



FOGGARTHORPE RESIDENTIAL ESTATE STRUCTURE PLAN

Lots 3 & 6 Goomalling-Toodyay Rd, Nunile

Original Approval: 30 March 2007
Amendment No. 1 Approval: 23 November 2016

Prepared for **Ironbridge Holdings**
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IT IS CERTIFIED THAT AMENDMENT NO. 1 TO FOGGARTHORPE
RESIDENTIAL ESTATE STRUCTURE PLAN WAS APPROVED BY
RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING
COMMISSION ON: **23 NOVEMBER 2016**

Signed for and on behalf of the Western Australian Planning Commission



an officer of the Commission duly authorised by the Commission pursuant
to Section 16 of *the Planning and Development Act 2005* for that purpose.

RECORD OF AMENDMENTS MADE TO THE
FOGGARTHORPE RESIDENTIAL ESTATE STRUCTURE PLAN

Amendment No.	Summary of the Amendment	Date approved by WAPC
1	Amendment to the Structure Plan map (Figure 5) to identify land for the Toodyay Recreation Precinct and to correct a zoning anomaly relating to portions of Lot 9011.	23 November 2016

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FOREWORD

The 'Foggarthorpe Estate' land has been the subject of a number of plans and associated subdivision approvals. Similarly several Structure Plan documents have been prepared both in the past (2001) and as part of current proposals to develop the land for urban residential purposes (2006). The present extent of the Foggarthorpe Structure Plan comprises two lots, namely Lots 3 and 6 Drummond Street, Nunile.

Two applications for subdivision for the land covered by the Structure Plan were also lodged in 2006. These comprised:

- An 18 lot 'Stage 1' application, being Western Australian Planning Commission (WAPC) reference 132135, and comprising portion of Lot 2 being land fronting Drummond Street (West). This application is the subject of State Administrative Tribunal DR396 of 2006; and
- A balance of project application for 357 lots, being WAPC reference 132536, and comprising the balance of Lot 3 and all of Lot 6 Drummond Street. This application is the subject of State Administrative Tribunal DR397 of 2006.

Given the finalisation of additional technical work, and in accordance with an agreed course of processing between the client, Shire of Toodyay and the WAPC under the related subdivision application Reviews, this document has been issued. It comprises the most up to date technical work undertaken for the land and is submitted for Structure Plan approval by the Shire of Toodyay and the WAPC.

For the purposes of clarity, the extent of work comprises:

PART A – Foggarthorpe Structure Plan

PART B – Foggarthorpe Structure Plan – Sub-Consultant Technical Reports

- Environmental Assessment Report (EAR), RPS Environmental Consultants (Dated: March 2007)
- Traffic Assessment Report, Transcore Traffic & Transportation Consultants (Dated: March 2007)
- Noise Impact Assessment, Lloyd Acoustics (Dated: February 2007)
- Report on Geotechnical Investigation, Douglas Partners (Dated: February 2007)
- Progress Report 1 (Drainage), JDA (Dated: 1 March 2007)

1. INTRODUCTION

The subject land comprising Lots 3 and 6 Drummond Street, Nunile was originally part of the Foggarthorpe Estate previously known as Part Avon Location U3, Toodyay.

In 1991, Amendment No. 56 to the Shire of Toodyay Town Planning Scheme No. 1 (TPS1) was gazetted to rezone portions of the Foggarthorpe Estate which adjoined the Avon River (including the subject land) to "Urban 6". Following this the WAPC approved application 113772 to subdivide Part Avon Location U3 into 5 lots. The subdivision application was designed to facilitate the proposed Toodyay Bypass and to accommodate a district-sporting complex proposed to be situated next to the High School site, while also providing for the High School's expansion. This application resulted in the creation of the subject lots, 3 and 6, that form the basis of this Structure Plan document.

In order to fully re-canvas the development of the land, this report has been prepared on behalf of the client, Ironbridge Holdings, by:

- Koltasz Smith (Town Planners and Urban Designers)
- Wood & Grieve (Consulting Engineers)
- RPS Bowman Bishaw Gorham (Environmental Consultants)
- Transcore (Traffic and Transport)
- Lloyd Acoustic (Noise Modelling and Mitigation)
- Jim Davies & Associates (Consultant Hydrologists)
- Douglas Partners (Geotechnical Consultants)

2. SITE DESCRIPTION

2.1 LOCATION & SITE AREA

Part Avon Location U3 was the original landholding, comprising a farming property traditionally known as Foggarthorpe Estate. The total area was 1,001.72ha.

Following the subdivision of Part Avon Location U3 as described in Part 1 of this report, the subject Lots 3 and 6 were created and may be legally described as:

- Lot 3 on Deposited Plan 25741, being Volume 2516, Folio 977 and comprising 23.9347 hectares; and
- Lot 6 on Deposited Plan 34990, being Volume 2536, Folio 31 and comprising 35.5121 hectares.

Lot 3 comprises two land parcels at the western side of the project area divided by access legs to adjoining Lots 4 and 5 to the north-west. Lots 4 and 5, originally part of the parent land holding have no subdivision potential and were retained as separate rural lots. Lot 3 adjoins a small existing residential area to its west and fronts Drummond Road on its southern boundary. Lot 3 is particularly steep at its western end with the gradient of the slope becoming less significant moving east. Lot 3 abuts Lot 6 at its eastern edge, which coincides with the general location of Boyagerring Brook, a creek line into the Avon River on this northern side.

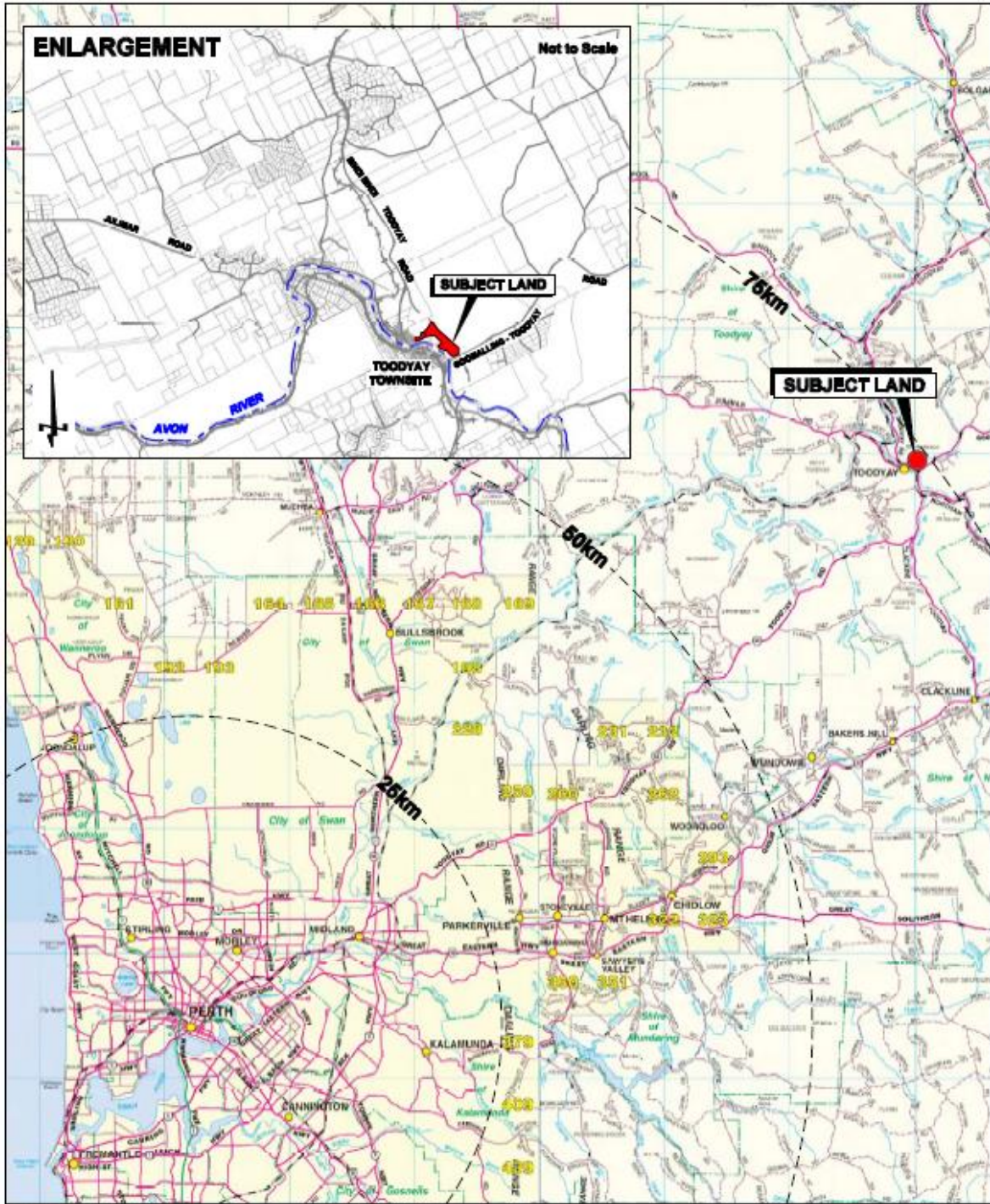
Lot 6 comprises the eastern extent of the project area from its boundary with Lot 3 at Boyagerring Brook, to the Goomalling-Toodyay Road on its eastern edge. Lot 6 adjoins the Toodyay District High School site as well as Drummond Road on its southern boundary opposite the Avon River.

Both lots are presently cleared rural land within the Toodyay townsite, on the northern side of the Avon River with views south across the river to the 'main street' of Toodyay (Stirling Terrace). The site slopes from its northern edges southwards towards the Avon River. Drummond Street separates the land from the river. Limited vegetation remains on site, save for several small areas of vegetation within outcrops of rock which were not cleared for grazing.

2.2 SURROUNDING CONTEXT

Figures 1 and 2 show the subject land in context, relative to the wider Perth and Avon region, and also more locally, relative to the Toodyay townsite.

The site is situated directly adjacent to the existing Toodyay townsite, although it is physically separated from the town centre by the Avon River, and has Mount Anderson and the proposed Toodyay By-pass Road to its immediate north.



3091-5-005 August 2006

FIGURE 1

LOCATION PLAN
 Lot 3 & 6 Goomalling - Toodyay Road
 NUNILE



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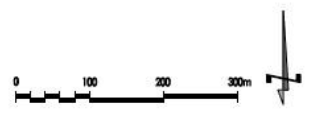
Figure 1 - Location Plan



FIGURE 2

Subject Land

SOURCE: DJI (Landscape 2000 Photography)



EXISTING AERIAL PHOTOGRAPH
 Lot 3 & 6 Goomalling - Toodyay Road
 NUNILE

koltasz smith
 TOWN PLANNING - SUBJECT MANAGEMENT
 URBAN DESIGN - DEVELOPMENT CONSULTING
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Figure 2 - Existing Aerial Photograph

The main features in the immediate vicinity of the site as detailed in the 2001 Structure Plan and updated here are as follows:

- Toodyay Town Centre – the subject land is situated immediately north of the town centre. Although physically separated by the Avon River, the site enjoys relatively direct access to the town centre as it is situated between the two main river crossings (from the east and north) into Toodyay.
- A direct pedestrian link to the Town Centre exists joining the land via the existing footbridge river crossing to the Toodyay Town Centre.
- Toodyay District High School – the school adjoins the south west corner of the site in proximity to the Avon River. This site and adjoining land provided for expansion were excised from the original Foggarthorpe farm property and acquired by DET.
- Residential Development – the western end of the site abuts an old established part of Toodyay. The Shire of Toodyay has recently upgraded Drummond Street in proximity to this residential area, and at its frontage to the western portion of Lot 3.
- Avon River – the Avon River generally defines the southern boundary of Lots 3 and 6, with Lot 3 physically divided by Boyagering Brook, a creek line feeding into the Avon from the north.
- Goomalling Toodyay Road – this road, which marks the south eastern boundary of the site, is the main entrance into town from the eastern agricultural regions, connecting Toodyay with numerous smaller rural settlements including Goomalling, Dowerin and Wongan Hills. The road provides one of two road crossings over the Avon River within the Toodyay townsite.
- Toodyay By-pass Road – the proposed Toodyay By-pass Road alignment forms the north western boundary of Lots 3 and 6. Whilst the Toodyay By-pass Road offers excellent connections to the surrounding region and ultimately through to Perth, both the Shire and Main Roads WA have indicated that they would not support any direct road access from individual lots onto the Bypass and, appropriately, the Structure Plan reflects this. Detailed consideration of the By-pass Road is provided in separate accompanying reports by Transcore Traffic Consultants and Lloyd Acoustics.

2.3 PHYSICAL DESCRIPTION

The following summary comments are drawn from the Environmental Assessment Report (EAR) of the land comprising part of the Part B technical reports. Site conditions are analysed in detail in the accompanying Geotechnical report by Douglas Partners also within Part B.

2.3.1 Topography

The land and immediate surrounds drops from the granite dome of Mount Anderson in the west, at an elevation 235 m AHD, down to 110 m in Boyagering Brook before rising up a low ridge at 160 m in the east.

Detailed consideration of the geology and geomorphology is included in the assessment undertaken comprising Appendix 1. Specific site assessment of Lots 3 and 6 in this regard has included:

- Survey pick-up of rock outcrops; and
- Assessment of gradient / slope analysis for site access and drainage.

In addition to the more visible rock outcrops, alluvial terraces and flood deposits are associated with the central creek, through this creek area the areas generally forming part of the floodplain are not proposed to be developed.

2.3.2 Soils

Both the EAR by RPS environmental consultants and the Geotechnical report by Douglas Partners examine in detail the soil types across Lots 3 and 6, as well as the original Foggarthorpe land holding. The soils on the site, in summary, are red brown loams with moderate to high inherent fertility and nutrient retention capability, though this is reduced by the steepness of the slopes and common occurrence of basement rock outcrop.

In this context, engineering works for the land will be minimised to retain natural slopes and avoid cut/fill retaining. Similarly rock outcrops will remain in the rear of lots. Reticulated sewer will be provided to service all lots and drainage considerations undertaken by Wood & Grieve engineers and JDA Consulting Hydrologists take into account soil conditions.

2.3.3 Climate

Summer maximum temperatures average about 31°C in the hottest months of January/February down to an average of 15°C in the winter. Maximum temperatures range down to 4°C in the coldest months. Evaporation exceeds rainfall for eight months of the year.

Wind directions are predominantly from the east to south east on summer mornings, an afternoon sea breeze occurs on most summer days. Winds are more variable in winter.

2.3.4 Vegetation

Given the historic rural use of the land, the land has been cleared and the remainder grazed. The grazing has removed all the under storey species. Only small areas of vegetation remain along drainage lines and around rocky outcrops, where farming was too difficult.

2.3.5 Groundwater and Hydrology

The RPS Environmental Assessment Report indicates the depth to groundwater across the site varies from approximately 5m at the lowest point near Boyagerring Brook, to 30m in the north west and south.

At the time of earlier assessment in May 2000, water quality in the brook was 510mSm which is brackish and of stock quality only (i.e. not suitable for drinking – non-potable). There is no proposal to utilise this water for drinking, as all lots will be serviced by normal reticulated water.

Flood mapping of the Avon River by the then Water Authority is reflected on the proposed Structure Plan and plan of subdivision and shows portions of the land affected by the 1-100 year floodway. This is in proximity to Boyagerring brook where the river can 'back-up' during heavy flow events. No development is proposed in this floodway area. This mapping is also incorporated into the JDA Consulting Hydrologist's drainage considerations contained within the Part B technical reports.

2.3.6 Fauna

Given the absence of vegetation, there is little significant habitat value. Some opportunities exist in remnant trees and along two creek and adjoining river. No changes are proposed here.

3. PLANNING CONSIDERATIONS

3.1 TOWN PLANNING SCHEME NO. 1 (TPS1)

The project site is subject to the provisions of the Shire of Toodyay Town Planning Scheme No. 1 (TPS1) (**Figure 3**). Under TPS1 the land is zoned “Urban 6”. To the north / northwest the project site adjoins “Rural 1” and “Rural 3” zoned land. To the south the site adjoins land reserved for “Recreation & Landscape Protection” (the Avon River and Boyagerring Brook) and “Public Purpose – Government Requirements” (Toodyay District High School).

The “Urban” zones under TPS1 relate to the various categories of urban townsite development and include:

- Urban 1 Zone: Central Business Area
- Urban 2 Zone: Living Area (basic residential / institutional character)
- Urban 3 Zone: Living Area (basic residential / historic buildings & landscape)
- Urban 4 Zone: Living Area (basic residential)
- Urban 5 Zone: Living Area (landscape character)
- Urban 6 Zone: Future Development

Section 3.16 of TPS1 deals with the Urban 6 Zone, and specifically, Clause 3.16.2 of TPS1 states:

“3.16.2 Development for urban uses will be in accordance with a structure plan for the area adopted by Council.”

In addition clause 3.16.5 of TPS1 reads:

“3.16.5 The land zoned Urban 6 – Future Development located between the Avon River and the proposed Toodyay Bypass, being portion of Avon Location U3, shall be subject to the preparation of a Structure Plan, approved by the Western Australian Planning Commission and Council, prior to the subdivision and development of the land.

The Structure Plan shall provide an assessment of traffic noise levels from the Toodyay Bypass and suitable noise mitigation measures, if required, to be implemented at subdivision and/or development stage.”

Table 13 of TPS1 details the land uses permissible within the “Urban 6” Zone and indicates, in respect to residential use:

“All residential uses subject to the provisions of the R10 Residential Planning Code.”

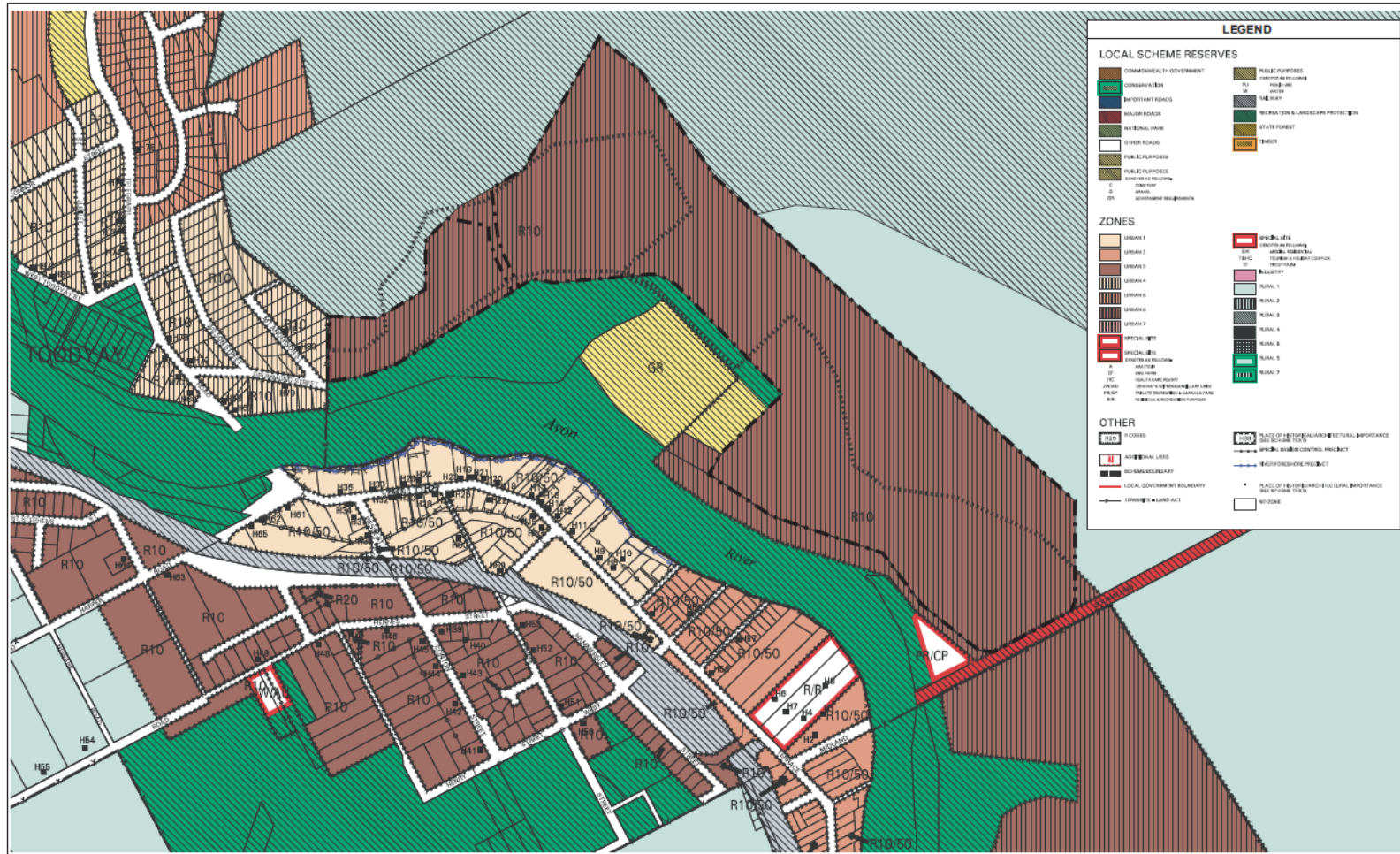


FIGURE 3

 Subject Land

Source: WAPC Shire of Toodyay



NOT TO SCALE

SHIRE OF TOODYAY TPS No:1
 Lot 3 & 6 Goomalling - Toodyay Road
 NUNILE



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Figure 3 - TPS No. 1 Zoning Map

3.2 AMENDMENT NO. 56 TO TPS 1

The parent land holding (Avon Location U3), including Lots 3 and 6, was the subject of Amendment No. 56 to TPS1 (endorsed by the Minister for Planning in June 2003). Amendment No. 56 rezoned Lots 3 and 6 to “Urban 6” and rationalised zoning boundaries in accordance with the accompanying “Foggarthorpe Residential Structure Plan”.

The Amendment No. 56 report indicates, at its conclusion:

“The intended rezoning represents the culmination of an extensive assessment of the most current environmental and planning issues and constraints of the area and in accordance with the provisions for the Urban 6 zone under Clause 3.16.2 of TPS1, presents a modified Structure Plan to guide future development of the land.”

In the context of this previous material, and the zoning of the land which provides for Residential R10 development, this submission provides the required comprehensive Structure Plan for the land.

3.3 DRAFT TOWN PLANNING SCHEME NO. 4 (TPS4)

In February 2001, the Shire of Toodyay resolved to prepare a draft TPS4, which was intended to replace TPS1 and the Shire of Toodyay Town Planning Scheme No. 3 (TPS3). The draft TPS4 was advertised in 2003, and adopted by the Shire subject to modifications. In 2005, the draft TPS4 was forwarded to the WAPC for consideration and final approval. The draft TPS4 is presently being held in-abeyance, however, pending finalisation and WAPC endorsement of the Shire’s associated Local Planning Strategy by the WAPC.

It is understood that, TPS4 intends to retain the same residential development potential for the subject land, in the form of “Residential Development” zone.

3.4 DRAFT LOCAL PLANNING STRATEGY (LPS)

In February 2001, the Shire resolved to prepare an LPS in conjunction with its town planning scheme review (draft TPS4) to guide the Shire in the planning of its urban and rural areas for the next 10 to 15 years. The Shire advertised the LPS in 2003, and following further work, adopted it on 23 February 2006. Thereafter the LPS was advertised for public comment, ending on 2 June 2006. Final modifications to the LPS were made in August 2006 and endorsed by Council thereafter. The draft LPS is presently with the WAPC for its assessment and ultimately endorsement.

Aside from acknowledging the development potential of the subject land, the LPS also:

- Identifies the requirement for “Road Vistas”, whereby the existing rural vista on entry roads to the townsite are maintained through the use of setbacks;
- Recognises Goomalling-Toodyay Road as the main transport link between Goomalling and Toodyay and is a state road controlled by Main Roads WA. Additional residential development will therefore need to consider traffic volumes and intersection locations;

- The draft LPS also identifies a potential new Industrial Area to the north of the Toodyay Bypass from the subject land. This area does not exist at present with no zoning in place to provide for any such development, notwithstanding its identification to address long term need. Ultimately the rezoning and development of this area will require its own structure plan, including consideration of appropriate land uses, impacts and buffers, including recognition of what will be an existing residential area on the subject land.
- Recognises the Toodyay By-pass and the need to consider appropriate buffering to residential development.

3.5 AVON ARC SUB-REGIONAL STRATEGY (2001)

This study, completed by the WA Planning Commission provides a broad framework for the use and development of land at the western edge of the wheat belt, and at the gateway to the Perth Metropolitan Region. The Strategy recognises the subject land as “Areas Zoned for Urban/Residential Development” (p49).

3.6 FOGGARTHORPE RESIDENTIAL STRUCTURE PLAN (2001)

The Foggarthorpe Structure Plan was prepared in 2001, to accompany Amendment No. 56 and form the basis for further subdivision. The plan dealt with the entirety of Pt Avon Location U3, and allocated land for expansion of the high school, public open space, and a district sporting site.

Other elements of the 2001 Structure Plan included:

- Generally 1000m² minimum residential lots (although above the R10 minimum);
- Landscape remediation at Boyagerring Brook (stormwater/flow containment);
- Possible local shop sites;
- 10m wide vegetated buffer along Bypass Road to provide screening / rural vista
- Road connection across Boyagerring Brook.

Based on more recent discussion with the Shire, it is apparent that the inclusion of local commercial shops would not be viable and only serve to detract from the main Town Centre uses.

3.7 PT AVON LOCATION U3 SUBDIVISION (WAPC 113772)

This subdivision approval was granted to facilitate a variety of land requirements for community purposes reflected in the 2001 Foggarthorpe Structure Plan. The main elements of the subdivision are described as follows (and remain relevant as context to surrounding land use and assessment of public open space and structure plan requirements):

(i) District Sporting Complex Site

In 2003, the requirement for this site had been identified by the Shire of Toodyay and was the primary factor behind the subdivision application. The site had been the subject of discussion and negotiation between the Shire and the landowners for some time, during which time Council had also been seeking state government funding to assist the development. At the time, the Council had concluded that the site is well positioned for the use, and features the following locational attributes:

- It is situated at the periphery of the Shire's main population centre (i.e., Toodyay townsite);
- It is located adjacent to other complementary community amenities – principally the District High School and the Toodyay River Foreshore;
- It features direct accessibility to the main arterial road system, via Drummond Street, with minimal disruption to existing residential areas;
- It is close to the existing pedestrian footbridge crossing over the Avon River, Adjacent to the District High School, which provides a direct pedestrian link to the Town Centre
- It is situated within one of the main areas of intended future growth, which will improve its centrality to the main population base.

Notwithstanding that the above points all remain accurate and valid, the sporting complex has never been developed and discussion with Council staff suggests there is no certainty regarding its development or timing. Issues of site works and construction cost appear to have prevented progression of the project.

(ii) Community Purpose Site

In 2003, or thereabouts, the then land owners also agreed to set aside additional land for other community purposes, adjacent to the eastern boundary of the high school. The Shire recognised the opportunity to plan for the facilitation of other community uses which may have direct relevance to the adjacent high school and would certainly serve to reinforce the recognition of this area as a community precinct.

(iii) High School Extension

As with the above land uses, the Department of Education and Training (DET) previously identified that the District High School would, in the short to medium term, need to expand beyond its existing site boundaries. The then landowners agreed to set land aside for acquisition by the Education Department. At the time of writing the DET could not provide any plans for expansion and were not able to confirm the timing of any expansion works or forecasted school numbers. Notwithstanding this, it is acknowledged that growth of High School attendance is expected, though this has already been provided for in land acquisition.

(iv) Rural Lots / Mount Anderson

Two rural lots to the north of Lots 3 and 6, encompassing the visually prominent southern and south western slopes of Mount Anderson, were created as a result of the super lot subdivision. This land will remain within the Rural zoning, within which no further subdivision will be permitted, to protect the visual integrity of Mount Anderson as a prominent part of the Rural landscape.

(v) Residential Super Lots – the subject land (Lots 3 and 6)

The balance of the original farming property was divided into two super lots being the subject Lots 3 and 6. These super lots were identified to form the primary parameters for future residential development.

4. STRUCTURE PLAN

4.1 DESIGN PHILOSOPHY

The 2001 Foggarthorpe Structure Plan sought to respond to a number of opportunities and constraints identified on the site. This document and the Structure Plan contained herein seeks to evolve the same Structure Plan given the additional technical reporting material now at hand. The following comments outline current opportunities and constraints (**Figure 4**) and detail the original and amended Foggarthorpe Structure Plans (**Figures 5 and 6**).

The originally identified broad development philosophies for this land may be summarised as follows and are reflected in detail in **Figure 4**:

(i) Relationship to Toodyay Township

With the established alignment of the proposed Toodyay By-pass Road, and the proximity and connectivity of the land with the Toodyay town centre, this zoned land now shows a stronger physical relationship to the urban and social structure of the townsite than it does with its broad acre farming origins, and demonstrates attractive attributes for the future urban expansion of the Toodyay townsite.

(ii) Social Infrastructure

An important part of the original structure plan was the identification of opportunities for the development of social infrastructure, including a District Sporting Complex, other community amenities, and an expansion of the existing District High School site. These uses were subsequently facilitated, and this Structure Plan continues to provide connectivity and recognition of them.

(iii) Development Form

Whilst it is recognised that the site will perform an important function in accommodating future urban growth within the Toodyay townsite, it is important to ensure the land use and subdivision pattern also respects the surrounding context, the physical and environmental constraints of the site, and provides a residential land product consistent with site context and local market requirements.

The 2001 Foggarthorpe Structure Plan sought to produce a land use and subdivisional framework which makes efficient use of the residential land resource, but in a manner which respects the physical and environmental characteristics of the land and its environs, ensuring that the subdivisional pattern is sufficiently robust to meet the varying and changing demands of the local residential market. The Structure Plan proposed for approval herein continues to remain consistent with the earlier plan, retaining a base of Residential R10 lot size, albeit with a particularly robust street layout that is sufficiently flexible in respect to review of lot size or staging of development if ever required.



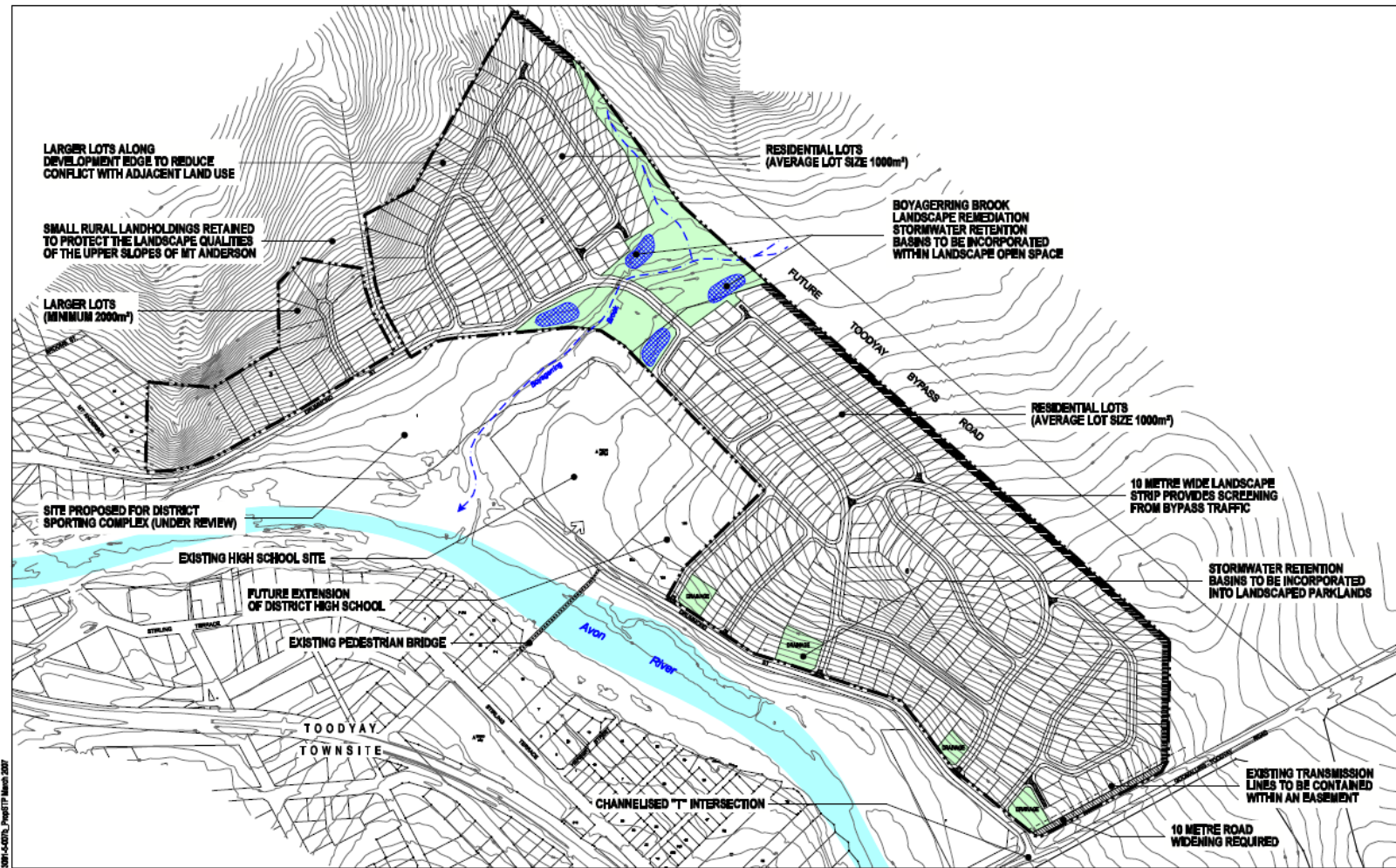
FIGURE 4

Subject Land
 SOURCE: Water Corporation base data

OPPORTUNITIES AND CONSTRAINTS
 Lot 3 & 6 Goomalling - Toodyay Road
 NUNILE


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 URBAN DESIGN - DEVELOPMENT CONSULTING
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Figure 4 - Opportunities and Constraints

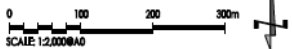


S014-0010_1_PropSP17_March 2007

FIGURE 5

 Subject Land

SOURCE: Water Corporation base data



FOGGARTHORPE STRUCTURE PLAN
 Lot 3 & 6 Goomalling - Toodyay Road
 NUNILE



PERth Tel: (08) 9484 2222 Email: per@koltaszsmith.com.au

Figure 5 - Foggarthorpe Original Structure Plan

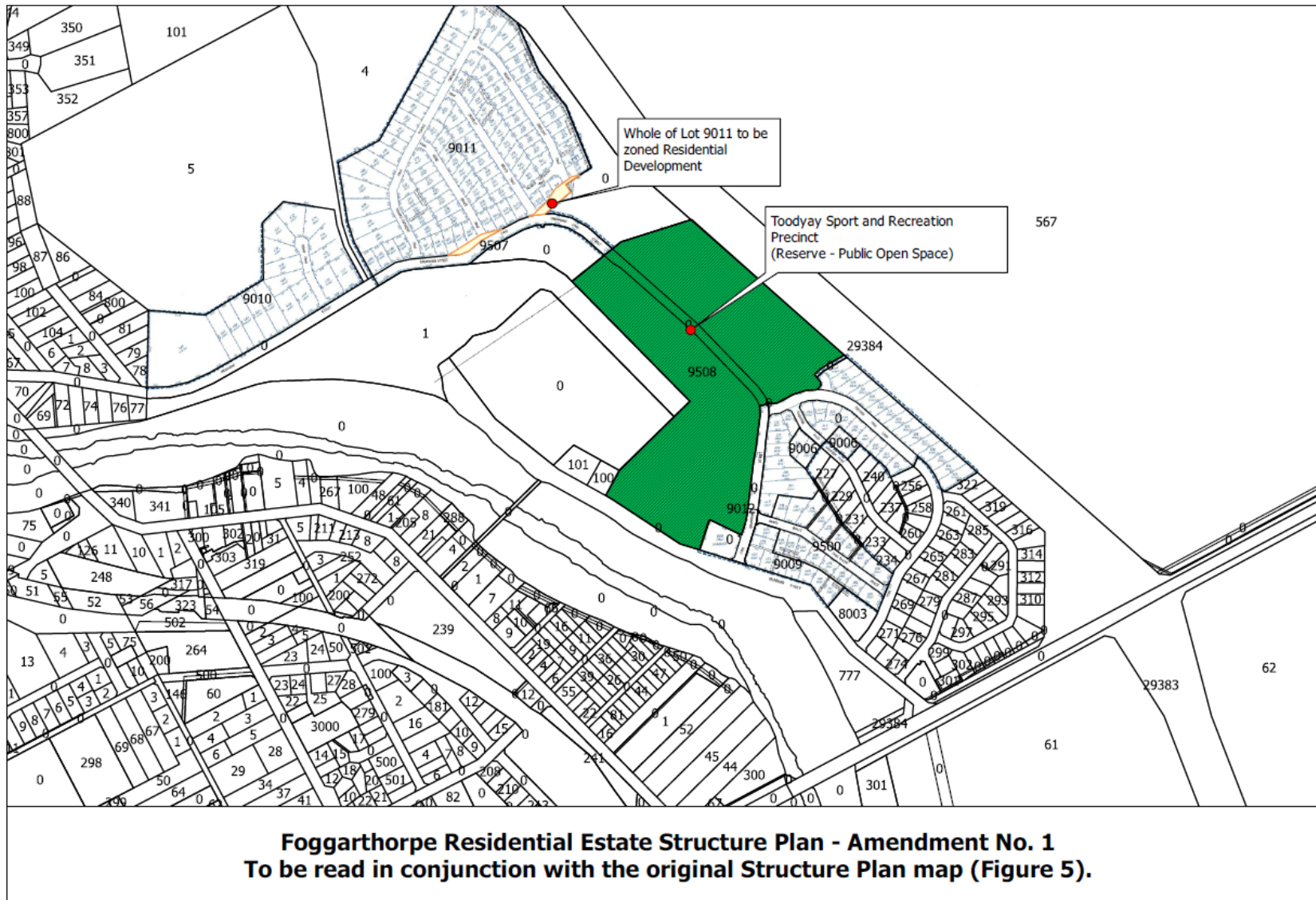


Figure 6 - Amendment No. 1 Structure Plan Map

4.2 PROPOSED STRUCTURE PLAN

The original Structure Plan (**Figure 5**) reflected the design review undertaken and the input of engineering, environmental, traffic and acoustic consulting expertise. The overall layout is entirely consistent with the earlier versions, albeit reflective of more detailed assessment now undertaken to accompany subdivision of the land. The Structure Plan, as amended, (**Figure 6**) reflects the Shire's proposed recreation precinct.

4.2.1 Land Use

4.2.1.1 Residential

Residential subdivision remains the predominant land use element of the Structure Plan. The subdivision pattern shows a variety of housing/ density choices, with the maximum density based on the standards applied under the Urban 6 Zone (average lot size 1000m²; minimum lots size 875m²), but with larger lots of between 1,250 and 2,859m² on the external periphery adjoining the lower slopes of Mt Anderson.

The detailed plan of subdivision for the land comprises **Figure 8** and shows the density distribution is designed to take maximum advantage of the natural landform, to capitalise on the visual and physical accessibility on the site and the proximity to Boyagerring Brook and the Avon River.

In terms of total dwelling yield, the Structure Plan and proposed subdivision will ultimately produce 378 residential lots (not including four sites to be set aside for drainage), with one additional lot to be set aside as Goomalling – Toodyay Road widening.

The subdivisional pattern features a robust semi-gridded design which will continue to enable flexibility in lot density and configuration, acknowledging that trends and community expectations may vary over the life of the Structure Plan.

4.2.1.2 Community Infrastructure

(i) District Sporting Complex

The 2001 Foggarthorpe Structure Plan included provision for a District Sporting Complex site of approximately 7 ha adjacent to the Toodyay District High School and the Avon River foreshore. While this site has been ceded and does not form part of the update report's landholding, it remains relevant given both the land was the subject of conditions for its ceding in the related WAPC subdivision approval and in legal agreements reached between the landowner and the Shire.

In short, the Sporting Complex land was ceded to the Crown free of cost, pursuant to Section 28A of the Town Planning and Development Act, for recreational purposes, on the understanding that it will, in turn, be vested in Council for District Recreational Purposes. This agreement was secured on the understanding that the contribution would fulfil the 10% public open space requirement for the residential subdivision component of the Structure Plan area. Notwithstanding this agreement, this Structure Plan Report acknowledges the need to allocate separate land areas for the protection of Boyagerring Brook as well as for drainage purposes.

(ii) Community Purpose Site

The 2001 Structure Plan also made provision for additional Community Purpose land to be set aside immediately east of the High School Site. This was also part of the privately owned farm and the then landowners agreed to cede this land to the Crown to be vested in the Shire. Notably, when

considering the allocation of District Sporting site, and Community Purpose land, the Foggarthorpe land has contributed significantly to the betterment of the Toodyay townsite.

4.2.1.3 Public Open Space

Whilst the minimum 10% open space contribution is fulfilled by the provision of the District Sporting Complex and Community Purposes Site, additional public open space areas have been set aside in recognition of other specific requirements, including environmentally sensitive land, poor capability for housing construction, and drainage management. Three areas have been identified:

(i) Boyagerring Brook

The section of the Boyagerring Brook extending between the District High School and the proposed Toodyay Bypass Road is to be encompassed within Public Open Space. The Boyagerring Brook performs an important natural drainage function, is prone to occasional flooding during extreme storm events and its flood plain contains soil characteristics which are not desirable for housing construction.

The water course, which only runs seasonally is presently in a degraded state; it is considered that urban development will not place any increased pressure on the water course. In fact, it presents opportunities to substantially improve its environmental and water management qualities through, firstly, the removal of stock intrusion, and secondly, landscape remediation which will transform the Brook into an attractive parkland feature within its future residential setting.

The open space also provides the opportunity to establish drainage compensation basins to manage stormwater run-off into Brook from future urban development. The land allocated to Boyagerring Brook reflects both the current mapping for the Avon River and Boyagerring Brook and has been verified by detailed on-site survey.

(ii) Drummond Road (East) and Goomalling-Toodyay Road Entrance

Drainage / public open space areas have been shown at the southern estate entrance (i.e., the junction of Goomalling-Toodyay Road and Drummond Street East) and along Drummond Road East. These areas will be designed for storm water management purposes, though each is also strategically positioned so that it may be suitably designed and landscaped as an attractive entrance feature and passive park facility for immediately adjoining residents, thereby providing additional passive recreation opportunities where possible.

The total Public Open Space contribution is 15.62% calculated as follows:

	Previous (DP25741)	2007 Plan
Structure Plan Area	99.7678 ha	
Less		
• Rural Lots	27.0563 ha	-
• High School Expansion	1.385 ha	-
• Special Site	1.7048 ha	-
Gross Subdivisible Area		69.6217 ha
10% POS Provision		
Total Public Open Space		
• Lot 1 POS ceded	9.2401 ha	-
• POS – Surrounding Boyagerring Brook (usable – external to floodline)		0.94154 ha
• 4 Drainage Sites in Drummond St		0.445 ha
Public Open Space Provided	9.2401 ha	1.38654 ha
Total POS	10.62664 ha or 15%	

4.2.1.4 Commercial Land Uses

One of the few changes to the 2001 Structure Plan proposed herein, is the removal of proposed local retail.

The original structure plan identified a location for a possible local shop situated central to the Structure Plan area, and adjacent to the Community Purposes Site, in close proximity to the High School and District Sporting Complex.

Clearly, however, the local resident population of the Structure Plan area will not, in its own right, be sufficient to sustain a local shop in this location and upon further review and discussion with Council it is seen as more appropriate to avoid land uses which may detract from the main Town Centre retail activities.

4.2.2 Movement System

Figure 7 shows a conceptual illustration of the key pedestrian and vehicle movement structure. The following comments provide a summary of traffic movement considerations, though this is examined in detail within the Transcore traffic report accompanying this submission separately in Part B.

The vehicle movement system is defined by a main connecting road linking Drummond Street East and Drummond Street West across Boyagerring Brook. This connection provides internal connectivity while linking back to Drummond Street and, on the east edge, to Goomalling-Toodyay Road. The Local Distributor Road alignments are also positioned to provide direct access/frontage for the existing and proposed district recreation, community and educational uses.

The semi-gridded road pattern combined with the generally linear nature of the Structure Plan area provides for a highly permeable movement system, providing direct accessibility from all parts of the sub-division. The road network provides for logical movement in either an easterly or westerly direction.

Pedestrian movement generally adheres to the permeable road system, providing legibility and connectivity for pedestrians throughout the estate. The subdivisional pattern emphasises strong connections to the public spaces and facilities within the Structure Plan area, as well as links to the external facilities, in particular the Avon River foreshore and Toodyay Town Centre.

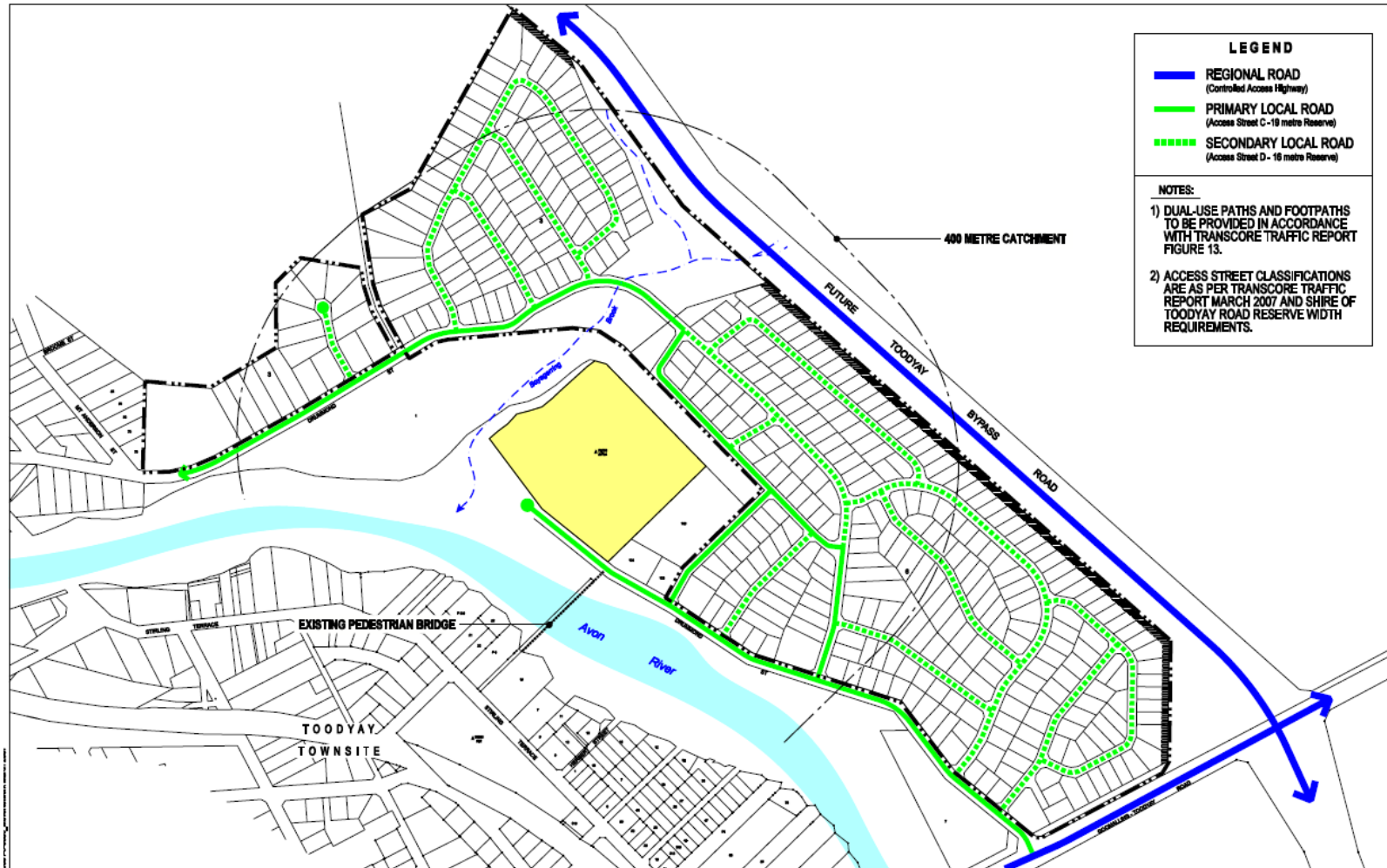
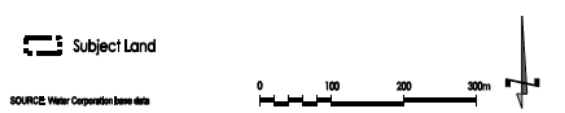


FIGURE 7



MOVEMENT NETWORK
Lot 3 & 6 Goomalling - Toodyay Road
NUNILE

koltaszsmith
TOWN PLANNING - PROJECT MANAGEMENT
URBAN DESIGN - DEVELOPMENT CONSULTING
PERTH Tel: (08) 9486 2222 Email: perh@kasp.com.au

Figure 7 - Movement Network

4.3 ENVIRONMENTAL IMPACTS AND MANAGEMENT

The Structure Plan design has been based on a thorough analysis of the environmental characteristics of the land and its surrounds. A separate report, prepared by RPS Bowman Bishaw Gorham and forming part of the Part B technical material details the extent of any management requirements. These are summarised as context, and as the key features of the Structure Plan design which respond to environmental conditions:

- The development area includes a portion of Boyagerring Brook which is a tributary of the Avon River that feeds the Swan River and therefore development is required to be consistent with the Environmental Protection (Swan and Canning Rivers) Policy 1997 (EPP). Notwithstanding this, Boyagerring Brook is highly degraded from historical 'river training' and agricultural land use. Revegetation will take place in Boyagerring Brook within the project area to improve bank stability, water quality and habitat value. This will take the form of a Revegetation Management Plan.
- The site contains a number of steeply sloping areas that will need to be considered during development to prevent erosion and drainage issues and a Construction Management Plan will address this.
- Acid Sulphate Soils are not considered a significant risk for to the project.
- With increased salinity of the Avon River an issue, revegetation of the Brook will assist in reducing further risk of salinisation of the area, though this is a regional problem.
- Development will be setback external to the identified 1-100 year flood level.
- A Drainage and Nutrient Management Plan will be prepared to deal with issues of drainage treatment, infiltration basins, stormwater flow paths and the like.
- A Foreshore Management Plan will be prepared to deal with issues of foreshore protection and enhancement, access and interface.
- Viewscapes from the Toodyay Town Centre will not be significantly affected, with key areas of visual prominence such the slopes of Mount Anderson already separately protected. The RPS Bowman Bishaw Gorham Environmental Assessment Report (EAR) concludes that no environmental issues exist that preclude subdivision from occurring as proposed in accordance with normal Council, Government agency and environmentally accepted standards. The report foreshadows in greater detail the above mentioned Foreshore Management Plan, which has been commenced by RPS Bowman Bishaw Gorham, although would ultimately be expected to be a condition of approval.

4.4 NOISE IMPACT ASSESSMENT

Lloyd Acoustics have completed a noise impact assessment contained within Part B to this report. A summation of the report is provided below:

- Assessment was undertaken to test against 'Statement of Planning Policy: Road and Rail Transportation Noise';
- Toodyay Bypass and Goomalling-Toodyay Roads are assumed, for the purposes of this modelling, to be 14mm chop seal;

- As the Toodyay Bypass does not exist, logging was taken at 68 Telegraph Road to establish current levels;
- Traffic volumes show night-time noise volumes to vary. Data logging shows this as in the order of 10dB less than day time levels;
- Given neither residences nor the road exist, a joint approach can be taken to minimise noise levels. This implies that either noise control to the road (smoother road surface) or to the intervening path (noise bunds/walls) could be constructed to achieve 'Exposure Level 1' noise levels (i.e. the target level under the policy);
- As the report shows, the majority of the proposed residences would fall within Exposure Level 1 with some lots closest to the Bypass or Goomalling-Toodyay Road within Exposure Level 2. This shows that walling or a bund will significantly reduce noise impact, though for those lots at Exposure Level 2 Design Guidelines would be used to address 'quiet house' design measures;
- Most importantly, the modelled noise levels may be considered a 'worst case' in respect to the road surface. The use of 14mm chip seal results in the highest levels of tyre noise compared to other road surfaces. The advantage of this is safety and minimal maintenance. Alternatively, surfaces such as open graded asphalt would also be safe while quieter though maintenance would be required every 7 years. Further discussion with MRWA is being undertaken regarding the use of open graded asphalt.

Lloyd Acoustics' recommended wall/bund design suggests an alignment whereby use of open graded asphalt by MRWA is supported in addition to the installation of the wall/bund. The combined effect of both these treatments indicates all lots would fall within required noise exposure levels and there would be no obligations on the residents and no required memorials on title.

The range of options presented by Lloyd Acoustics, reflected in Table 6.1 of their report, highlights that use of both a wall/bund and open graded asphalt is preferred. It is acknowledged that the Shire of Toodyay seek use of bunding rather than walls in order to retain the rural vistas reflective of Toodyay. With this in mind further discussion with MRWA to obtain support for the combined bunding/open graded asphalt is being undertaken. Confirmation on the outcome of these discussions will then provide both the Shire and WAPC with confirmation as to the collectively agreed approach. Notwithstanding this, Structure Plan approval is sought subject to the issue being finalised as a condition given the extent of modelling undertaken.

4.5 EARTHWORKS

Wood and Grieve engineers advise that bulk earthworks will be minimal due to the existing topography and ground conditions which include subsurface rock. Consistent with typical development within the Shire of Toodyay, the developed lots will typically be left at their natural gradient and no retaining walls will be constructed at subdivision stage.

It is intended that the buildings within the proposed subdivision have a minimum finished floor level that is 0.5m above the 100 year flood level of Boyagering Brook and the Avon River. The topography of the site accommodates this requirement for the majority of lots without the need for any filling. The slope of the existing surface enables the residential areas to be served by gravity sewers and stormwater drainage to flood route out to the Avon River in a major storm event.

4.6 SERVICES

4.6.1 Roads

The proposed subdivision will incorporate a road network as detailed on the subdivision plan (**Figure 8**). All roads will be designed to a kerbed and drained urban standard in accordance with the Shire of Toodyay's requirements and the geotechnical characteristics of the site.

Drummond Road West is currently being upgraded by the Shire of Toodyay and will provide access to the western portion of the site. The Toodyay Goomalling Road and Drummond Road East will provide access to the eastern portion of the site. Subdivision of the land in the manner proposed will result in these two external connections being linked across Boyagerring Brook.

The road connection between the east and west sides of the subdivision will provide a road, pedestrian and services crossing of Boyagerring Brook. The final configuration of this crossing would be determined in detailed design and would be anticipated to be a box culvert or bridge structure. It is anticipated that this would be constructed with the required servicing connection to the lots to the west of the Brook.

MRWA advice indicates a 10m wide road-widening strip is required for the purposes of widening the Goomalling-Toodyay Road adjoining the subject land. This 10m strip is to be set aside as a separate lot, pending acquisition.

Suitable intersection treatment of the Drummond Road East and Toodyay-Goomalling Road intersection will be provided in accordance with traffic engineering advice. At the time of writing Transcore traffic consultants have advised that MRWA's position is to oppose a round-a-bout at this location in preference for an upgraded intersection with turning lanes. MRWA consider this will better cater to heavier freight trucks using Goomalling-Toodyay Road. Ultimately, this issue can be a condition of Structure Plan and subsequent subdivision approval. It is understood further discussion to finalise intersection detail will take place between Transcore, MRWA and the DPI traffic branch as organised by DPI.

4.6.2 Drainage

JDA Consultant Hydrologist have been engaged by the client to undertake a hydrological study of the site. A key component of their study is to determine the final stormwater drainage strategy including final basin sizes, Boyagerring Brook flow characteristics and the like. Wood and Grieve engineers provide the following additional advice.

It is proposed that drainage stormwater runoff be collected by an urban standard kerbed road and piped drainage system. Side entry pits and gullies along the drainage network will be trapped to minimize the transportation of pollutants and sediments.

Due to the low permeability of the ground, lot connections will be provided for each lot connecting to the piped drainage network.

Subject to the outcomes of the Drainage and Nutrient Management Plan which is currently being prepared for the development by JDA Consultant Hydrologist, it is anticipated that the piped drainage network will discharge into a number of detention basins located along the Boyagerring Brook, the Avon River and Drummond Street. The intent of these basins is to provide a nutrient stripping facility and water quality treatment. Major stormwater events will be flood routed to the Avon River and Boyagerring Brook.

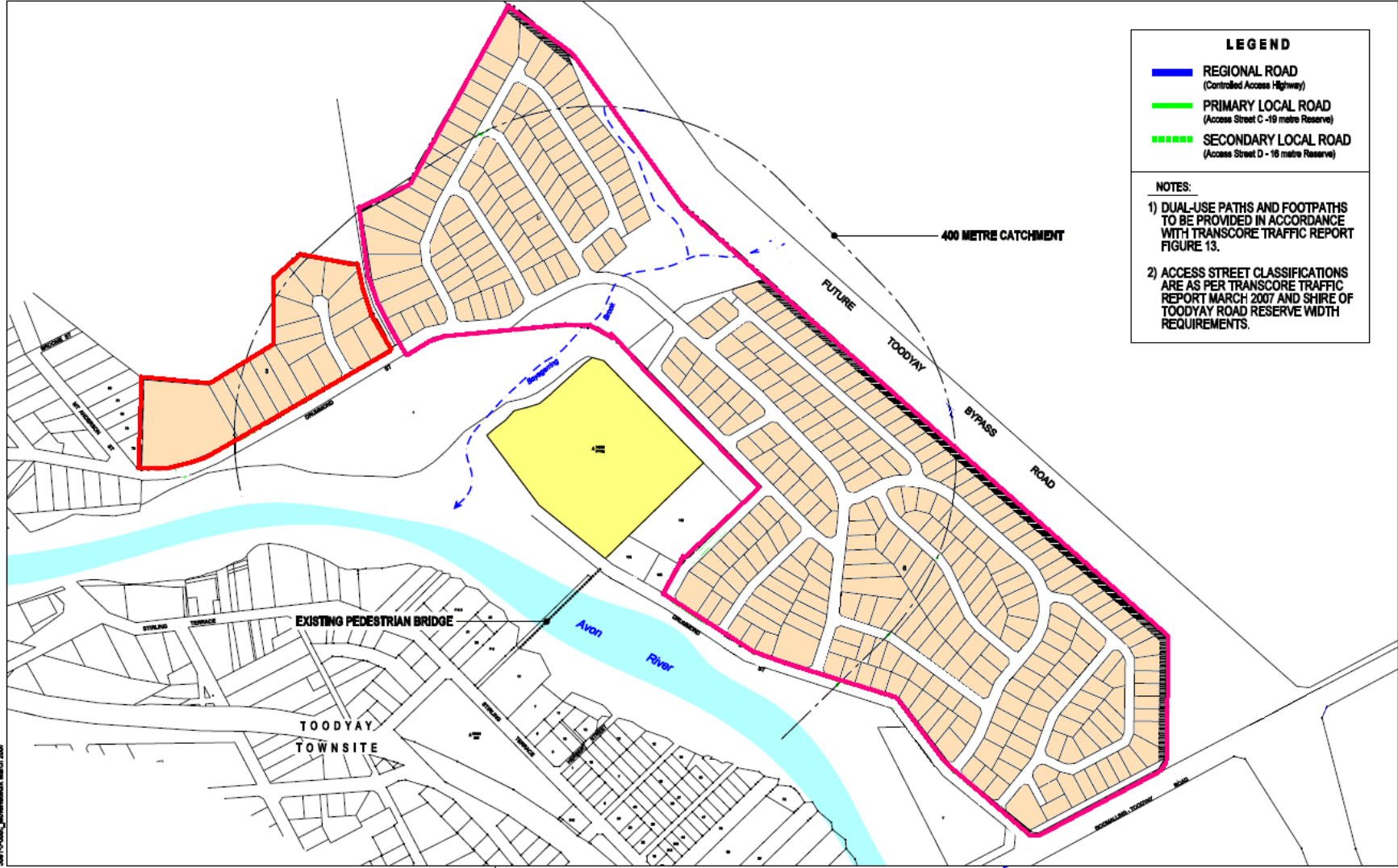


Figure 8 - Subdivision Plan

Preliminary advice from JDA Consultant Hydrologists, which has been included within Part B of the Structure Plan, indicates the location and size of the proposed drainage areas included on the Structure Plan are sufficient to accommodate the drainage runoff from the development.

Appropriate Best Management Practices in accordance with Department of Environment and Conservation's Stormwater Management Manual for Western Australia will be implemented. The JDA progress report 1 is contained within the Part B technical material.

4.6.3 Reticulated Sewerage

Wood and Grieve engineers has provided the following advice:

The Water Corporation's long term planning caters for the proposed subdivision by means of a gravity scheme discharging into two proposed permanent Wastewater Pumping stations, which will in turn discharge into the existing Toodyay gravity wastewater scheme.

Preliminary review with the Water Corporation has indicated that the majority of the proposed development can be gravitated to Toodyay Pump Station B which is located adjacent to the Goomalling-Toodyay Road and the Avon River. It is intended to be a Type 40 pumping station which discharges via a proposed DN150 pressure main to existing gravity sewers within the Toodyay townsite. This will require the pressure main to cross the Goomalling-Toodyay Road Avon River Bridge.

Toodyay Pump Station C will generally provide a sewage outfall to the portion of the proposed development to the east of the Boyagerring Brook. This is also intended to be a Type 40 pumping station, discharging into a proposed DN150 pressure main to existing gravity sewers within the Toodyay townsite.

This Structure Plan is proposed on the basis that all residential lots proposed in the manner shown will be provided with reticulated sewer. This position has been taken by the client given government agency and Shire feedback. This feedback has been provided notwithstanding engineering advice regarding the prohibitive cost of servicing the lots to the extreme west of the project area (those lots the subject of the initial Stage 1 application - WAPC 132135), and environmental advice that those same lots are capable of accommodating Alternative Treatment Units (ATU's) to handle wastewater. Further detailed on-site infiltration testing by RPS Bowman Bishaw Gorham demonstrating infiltration capability is contained within the environmental assessment report comprising Part B. As stated, all lots as proposed are to be sewerred.

4.6.4 Water Reticulation

Wood and Grieve engineers has provided the following advice:

The Water Corporation has advised that the water supply for the development will utilise the existing water reticulation network located in the Toodyay townsite. The existing Toodyay gravity scheme is fed from the Toodyay Water Storage Tank which has a top water level of RL216. It is estimated that all areas of the subdivision under RL190 can be served under static head. All subdivision lots are below RL190.

The Water Corporation have advised that a number of existing mains within the Toodyay townsite will be required to be upgraded to ensure adequate pipe capacity to service the proposed development.

The connection to the existing water reticulation mains requires a crossing of the Goomalling-Toodyay Road Avon River Bridge.

4.6.5 Underground Power

Underground power distribution is subject to the final requirements of Western Power though it will be reticulated about the site through a network of high and low voltage power infrastructure. Underground power connections would be provided to all proposed lots, with overhead lines expected to be underground within Drummond Street where it abuts the development. Overhead high voltage power lines are currently situated within the site, adjoining Goomalling Toodyay Road, in Telegraph Road and across the Avon River adjacent to the wooden footbridge used to access the school, and would provide a high voltage connection to the site.

4.6.6 Gas Reticulation

Reticulated gas will not be provided within the subdivision as there are currently no reticulated gas mains that extend to Toodyay.

4.6.7 Telecommunications

Telstra mains and distribution networks exist within the vicinity of the subdivision. It is anticipated that minor offsite trenching will be required to bring Telstra infrastructure to the site.

4.7 STAGING

The planning and development of Lots 3 and 6 are proposed to be undertaken in generally two stages, namely 18 lots adjoining Drummond Road (West) and the balance project area of 357 lots in subsequent stages to the east. The applications for subdivision accompanying this report have been submitted to the WAPC to coincide with this proposed staging. **Figure 9** shows the stage boundaries for land release.

Notwithstanding this, the crossing of Boyagerring Brook will be constructed as part of initial subdivision works, and as part of the first release of lots.

Given the significant demand for affordable residential land in the current housing market the landowner seeks the support of Council to achieve implementation of the project as soon as practicable. Notably the WAPC has actively sought the support of the development industry in this regard to achieve the release of additional residential land to market.

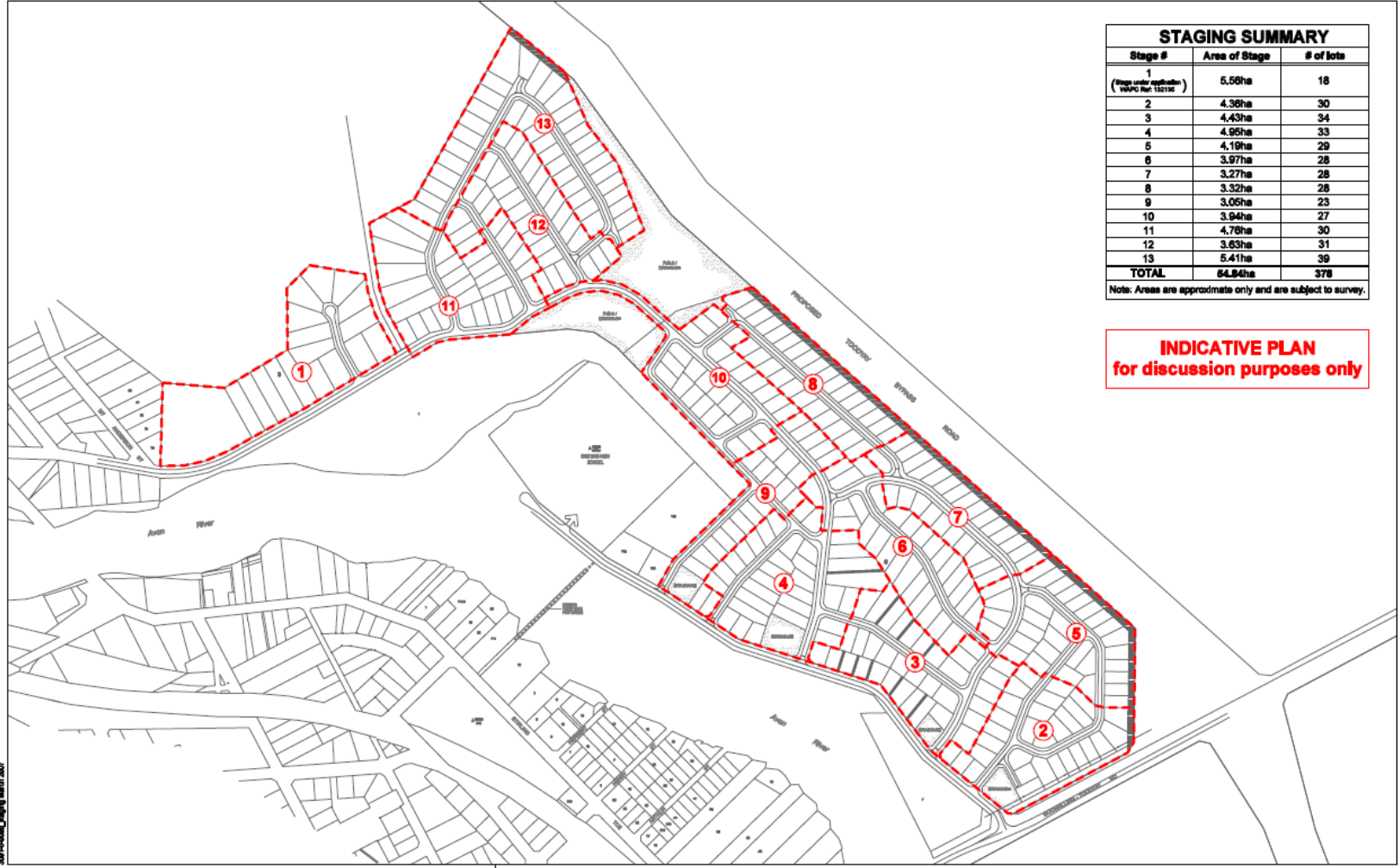

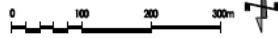


FIGURE 8

 Staging Boundary / Number

SOURCE: Water Corporation / Midland Water Surveys



PROPOSED STAGING PLAN
Lot 3 & 6 Goomalling - Toodyay Road
NUNILE

koltasz smith
TOWN PLANNING • PROJECT MANAGEMENT
URBAN DESIGN • DEVELOPMENT CONSULTING
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Figure 9 - Proposed Staging Plan

5. IMPLEMENTATION

This report reflects the previous 2001 Structure Plan and subsequent 2006 reports, while recognising the need to address various matters highlighted during discussion on the current applications for subdivision of the land.

The approach is intended to achieve Structure Plan approval to this document and plan as per agreed processing by the Shire of Toodyay and WAPC in relation to DR396 and DR397. The document and accompanying technical reports are intended to provide those assessing with all necessary information to approve or conditionally approve.

Under the provisions of the Urban 6 zone in TPS 1, Clause 3.16.2 requires that development for urban uses be in accordance with a Structure Plan adopted by Council. Similarly, Clause 3.16.5 requires the specific Structure Plan for this land consider traffic noise levels and potential mitigation requirements from the Toodyay Bypass.

The notion of future urban expansion over the subject land has been acknowledged for over 15 years as is evidenced by the existence of Urban 6 zone since 1991. Similarly, subdivision approvals have been granted in 1992 (190 lots) and more recently in 2001 (super lot subdivision).

Given recent discussion regarding Structure Plan material prepared during 2006 and the resolution of previously outstanding matters regarding that document, it is requested that Council endorse this Structure Plan and recommend its similar endorsement by the WAPC at the earliest opportunity.