clear priority for pedestrians over vehicles;
- > Speed control – signage, road humps, wombat crossings, raised intersections; and
- > Narrow road width – to reduce the perception of open space and increase side-friction.

The road is intended to serve an access function for the land uses it borders, in a low-speed environment. Liveable Neighbourhoods Access Street B is therefore used as a template for the road reserve, as shown below in Figure 5-14. Liveable Neighbourhoods indicates this road type would have a functional capacity of approximately 3,000 vehicles per day, although theoretical capacity would be determined by vehicle throughput at the intersections with Whitfords Avenue and Endeavour Road.

Figure 5-14 Access Street B



6 Private Vehicle Demands

6.1 Existing Traffic Volumes

Existing traffic flows have been identified from pneumatic tube counts undertaken for the seven day period between 30 July 2010 and 6 August 2010 at the following locations:

- > Whitfords Avenue west of Endeavour Road
- > Endeavour Road south of Whitfords Avenue
- > Cook Avenue west of St Mark's Drive
- > St Mark's Drive north of Cook Avenue
- > Endeavour Road north of Cook Avenue
- > Cook Avenue west of Marmion Avenue
- > Shackleton Avenue south of Cook Avenue
- > Wild Road south of Cook Avenue

These locations were chosen to create a cordon around the Whitfords Activity Centre. By incorporating information obtained from MRWA signalised intersection induction loops (SCATS), a comprehensive overview of traffic travelling through the area can be conducted.

SCATS data was sourced from Main Roads WA for the 30 July 2010 and 6 August 2010 period at the following signalised intersections:

- > Marmion Avenue/Whitfords Avenue
- > Marmion Avenue/Banks Avenue
- > Whitfords Avenue/Dampier Avenue

Turning movement volumes for these intersections are shown in Figure 6-1, including modelled values for those approaches not included in SCATS output. Turning movement volumes have been allocated according to a simple gravity method. That is, traffic has been allocated according to the prevailing direction of existing traffic flow. This simple model provides an indication of the existing traffic behaviour.

6.2 Design Hour Selection

In order to determine the weekday AM and PM Peak hours for the assessment, the total traffic volumes entering and exiting the intersections were surveyed for successive one hour increments and have been compared. The peak hours identified from this analysis are as follows:

- > AM Peak Hour 8:00am to 9:00am
- > PM Peak Hour 5:00pm to 6:00pm

Saturday peak hour movements were also obtained, but represented lower overall traffic flows. For the purposes of this assessment, Thursday has been chosen as a peak weekday, due to the impacts of existing and proposed retail uses in the Centre. The Thursday data obtained has been calibrated to an equivalent 20th design day by comparing historic door count data from the shopping centre. This represents an additional 10% trip generation above the observed data.

6.3 Design Year Selection

The WAC Economic Development Plan has provided an indicative development timeline for the proposed development considered in the Structure Plan which indicates construction of the final stages of the development will be completed by 2031 including residential uses, with substantial shopping centre upgrade works completed by 2016. Accordingly, a 2031 horizon year has been selected as the Ultimate Design Year for development for the operational assessment and a ten year design horizon of 2021 has been selected for the interim assessment.

For the purposes of this assessment, background growth rates are assumed to be negligible. Marmion Avenue may be considered at, or close to capacity and the Whitfords area is fully developed. While there will be ongoing intensification and infill, this is likely to represent only a minor addition to existing background volumes.

6.4 Key Intersection Performance

Intersection capacity analysis using the SIDRA computer package was undertaken for key intersections to assess the traffic operations under existing and future traffic demand scenarios.

SIDRA is a commonly used intersection-modelling tool by traffic engineers for all types of intersections. SIDRA outputs are presented in the form of degree of saturation, level of service, average delay and 95% queue. These characteristics are defined as follows:

- > Degree of Saturation: is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The Degree of Saturation ranges from close to zero for varied traffic flow up to one for saturated flow or capacity
- > Level of Service (LOS): is the qualitative measure describing operational conditions within a traffic stream and the perception by motorists and/or passengers. In general, there are 6 levels of services, designated from A to F, with Level of Service A representing the best operating condition (i.e. free flow) and Level of Service F the worst (i.e. forced or breakdown flow)
- > Average Delay: is the average of all travel time delays for vehicles through the intersection
- > 95% Queue: is the queue length below which 95% of all observed queue lengths fall

In order to fully assess the potential traffic impacts associated with the proposed development, both the weekday AM and PM peak periods were analysed. The SIDRA model for the existing scenario has been calibrated to 110% of the observed traffic behaviour on Thursday 5 August 2010, to reflect a 20th busiest design day. Future scenarios have used the calibrated data as a base, increasing traffic volumes by the appropriate scaling factor to represent demand growth.

The Level of Service results of SIDRA analysis for major intersections within the Centre is shown in Figure 6-1, for Thursday AM and PM peak periods.

LEGEND

- 000 AM Peak
- 000 PM Peak
- 000 Daily

LOS (Level of service)
A = highest level of service
F = the lowest level of service

- A AM Peak
- B PM Peak



6.5 Trip Generation

To assess the potential traffic impacts associated with the proposed Structure Plan, a traffic generation and distribution exercise was undertaken. The aim of this exercise was to establish the amount of traffic that could be generated by the intensification and to then quantify the effect that the additional traffic has on the surrounding road network.

Traffic generation rates for the proposed development have been extracted from information published in the Institution of Transportation Engineers Trip Generation Manual and from Cardno's experience with similar mixed-use precincts and shopping centres throughout Australia. Trips generated by school uses within the Whitfords Activity Centre are not expected to change and are therefore assumed to constitute part of the background traffic for the area.

It is noted that the residential dwelling volumes considered here are a worst case and it is understood that more recent planning entails a ultimate yield of 500-800 dwellings in addition to the existing residential lots.

Table 6-1 shows the theoretical trip generation for each land use category for the existing 2012 scenario. Note that this trip generation includes all transport modes.

Table 6-1 Development Trip Generation – 2012

Land Use	Estimated Development Yield	AM Peak Generation	PM Peak Generation	Daily Generation
Shopping Centre	53,000 sq.m	1,850	2,450	29,400
Bulk Retail	8,500 sq.m	170	220	2,700
Office	6,000 sq.m	130	150	950
Cinema	5,900 sq.m	60	330	4,200
Entertainment	3,600 sq.m	50	180	2,150
Residential	200 units	110	140	1,450
TOTAL		2,370	3,470	40,850

Table 6-2 Future Development Traffic Generation – 2021 Horizon

Land Use	Estimated Development Yield	AM Peak Generation	PM Peak Generation	Daily Generation
Shopping Centre	90,000 sq.m	3,100	4,150	49,900
Bulk Retail	15,500 sq.m	300	400	5,000
Office	16,000 sq.m	290	270	2,000
Cinema	7,400 sq.m	80	420	5,300
Entertainment	6,100 sq.m	80	300	3,650
Residential	700 units	340	400	4,350
TOTAL		4,200	5,940	70,200

For the 2021 interim time horizon, a high range maximum development scenario represents a potential trip generation increase of up to 70% within the Centre. However, it should be noted that a degree of self-containment and trip chaining is likely within the area, and therefore an increase of approximately 40% over the existing generation is anticipated, as discussed below in Section 6.6.

Table 6-3 Future Development Traffic Generation – 2031 Horizon

Land Use	Estimated Development Yield	AM Peak Generation	PM Peak Generation	Daily Generation
Shopping Centre	95,000 sq.m	3,300	4,350	52,650
Bulk Retail	15,500 sq.m	300	400	4,950
Office	21,000 sq.m	360	330	2,500
Cinema	7,400 sq.m	80	420	5,300
Entertainment	8,600 sq.m	110	430	5,150
Residential	1500 units	740	840	9,150
TOTAL		4,450	6,290	79,700

For the 2031 ultimate time horizon, a maximum development scenario represents a potential trip generation increase of up to 95% additional trips generated within the Centre. However, it should be noted that a degree of self-containment and trip chaining is likely within the area, and therefore an increase of approximately 50% over the existing generation is anticipated, as discussed below in Section 6.6.

6.6 Mixed-Use and Transport Mode Factors

There are a number of advantages associated with mixed use which tend to reduce the trip generation associated with on-site uses. The proximity of residential, commercial and retail uses promotes an internal walkable catchment that reduces the requirement for private vehicle transport. Similarly, a variety of retail and recreational uses in close proximity supports trip chaining – eliminating the need to make multiple car trips to fulfil daily tasks. These factors reduce vehicular trip generation by increasing pedestrian modes. Local employment opportunities for residents within the Centre and the immediate surrounds also contribute to lower trip generation rates.

The diversity in proposed land uses within the Centre will tend to promote a greater degree of self-containment, fostering a sense of community within the Structure Plan residents. This will also reduce the requirement for motorised transport modes and shift employees, residents and visitors towards active transport modes such as walking and cycling.

Table 6-4 shows the percentage of trips that might occur within the walkable catchment area. These trips can be reasonably expected to be completed by pedestrian modes, reducing the vehicular trip generation for the Centre. The number of pedestrian trips within the Centre is anticipated to increase from approximately 1,000 trips per day in 2012 to over 10,000 trips per day by 2031.

Table 6-4 Trip Chaining and Internal Catchment Reductions

Year	Retail	Commercial/Office	Recreation	Residential
2012	2%	0%	0%	5%
2021	5%	5%	10%	10%
2031	5%	10%	15%	15%

Table 6-5 shows the existing external mode share and the anticipated external mode share for the 2021 and 2031 horizon years, based on the variety and density of proposed land-uses. This includes only those trips entering or leaving the Whitfords Activity Centre.

Table 6-5 External Transport Mode Share

AM	2012	2021	2031
Car	92%	87%	82%
Bus	5%	8%	13%
Walk	2%	3%	3%
Bike	1%	2%	2%

By applying these factors to the theoretical trip generation, a figure for future private vehicle generation by the Centre can be obtained, as shown in Table 6-6.

Table 6-6 Future Private Vehicle Trip Generation Including Reduction Factors

Period	AM Peak	PM Peak	Daily
2021			
Retail	2,810	3,750	45,350
Commercial	240	220	1,700
Recreation	130	600	7,400
Residential	290	330	3,600
Total	3,470	4,900	58,000
2031			
Retail	2,670	3,560	45,250
Commercial	210	200	1,850
Recreation	110	510	7,350
Residential	240	280	6,450
Total	3,230	4,550	60,900

The result of mixed-use and intensified development is an increase in private vehicle trips significantly less than the gross theoretical values shown in Table 6-2 and Table 6-3 for 2021 and 2031 respectively. For the proposed Structure Plan, these benefits translate into a substantial reduction in anticipated vehicle trips from an almost 95% increase to an approximately 50% increase by 2031.

It should be noted that a significant proportion of the vehicle trips generated by the proposed Whitfords Activity Centre intensification will be a direct result of latent demand for additional amenity within the greater catchment area. These trips are currently being satisfied by activity centres more distant from their origins. By providing additional local amenity, the Centre can thereby reduce the distance local residents travel to reach their destination and reduce their vehicle kilometres travelled (VKT).

Forecast link volumes and Level of Service (LOS) for the adopted design years are shown in Figure 6-2 and Figure 6-3 for 2021 and 2031 horizons, respectively. These figures show that overall intersection performance is adequate, with the exception of the Marmion Avenue/Whitfords Avenue intersection which reaches overall LOS F during the PM peak by 2021, and would therefore be said to have failed.

The provision of additional right turn lanes on Marmion Avenue would return the intersection to a more manageable LOS E during the peak hour; this is considered acceptable on roads with tidal traffic flows.

Table 6-7 Key Intersection Performance

Intersection	Existing Form	Ultimate Form	Comments
Marmion Ave/Whitfords Ave	4-way Signals	4-way Signals	Additional length on Marmion Ave right turns required to achieve LOS E at 2031
Marmion Ave/Banks Ave	3-way Signals	3-way Signals	No improvements required for capacity (LOS D at 2031)
Whitfords Ave/Shopping Centre	3-way roundabout	3-way Signals	Improvements required to improve pedestrian amenity and to facilitate BRT by providing bus priority
Whitfords Ave/Dampier Ave/Shopping Centre	4-way Signals	4-way Signals	No improvements required for capacity (LOS D at 2031)

Intersection	Existing Form	Ultimate Form	Comments
Whitfords Ave/Endeavour Road	3-way Signals	3-way Signals	Endeavour Road will be reconfigured to "Main Street" (LOS C at 2031)
Endeavour Road/Banks Ave/ Proposed Link Road	3-way roundabout	4-way signals	Improvements required to improve pedestrian safety and to facilitate bus access to Banks Avenue

LEGEND

- 000 AM Peak
- 000 PM Peak
- 000 Daily

LOS (Level of service)
A = highest level of service
F = the lowest level of service

- A AM Peak
- B PM Peak

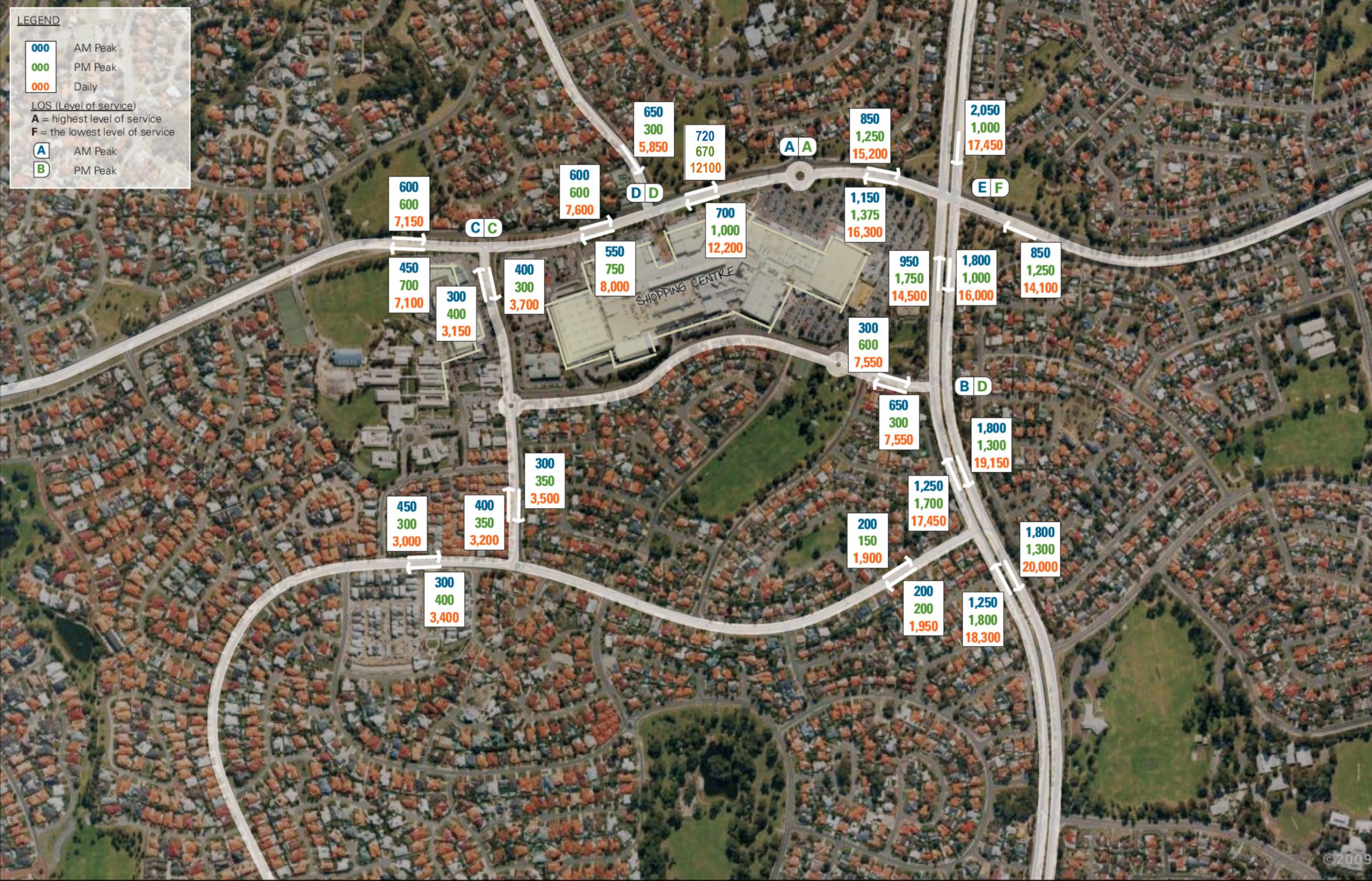


LEGEND

- 000 AM Peak
- 000 PM Peak
- 000 Daily

LOS (Level of service)
A = highest level of service
F = the lowest level of service

- A AM Peak
- B PM Peak



7 Car Parking Management

7.1 Planning Context and Strategic Vision

7.1.1 SPP 4.2 Activity Centres for Perth and Peel

SPP 4.2 recommends that there should be an upper limit set for the parking supply at an activity centre, a “parking cap”, encouraging shared and reciprocal parking and improving the efficiency of land use. It is therefore recommended that a parking cap be adopted for the Centre, agreed with the relevant approving authorities.

The policy also recommends taking account of the need for access and parking priority accorded to different users and modes including public transport, freight/delivery, people with a disability, bicycles, pedestrians and private cars; to this end, Cardno recommends the following broad parameters as a guide to parking provision for different user classes:

- > Motorcycles and bicycles in secure facilities: 5-10% of all bays
- > People with a disability: 5% of all bays
- > Parents with small children and prams: 1 in every 15 retail bays

7.1.2 Activity Centres Parking – Discussion Paper

In December 2011 the AITPM hosted a workshop at which a discussion paper was presented regarding the proposed parking strategy for activity centres in Perth and Peel. This parking strategy follows the need for managed parking at activity centres, recognised in SPP 4.2, and the gaps in policy identified in the preparation of parking management of activity centres such as Stirling, UWA/QEII and Bentley/Curtin. The discussion paper was intended to identify and refine parking management requirements for activity centres, with a view to making a new State Planning Policy.

The parking quantum across Perth is set to increase by 33% of current levels, representing a further 2000 hectares of largely free-to-use off-street parking. The discussion paper presented objectives for reducing the need to provide vast amounts of parking, as this in effect subsidises private vehicle travel.

The potential SPP is intended to recognise that better management of parking will promote efficient use of this parking resource, allowing significant savings in land, financial and other resources that would otherwise be devoted to parking supply. Good parking management will support attainment of broader goals such as congestion management and the move to balanced transport outcomes such as improved public transport provision. The objectives of the SPP are:

- > to set parking caps for activity centres with regard to external road capacity
- > ensure developers of activity centres commit to ongoing Parking Management and Travel Plans (PMTPs)
- > to price parking at activity centres and to invest collected revenue in active and sustainable transport modes

7.2 Future Parking Requirements

7.2.1 Land Use Parking Generation

For the proposed Structure Plan, retail, commercial and entertainment land uses will require a comprehensive PMTP to support them. To maximise efficiency, parking will require ongoing management and will need to be communally available. Through these mechanisms, car parking provision can be reduced, promoting more efficient use of land.

Car parking analysis has been undertaken which compares the 20th busiest design day to the observed occupancy for the existing uses. The Institute of Transportation Engineers publication *Parking Generation* has been used to provide indicative demands for the existing and future land use. In addition, the benefits of mixed-use development and a progressing shift to alternative modes have been considered.

Table 7-1 shows the calculated car parking requirements for the three development scenarios, with each land use type having exclusive parking allocation.

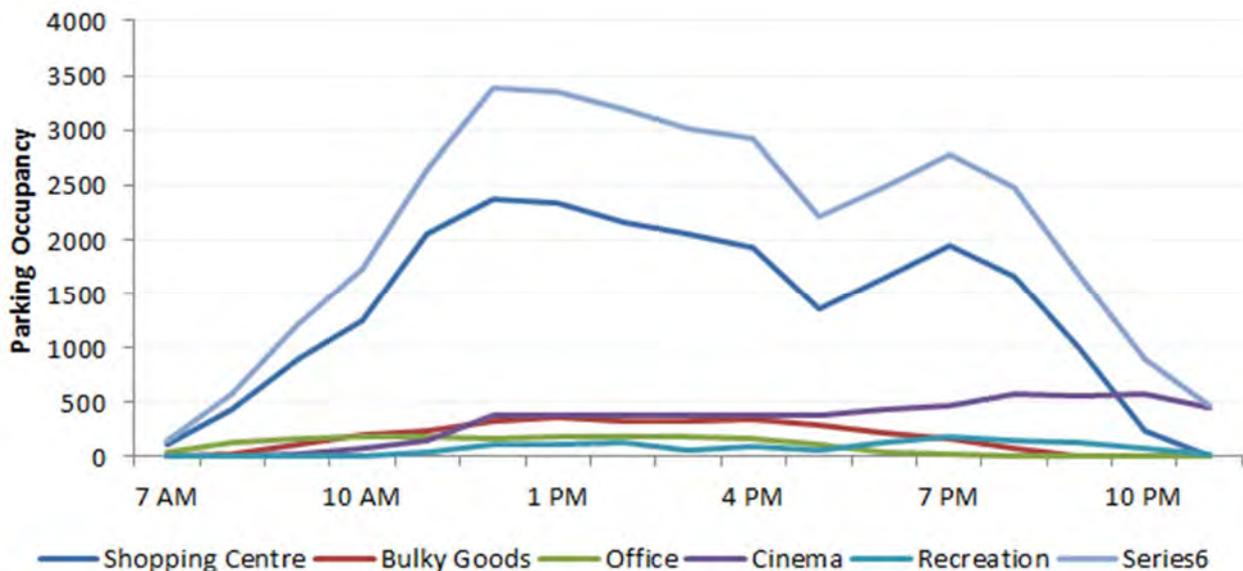
Table 7-1 Car Parking Requirements for Each Land Use

Year	2012	2021	2031
Shopping Centre	2,380	3,080	3,090
Bulky Goods	360	500	470
Office	190	350	410
Cinema	580	560	470
Recreation	180	230	280
Total	3,690	4,720	4,720

7.2.2 Shared Parking Considerations

The above analysis assumes that each land use has dedicated parking spaces. The proposed parking management system includes shared parking with reciprocal use of all bays. To determine the benefits of shared use, the occupancy profile of each land use has been modelled, and is shown in Figure 7-1. For existing land uses, a shared parking scenario suggests peak utilisation would occur at around 12 noon with approximately 3,380 bays occupied.

Figure 7-1 Mixed-Use Parking Profile (Existing Scenario)



Similar projections for shared parking are shown in Figure 7-2 and Figure 7-3, for 2021 and 2031 scenarios respectively. Peak occupancy according to the shared parking model is projected to be 4,375 bays in 2021 and 4,390 in 2031.

The shift from vehicle to traffic to more active and sustainable travel modes will result in a parking supply that will require no real further increase beyond 2021. Therefore for ease of calculation the calibrated future demand should be based on approximately 4,400 parking spaces.

Figure 7-2 Mixed-Use Shared Parking Profile (2021 Horizon)

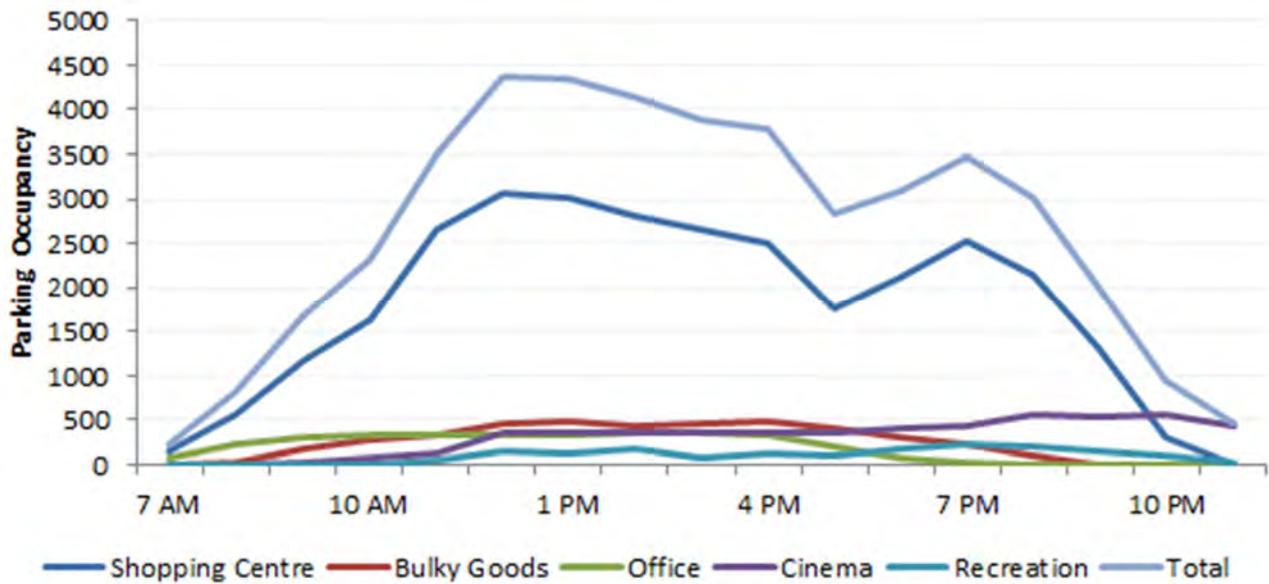
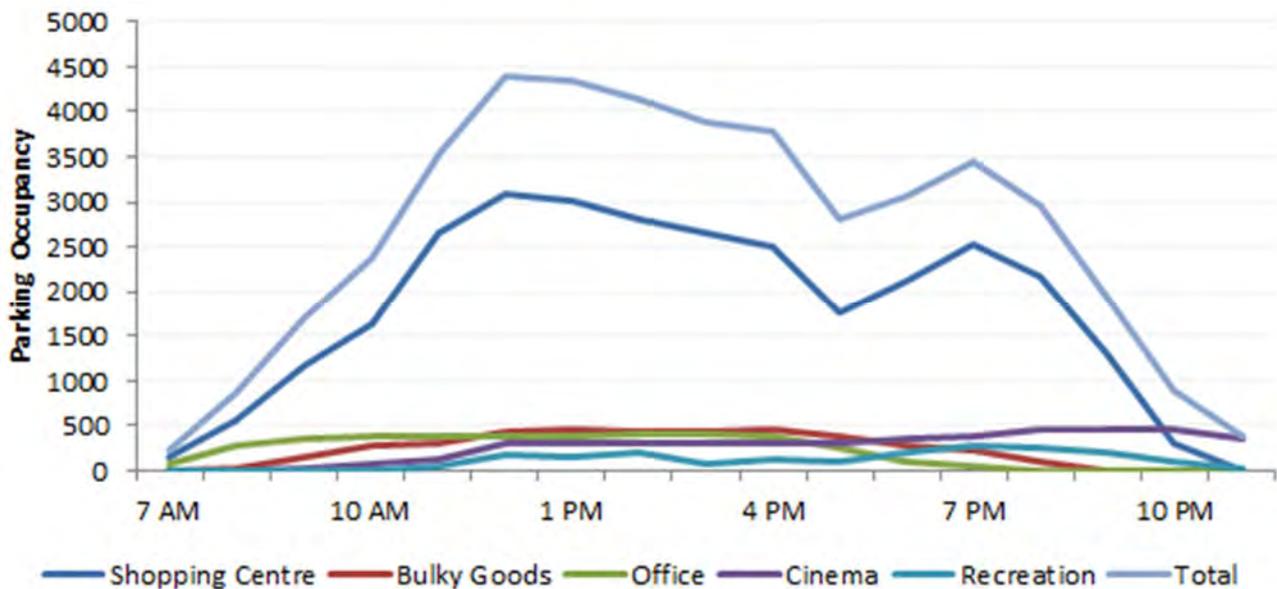


Figure 7-3 Mixed-Use Shared Parking Profile (2031 Horizon)



7.2.3 Parking Usage Calibration

Parking occupancy surveys were undertaken on Tuesday 3 August 2010, with a maximum occupancy of 2,350 bays, or 55% of the existing total. Factoring up to the design day indicates a projected utilisation for the 20th busiest day of 4,090 bays, based on existing trends.

This compares to an existing parking quantum of 4,165 bays, indicating a substantial amount of sharing between land uses, as is expected given the integrated nature of the existing shopping centre.

7.2.4 Proposed Whitford Activity Centre Parking Cap

The idea of a parking cap is based on the capacity of the external road system; in essence it is designed to reduce vehicle travel by restricting on-site parking and forcing excess demand (if any) to use modes of transport other than private vehicles.

A cap sets a goal for parking levels that is expected to be reached by a future date; this will depend on:

- > How development progresses on site
- > The mix of uses proposed
- > Prevailing traffic conditions on the external road network

Clearly assumptions have to be made regarding these points, and this makes the parking cap a somewhat dynamic process that can be revised as future development applications are submitted. In the case of Whitfords it is assumed that traffic growth will be negligible as both the local and wider areas are fully developed with only minor infill expected. Therefore the main drivers behind the parking cap are going to be the rate of development and the mix of land uses. Development is expected to be complete at 2031, and this should therefore be set as the year when the parking cap should be reached.

There is flexibility built into the capping systems in that, within reason, there are no real “parking rates”. This means that the full cap, or indeed a parking quantum in excess of the cap, can be provided in the years leading up to the year of completion. This is allowable, and in fact preferable in certain instances, as it allows the activity centre to remain well connected to the wider area and economically viable while sustainable travel links strengthen over time, such as public transport and walking/cycling facilities.

The projected future parking demand has been calculated using the existing trends identified above. By incorporating shared parking, equivalent to existing utilisation, the parking demand would be in the order of 5,300 spaces and will be sufficient to serve the projected demand at both the 2021 and 2031 horizons. This should provide sufficient parking to satisfy the design day criteria while minimising the impact on amenity for visitors, employees and residents.

7.3 Parking Location and Access

The majority of vehicles accessing the Centre will use off-street parking facilities and the remainder will be accommodated on-street within Endeavour Road and Banks Avenue. Parking for the Education & Civic District is expected to be contained on-site, satisfying its own parking demand, as is the current situation.

The location of parking and access to the retail precinct largely determines the traffic flow patterns on local streets. For this reason, the locations for existing massed car parking have been assessed to promote the use of major roads and to reduce traffic along local streets.

This is of particular importance along Endeavour Road which provides an opportunity to conceal the associated car parking behind properties, ensuring an active public street that includes street level retail and entertainment uses, with a focus on pedestrian amenity and legibility.

Therefore, existing accesses to the shopping centre at Endeavour Road would be closed, redirecting traffic onto Banks Avenue and Whitfords Avenue. Similarly, access to the proposed retail, commercial and entertainment uses on the western side of Endeavour Road would be relocated further closer to the ends of Endeavour Road to minimise traffic and improve pedestrian crossing safety.

7.4 Structure Plan Parking Strategies

On the basis of the above, the overall parking strategy for the Centre is as follows:

- > Provide an integrated set of land uses that will enable reciprocal parking, thereby reducing overall demand;
- > Transition towards permanent seven-day trading, assisting to spread trade, traffic and parking demand over the whole week;
- > Prepare, implement and commit to an overall and dynamic PMTP for Whitford Activity Centre, this may be supplemented by PMTPs for individual land uses to address their specific needs as necessary;
- > Provide a communal pool of car parking for all land uses as opposed to dedicated parking spaces;
- > Prioritise parking for particular user groups such as ACROD and parents with children;
- > Ensure the PMTP includes provision for the management of staff parking to ensure these users do not consume any prime parking.
- > Implement a parking cap for the overall Centre to ensure parking supply efficiently meets demand;
- > Locate parking to ensure major roads around the development are used in preference to lower order streets; and
- > Conceal parking in basements and behind or above street level properties to promote an active street environment.

8 Conclusions

Activity centres, such as that at Whitford City, present opportunities to achieve a sustainable mass of residential, employment, education and retail land uses, servicing both the immediate and broader catchments, supporting public transport, thereby reducing the need for travel into Perth CBD. There are a number of transport advantages of higher-density, mixed-use development:

- > Enables increased transport options including public transport services and active transport infrastructure;
- > Allows for a greater proportion of multiple-purpose trips and shorter travel distances, reducing traffic generation;
- > Differing parking demand profiles provide opportunities to improve the efficiency of on-site parking and to reduce the quantum of parking required; and
- > Promotes the development of pedestrian-friendly environments.

The proposed Whitfords Activity Centre (the Centre) will consist of a mix of uses including intensification of existing retail development and residential land uses and with the addition of mixed-use office/residential and recreation facilities. A proposed "main street" along Endeavour Road will consist of active street-level retail, office space, restaurants and entertainment designed to activate the public space with an emphasis on pedestrian activity over vehicle movement.

There are a number of advantages to a mixed-use development consisting of a diversity of synergistic land uses:

- > Employees and residents of the Centre enjoy the benefits of improved amenity, with local retail, restaurants, entertainment and employment opportunities;
- > Higher densities allow for improved transport options including public transport, pedestrian and cycling facilities that might otherwise be infrequent or inaccessible
- > Bi-directional trip distributions from mixed residential/commercial; development reduce the demands for public and private transport and the impact of these on the local road network by utilising existing spare capacity in the system;
- > The proximity of different land uses allows for a greater proportion of multiple-purpose trips, further reducing traffic generation;
- > Parking demand profiles differ between the various on-site uses, providing opportunities to improve the efficiency of on-site parking and to reduce the quantum of parking required; and
- > The combination of many different activities and land-uses promotes the development of pedestrian-friendly environments, thereby creating a communal space with inherent benefits to safety, legibility and amenity.

The Centre is already a focal point of retail activity, education and business. The location, maturity and existing characteristics of Whitfords City enable it to be readily expanded to achieve the intent of planning strategies. Transport connectivity within the Centre, local linkages and to the wider area is excellent, and infrastructure and services are provided for a variety of modes, including:

- > The Mitchell Freeway, and Whitfords Rail Station, is located 3km to the east of the centre
- > Whitfords Rail Station provides a major transport interchange point, including rail services, bus services, park and ride, kiss and ride and connections with the Principal Cycle Network,
- > The arterial route of Marmion Avenue, and sub arterial of Whitfords Avenue, bound the Centre to the east and north respectively.
- > To the south and west of the site, residential areas are connected to the centre by local distributors at Banks Avenue and Endeavour Road,
- > Regular bus services are currently provided on Marmion Avenue, Whitfords Avenue and Endeavour Road, connecting with Whitfords Station, as well as residential suburbs to the north and south
- > A potential future bus rapid transit station is identified at Whitfords City
- > Whitfords Ave, and Marmion Ave both provide cycling facilities while Endeavour Road is designated as a local cycling route

The Structure Plan for the development of Centre proposes an intensification of existing retail development and residential land uses together with the addition over time of mixed-use office/residential and recreation facilities.

Public Transport – Existing Bus Services

The subject area is located along several bus routes, connecting Whitfords, Joondalup and Warwick Stations. These buses feed the Northern Train Line and are essentially provided to serve commuters from residential developments in local suburbs rather than for recreational use. The focus is therefore on wide coverage, using residential streets rather than direct routes; this adds time to journeys and is somewhat inconvenient for those not using trains as part of their journey.

Due to the coverage and frequency of the bus services provided at present, the services are unlikely to provide significant opportunities to address the transport needs of the residents, students, workers and visitors of the area. Reflecting the network design and scheduling, the primary users of the existing services are likely to be commuters travelling to and from the Northern Train line.

Increased development as a result of the proposed structure plan will provide a critical mass of passengers, justifying the provision of a higher frequency, bi-directional bus service throughout the day. New or diverted existing services could be introduced to focus bus activity around the Centre. Consolidation and improvement of bus stopping facilities along Endeavour Road and Whitfords Avenue is proposed to minimise walk-times for all residents, employees and visitors to the area. This provides an opportunity to improve pedestrian connections across Whitfords Avenue and reduce crossing risks.

As an interim measure, provision of real-time travel information would assist in informing passengers of the next available services and when they should proceed to a bus stop. Located at strategic points throughout the developing centre and at bus stops, these would remain in place until bus frequencies are high enough that a “walk-on” service develops.

Through future improvements to public transport infrastructure and a renewed focus on attractive public transport provisions, connections to focal points in the structure plan and enhanced services, the proposed development will promote a more sustainable transport outcome.

Public Transport – Mass Transit

Currently Perth's sole means of mass transit is the suburban rail network. This is supplemented by a feeder bus system, as well as bus services between areas where the rail network does not have sufficient presence. Extending the rail system into the heart of selected suburbs would mean committing to a prohibitively expensive scheme of land acquisition and tunnels. The adopted solution is to use existing road space more effectively by providing rapid transit services utilising light rail transit (LRT) and bus rapid transit (BRT).

Whitfords has been identified as a potential location for a possible future Bus Rapid Transit (BRT) station. This plan to increase the frequency and coverage of public transport services presents significant opportunity for the Centre. BRT will provide convenient access for large numbers of passengers, including shoppers, staff and students, to visit the centre via sustainable modes. The development of the Centre will also result in a significant increase in the residential densities in the area, increasing potential patronage for the BRT. Whitfords Activity Centre Structure Plan should therefore enable the development of a vibrant and convenient, high frequency public transport node, positioned to appropriately reflect the development of the surrounding land uses and support the introduction of the possible BRT station and services in future.

To maximise a sustainable transport mode share for the Centre, high frequency bus services should be implemented to encourage greater use by the increasing working and residential population. This will support the growth of the Centre prior to the potential introduction of the BRT. These services should connect Whitfords to local and regional activity centres and deliver an integrated, efficient and legible transport network. Complimentary initiatives are also required in order to support increased public transport use, including consolidating bus stopping facilities along Endeavour Road and Whitfords Avenue, providing high quality supporting infrastructure and improving pedestrian connections. Through implementation of improved infrastructure and service levels, Whitfords Activity Centre could provide an exemplary standard of public transport delivery, achieving significant levels of patronage and mode share.

Active Transport

Within the Centre, pedestrian infrastructure is currently of low quality and poor connectivity. Improvements are recommended to contribute to a walkable community and includes additional pedestrian infrastructure including the construction of a comprehensive network of wide paths which will alleviate safety concerns and provide opportunities for local residents to walk through the neighbourhood. Provision of additional high-quality crossing points along Whitfords Avenue linking bus stops to existing and future land uses will improve legibility and safety for the community.

The development of a pedestrian-oriented permeable “main street” along Endeavour Road will create an attractive pedestrian environment and activate this area for communal use. Speed limiting design constraints will be used to enhance pedestrian safety and reduce traffic and will create a pedestrian oriented environment that will further increase and extend the active precinct. Limitations on access, including consolidation and removal of existing shopping centre and commercial access points along Endeavour Road, will further minimise traffic conflicts.

The large numbers of students moving across Endeavour Road, combined with the increased volume of vehicles during school peak periods, creates the potential for conflict. Discussions have taken place with representatives of St Marks Anglican Community School; this has resulted in proposed improvements to the safety of access across Endeavour Road by way of pedestrian phases at a four-way signalised intersection at Banks Avenue. While this will tend to restrict free access by pedestrians, it will fulfil its purpose by minimising pedestrian-vehicle conflict at this point

The location of the Centre so close to Marmion Avenue and the Mitchell Freeway provides opportunities such that cycling modes can be encouraged for both employees and residents. Improvements to the local bicycle network will increase the attractiveness of cycling, with all its inherent benefits to sustainability, health and fitness.

The WA Bicycle Network (WABN) includes cycling provisions along Marmion Avenue and Whitfords Avenue, however infrastructure is not provided consistently. In order to support increased accessibility for the Centre, significant improvements are recommended.

These improvements to the local cycling infrastructure would focus on eliminating gaps and providing opportunities for safe commuter cycling along Whitfords Avenue. This, combined with the promotion of a lower speed environment throughout the Centre would encourage cycling as an alternative transport mode.

Freight

The location of the subject area adjacent to Marmion Avenue and Whitfords Avenue provides excellent access for both existing and future freight movements. While these primarily take place outside of peak times, future intensification of retail and commercial land uses will have some minor impact on traffic operations. By restricting freight movements to the primary road network, local impacts will be minimised, whilst maintaining efficient access to the Centre.

Road Infrastructure

The proximity of higher order roads including Whitfords Avenue and Marmion Avenue allows for efficient access to and from the Centre without impacting adjacent residential areas. The location of these roads and the high quality of access from the Centre implies that the majority of traffic demand will be accommodated within the regional road network and will minimise future local traffic issues.

The large number of available shopping centre access points tends to spread demand over a range of intersections. The result is a theoretical reduction in traffic impacts at individual access points. However, site observations suggest that some accesses attract a substantial, unbalanced proportion of the demand during peak activity periods with resulting delays and queuing for both inbound and outbound traffic.

Changes to road infrastructure are likely to focus on improved pedestrian amenity and promoting communal use of the Endeavour Road ‘main street’. This includes modifications to the road cross-sections along Endeavour Road to promote lower operational speeds and improve pedestrian safety.

Direct access from the northbound carriageway of Marmion Avenue is proposed to be taken at a left-in only access road connecting to the Whitford City Shopping centre car park. A full left turn lane from Marmion Avenue will be required to provide safe movement of traffic at this access point. It is noted the provision of

this access will relieve the northbound left turn at the Marmion Avenue/Whitfords Avenue intersection as much of the shopping centre traffic will be provided with a more direct access to the area of the car park currently fed by the main access roundabout on Whitfords Avenue.

The existing roundabout intersection access to the Whitfords City Shopping Centre via Whitfords Avenue is proposed to be modified to a signalised form. This will increase the vehicular safety for vehicles accessing the Centre as well as providing an additional protected pedestrian crossing point across Whitfords Avenue.

Access to the education district is to be improved by providing a link road from and Whitfords Avenue connecting to Endeavour Road at a four-way intersection with Banks Avenue. The proposed link road will also provide access to the rear of Activity Centre buildings west of Endeavour Road. Local Area Traffic Management strategies are recommended to be implemented along the link road to provide a safe environment for access by school children.

Existing traffic volumes have been extracted from AADT counter information and MRWA SCATS traffic data. Forecasts of future development traffic have been undertaken and added to the existing background traffic. The road network has been assessed for the existing traffic during AM and PM peak periods as well as the future 2021 and 2031 *with development* scenarios. This analysis shows overall intersection performance is adequate, with the exception of the Marmion Avenue/Whitfords Avenue intersection which reaches overall Level of Service (LOS) F by 2021, and would therefore be said to have failed.

The provision of additional right turn lanes on Marmion Avenue would return the intersection to a more manageable LOS E during the peak hour; this is considered acceptable on roads with tidal traffic flows.

Car Parking Management

Visitor and employee arrival at the Centre is currently predominantly by private car. This results in an environment dominated by car movements and parking areas. A shift toward alternative travel modes, including bus, cycle and walking will allow the Centre to grow sustainably without being constrained by private car movements and deck car parking. It will still be important to accommodate private cars, however a more balanced approach is recommended.

A shift toward alternative travel modes, including buses, cycling and walking will allow the Centre to grow sustainably without being constrained by private car movements and deck car parking. It will still be important to accommodate private cars for convenience shopping, in particular, and other activities in the Centre which will continue to be accessed primarily by car. The transition to permanent seven-day retail trading will spread demand and further reduce heavy peaks in parking and traffic activity.

Short-term, managed on-street parking will be used to good effect along the 'main street' and adjacent nearby streets, in addition to high-quality at-grade and below-grade car parking throughout the Centre. The proposed intensified residential environment will require secure basement car parking, but opportunities for internal trip containment and increased public transport use will benefit residents by reducing their private vehicle transport requirements.

Whitfords Shopping Centre

Urban water balance assessment

Prepared for Westfield Pty Ltd

By Essential Environmental

November 2012



essential
environmental

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if not now...
land  water solutions
when?

1 INTRODUCTION

Essential Environmental were engaged to undertake a water balance to identify and quantify opportunities for efficiency and innovation in water servicing for the Whitfords Shopping Centre based on currently available information. The water balance provides an estimate of the various water demands in the study area with consideration of land use, resident and student populations, water consumption records (where available) and typical Perth water consumption information from the Water Corporation.

2 ASSUMPTIONS

The Whitfords Shopping Centre is an existing 'brownfield' site surrounded by existing urban (residential and commercial) land uses. This water balance assessment considers the existing and potential future water demands of the Shopping Centre and surrounds with increased commercial floor space as proposed by the draft Whitfords Activity Centre structure plan.

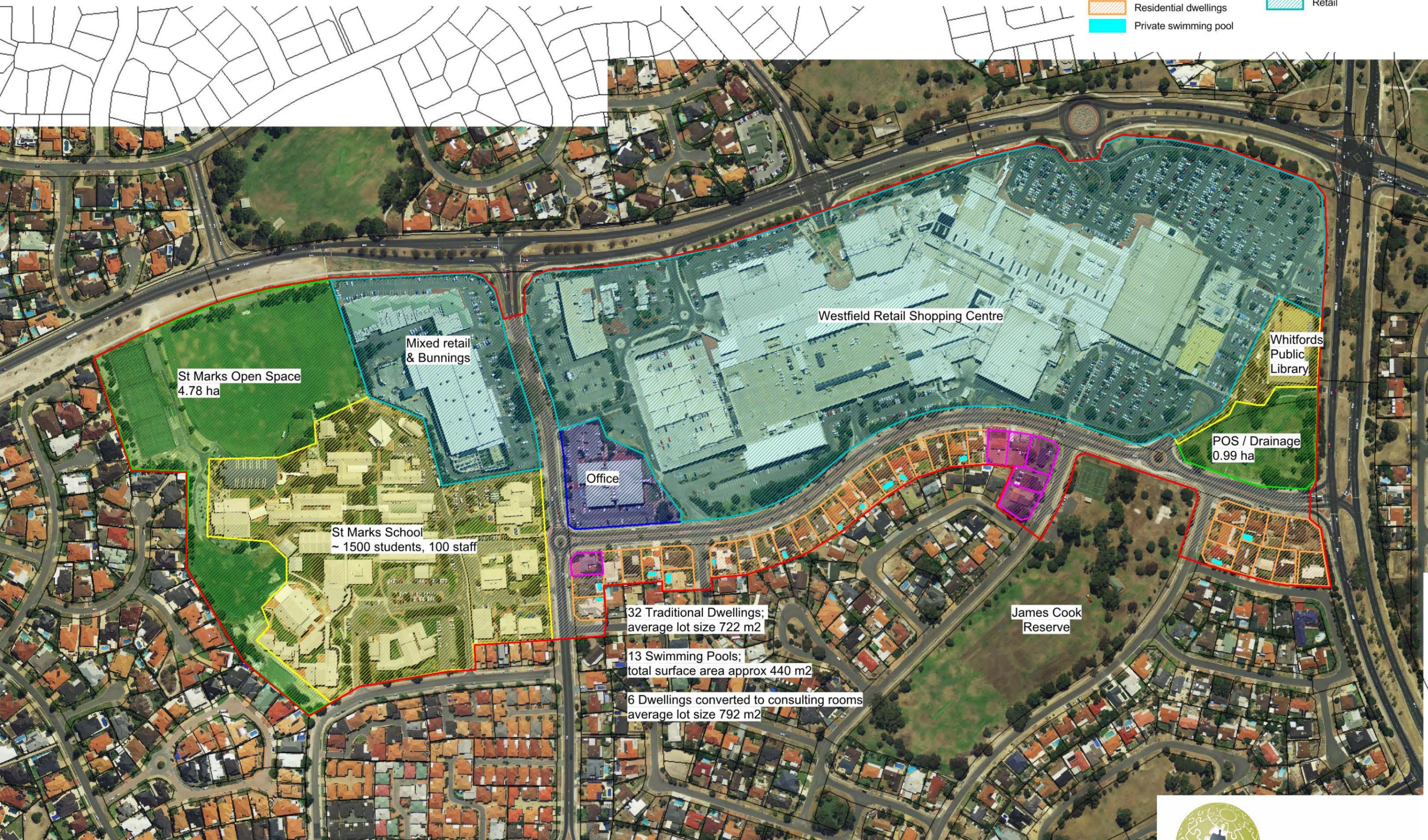
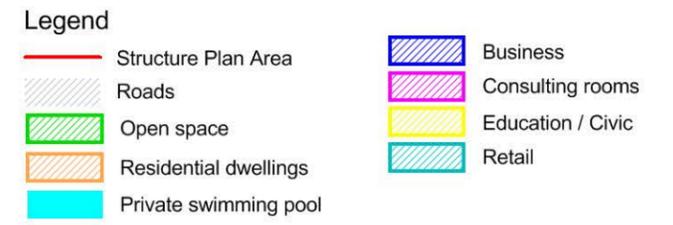
Because of the limited site-specific information available, a number of assumptions have been necessary in the development of this water balance. Water consumption figures per resident, retail and office floor space and per entity for hospitality were adopted from Water Corporation water demand information.

- Land use breakdown from Figure 1 with existing and future commercial gross lettable areas has been taken from Structure plan Figure 4.3.1.
- The future residential yield range has been estimated at 500-800 dwellings with approximately 80% Apartments (50 units per 1,500 m² lot) and 20% Townhouses (average lot size 200 m²)
- School's water usage is based on approximately ½ residential uses for each item excluding bath, laundry, washing machine and car washing.
- Whitfords Shopping Centre water usage adjusted from usual retail floor space rate to reflect actual water use summary provided (one hospitality site per 600 m² retail space).
- Predicted future water demands have been scaled from existing demands which have been adjusted to account for increased commercial floor space. This includes an assumption that the number of hospitality outlets will increase proportionally with the increase in retail floor space at a rate of approximately one outlet per 600 m² of retail floor space.
- To gain an understanding of the potential rainwater harvesting opportunity, the existing roof area of Whitfords Shopping Centre has been used in a preliminary rainwater tank analysis. This provides the rainwater source information presented in the water balance based on Wanneroo rainfall data and predicted water consumption, seasonally scaled based on actual water consumption information provided.

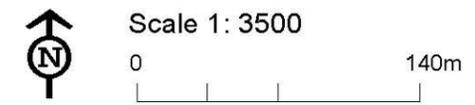
These assumptions can be modified, if required, in the future as further information is obtained and as proposals for both the shopping centre and surrounds are refined

Westfield - Whitfords City Structure Plan, Water Balance

Figure 1 - Existing Water Users



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3 EXISTING WATER SOURCES

Existing water used in the study area is sourced from the Water Corporation's integrated water supply scheme and from a number of privately operated groundwater bores.

3.1 Integrated water supply scheme

All 'in-house' water use within the study area is sourced from the Water Corporation's integrated water supply scheme. It is also assumed that residential gardens are irrigated with scheme water although there may be some private 'backyard' bores. These bores are exempt from licensing and cannot therefore be accurately quantified or controlled without site specific investigations.

3.2 Groundwater

Within the structure plan area there are three listed groundwater abstraction licenses:

- 22,000 kL/year held by Westfield
- 40,500 kL/year held by St Marks Anglican Community School
- 1,905,050 kL/year held by the City of Joondalup for multiple properties

Westfield holds a groundwater license for abstraction from the superficial aquifer with an allocation of 22,500 kL. This license expires in Dec 2020. This allocation amount is considered sufficient to irrigate 3.1 Ha of passive open space, verges and garden beds.

Saint Mark's Anglican Community School holds a license for abstraction from the superficial aquifer with an allocation of 40,500 kL. This allocation amount is considered sufficient to irrigate approximately 4 Ha of active and passive open space, verge and garden beds.

The City of Joondalup holds multiple groundwater licenses which are used for irrigation of Public Open Space adjacent to the site and in other parts of the City. There is one area of public open space covered by this license and located adjacent to the Westfield retail area. This open space also serves a drainage function and will need to be retained, although it could be re-landscaped. This area is approximately 1 Ha.

4 EXISTING WATER DEMANDS

A water balance has been prepared to estimate the existing water demands in the structure plan area. Demands have been calculated based on consumption rates for various uses as set out in attachment 1. Existing water demands are summarised in table 1.

Actual water meter records for the Whitfords shopping centre have been used as a guide to adjust generic consumption figures for retail areas. This adjustment enables the water balance to account for the variety of commercial operations that are present and include restaurants and fast food outlets as well as retail units. The average annual consumption recorded since 2008 and including the projected data for 2012 is 86,621 kL. However there has been a general reduction in consumption throughout the period of record and so it is considered that the water balance calculated consumption of 86,281 kL is a reasonable estimate.

Table 1: Water demands summary - existing

Water demand	Annual water demand (kL)	
	IWSS	Groundwater
Commercial (Whitfords Shopping Centre):	86,281	22,500
School (St Marks Anglican Community School):	29,234	40,500
Domestic:		
In-house	5,410	
Ex-house	4,563	
Other land uses:		
Commercial, office, consulting etc.	32,745	
Public open space		7,000
Totals	158,233	70,000

5 FUTURE WATER DEMANDS

The water balance was revised to estimate the future water demands in the structure plan area. Demands have been calculated based on consumption rates for various uses as set out in attachment 1.

Projected future water demands are summarised in table 2 and have been based on the following projected floor space information provided in the draft Whitfords Activity Centre structure plan:

- Whitfords shopping centre floor space has been increased to 95,000 m²
- Office/business floor space has been increased to 22,800 m²
- Other retail floor space has been increased to 11,500 m²
- Entertainment/recreation/Culture floor space has been increased to 16,000 m²

Table 2: Water demands summary - future

Water demand	Annual water demand (kL)	
	IWSS	Groundwater
Commercial (Whitfords Shopping Centre):	164,263	22,500
School (St Marks Anglican Community School):	29,234	40,500
Domestic:		
In-house (lower-upper yield projection)	47,509 - 73,194	
Ex-house (lower-upper yield projection)	19,080 - 27,365	
Other land uses:		
Commercial, office, consulting etc.	48,782	
Public open space		7,000
Totals	313,456	70,000

The most significant increases in water demand are for domestic users and the Whitfords Shopping Centre scheme water use. Opportunities to reduce the scheme water demand in new residential areas will need to be investigated separately and may include in-house and ex-house efficiency measures and use of alternative sources including; groundwater, rainwater and potentially wastewater recycling.

In considering the opportunities for water efficiency that are available to the Whitfords Shopping Centre it is useful to consider the Centre's water balance in further detail (table 3).

Table 3: Water demands detail – Whitfords Shopping Centre

Water demand	Annual water demand (kL)			
	IWSS		Groundwater	
	existing	future	existing	future
Commercial (Whitfords Shopping Centre):				
Bathroom basins	23,189	44,148		
Toilets	15,639	29,774		
Hospitality (Restaurants & fast food outlets)	47,452	90,340		
Ex-house			22,500	22,500
Totals	86,280	164,263	22,500	22,500

6 OPPORTUNITIES FOR THE WHITFORDS SHOPPING CENTRE REDEVELOPMENT

The cost of water is predicted (by the Water Corporation) to increase by 30% in the next 3 years and this growing cost is likely to be largely aimed at those on commercial agreements with the Water Corporation. There is an opportunity, with a large expansion/redevelopment project to consider the likely opportunities for recycling and/or better efficiency to minimise demand and make the most efficient use of all potential water sources.

The Water Corporation's integrated water supply scheme provides for all of the existing drinking water demands for the study area. In the future, drinking water demands will continue to be supplied in this way but the likelihood of the increasing cost of drinking water means that the redevelopment should consider opportunities to reduce drinking water demand. This can be done in two key ways, through increased efficiency; and/or the use of alternative 'fit-for-purpose' sources including groundwater, rainwater and recycled water.

Table 4 provides a breakdown of water demands that could be achieved through increased efficiency, and use of alternative 'fit-for-purpose' sources, suggesting that a saving of around 50,000 kL of scheme water per annum is possible.

Table 4: Increased efficiency water demands detail – Whitfords Shopping Centre

Water demand	Annual water demand (kL)			
	IWSS	Greywater	Rainwater	Groundwater
Commercial (Whitfords Shopping Centre):				
Bathroom basins	24,530		19,618	
Toilets		29,774		
Hospitality (Restaurants & fast food outlets)	90,340			
Irrigation (incorporating waterwise planting)				16,875
Totals	114,871	29,774	19,618	16,875

6.1 Water efficiency

The Superficial Aquifer in the Whitfords groundwater subarea is currently listed as over-allocated. This means that at the time of groundwater license renewal, (2020) there will be significant pressure to reduce demand and it is likely that the allocated amount will be reduced.

Future landscaping and irrigation designs for the retail area should be prepared with consideration of water sensitive urban design principles to maximise efficiency of the irrigation system and incorporate the use of waterwise gardens, rain gardens and smart irrigation systems to minimise water demand.

With the existing area of open space area landscaped so that at least 30% of the total area requires irrigation once per week and the remainder twice per week during the summer, a 15% reduction in irrigation demand to 19,125 kL could be achieved. Increasing the percentage of low irrigation demand planting (once per week) to 50% could achieve a 25% reduction to 16,875 kL.

Water efficient fixtures and fittings should be specified for use throughout the shopping centre, including within hospitality outlets, although there may be limited opportunities for water

efficiencies in these areas because of health and hygiene requirements. Because detailed information on the number and configuration of fixtures and fittings is not known at this time, the potential water savings to be achieved through increased water efficiency of fittings and fixtures cannot be quantified and so are not reflected in table 4.

6.2 Fit-for-purpose water sources

6.2.1 Greywater recycling

There is potential that greywater recycling could be used in bathrooms to recycle drinking water used in basins for subsequent use in toilets. These systems are readily available and could be installed relatively simply as a closed system within each bathroom. This could potentially reduce scheme water demand by a further 18% (29,774 kL)¹.

6.2.2 Rainwater harvesting

The Whitfords Shopping Centre has a substantial roof area that could be used for rainwater harvesting. Harvested rainwater could be used in public bathroom basins for hand washing purposes. Based on the existing roof area and a preliminary analysis of local rainfall, it is estimated that a 5,000 kL rainwater tank could reduce annual scheme water demand by 12% or 19,618 kL¹.

¹ based on demands estimated as a function of floor space

7 CONCLUSIONS AND RECOMMENDATIONS

Combining improved irrigation efficiency and use of fit-for-purpose water sources within the Whitfords Shopping Centre site alone could result in a reduced demand for both drinking water and groundwater in the future. The reduction in demand for drinking water could be as high as 30% which represents potential operational savings of around \$92,000 per year if drinking water is supplied by the Water Corporation at a rate of \$1.87/kL.

It is recommended that as proposals for the Whitfords Shopping Centre expansion are progressed, a more detailed water balance and integrated water management feasibility assessment is undertaken. This study would consider in further detail the following information to determine the feasibility of rainwater and greywater systems:

- Number of public bathrooms
- Number and type of hospitality outlets
- Projected seasonal visitor numbers
- Future roof area and rainwater collection suitability and efficiency
- Local rainfall data and rainwater tank sizing

In the context of the broader strategy area, it is recommended that the following water use and efficiency strategy could be included in the Activity Centre Structure Plan, wherever possible:

- Maximise efficiency of groundwater usage for irrigation of any additional open spaces through appropriate landscape design so that additional allocations are not required.
- Consider opportunities to reduce irrigation needs of existing open space areas through re-landscaping and hydrozoning, whilst retaining drainage and recreational functions of these areas.
- Consider opportunities to incorporate fit-for-purpose water supplies through development of a local scale water balance which investigates opportunities to:
- Recycle greywater from public bathroom basins for use in public toilets
- Harvest stormwater from roof areas for use in public bathroom basins
- Develop and implement design guidelines which require water use efficiency measures to be implemented in private and public open spaces and within developments, including
- water efficient fixtures, fittings and appliances, including WELS (Water Efficiency Labelling and Standards) rated flow controllers, toilets, taps and urinals;
- landscaping which incorporates the use of waterwise gardens, rain gardens, smart irrigation systems, and use of alternative sources of water;
- smart metres for water use in all new developments.
- Incorporate fit-for-purpose supply options and requirements into design guidelines

ATTACHMENT 1: URBAN WATER BALANCE WORKSHEETS



SITE WATER BALANCE CALCULATION
Water Use, Recycling and Disposal

Client **Westfield Shoppingtown Carousel Pty Ltd**
Site **Whitfords City**

Data Legend

Input		
Assumption		
500	Apartments 400	Townhouses 100
Information		
Calculation		

Description

Water balance for Whitfords City redevelopment

Because of the limited site-specific information available, a number of assumptions have been necessary in the development of this water balance. These assumptions can be modified in future as further information is obtained and as proposals for both the shopping centre and surrounds are refined:

- Water consumption figures per resident, retail and office floor space and per entity for hospitality were adopted from Water Corporation water demand information.
- Land use breakdown from Figure 1 with existing and future commercial gross lettable areas from Structure plan Figure 4.3.1.
- Schools water usage is based on approximately 1/2 residential use for each item excluding bath, laundry, washing machine and car washing.
- Whitfords Shopping Centre water usage adjusted from usual retail floor space rate to reflect actual water use summary provided (one hospitality site per 600 m retail space).
- Predicted future water demands have been scaled from existing demands which have adjusted to account for increased commercial floor space. This includes an assumption that the number of hospitality outlets will increase proportionally with the increase in retail floor space at a rate of approximately one outlet per 600 m² of retail floor space.

EXISTING DEMANDS

Demands have been calculated based on consumption rates for various uses as set out in attachment 1. Existing water demands are summarised in table 1. Actual water meter records for the Whitfords shopping centre have been used as a guide to adjust generic consumptions figures for retail areas. This adjustment enables the water balance to account for the variety of commercial operations that are present and include restaurants and fast food outlets as well as retail units. The average annual consumption recorded since 2008 and including the projected data for 2012 is 86,621 kL. However there has been a general reduction in consumption throughout the period of record and so it is considered that the water balance calculated consumption of 86,281 kL is a reasonable estimate.

FUTURE DEMANDS

The water balance has been revised to estimate the future water demands in the structure plan area. Demands have been calculated based on consumption rates for various uses as set out in attachment 1. Projected future water demands are summarised in table 2 and have been based on the following projected floor space information provided in the draft Whitfords Activity Centre structure plan:

- Whitfords shopping centre floor space has been increased to 95,000 m²
- Office/business floor space has been increased to 22,800 m²
- Other retail floor space has been increased to 11,500 m²
- Entertainment/recreation/Culture floor space has been increased to 16,000 m²

SHOPPING CENTRE DEMANDS (FUTURE)

The Shopping Centre demands are isolated on this sheet to consider opportunities for reuse (see BALANCE)

BALANCE (1)

With the existing area of open space area landscaped so that at least 30% of the total area requires irrigation once per week and the remainder twice per week during the summer; a 15% reduction in irrigation demand to 19,125 kL could be achieved. Increasing the percentage of low irrigation demand planting to 50% could achieve 25% reduction to 16,875 kL.

The Whitfords Shopping Centre has a substantial roof area that could be used for rainwater harvesting. Harvested rainwater could be used in public bathroom basins for hand washing purposes. Based on the existing roof area and a preliminary analysis of local rainfall (RAINWATER), it is estimated that a 5,000 kL rainwater tank could reduce annual scheme water demand by 12% or 19,618 kL.

There is also potential that greywater recycling could be used in bathrooms to recycle drinking water used in basins for subsequent use in toilets. These systems are readily available and could be installed relatively simply as a closed system within each bathroom. This could potentially reduce scheme water demand by a further 18% (29,774 kL).

RAINWATER

Preliminary analysis of ten years of local rainfall record (Wanneroo) with estimated existing roof space. It is estimated that a 5,000 kL rainwater tank could reduce annual scheme water demand by 12% or 19,618 kL. Increasing the size of the tank to 10,000 kL reduces annual scheme water demand by 14% or 23,339 kL.

Change since previous revision

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Revision	By	Checked	Date
0	HB		26/10/2012
1			
2			



Site Water Balance
Westfield Shoppingtown Carousel Pty Ltd: Whitfords City
Sheet 2: Future Water Demands and Waste Generation

Population / entity based water use

Domestic				
Type	800	Traditional	Apartments	Townhouses
No. households / units	32	640	160	
Population / household	2.736	1.552	1.765	
Occupancy %	100	100	100	
Effective Population	87.552	993.28	282.4	
Use				
Base Rate	Rate	Source	Waste	
Population Individual Usage				
kl/pp/day				
Shower	0.05	DW GW1	0.05	DW GW1
Kitchen sink	0.008	DW GW2	0.008	DW GW2
Bathroom basin	0.006	DW GW1	0.006	DW GW1
Dishwasher	0.003	DW GW2	0.003	DW GW2
Bath	0.001	DW GW1	0.001	DW GW1
Laundry trough	0.004	DW GW1	0.004	DW GW1
Toilet	0.033	DW BW	0.033	DW BW
Washing machine	0.042	DW GW1	0.042	DW GW1
Entity Usage				
kl/household/day				
Leaks	0.029	DW N/A	0.029	DW N/A
Car washing	0.002	DW N/A	0.002	DW N/A
Evaporative cooling	0.006	DW N/A	0.006	DW N/A
Other	0.004	DW N/A	0.004	DW N/A
Other				
kl/each/year				
Household / Communal Pools	90	DW N/A		
Entity based irrigation				
Number Lots	32	12.8	160	
Average Lot Area	m2 722	1500	200	
Irrigated area	% 25	25	25	
Irrigation event depth	mm 10	10	10	
Frequency (days/week)	days 2	2	2	
Season length	months 9	9	9	
Source	DW	DW	DW	
No. Irrigation Events	79.0	79.0	79.0	
Irrigation Demand	kl/year 4563.0	3792.0	6320.0	
Waste Streams				
Greywater Type 1 (GW1)	3294	37368	10624	
Greywater Type 2 (GW2)	352	3991	1135	
Black Water (BW)	1055	11972	3404	
Lost (N/A)	710	9584	2396	
Irrigation (IRR)	4563	3792	6320	
Overall Population / Entity Demand				
Drinking Water (DW)	kl/year 9973	66707	23879	
Non-Drinking Water (NDW)	0	0	0	
Rain Water (RW)	0	0	0	
Groundwater (GND)	0	0	0	
Total Demand	9973	66707	23879	
Total per capita demand	kl/pp/yr 114	67	85	
Per capita DW demand	114	67	85	

Commercial											
Office	Whitford City	Other retail	Light industrial	Entertainment/Rec/Cu	Health/community	School					
Usage/GLA	1	1	1	1	1	1					
GLA m2	0.8	1.08	1.08	0.94	1.08	1.08					
Source:	Water Corp	Water Corp	Water Corp	Water Corp	Estimated (as retail)	Estimated (as retail)					
Base Rate											
kl/pp/d kl/GLA/day											
0.025											
0.004 0.0026	21.48822	DW GW1	247.3383562	DW GW2	14.632	DW GW1	2.6578	DW GW1	20.357	DW GW1	
0.003 0.0012			120.8712329	DW GW1					20.612	DW GW1	
0.002									13.901	DW GW1	
0.0165 0.0008	14.49205	DW BW	81.51780822	DW BW	9.8679	DW BW	1.7924	DW BW	13.729	DW BW	
										0.025	DW GW1
										0.004	DW GW2
										0.003	DW GW1
										0.0015	DW GW2
										0	DW GW1
										0	DW GW1
										0.0165	DW BW
										0	DW GW1
kl/entity/day											
0.029	DW N/A	DW DW N/A	DW DW N/A	DW DW N/A	DW DW N/A	DW DW N/A	DW DW N/A	DW DW N/A	DW DW N/A	0.029	DW N/A
0.006										0	DW N/A
0.004										0.006	DW N/A
0.004										0.004	DW N/A
kl/each/year											
											DW N/A
m2											
		1									1
		30000									60000
		100									65
		11									12
		2									2
		8									10
		GNDW									GNDW
0.0		70.0									87.0
0.0		22500.0									40500.0
kl/year											
7849		44148									16363
0		90340									3214
5293		29774									9643
11		0									14
0		22500									40500
kl/year											
13152		164263									29234
0		0									0
0		0									0
0		22500									0
0		0									40500
13152		186763									69734
kl/pp/yr											
13152		186763									44
13152		164263									18

Public Irrigation					
	Passive POS	Active POS	Verge / Garden Beds	Other	Other
Total Area	m2 10000	0	0	0	0
Irrigated area	% 100	25	100	65	100
Irrigation event depth	mm 10	16	11	12	10
Frequency (days/week)	days 2	2	2	2	2
Season length	months 8	10	8	10	8
Source	GNDW	GNDW	GNDW	GNDW	GNDW
No. Irrigation Events	70.0	87.0	70.0	87.0	35.0
Irrigation Demand	kl/year 7000.0	0.0	0.0	0.0	0.0

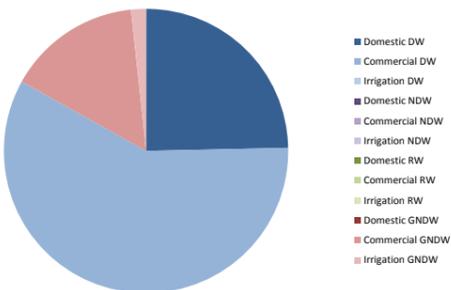
Other Commercial Uses						
	Base rate	Qty	Rate	Source	Waste	Comment
Hospitality	kl/year 570					0 WC Estimate
Laundry 30,000 kg/week	21915					0 Based on.... 30,000 kg/week x 14 L/kg

Demand Based Water Balance (kl/year)					
	Domestic	Commercial	Public Irr'	Total	%
Total Water Use	100559	305279	7000	412839	100.0%
Source Demand					
Drinking Water (DW)	100559	242279	0	342839	83.0%
Non-Drinking Water (NDW)	0	0	0	0	0.0%
Rain Water (RW)	0	0	0	0	0.0%
Groundwater (GND)	0	63000	7000	70000	17.0%
					100.0%
Waste					
Greywater Type 1 (GW1)	51286	89639		140925	34.1%
Greywater Type 2 (GW2)	5477	93555		99032	24.0%
Black Water (BW)	16431	59061		75492	18.3%
Lost (N/A)	12690	25		12715	3.1%
Irrigation (IRR)	14675	63000	7000	84675	20.5%
					100.0%

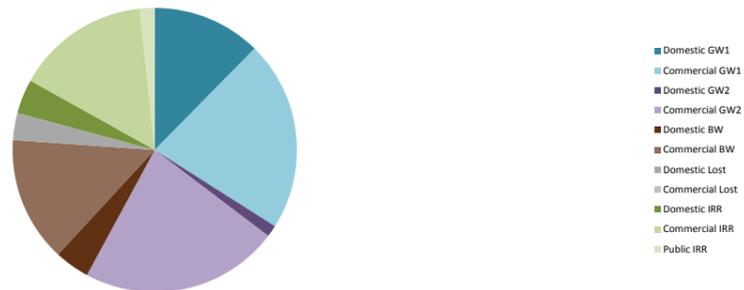
Performance	
Population	2969 people
POS Area	1 ha
Total Public Space Area	1 ha
Per Capita Domestic Total Water	139 kl/person/year
Per Capita Domestic Drinking Water	34 kl/person/year
POS Irrigation Rate	0.70 kl/m2/year
Total Public Space Irrigation Rate	0.70 kl/m2/year

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Sources Demand



Waste Streams





Site Water Balance
Westfield Shoppingtown Carousel Pty Ltd: Whitfords City
Sheet 3: Future Water Demands and Waste Generation (Shopping Centre only)

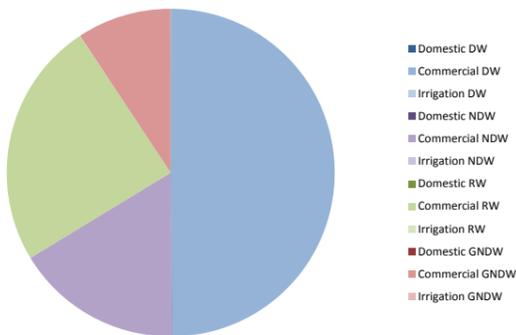
Population / entity based water use					Commercial									
Domestic					Commercial									
Type					Office	Whitford City	Other retail	Light industrial	Entertainment/Rec/Cu	Health/community				
No. households / units	500					1								
Population / household	2.736				Usage/GLA	1.08								
Occupancy %					GLA m2	95000								
Effective Population	0				Usage/GLA source	1								
Use	Base Rate	Rate	Source	Waste	Water Corp	Water Corp	Water Corp	Water Corp	Estimated (as retail)	Estimated (as retail)				
Population Individual Usage					Base Rate									
	kl/pp/day				kl/pp/d kl/GLA/day									
Shower	0.05				0.025									
Kitchen sink	0.008				0.004	0.0026								
Bathroom basin	0.006				0.003	0.0012								
Dishwasher	0.003				0.002									
Bath	0.001													
Laundry trough	0.004													
Toilet	0.033				0.0165	0.0008								
Washing machine	0.042													
Entity Usage					kl/entity/day									
	kl/household/day				0.029									
Leaks	0.029				0.006									
Car washing	0.002				0.004									
Evaporative cooling	0.006													
Other	0.004													
Other					kl/each/year									
	kl/each/year													
Household / Communal Pools	90													
Entity based irrigation					kl/year									
Number Lots														
Average Lot Area	m2													
Irrigated area	%													
Irrigation event depth	mm													
Frequency (days/week)	days													
Season length	months													
Source														
No. Irrigation Events		0.0	0.0	0.0										
Irrigation Demand	kl/year	0.0	0.0	0.0										
Waste Streams					kl/year									
	kl/year													
Greywater Type 1 (GW1)		0	0	0										
Greywater Type 2 (GW2)		0	0	0										
Black Water (BW)		0	0	0										
Lost (N/A)		0	0	0										
Irrigation (IRR)		0	0	0										
Overall Population / Entity Demand					kl/year									
	kl/year													
Drinking Water (DW)		0	0	0										
Non-Drinking Water (NDW)		0	0	0										
Rain Water (RW)		0	0	0										
Groundwater (GND)		0	0	0										
Total Demand		0	0	0										
Total per capita demand	kl/pp/yr	#####	#####	#####										
Per capita DW demand		#####	#####	#####										
Public Irrigation					kl/year									
Total Area	m2	0	0	0										
Irrigated area	%	100	100	100										
Irrigation event depth	mm	10	10	11										
Frequency (days/week)	days	2	1	2										
Season length	months	8	8	8										
Source		GNDW	GNDW	GNDW										
No. Irrigation Events		70.0	35.0	70.0										
Irrigation Demand	kl/year	0.0	0.0	0.0										

Other Commercial Uses						
	Base rate	Qty	Rate	Source	Waste	Total
	kl/year		kl/year			kl/year
Hospitality	570					0
Laundry 30,000 kg/week	21915					0
						Based on... 30,000 kg/week x 14 L/kg

Demand Based Water Balance (kl/year)					
	Domestic	Commercial	Public Irr'	Total	%
	kl / year	kl / year	kl / year	kl / year	
Total Water Use	0	181138	0	181138	100.0%
Source Demand					
Drinking Water (DW)	0	90340	0	90340	49.9%
Non-Drinking Water (NDW)	0	29774	0	29774	16.4%
Rain Water (RW)	0	44148	0	44148	24.4%
Groundwater (GND)	0	16875	0	16875	9.3%
Waste					
Greywater Type 1 (GW1)	0	44148		44148	24.4%
Greywater Type 2 (GW2)	0	90340		90340	49.9%
Black Water (BW)	0	29774		29774	16.4%
Lost (N/A)	0	0		0	0.0%
Irrigation (IRR)	0	16875	0	16875	9.3%
					100.0%

Performance		
Population	1	people
POS Area	0	ha
Total Public Space Area	16	ha
Per Capita Domestic Total Water	181138	kl/person/year
Per Capita Domestic Drinking Water	0	kl/person/year
POS Irrigation Rate	#DIV/0!	kl/m2/year
Total Public Space Irrigation Rate	0.00	kl/m2/year

Sources Demand



Waste Streams





Site Water Balance
Westfield Shoppingtown Carousel Pty Ltd: Whitfords City
Sheet 4: Recycling and Disposal Scenario 1

Non Drinking Water Generation			Rainwater and Groundwater Sources			
Waste Type	Generation (kL/yr)		Apartments 0	Townhouses		
	Calculated	Adopted				
Domestic Greywater Type 1	0	0		NDW	Design Rainfall	mm/yr 604
Commercial Greywater Type 1	44,148	44,148		NDW	Catchment	m2 56000
Domestic Greywater Type 2	0	0		Sewer	Reuse efficiency	% 65
Commercial Greywater Type 2	90,340	90,340		Sewer	Volume of rain water	kL 21,986
Domestic Blackwater	0	0		Sewer	Available Groundwater	kL/yr 22,500
Commercial Blackwater	29,774	29,774		Sewer	Available Drinking Water	kL/yr 120,000
NDW Volume	44,148	44,148				
On-site disposal	0	0				
Untreated Sewer Volume	120,115	120,115				

Source Availability / Distribution

Non potable demand allocation

Source	Primary Demand (kL/yr)		Available	Primary Supply	Excess Demand	Backup Source	Backup Demand	Backup Supply	Shortfall
	Calculated	Adopted							
DW	90,340	90,340	120,000	90,340	0	DW	22,163		
NDW	29,774	29,774	44,148	29,774	0	DW	0	0	0
RW	44,148	44,148	21,986	21,986	22,163	DW	0	0	0
GNDW	16,875	16,875	22,500	16,875	0	DW	0	0	0

Actual supply volumes

Resource	Demand	Supplied	Excess	
Drinking Water	90,340	112,503	7,497	68%
Non-Drinking Water	29,774	29,774	14,374	18%
Rain Water	44,148	21,986	0	13%
Groundwater	16,875	16,875	5,625	10%
	181,138	164,263		

Excess Non-Drinking Water

Total Disposal	14,374	kL/year	
Average Disposal	39	kL/day	
Storage Volume	0	kL	
Rainfall Runoff Coefficient	0.1	mm/mm	0.1 mm/mm
Daily Duration of Irrigation	3	hr/day	
Effective EVT (% pp-evt)	80	%	
Infiltration Rate	0.5	mm/hr	0.5 mm/hr
Irrigated Area	0	m2	0 m2
Infiltration potential	0	kL/day	0 kL/day

<u>Waste Water Balance</u>		ML	%
Recycled NDW		29,774	18%
Treated NDW Offsite Disposal		0	0%
Untreated Offsite Disposal		29,774	18%
		14,374	9%
		120,115	73%
		134,489	82%

Month	Days	PP-EVT mm	Rainfall mm	Runoff mm	PP-EVT mm	Rainfall mm	Runoff mm	PP-EVT mm	Rainfall mm	Runoff kL	Infiltration Capacity kL	Potential EVT kL	Potential Disposal kL	WW Storage kL	
Jan	31			0				0	1	4293	0	0	0	0	
Feb	28			0					1	0	0	0	0	0	
Mar	31			0						0	0	0	0	0	
Apr	30			0						0	0	0	0	0	
May	31			0						0	0	0	0	0	
Jun	30			0						0	0	0	0	0	
Jul	31			0						0	0	0	0	0	
Aug	31			0						0	0	0	0	0	
Sep	30			0	0	0.7	2908	0	0	0	0	0	2908		
Oct	31			0	0	0.8	3434	0	0	0	0	0	3434		
Nov	30			0	0	0.9	3739	0	0	0	0	0	3739		
Dec	31			0	0	1	4293	0	0	0	0	0	4293		
Daily Average Factor						0.3									
Disposal Balance						14374		0		1		4293		0 14374	
						%		100%		0%		0%		30%	
												0%		100%	

Site Water Balance
Westfield Shoppingtown Carousel Pty Ltd: Whitfords City
Sheet 5: Rainwater Supply Efficiency

Rainfall Data

Source **Wanneroo**
 Reference **9105**

Date	Rainfall mm
1/01/1987	0
2/01/1987	0
3/01/1987	0
4/01/1987	0
5/01/1987	0
6/01/1987	0
7/01/1987	0
8/01/1987	0
9/01/1987	0
10/01/1987	0
11/01/1987	0
12/01/1987	0
13/01/1987	0
14/01/1987	0
15/01/1987	0
16/01/1987	0
17/01/1987	0
18/01/1987	0
19/01/1987	0
20/01/1987	0
21/01/1987	0
22/01/1987	0
23/01/1987	0
24/01/1987	0
25/01/1987	0
26/01/1987	0

Catchment / Storage Properties

catchment area **56000** m²
 catchment IL **0.5** mm
 effective storage vol **5000** kL
 initial storage **1000** kL

Irrigation demand

Total Area **0** m²
 Irrigated area **50** %
 Irrigation event depth **10** mm
 Irrigation event volume **0** kL
 Frequency (days/week) **2** days
 Season length **6** months

In-house demand

Annual Demand **44148** kL

Month	Factor	Days	kL/day
Jan	1	31	161.4
Feb	0.9	28	145.3
Mar	0.8	31	129.1
Apr	0.7	30	113.0
May	0.6	31	96.9
Jun	0.5	30	80.7
Jul	0.5	31	80.7
Aug	0.6	31	96.9
Sep	0.7	30	113.0
Oct	0.8	31	129.1
Nov	0.9	30	145.3
Dec	1	31	161.4
Daily Av	0.7	Check	44148.2

Irrigation Schedule

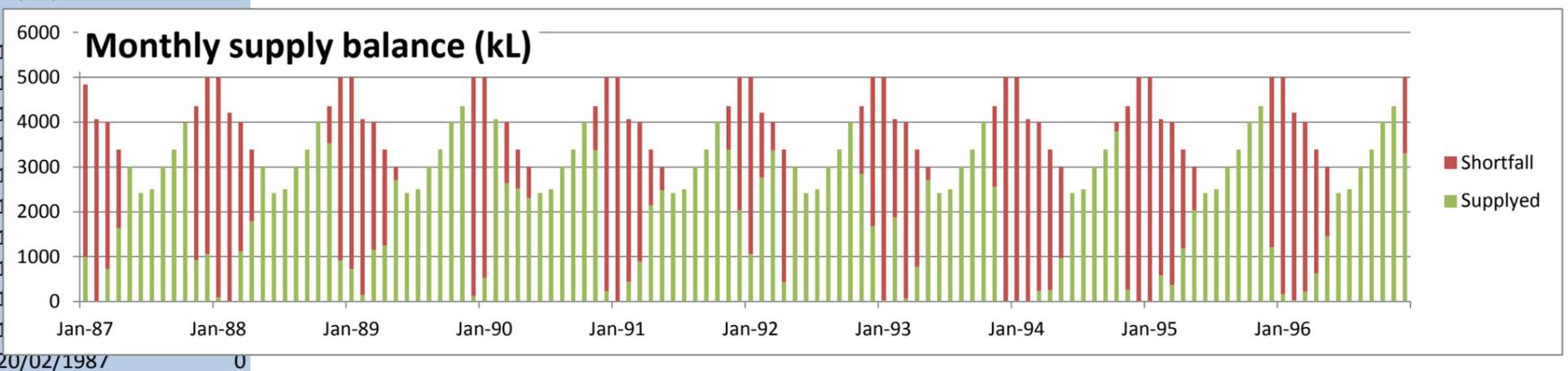
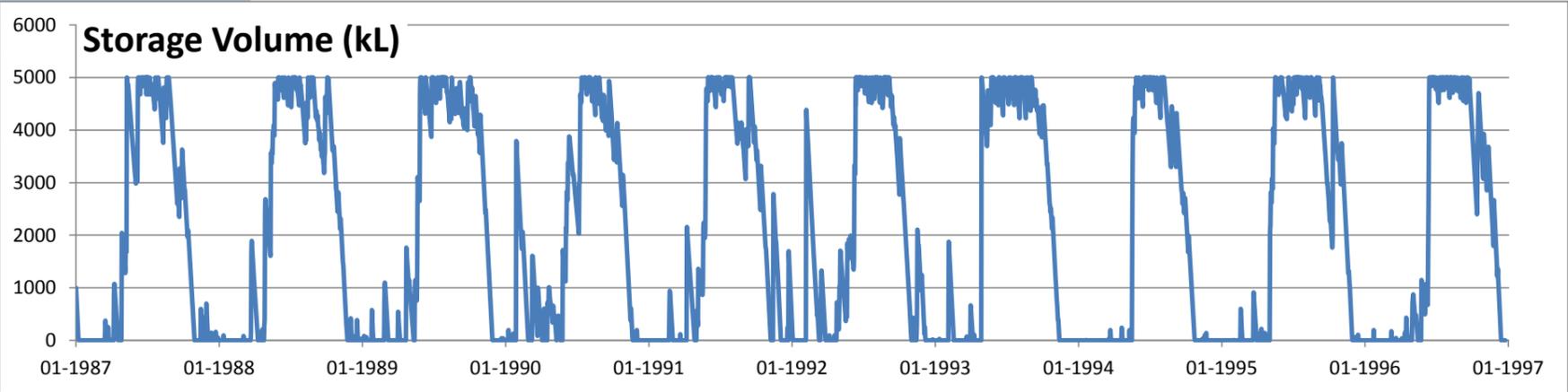
Month	Day	Day	
Jan	TRUE	Mon	TRUE
Feb	TRUE	Tues	FALSE
Mar	TRUE	Wed	FALSE
Apr	FALSE	Thurs	FALSE
May	FALSE	Fri	TRUE
Jun	FALSE	Sat	FALSE
Jul	FALSE	Sun	FALSE
Aug	FALSE		
Sep	FALSE		
Oct	TRUE		
Nov	TRUE		
Dec	TRUE		

Model Results

	Total (kL / 10 years)	
Balance	-1000	0%
Total Rainfall	434526	
Catchment Loss	21885	5%
Total Runoff	412642	
Overflow	159611	37%
Captured and Reused	254031	58%

Use	Demand	Supplied	Shortfall
Irrigation	0	0	0
In-House	441757	254031	187726
Total	441757	254031	187726

Capture efficiency **58%**
 Supply reliability **58%**



20/02/1987 0



essential 
environmental

Client: Westfield Pty Ltd

Report	Version	Prepared by	Reviewed by	Submitted to Client	
				Copies	Date
Preliminary draft	V1	HBr	SSh	Electronic	26 Oct 2012
Final report	V2	HBr	SSh	Electronic	30 Oct 2012
Revised residential yields	V3	HBr	SSh	Electronic	1 Nov 2012

Essential Environmental

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Our Ref: E12036-001
Contact: Ronan Doyle

5 November 2012

Westfield Group
PO Box 140
INNALOO WA 6918

Attention: Brad Osborne

Dear Brad,

SERVICING REPORT FOR WHITFORDS CITY DEVELOPMENT, HILLARYS

This servicing report has been prepared by Cardno (WA) Pty Ltd for Westfield Group for the proposed expansion of the Whitfords City Shopping Centre and surrounding area in Hillarys, WA.

Westfield group intend on developing the subject site to ultimately comprise:

- The expansion of the Westfield Whitfords City Shopping Centre to accommodate approximately 95,000 m² of “retail” floor area by 2031.
- The expansion of the existing “Entertainment” uses from approximately 9,500 m² to 16,000 m².
- An increase in the “Other Retail” land uses to approximately 11,500 m².
- Consistent increase in “Office” land uses from almost 6,000 m² at present to approximately 22,800 m² at ultimate build out.
- Intensification of residential dwelling numbers resulting in an additional 1,100 dwellings by 2031, providing homes for approximately 2,200 people in a medium-rise mixed-use environment. This has been considered as a worst case and it is understood that more recent planning entails a yield of 500-800 dwellings in addition to the existing residential lots.

This servicing report is based on the provision of the following service areas at the subject site:

- Gas (ATCO)
- Power (Western Power)
- Communications (Telstra)
- Water and Sewer (Water Corporation WA)
- On Site Drainage Requirements (City of Joondalup)

The site is situated in the City of Joondalup and is located to the south west of the Marmion Avenue and Whitfords Avenue intersection. Both the Banks Avenue and

Cardno (WA) Pty Ltd
ABN 77 009 119 000

11 Harvest Terrace
West Perth WA 6005
Australia

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Endeavour Roads traverse the activity centre structure plan area. It is bordered by residential land uses on all sides, as depicted by the aerial photo of the area and surrounds which was sourced from Nearmaps (image dated 30 June 2012) included in **Appendix A**.

Cardno have requested servicing information from the above authorities to ascertain the extent of upgrades required to facilitate the further development within the activity centre structure plan area. The results of which are detailed below.

Gas

ATCO gas own and maintain the mains gas reticulation in the area.

Cardno have liaised with Marc Stubbs, Business Development Representative from ATCO, regarding the proposed development within the activity structure plan area. Marc explained that medium pressured gas mains are present in the roads which abut the site. Without details of any potential additional load ATCO cannot determine if this existing infrastructure has sufficient capacity to service any new development of the site. However, it was noted that the presence of a high pressure steel trunk main in Whitfords Ave should provide the capacity to upgrade the local network if required.

Appendix B illustrates the existing gas reticulation located around the area, as provided by ATCO.

Cardno also spoke with Alinta to ascertain whether or not the existing meters would need to be upgraded. Alinta suggested that they would need current meter numbers or account numbers to check what the current usage is. It is likely that the meters will have to be upgraded but to what extent cannot be determined at this stage due to the lack of information as to what appliances are to be installed in the new development.

Power

Western Power is the governing authority for the management and production of power within Western Australia.

Cardno have engaged Western Power to complete a Feasibility Enquiry for the proposed development. This study will provide information on the current capacity of the network information and any upgrade requirements for the existing power infrastructure to the proposed development. Western Power have charged \$315 + GST for the Feasibility Enquiry.

Western Power does not confirm or allocate power supply to proposed developments until a Feasibility Study has been completed. Feasibility Studies provide a cost to the developer to upgrade the infrastructure to the loads required. Feasibility Studies can take between 3-4 weeks to complete and cost around \$1,500.

As it is most likely that the development will be staged, it is expected that any additional substations could be also implemented through a staged approach. This will, in effect, spread the cost of any major upgrades over the course of the development timeframe.

The main issue with regard to power is capacity. Any new substations or cabling should not pose a great deal of trouble. It has been anticipated that if the development were to proceed in the next year or two it would not be feasible as Western Power would not have the capacity to support such a large development. However, due to the ultimate build out not due to occur until 2031, Western Power will have anticipated the additional load and will have planned for such a development.

Telecommunications

Existing

As presented in Cardno plan E12036-001-SK2, **Appendix C**, Telstra currently service the existing shopping precinct through 2 x 200 leader cables. Telstra have stated that this infrastructure has potential capacity to cater for 400 connections at present. At this stage they cannot say for sure how many connections are in use, dead or available.

If the expansion necessitates in excess of 400 connections (including the existing connections) an additional leader cable will be needed. Telstra have made it aware that this additional cable, should it be required, can be pulled through the existing pit and pipe network. This would significantly reduce the scope of the works required.

With regard to the proposed residential component of the development, a much larger amount of cabling and trenching will be required. It differs from the shopping centre in that there is not one central leader cable that can service all the residences. Each dwelling will require a separate cable and connection which would increase costs due to traffic management as well as the material and trenching expenses.

Proposed

If the development is to proceed, it must be registered on Telstra's Smart Community website (www.telstrasmartcommunity.com). Telstra require a minimum of 3 months notice for all applications. In addition, accurate trench open dates and electrical plans must be supplied with all applications. This would enable Telstra to commence investigations into servicing the new development.

Water

Water Corporation Western Australia is the governing state authority regulating the production, storage and distribution infrastructure for water in Western Australia.

Cardno have spoken to Frank Kroll, Senior Development Planner with the Water Corporation, regarding the proposed development. Frank noted that the area has trunk mains that traverse through. DN610s are located along Whitfords, Marmion & Dampier Ave and are fed by a DN760 from the east. The major reticulation mains are a DN220 along Cook Ave and Endeavour Drive, and a DN150 along Banks Ave.

Apart from perhaps reticulation upgrades, the development will be able to be supplied.

Further information regarding the projected demand for water is available through the Water Balance Report prepared by consultants Essential Environmental.

Wastewater

Water Corporation Western Australia is the governing state authority regulating the production, storage and distribution infrastructure for wastewater in Western Australia.

As above, Cardno spoke to Frank Kroll from the Water Corporation, who detailed that wastewater collection in the area is via two schemes – Whitfords North and Whitfords South. The North is collected at the Damier Ave Pump Station and pumped via a DN305 pressure main to a DN610 access chamber N0079 between Madana & Odahoe Place. The South is collected via DN225 and then DN300 to Mawson Cres pump station and then via a DN305 pressure main to a DN610 access chamber N109 near Jardine Pl. The development will be able to be serviced; however reticulation upgrades may be required

Cardno also spoke to Graham Haywood, a representative of WCWA, on the 19th October 2012 with exclusive regard to the redevelopment of the shopping centre. Graham's comments are as follows:

- An assessment will need to be conducted to determine the existing instantaneous discharge volumes of wastewater currently generated from the Site and the expected volumes generated from the proposed development. WCWA will only be able to comment further on the capacity of the network to handle these volumes once this assessment has been complete. WCWA would require a minimum of 2 week to assess the data provided and confirm any infrastructure capability or upgrade requirements.
- Should the volumes increase no greater than 5L/s, it is expected that the Dampier Avenue Waste Water Pump Station would have sufficient capacity.

If volumes exceed 5L/sec, then WCWA would require a storage tank (on Whitfords shopping centre land) and macerator pump to regulate / remove the peak volumes entering the Dampier Avenue Waste Water Pump Station. The Developer would be required to pay for this infrastructure.

Based on the information information currently available, it is understood that there is sufficient capacity within existing and proposed infrastructure to cater for further development. Exact infrastructure requirements and any upgrades required will be investigated in more parallel with further detailed planning for the area.

On Site Drainage Requirements

For new building licences and development applications, the City of Joondalup typically stipulates, '*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.*'. This equates to approximately 1,300m³ of detention / infiltration capacity per effective catchment area. In this case the effective catchment will be the impervious catchment. The overall proposed development has four districts and covers an area of 42.9 ha with 18.8 ha within the Retail District Area. In accordance with the above condition the retail district would require approximately 24,400 m³ of total detention / infiltration capacity. At this stage the existing site detention / infiltration capacity is unknown.

The existing Retail District catchment is predominantly impervious (hard surface) therefore it may be argued that any further development within the catchment would require minimal upgrade to the existing detention / infiltration capacity of the existing system. However, there is a risk that if the existing detention / infiltration capacity is deemed insufficient than the City of Joondalup may insist the balance be provided as part of any new proposed building works.

During the planning phase consideration to the provision of external infiltration areas as opposed to buried systems is a lot more cost effective to construct however negatives are aesthetics and non-revenue generating land use. The reuse of stormwater for irrigation and grey water may also be taken into account in the determination of final detention volumes. Refer to Essential Environment 'Urban Water Balance Assessment - Nov 2012' report for further details.

It is advised that the following steps are taken early in the planning process to reduce any project cost risks:

- An assessment of the existing on site detention / infiltration capacity to determined and identify any shortfall.
- Calculate associated budget costs to provide additional detention / infiltration for both external and internal systems and run a cost benefit analysis against potential revenue loss for external systems.
- Meet with the City of Joondalup to discuss the following items:
 - a) Confirm on site storage requirements applicable to the site.
 - b) Put forward the argument that the development does not change the total impervious area of the existing catchment therefore the new development needs to only provide the existing detention / infiltration capacity currently provided on site.
 - c) Negotiate possible utilisation of City of Joondalup sumps on the south east corner of the site to offset additional storage requirements with an offer to improve the current capacity of the system.

Yours faithfully,

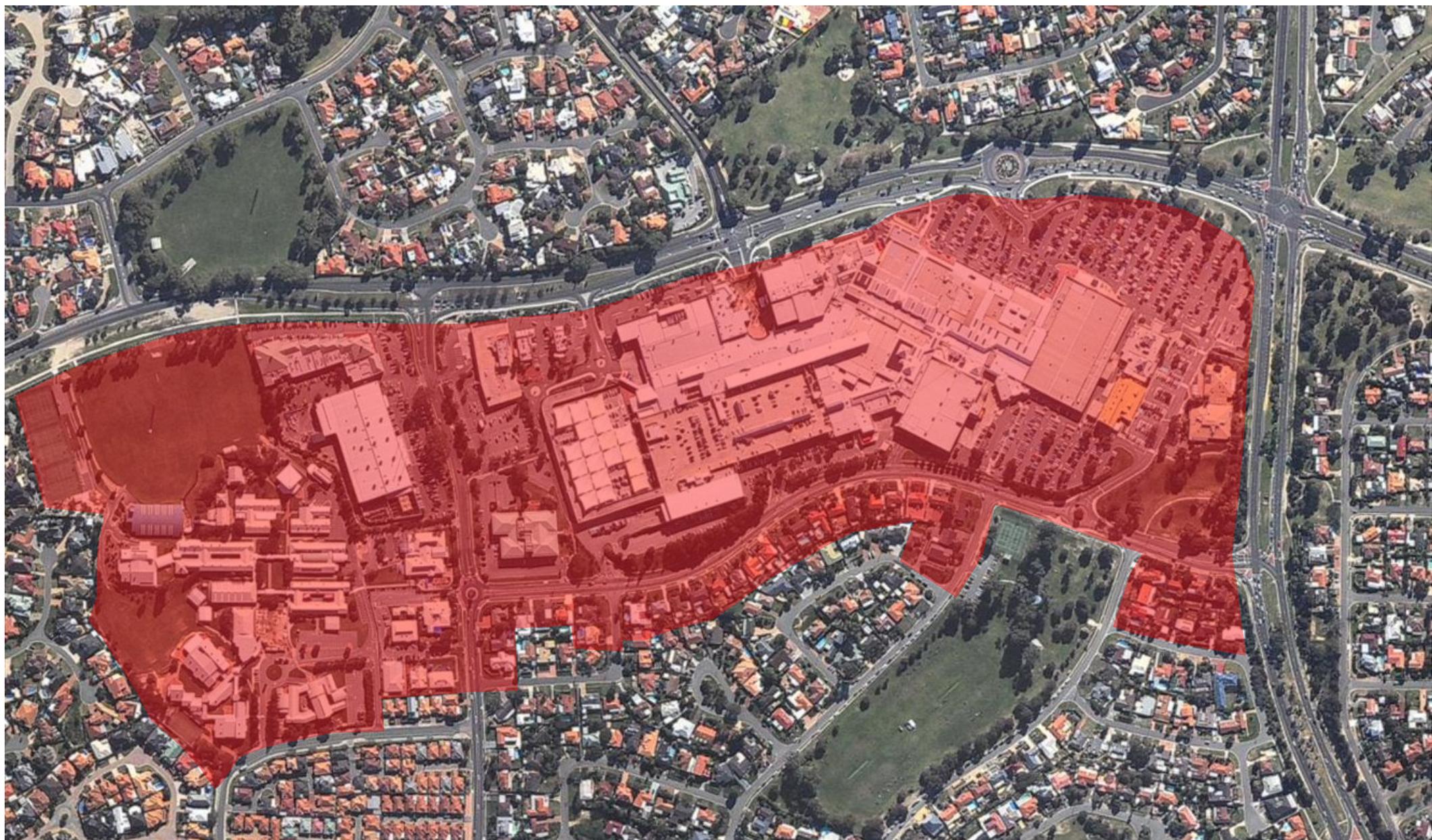


Neville Taito
Project Director
For Cardno

Whitfords City Shopping
Centre Servicing Report

APPENDIX A
AERIAL
PHOTOGRAPH





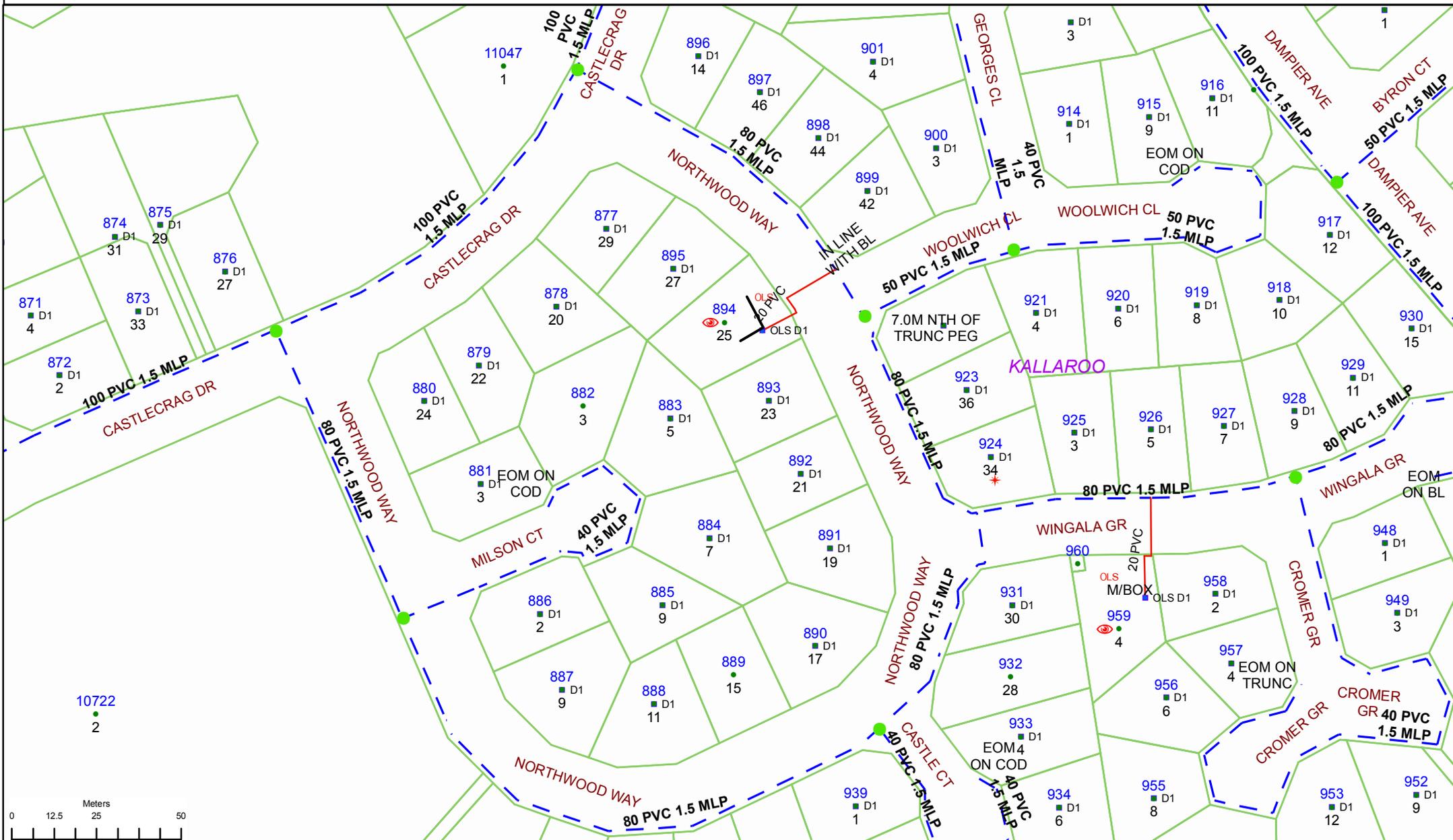
Whitfords City Shopping
Centre Servicing Report

APPENDIX B
ATCO GAS
SERVICE
LOCATION MAPS



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Sequence No: 26653985

Map Tile: 1

Scale: 1:1,500

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ACN 089 531 975

Job No: 5814523

Date: 10/10/2012

Location: Marmion Av

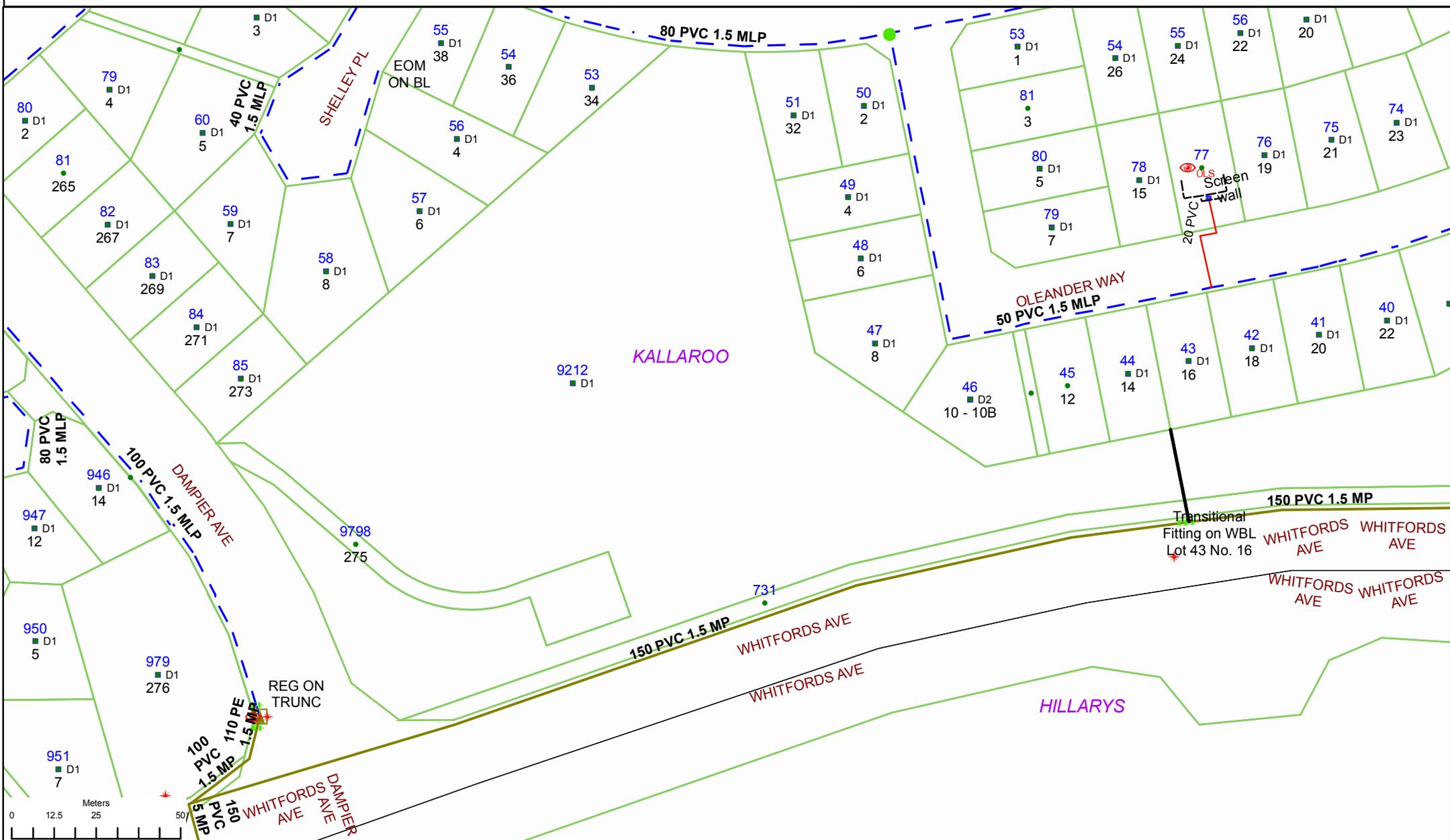


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Map Tile:2

Scale: 1:1,500

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Job No: 5814523

Date: 10/10/2012

Location: Marmion Av

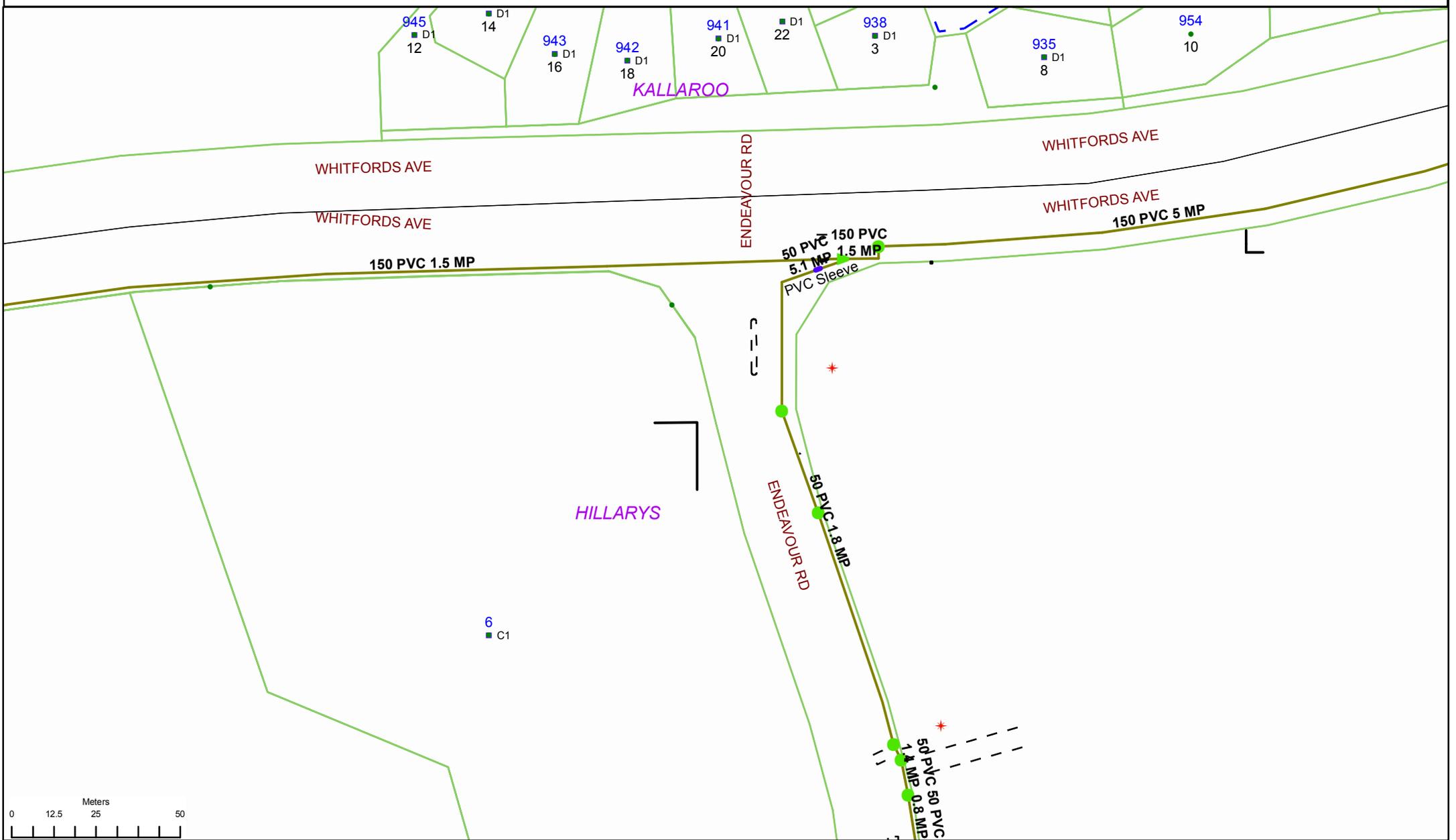
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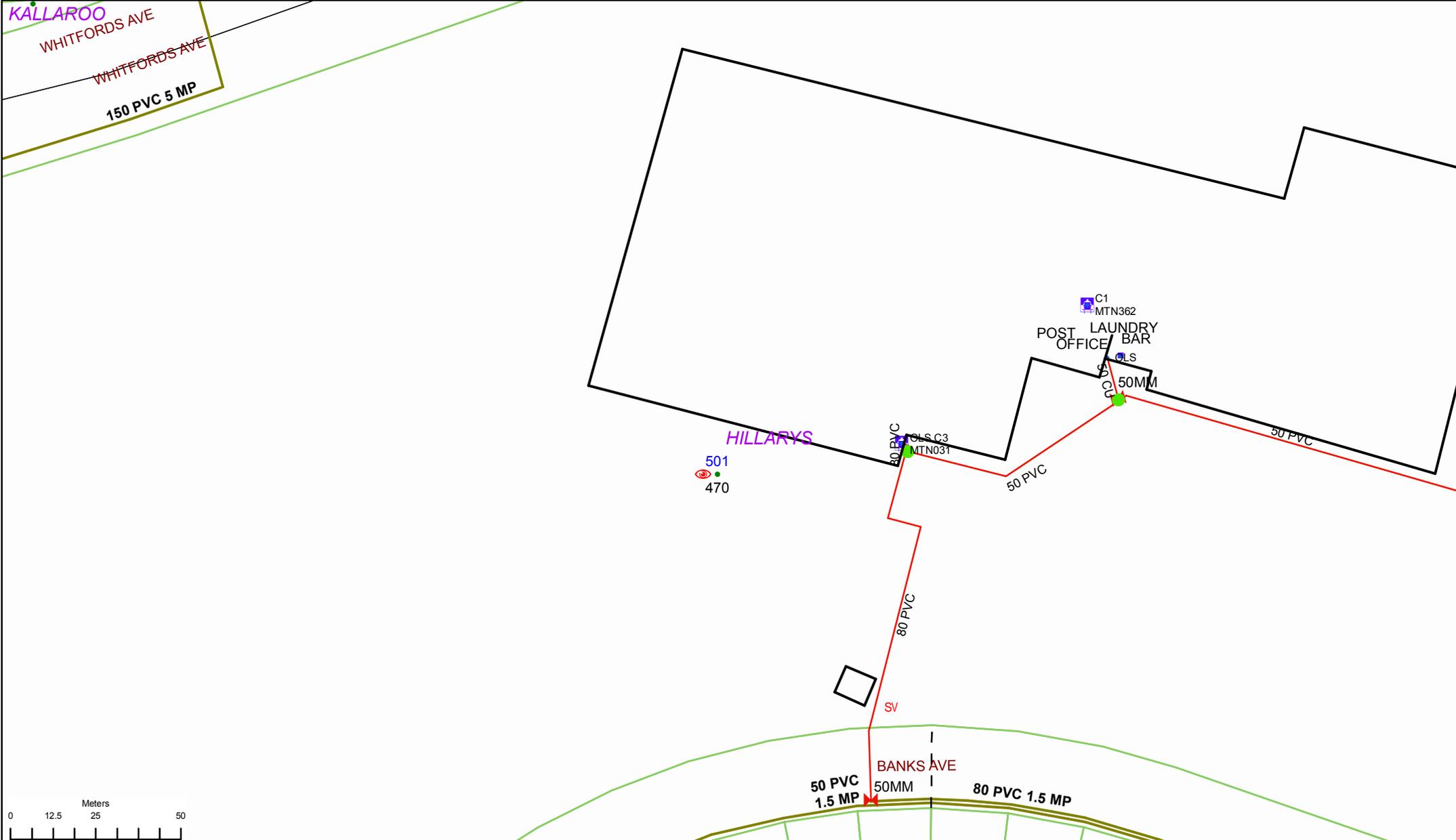
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 Job No: 5814523 Date: 10/10/2012 Location: Marmion Av ACN 089 531 975

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Sequence No: 26653985

Map Tile: 5

Scale: 1:1,500

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Job No: 5814523

Date: 10/10/2012

Location: Marmion Av

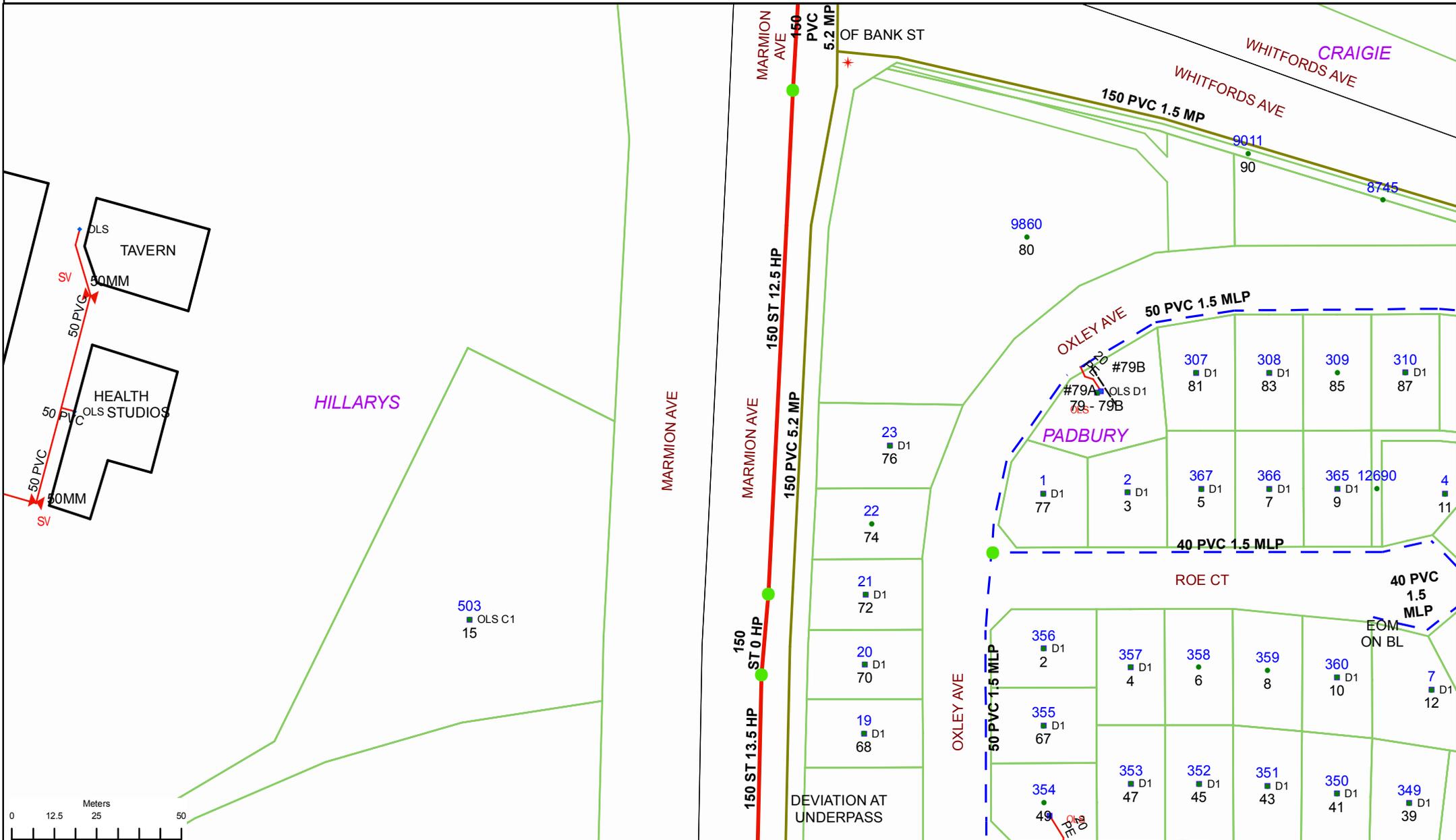


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Scale: 1:1,500

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Job No: 5814523

Date: 10/10/2012

Location: Marmion Av

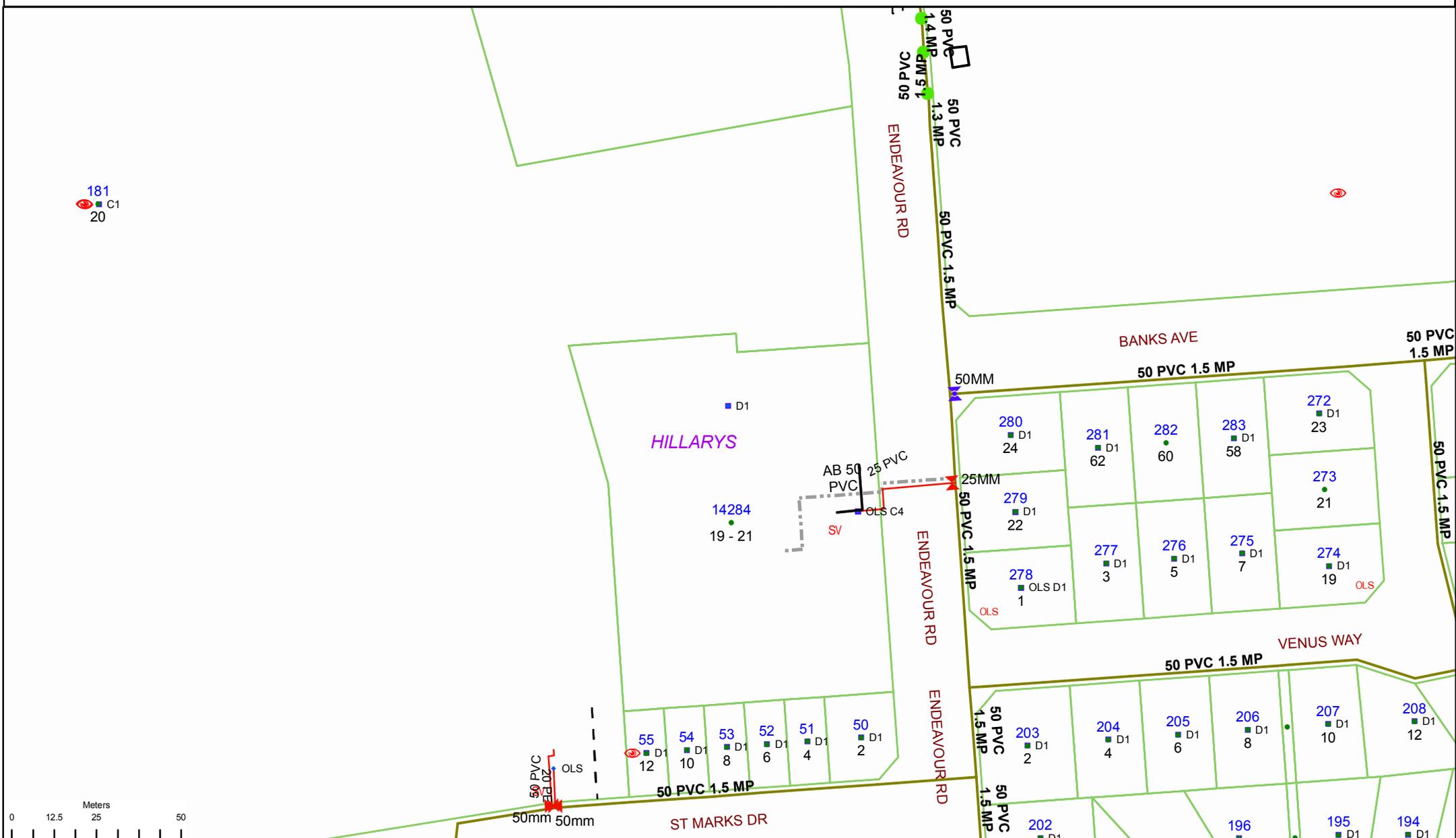


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181
C1
20

Sequence No: 26653985
Job No: 5814523

Map Tile: 7
Date: 10/10/2012
Scale: 1:1,500
Location: Marmion Av

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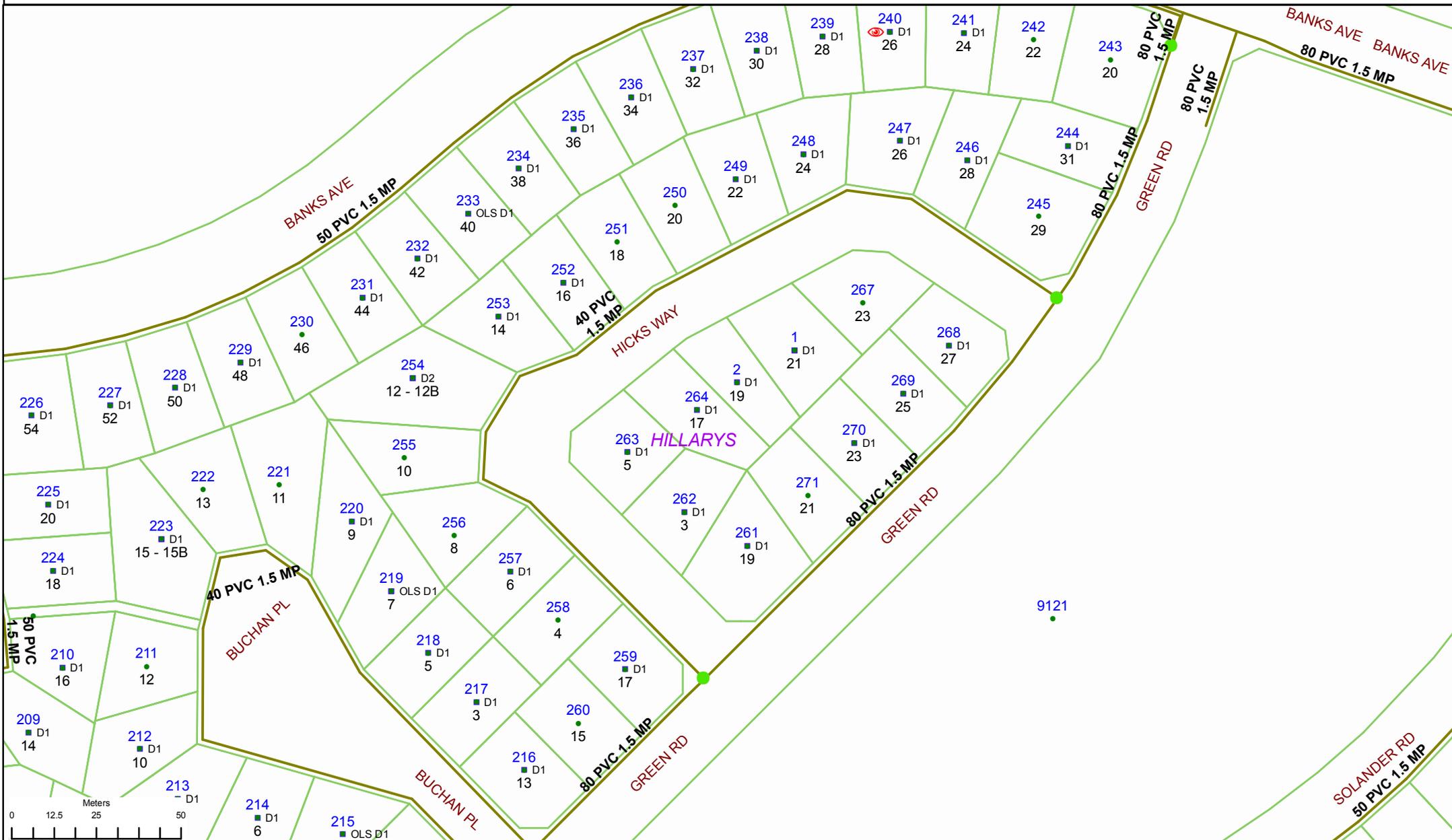


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Map Tile: 8

Scale: 1:1,500

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Job No: 5814523

Date: 10/10/2012

Location: Marmion Av

ACN 089 531 975

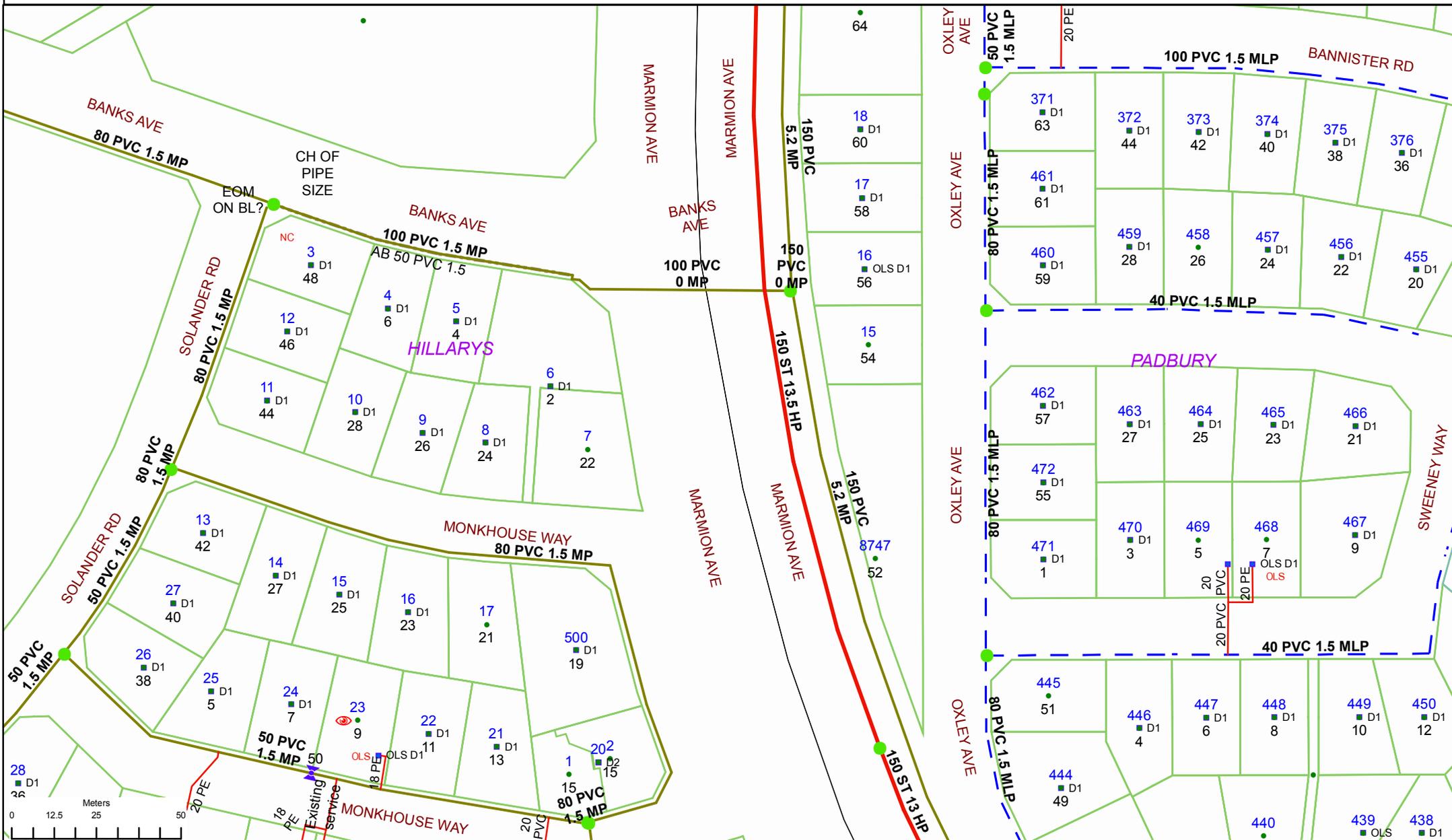


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Date: 10/10/2012

Location: Marmion Av



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Whitfords City Shopping
Centre Servicing Report

APPENDIX C
COMBINED
EXISTING
SERVICES
DRAWINGS



XREF: 12036-001-X_OA_12036-001-X_DBYD
 CAD FILE: L:\2012\12036 - Whitfords Servicing Report\05_Technical\CAD\12036-001-SK1 SK2.dwg
 DATE PLOTTED: 19 October, 2012 - 2:17pm



LEGEND

— S — S —	EXISTING GRAVITY SEWER
— SPH — SPH —	EXISTING SEWERAGE PRESSURE MAIN
— W — W —	EXISTING WATER
— W — W — W —	EXISTING TERMINATION OF WATER
— G — G — G —	EXISTING GAS
— T — T — T —	EXISTING TELECOMMUNICATION
— OF — OF —	EXISTING OPTIC FIBER
— E — E — E —	EXISTING UNDERGROUND POWER (LOW/HIGH VOLTAGE)
— O/H — O/H —	EXISTING OVERHEAD POWER

- SERVICES NOTES:**
- SERVICE LINES ARE APPROXIMATE ONLY AND ARE SHOWN DIAGRAMMATICALLY. CONTACT THE RELEVANT AUTHORITY OR DIAL 1100.
 - ACOM AND OPTUS FIBRE OPTIC CABLES ARE PRESENT IN THIS AREA. REFERENCE IS TO BE MADE TO TELSTRA DUTY OF CARE STATEMENT WHICH IS PROVIDED WITH DB4YD TELSTRA PLAN ENQUIRIES.
 - REFERENCE IS TO MADE TO WESTERN POWER SAFETY GUIDELINES AND INFORMATION PROVIDED WITH DB4YD PLAN ENQUIRIES.
 - HIGH PRESSURE GAS PIPELINES ARE PRESENT IN THIS AREA. REFERENCE IS TO BE MADE TO ATCO GAS DUTY OF CARE STATEMENT WHICH IS PROVIDED WITH DB4YD ATCO GAS PLAN ENQUIRIES.

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Rev	Date	Description	Drawn	Appr
A	18.10.12	INITIAL ISSUE	JYY	



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Drawn	JYY	Date	18.10.12
Designed		Date	
Checked		Date	
Reviewed		Date	
Approved		Date	

Client	CLIENT-COMPANY-NAME			
Project	WHITFORDS SERVICING REPORT WESTFIELD WHITFORD			
Title	EXISTING SERVICE LAYOUT SHEET 1 OF 2			

Status	NOT FOR CONSTRUCTION						
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Drawing Number	E12036-001-SK1			Revision	A		

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DATE PLOTTED: 19 October, 2012 - 2:17pm

XREF: 12036-001-X_OA_12036-001-X_DBYD
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LEGEND

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— SPM — SPM —	EXISTING SEWERAGE PRESSURE MAIN
— W — W —	EXISTING WATER
— W — — W —	EXISTING TERMINATION OF WATER
— G — G —	EXISTING GAS
— T — T —	EXISTING TELECOMMUNICATION
— OF — OF —	EXISTING OPTIC FIBER
— E — E —	EXISTING UNDERGROUND POWER (LOW/HIGH VOLTAGE)
— O/H — O/H —	EXISTING OVERHEAD POWER

- SERVICES NOTES:**
- SERVICE LINES ARE APPROXIMATE ONLY AND ARE SHOWN DIAGMATICALLY. CONTACT THE RELEVANT AUTHORITY OR DIAL 1100.
 - ACOM AND OPTUS FIBRE OPTIC CABLES ARE PRESENT IN THIS AREA. REFERENCE IS TO BE MADE TO TELSTRA DUTY OF CARE STATEMENT WHICH IS PROVIDED WITH DB4YD TELSTRA PLAN ENQUIRIES.
 - REFERENCE IS TO MADE TO WESTERN POWER SAFETY GUIDELINES AND INFORMATION PROVIDED WITH DB4YD PLAN ENQUIRIES.
 - HIGH PRESSURE GAS PIPELINES ARE PRESENT IN THIS AREA. REFERENCE IS TO BE MADE TO ATCO GAS DUTY OF CARE STATEMENT WHICH IS PROVIDED WITH DB4YD ATCO GAS PLAN ENQUIRIES.

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Rev	Date	Description	Drawn	Appr
A	18.10.12	INITIAL ISSUE	JYY	



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Drawn	JYY	Date	18.10.12
Designed		Date	
Checked		Date	
Reviewed		Date	
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Client	CLIENT-COMPANY-NAME			
Project	WHITFORDS SERVICING REPORT WESTFIELD WHITFORD			
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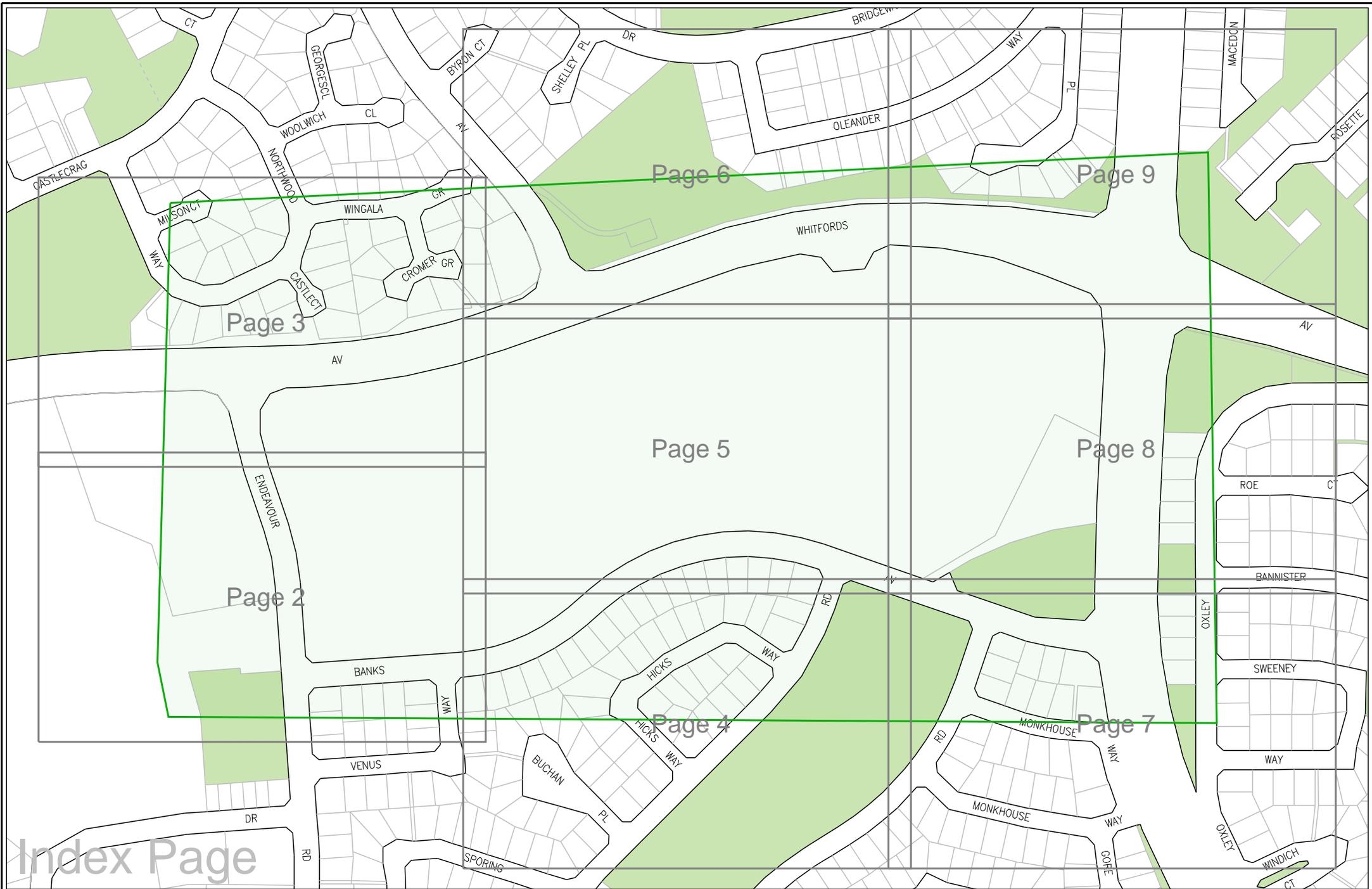
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Whitfords City Shopping
Centre Servicing Report

APPENDIX D
WATER
CORPORATION
SERVICE
LOCATION MAPS





Index Page

Scale: 1:4567

Sequence No: 26653986

Print Date: 10/10/2012 Page: 1 of 9



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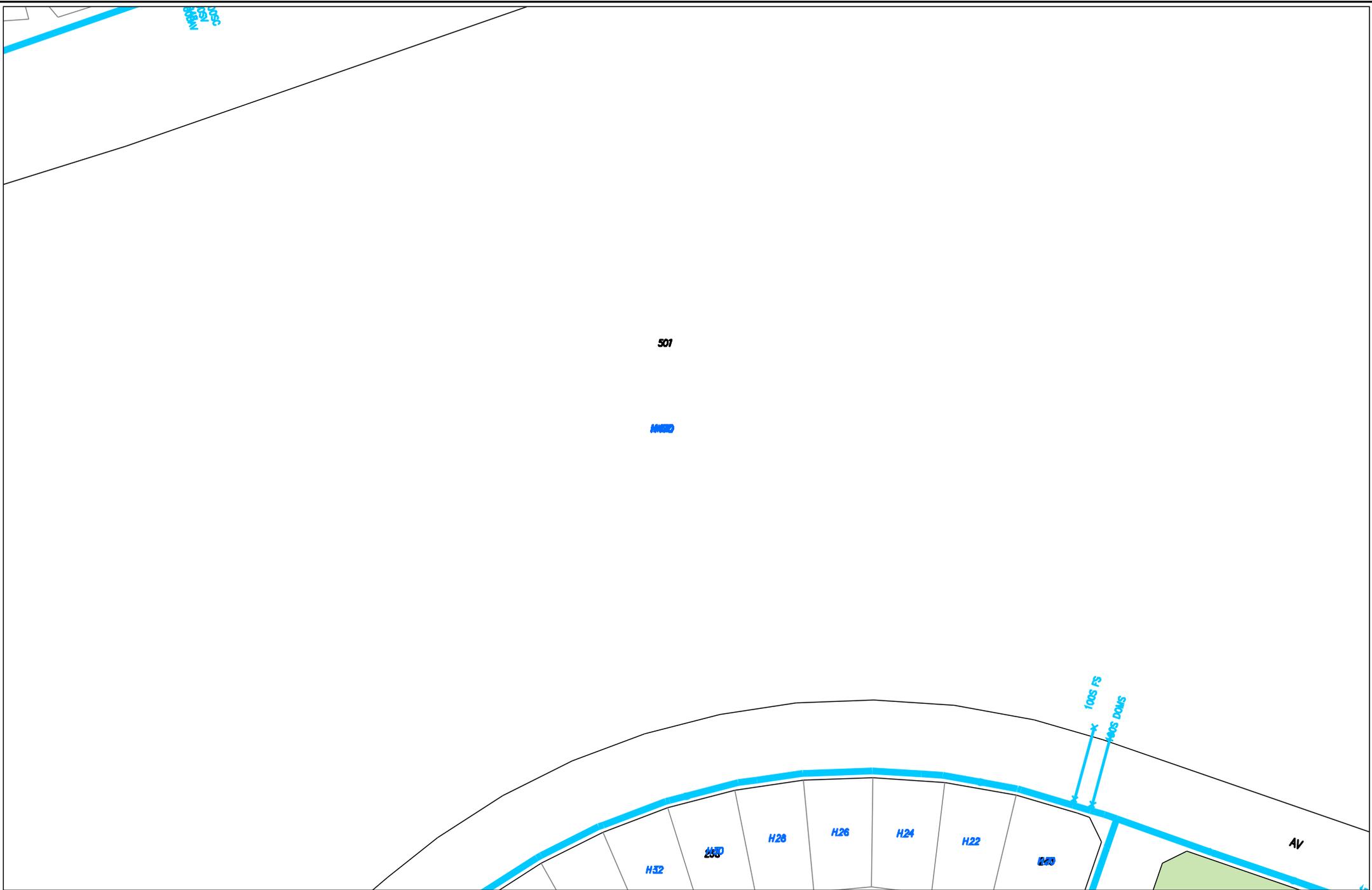
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 Print Date: 10/10/2012 Page: 4 of 9



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Scale: 1:1500 Centre Point: 115.749°, -31.797°
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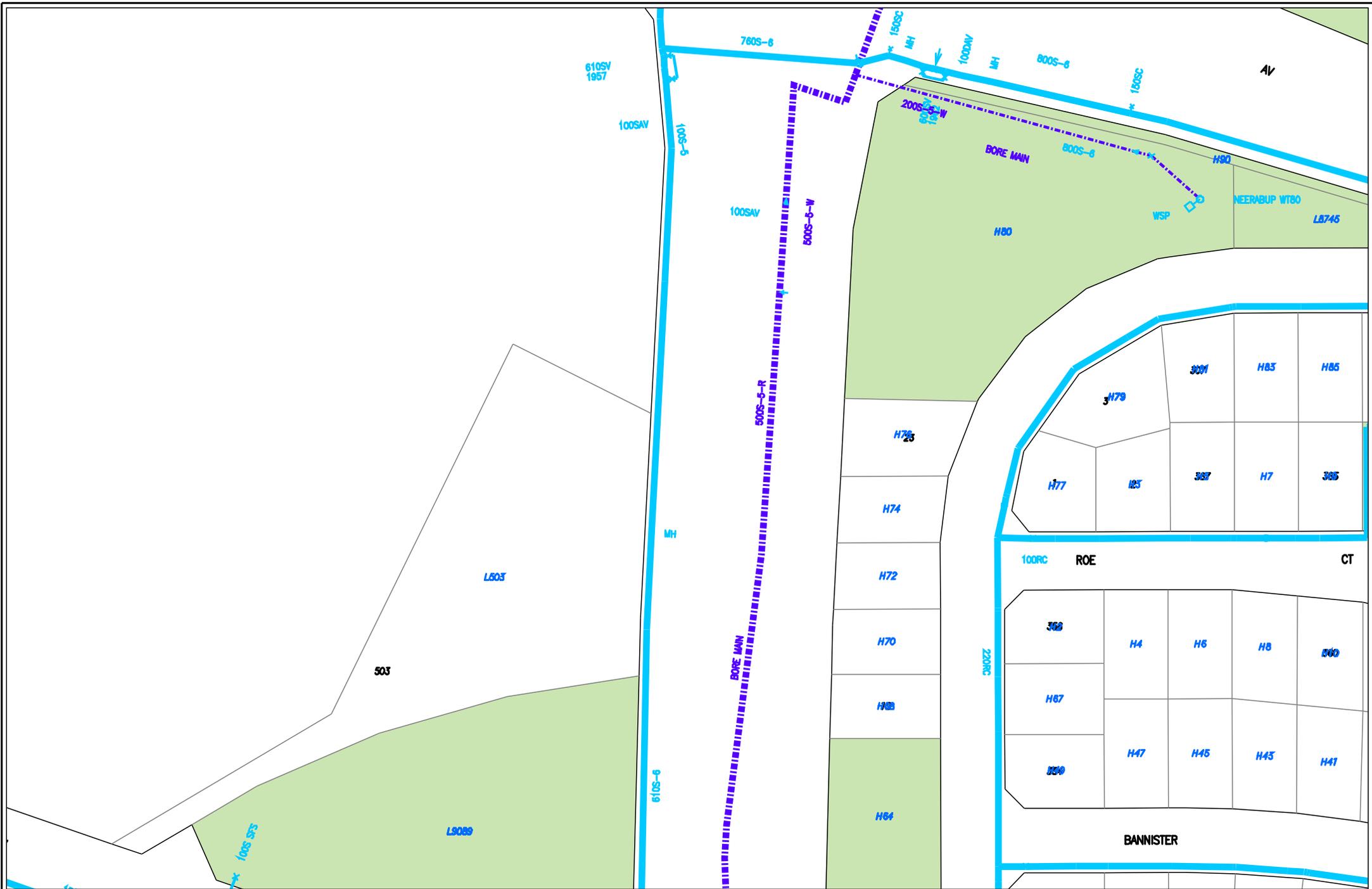


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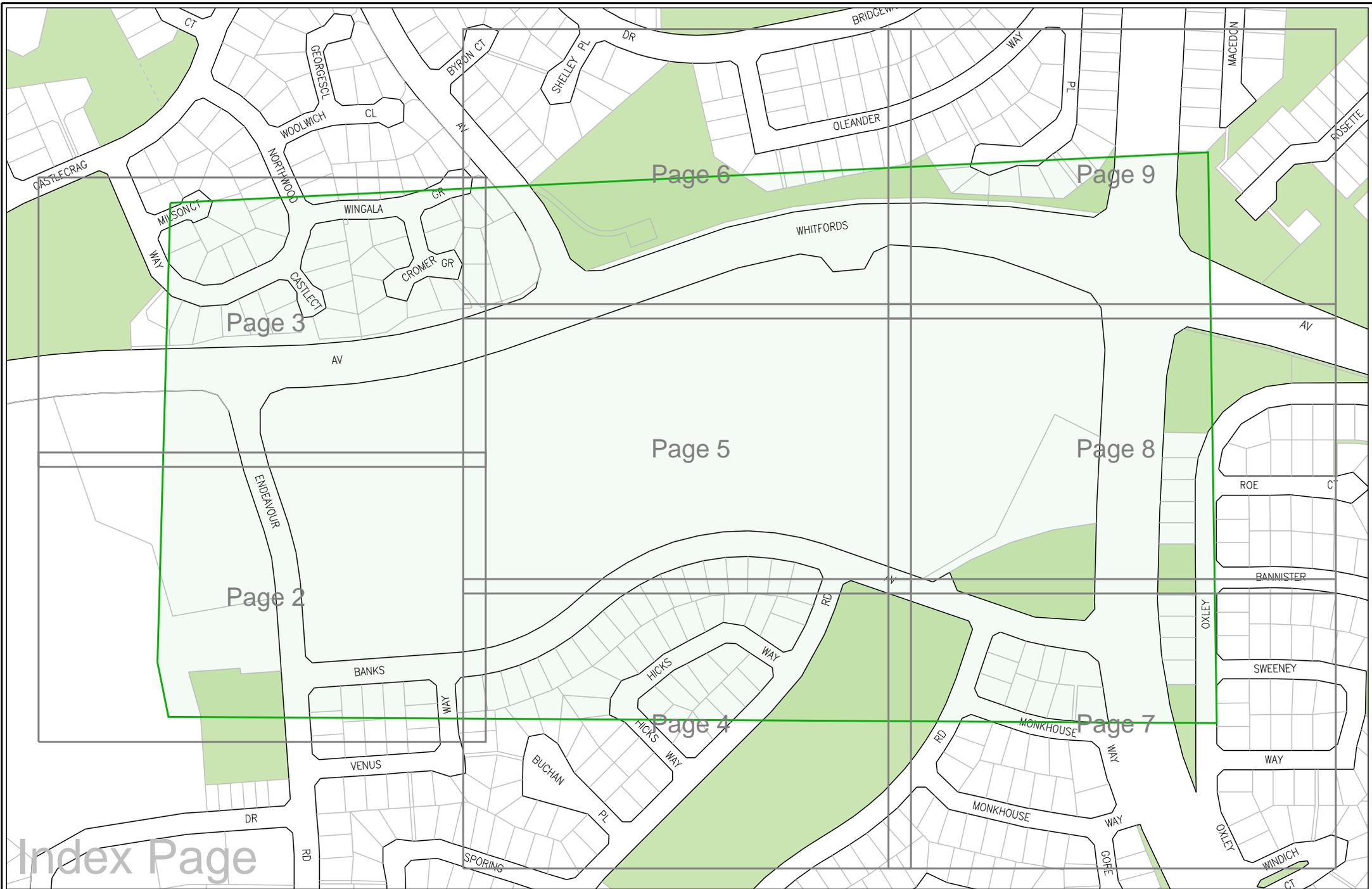
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Index Page

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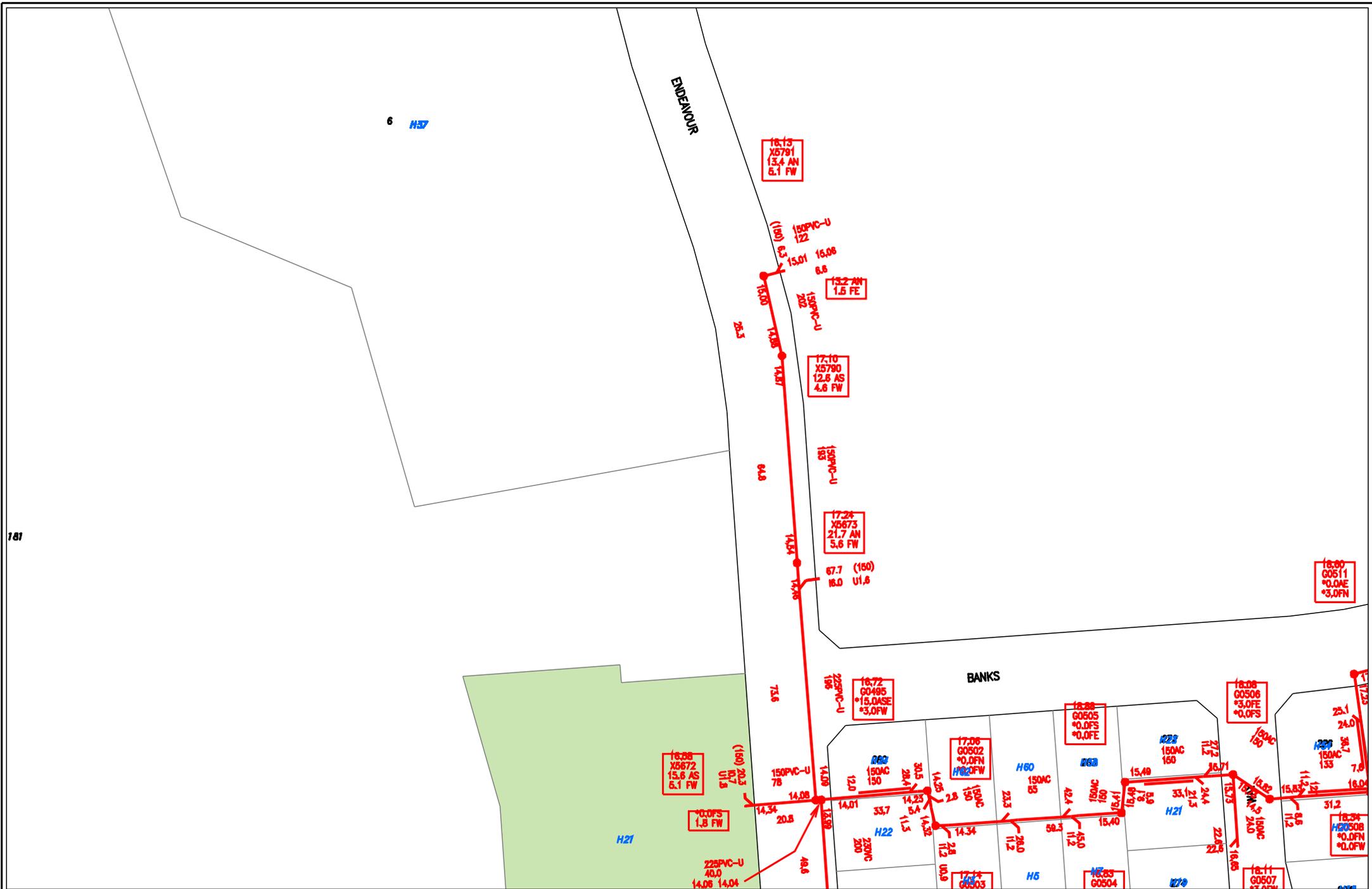
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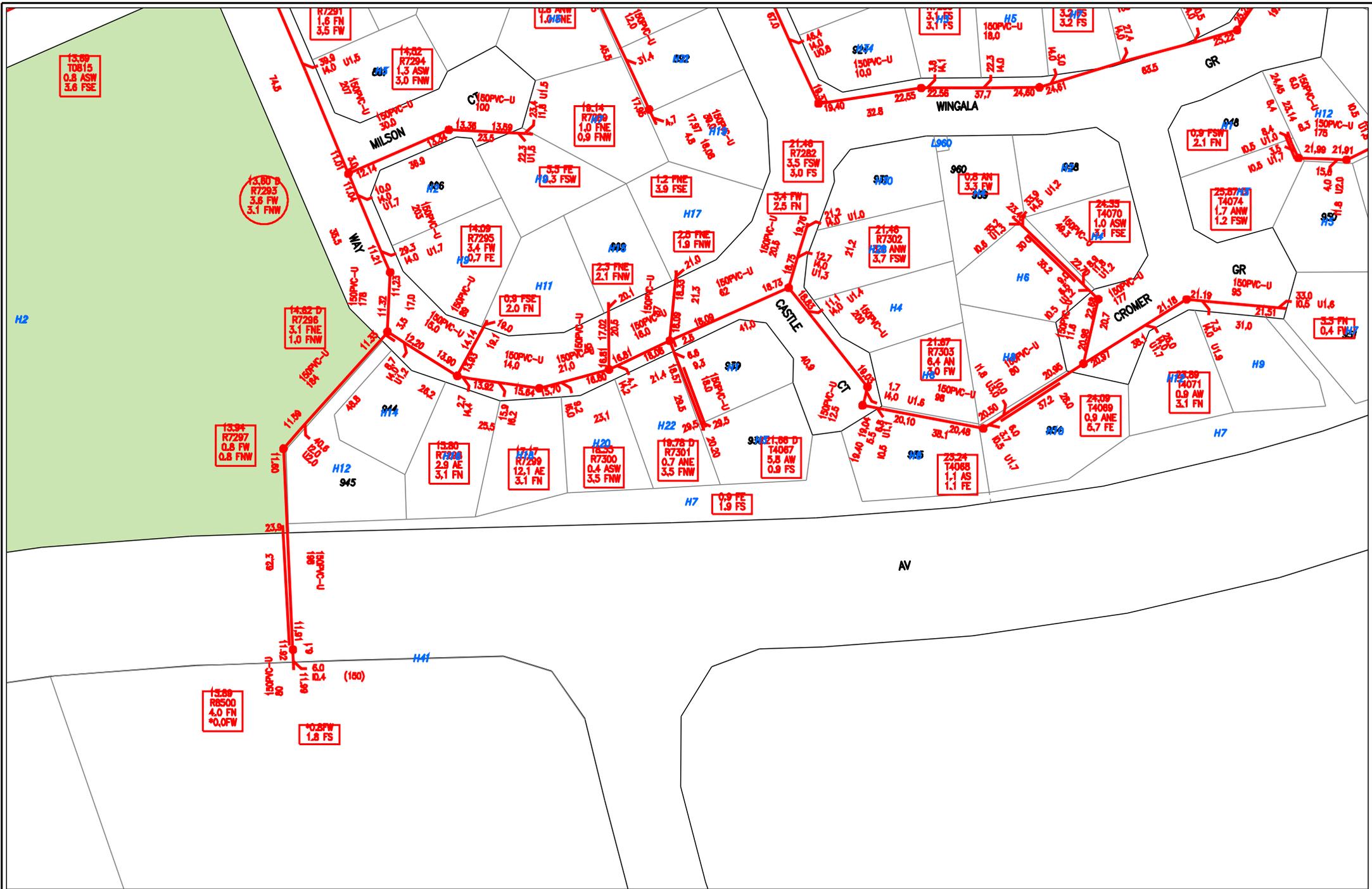
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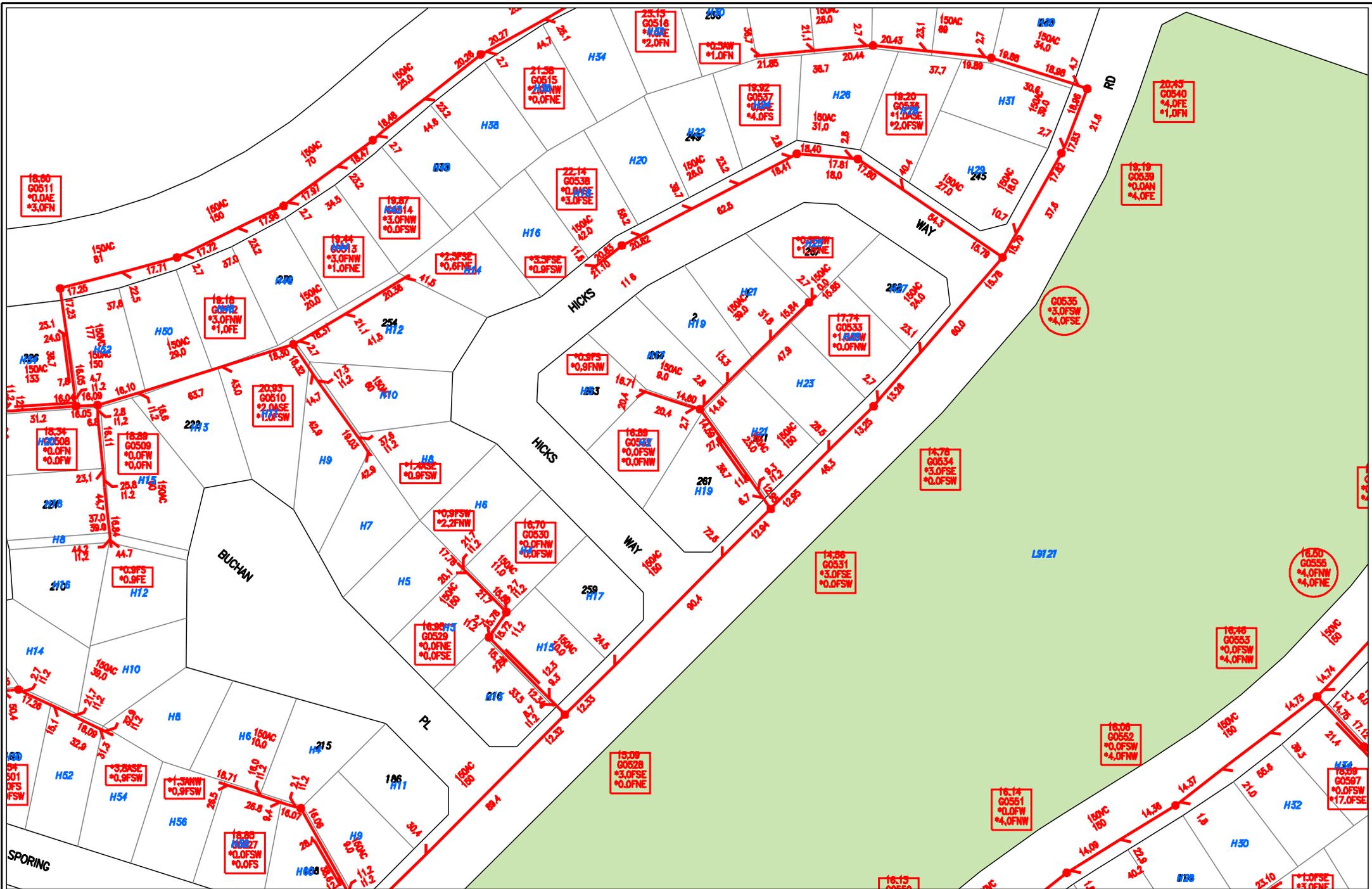
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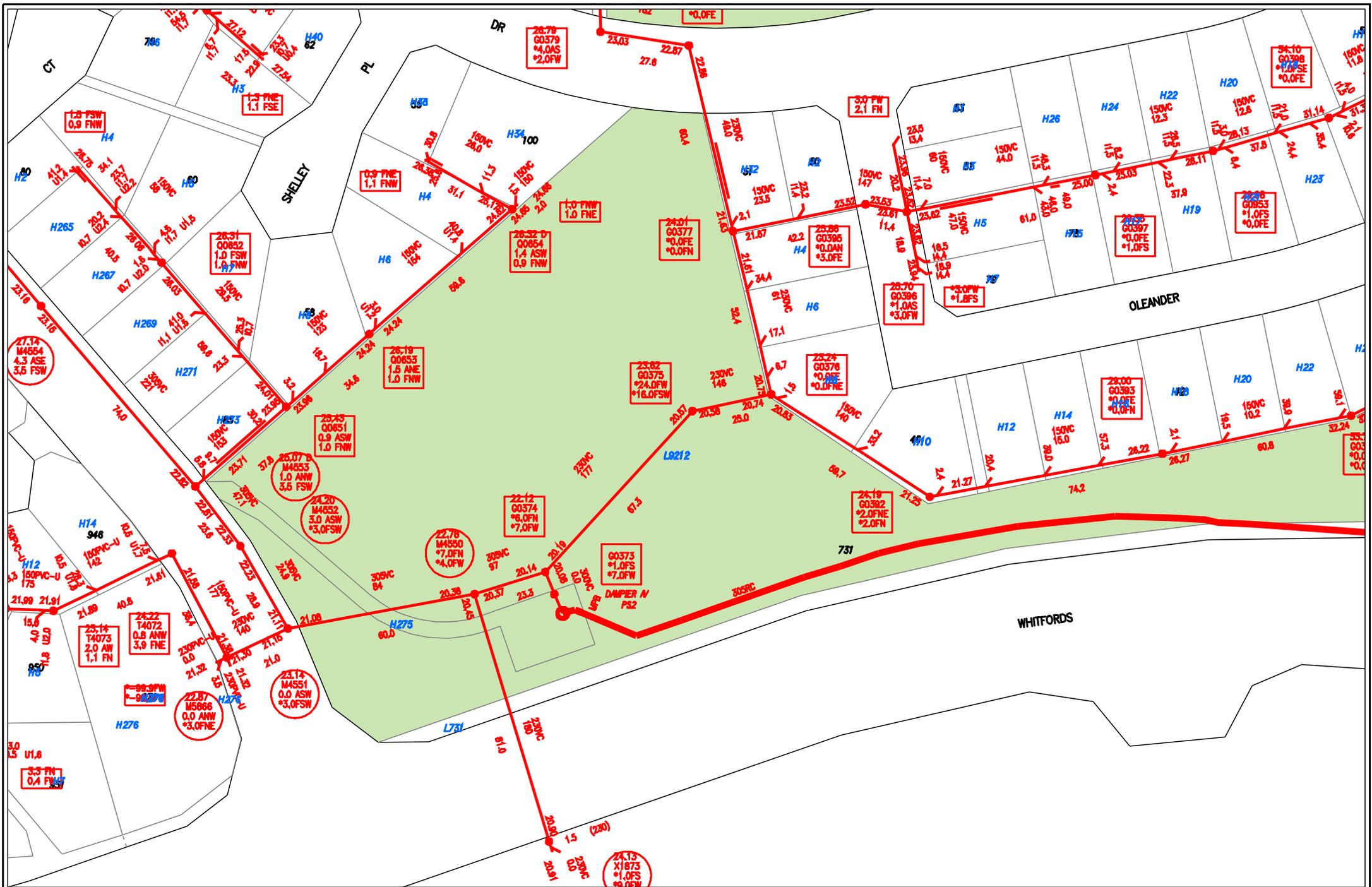
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 Sequence No: 26653986
 Print Date: 10/10/2012 Page: 4 of 9



WARNING - CRITICAL PIPELINE
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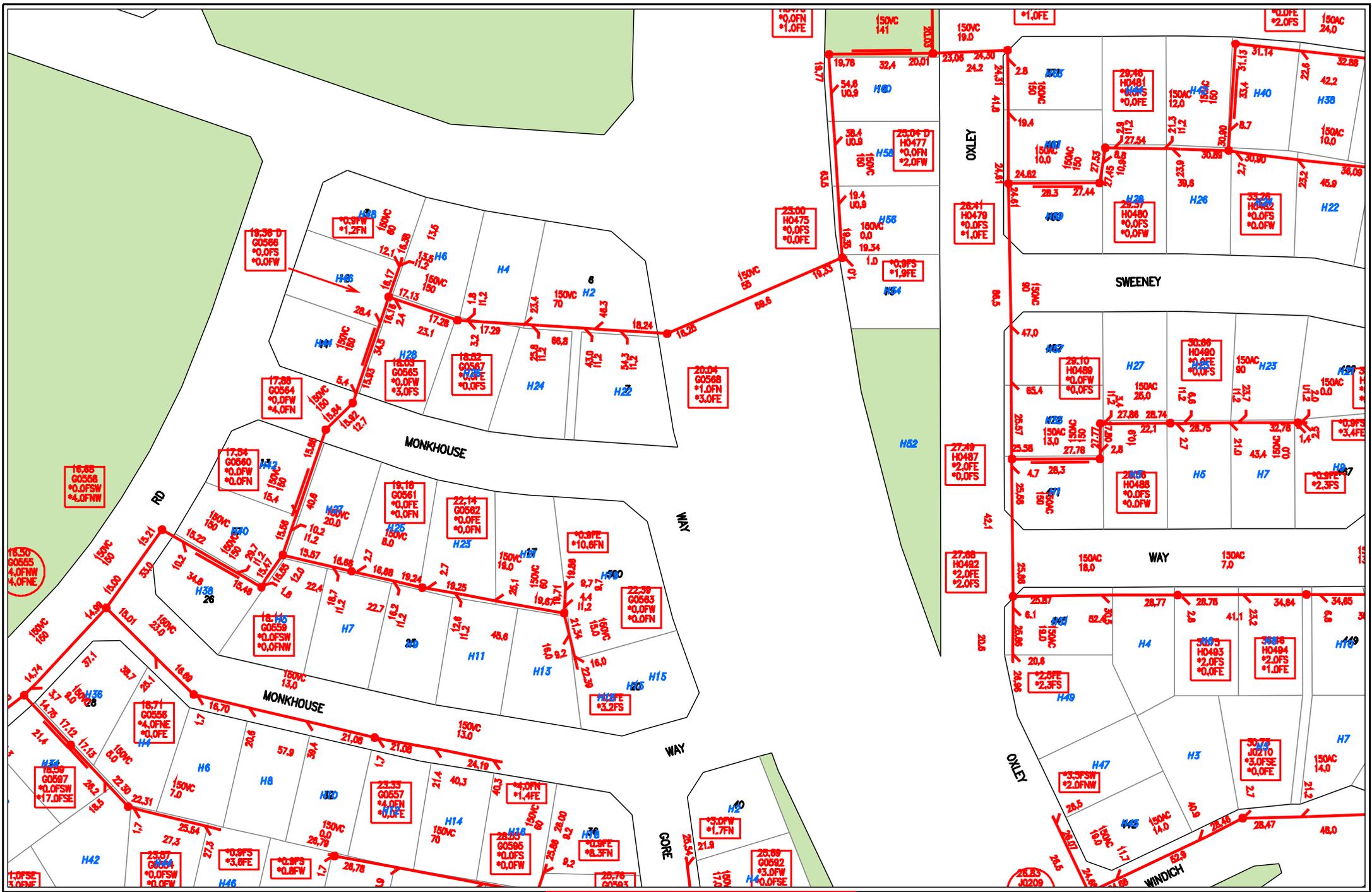
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 Sequence No: 26653986
 Print Date: 10/10/2012 Page: 6 of 9



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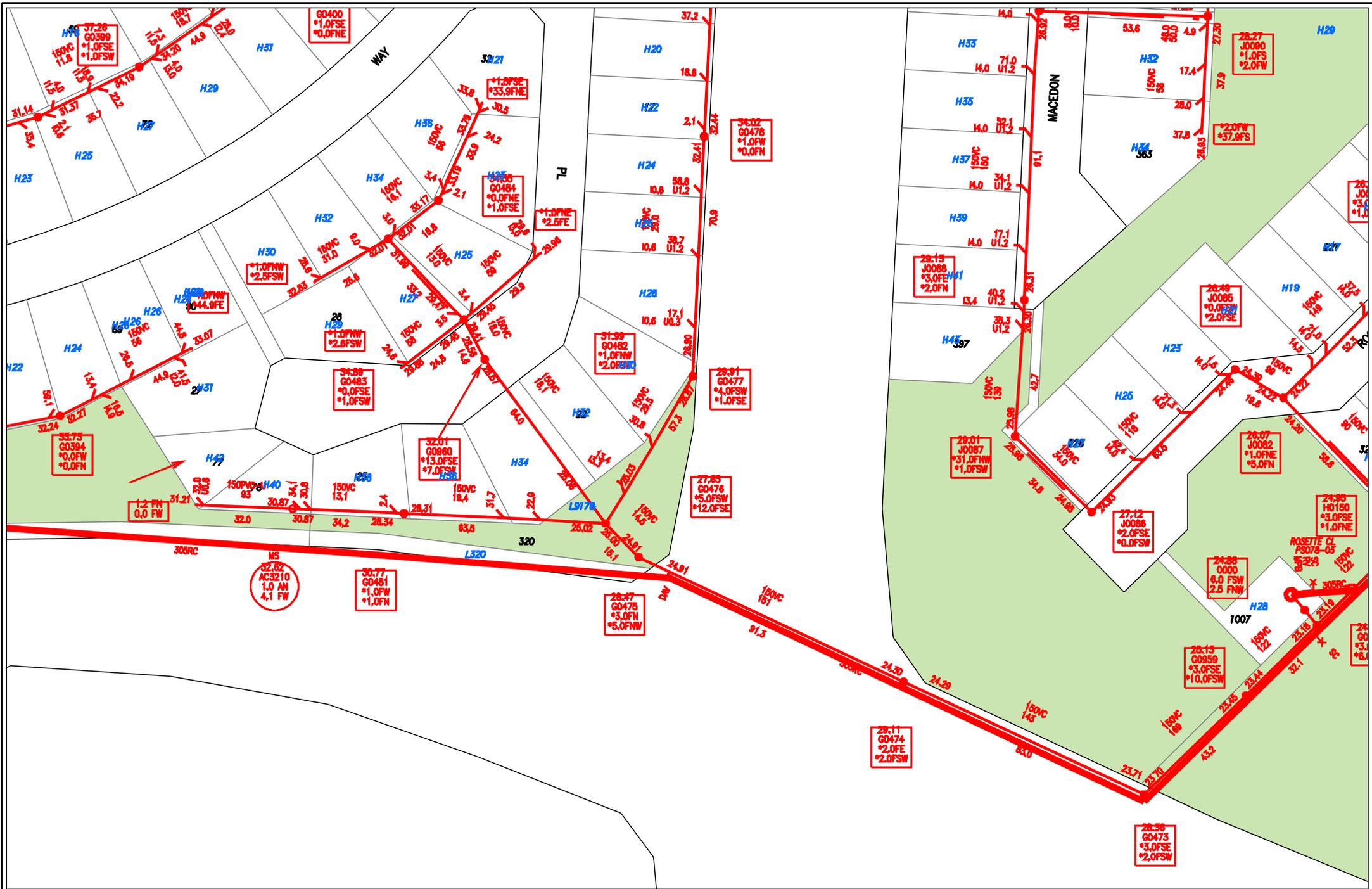
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 Sequence No: 26653986
 Print Date: 10/10/2012 Page: 7 of 9



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Scale: 1:1500 Centre Point: 115.754°, -31.795°
 Sequence No: 26653986
 Print Date: 10/10/2012 Page: 9 of 9



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Whitfords City Shopping
Centre Servicing Report

APPENDIX E
STRUCTURE PLAN



Whitford Activity Centre
Structure Plan Boundary

District Boundary

Existing Lot Boundary

Districts

Retail

Banks

Endeavour

Education and Civic

Residential Coding

R-AC 0

R80

Other

Main Street

Landmark Site

Community Focal Point

Primary off street
pedestrian connection

Future vehicle connection
(subject to Detailed Area Plan)

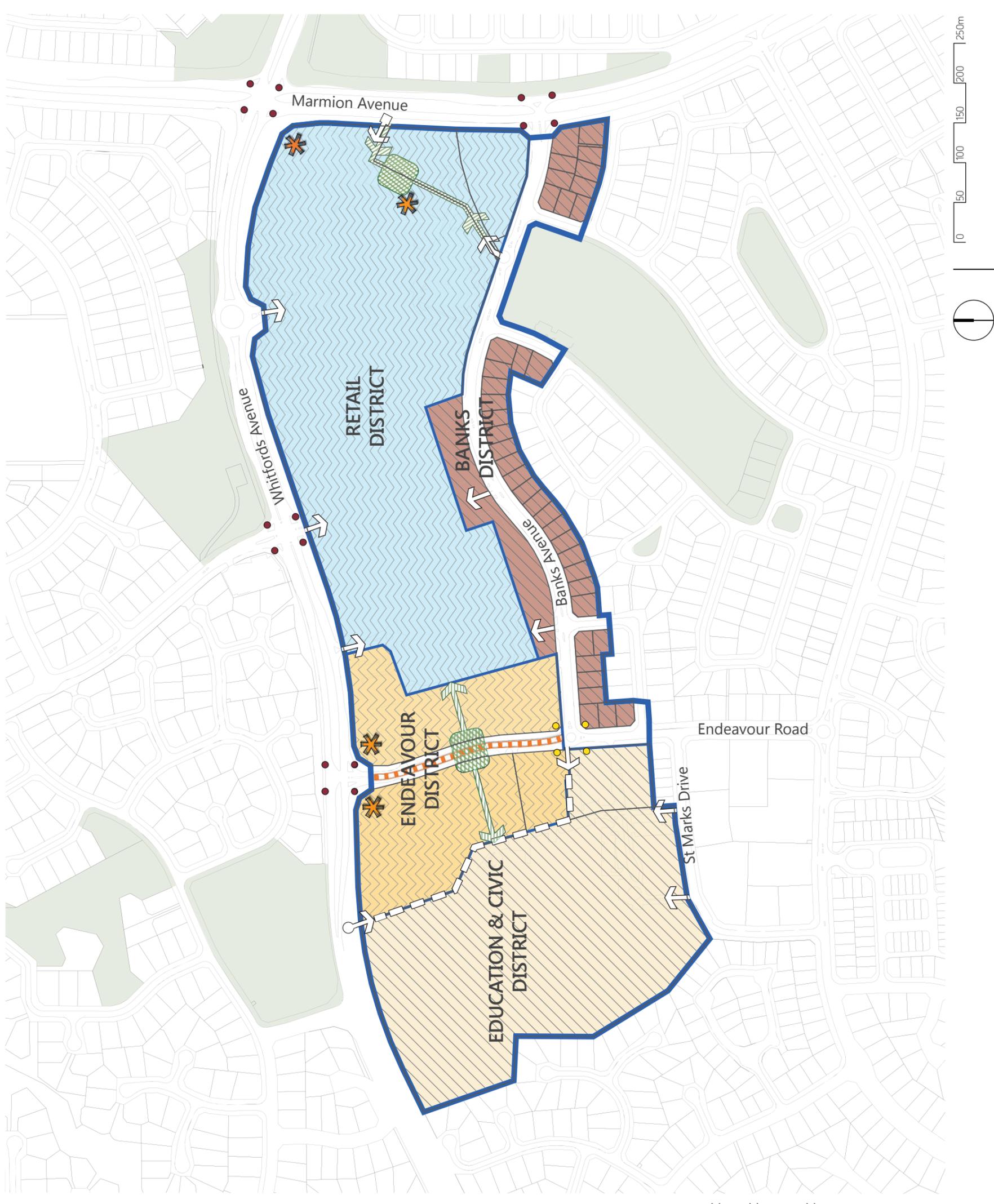
Indicative primary vehicle access point

Indicative primary vehicle access point
(Left-in/ left-out only)

Indicative primary vehicle access point
(Left-in only)

Existing controlled intersection
(Traffic Lights)

Proposed controlled intersection
(Traffic Lights)



Scheme Amendment Process

