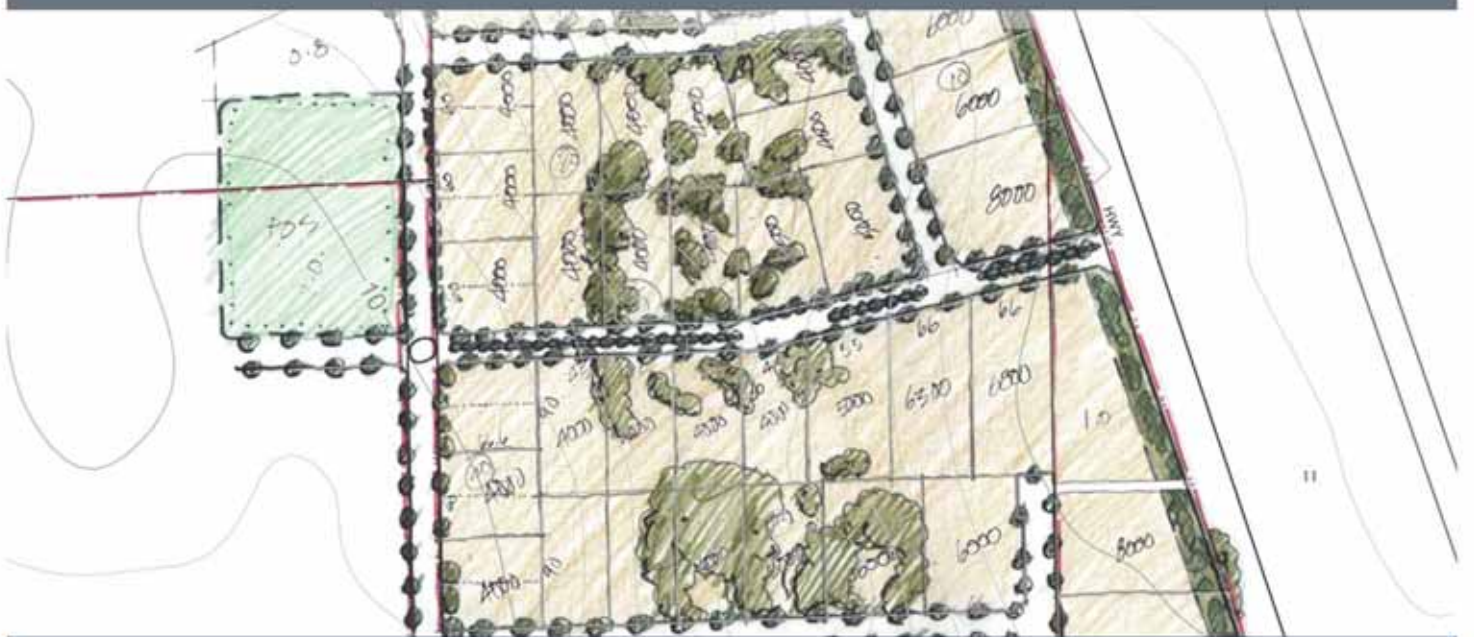


LOCAL STRUCTURE PLAN



Lots 4, 5 and 10 Brand Highway, Bonniefield
Dongara

March 2015

**LOTS 4, 5 AND 10 BRAND HIGHWAY,
BONNIEFIELD, DONGARA**

LOCAL STRUCTURE PLAN

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March 2015

(inc WAPC Modifications)

ENDORSEMENT PAGE

This structure plan is prepared under the provisions of the Shire of Irwin Local Planning Scheme No. 3.

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON:

20 February 2015

In accordance with Schedule 2, Part 4, Clause 28 (2) and refer to Part 1, 2. (b) of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

Date of Expiry:

19 October 2035

TABLE OF MODIFICATIONS TO PART 1 AND STRUCTURE PLAN MAP

Modification No.	Description of Modification	Date endorsed by Council	Date endorsed by WAPC

EXECUTIVE SUMMARY

Location of the Structure Plan Area

The structure plan area is approximately 3km north of the Dongara town centre within the suburb of Bonniefield. It is located immediately west of Brand Highway, and is approximately 1.5km from the ocean to the west.

Land uses proposed by the Structure Plan

The structure plan proposes development of the site for residential purposes, supported by a public open space. It has been designed to fit into the larger development area identified within the Dongara District Structure Plan.

Relationship to the Local Planning Scheme

The structure plan has been prepared under Clause 5.35 of the Shire of Irwin's Local Planning Scheme No. 5.

Item	Data	Section Number Referenced within the Structure Plan Report
Total area covered by the structure plan	59.2ha	1.2
Area of specific land uses		3.1
Residential	52.34ha	3.4
Commercial	-	
Industrial	-	
Public Open Space	6.86ha (gross)	3.3
Estimated lot yield	85	3.4
Estimated number of dwellings	85	3.4
Estimated population (du x 2.6)	221 people	
Number of high schools	-	3.7
Number of primary schools	-	3.7
Estimated commercial floorspace (NLA)	-	3.8
Estimated employment provided	-	3.8
Estimated number and % of public open space		3.3
Regional Open Space	-	
District Open Space	-	
Estimated area and number		3.3
Neighbourhood parks	1.99ha (gross) 1 park (A)	
Local Parks	4.87ha (gross) 3 parks B, C & D)	

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PART ONE

1. STRUCTURE PLAN AREA

This Structure Plan shall apply to Lots 4, 5 and 10 Brand Highway, Bonniefield being the land contained within the inner edge of the broken black line shown on the Structure Plan Map.

2. STRUCTURE PLAN CONTENT

This Structure Plan comprises the:

- a) Statutory section (Part One);
- b) Explanatory section (Part Two); and
- c) Appendices to Part Two – Technical reports.

Part One includes the Structure Plan Map and provisions which require statutory effect.

Part Two (and its appendices) justifies and explains the provisions contained in Part 1, and should be used as a reference guide to interpret and implement Part 1. It does not hold statutory effect.

3. INTERPRETATIONS AND SCHEME RELATIONSHIP

This Structure Plan has been prepared under Clause 5.35.6 of the Shire of Irwin Local Planning Scheme No.5 ('the Scheme').

The words and expressions used in this part of the Structure Plan shall have the respective meanings given to them in the Scheme.

Land use permissibility for each zone within the Structure Plan shall be in accordance with the Scheme, except as specifically varied by this structure plan.

The provisions, standards and requirements specified under Part One of this Structure Plan shall have the same force and effect as if it were a provision, standard or requirement of the Scheme.

In accordance with sub-clause 5.35.12.2 of the Scheme, in the event of there being any inconsistencies or conflict between the provisions of the Scheme and the provisions of this Structure Plan, then the provisions of the Scheme shall prevail to the extent of the inconsistency.

Part Two of this Structure Plan and the Technical Appendices are to be used as a reference only to clarify and guide interpretation and implementation of Part One.

4. OPERATION

In accordance with the sub-clause 5.35.12.1 of the Scheme, this Structure Plan shall come into operation when it is endorsed by the Commission pursuant to sub-clause 5.35.12.1 (a).

5. LAND USE AND SUBDIVISION REQUIREMENTS

Subdivision and development shall be generally in accordance with the Structure Plan Map.

5.1 Public Open Space

Public open space will be provided in accordance with the WAPC's Liveable Neighbourhoods. Public open space is to be provided generally in accordance with the Structure Plan Map and Table 1.

POS Site	Size (approximate) - Ha
A	1.99
B	1.96
C	0.83
D – Total (Restricted)	2.07
D - North	0.91
D - South	1.16

5.2 Boulevard Entry Road

Prior to the creation of any lot in excess of 20 lots within the Structure Plan area, the Boulevard Entry Road access from Brand Highway shall be provided and / or upgraded by the developer to the specification of the WAPC, on the advice of Main Roads WA.

The Boulevard Entry Road shall be provided with a road reserve of 27m in order to accommodate a landscaped central median swale to capture stormwater and manage potential future traffic. The precise road layout and treatment of the verges and median shall be determined as a condition of subdivision in consultation with the Shire of Irwin.

5.3 Local Development Plans

At the time of subdivision, conditions may be recommended requiring the preparation of Local Development Plans which:

- Restrict access to the Boulevard Entry Road from abutting lots by limiting access points and requiring the placement and design of parking areas to allow vehicles to return to the street in forward gear; and
- Mitigate against noise received from Brand Highway through building placement and/or design controls on lots within, or with a portion within, 48m of Brand

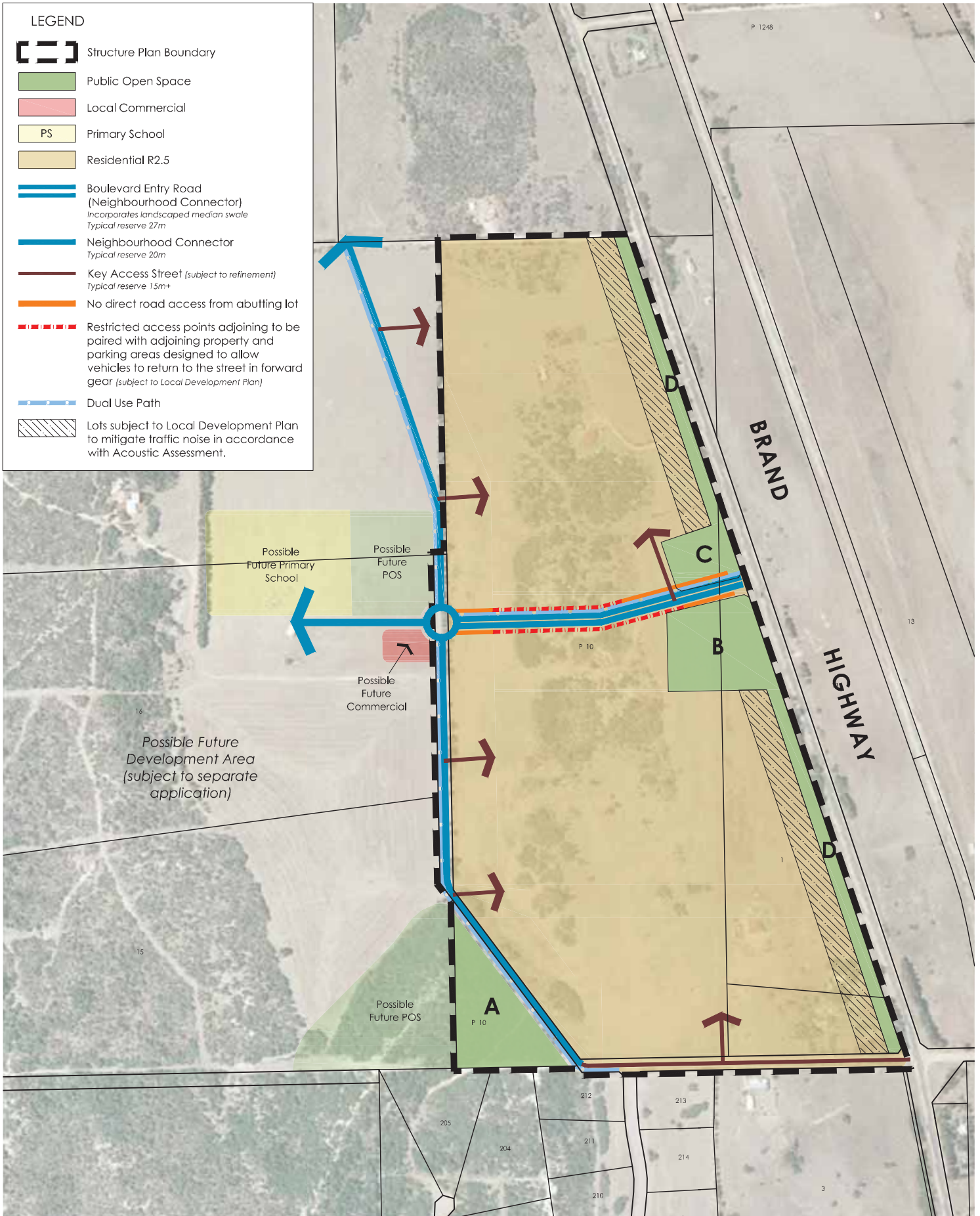
Highway in accordance with the Acoustic Assessment undertaken for the Structure Plan Area.

5.4 Pedestrian and Cyclist Infrastructure

As a condition of subdivision, the developer will provide dual use paths in accordance with the Structure Plan in addition to footpaths within the internal road network.

6. DEVELOPMENT REQUIREMENTS

Development of lots abutting or immediately opposite the triangular public open space 'A' in the south-west corner of the structure plan area are to be subject to Australian Standards ASA 3959-2009 ("Construction of Houses in Bushfire-prone Areas") and all lots are to be provided with a 20m Bushfire Protection Zone to any habitable building.



PART TWO

1.0 PLANNING BACKGROUND

1.1 Introduction and Purpose

This Local Structure Plan (LSP) has been prepared on behalf of the owners of Lots 4, 5 and 10, Brand Highway, Bonniefield, and is lodged with the Shire of Irwin pursuant to clause 5.35.4 of the Scheme. The purpose of this LSP is to guide the subdivision and development of the subject area in a coordinated fashion. Development of the LSP area will assist in providing for the anticipated demand for residential lots within Dongara-Port Denison in an integrated and sustainable manner. The urban expansion that the LSP facilitates will support coordinated and ongoing growth as envisaged by the Shire of Irwin's *Strategic Community Plan 2012 – 2013*.

The LSP draws on the current strategic planning framework, and refines the level of detail in order to ensure that relevant environmental, social, economic and infrastructure issues are addressed, and that a clear and robust statutory framework is provided to enable subdivision and development of the structure plan area. The timeframe for the subdivision and development of the LSP area will be guided by land sales and market demand, anticipated to run over the course of the next 5 – 10 years.

Preparation of this LSP and the Development Concept from which it has been developed has involved consultation with the Shire of Irwin, Department of Planning, Main Roads WA, environmental agencies and relevant service authorities. The consultation early on in the process has ensured that the LSP addresses all matters raised by the various agencies prior to lodgement.

1.2 Land Description

1.2.1 Location

The LSP area is located immediately north of the Dongara townsite, within the suburb of Bonniefield. It is bounded by Francisco Road to the south, Brand Highway to the east, existing farming land to the north, and existing farming land to the west, which abuts foreshore reserves and the Indian Ocean. The LSP area is approximately 3km north of the Dongara town centre and 1.5km from the ocean.

A location plan showing the LSP area within the broader district context is provided at Figure 1.

1.2.2 Area and Land Use

The LSP area is approximately 59ha in total, and comprises 3 freehold lots. The majority of the land is used for farming, and a child care centre is understood to

operate from the dwelling at Lot 4. A detailed site plan and orthophoto is Figure 2.

1.2.3 Legal Description and Ownership

The LSP area includes all of Lots 4, 5 and 10 Brand Highway. All three land parcels are privately owned, with the owners of Lot 10 the principal proponents of this plan. Table 1 provides the legal description and ownership of the subject land.

Table 1 – Land Ownership and Legal Description

Lot No	Certificate of Title*	Owner	Area (ha)
4	2046-796	Paul Bender & Brenda Kretschmer-Bender	2.4
5	2046-797	Gary & Jose Norrish	8.6
10	2072-286	Lundy Pty Ltd & Texas Property Development Pty Ltd	48.2
Total			59.2

* Refer Appendix 1

1.3 Planning Framework

1.3.1 Zoning and Reservations

The site was recently rezoned to 'Development' under the Shire of Irwin's Local Planning Scheme No 5 (LPS5) via Amendment 15, which was prepared by the proponents of this proposal.

The purpose of the 'Development' zone is to provide for the comprehensive planning and coordinated subdivision and development of land, in accordance with an approved structure plan.

Land to the north, east and west is zoned 'General Farming'. The Race Course estate to the south is zoned 'Rural Residential', and is largely developed for this purpose, with the areas immediately south and west of this being zoned 'Residential'.

Brand Highway, abutting the LSP area to the east, is reserved for 'Major Road or Highway'.

The coastal corridor to the west forms a Local Reserve, whilst Reserve 23600, a 50ha (approximately) block of land diagonally south-west of the site is reserved for conservation.

A plan depicting the current zonings under LPS5 is provided at Figure 3.

1.3.2 Regional and Sub-Regional Structure Plan

The Shire commissioned a District Structure Plan (DSP) for the Dongara – Port Denison area which received final endorsement by the Western Australian Planning Commission in 2014 (refer Figure 4). This identifies the LSP land and the adjoining land to the west as 'Future Urban / Residential' and more specifically, as the 'Francisco Road North Precinct'. This reflects the stated intentions of the landowners. In relation to this LSP area, the DSP acknowledges that it is likely to be developed in the short to mid-term for low density residential purposes with future development including a neighbourhood centre and public purpose reserve (a primary school) shown immediately to the west of the LSP area, within the heart of the development precinct. The proposed LSP is consistent with the provisions of the DSP and will serve as a catalyst for the future development of the land identified within the 'Francisco Road North Precinct' in accordance with the provisions of the plan.

Adjoining land to the south is also identified for future urban development, with land to the north of the LSP area indicated as future 'Rural Living'.

1.3.3 Planning Strategies

A number of planning strategies apply to the region, though with limited direct implications for the site. The WAPC's draft Mid West Regional Planning and Infrastructure Framework 2011, for example, recognises Dongara's role as a regional centre, and acknowledges and responds to the high level of activity in the region which supports growth of such centres and hence their residential expansion.

More pertinently, the Shire's draft Local Planning Strategy identifies specific areas for urban expansion of the town, including a growth precinct running up to the boundary of this site (Policy Area B). The rezoning proposal for the site successfully demonstrated the rationale for incorporating the LSP area within area B and supporting its urban development as part of the town's growth strategy. This position is reinforced through its identification in the subsequently prepared District Structure Plan for the town.

As has been noted above, the Shire's Strategic Community Plan 2012-2022 identifies the need for future urban land to accommodate planned growth of the Dongara - Port Denison towns.

1.3.4 Policies

A number of state planning policies and guidelines are relevant to the LSP, including the WAPC's:

- Liveable Neighbourhoods (Edition 3, 2007);

- State Planning Policy 5.4 – Road and Rail Transport Noise;
- Draft State Planning Policy 3.7 – Planning for Bushfire Risk Management;
- Development Control Policy 2.3 - Public Open Space in Residential Areas;
- Planning for Bush Fire Protection Guidelines (Edition 2, 2010);
- Better Urban Water Management Guidelines (2008) and the Department of Water’s Best Practice Stormwater Management for WA document; and
- Structure Plan Preparation Guidelines (2012).

The structure plan and its supporting documents respond to and generally accord with the provisions and principles of these operational policies and guidelines, as discussed further in Part 3 of this report.

In particular, the design of the plan and associated Development Concept reflect the ‘new urbanist’ design principles underpinning Liveable Neighbourhoods through:

- Consolidating development in an accessible and amenable location, with good access to services, employment and amenities;
- Structuring development upon a ‘modified grid’ road layout which facilitates ease of movement, choice of routes, legibility and good access for all modes of transport;
- Planned provision of local services, within the next phase of the development, to supplement those already available within 3km, in the town;
- Provision of local open space, providing for both local amenity and environmental conservation; and
- Integration of storm water management within the design, allowing disposal at or close to source, utilisation of run-off to support green spaces, and sustainable water practices.

1.3.5 Other Approvals and Decisions

In considering broader issues relating to Dongara, the WAPC in 2011 identified the subject site (and 145ha of adjoining land to the west) as suitable for urban development. This has been reflected in the Shire’s draft DSP as the Francisco Road North Precinct.

The original rezoning proposal for the subject site incorporated this larger area, much of which is within the same ownership as the majority of the subject site. A consolidated urban residential development of up 1500-2000 lots was envisaged, as conceptually illustrated in Figure 5, to be progressively developed over the longer term. In considering this proposal at a number of briefing sessions in 2012, a number of Councillors present expressed concern at both the extent of the development site, and the residential density on the periphery of town. For this reason, the amendment area was modified to restrict it to the subject site, and the notional layout amended to accommodate larger lots which might

eventually integrate into a more urban residential area to the west. This discussion process did not involve a formal decision by Council but very much affected the extent and form of the development concept which secured Council's support for the rezoning, and forms the basis of this proposal.

Future development of land to the west of the site cannot be assumed by the proposal, as it requires additional statutory decisions and processes, however it should be accommodated and planned for, to allow it to occur in an integrated fashion, if and when this land is rezoned.

2.0 SITE CONDITIONS AND CONSTRAINTS (SITE ANALYSIS)

A summary of opportunities and constraints presented by the site is shown graphically in Figure 6 – Site Analysis. Its attributes are further discussed below.

2.1 Biodiversity and Natural Area Assets

The majority of the site is cleared. Environmental investigations were undertaken as part of the LPS5 amendment process to rezone the land and prior investigations leading up to this incorporating the land to the west of the site. Based on this analysis, the Environmental Protection Authority (EPA) resolved to not formally assess the rezoning proposal, on the basis that development of the amendment area would not have any significant environmental implications. A copy of the EPA's formal advice is Appendix 2, and positively notes the proposed retention of remnant vegetation in the south-west corner of the site.

The findings of the environmental investigations are documented in Appendices 3 and 4 to this report. These apply to the broader area then under review, and are summarised as follows:

- The flora and vegetation represents a low species richness associated with the Quindalup dune, largely due to the poor condition of the site;
- No Threatened (Declared Rare) or Priority Listed flora species were found;
- Four separate Vegetation Associations were identified on the site, (refer Figure 7) as follows:
 - Ar *Acacia rostellifera* Tall Open Scrub to Closed Tall Scrub: main vegetation type on site, ranging from 2 – 5m tall, standing typically on the lee side of the dunes and in the valleys. Sparsely vegetated understorey with extensive weed, most Ar areas have been classed 'Good' or 'Degraded' with the exception of one 'Very Good' area in the south west corner of the site;
 - ArAh *Acacia rostellifera* / *Alyogne huegii* Open Heath: A narrow strip of this vegetation type occurred on the top of the eastern ridge of the dunes on Lots 15 and 16 as well as a degraded part on the eastern side of Lot 1409. Overall, the vegetation type was dominated by weeds but was classified as being in Good condition;
 - MIAr *Melaleuca lanceolata* Low Open Forest over *Acacia rostellifera* Tall Shrubland: This vegetation type occurs in two stands, one of around 5ha at the northern end of Lot 17 and a smaller one at the north-east corner of Lot 1409. Their conditions were assessed to be Very Good and Degraded, respectively. The larger area contained 13 species of which 10 were native;
 - EoAr *Eucalyptus obtusiflora* Tree Mallee over *Acacia rostellifera* Tall Open Scrub: A very small stand of EoAr occurred on the south east end of Lot 15 and was assessed to be in 'Good' condition although the quadrant contained only 2 of 7 species which were native.

- Overall, remnant vegetation condition is mainly 'Good' showing evidence of grazing and a dominance of weeds in the understorey, but with some pockets of vegetation in 'Very Good' condition;
- The dominant vegetation type *Acacia rostellifera* belongs to Beard's Vegetation Community 431 of which 73.76% of its original extent of 4,460ha remains (Ecoscape, 2011 and WAPC, 2010 quoted in PGV Environmental, 2011). The reserved proportion is far lower at less than 1% however includes the 50ha Conservation Reserve 23600 abutting the southern boundary of the site. Given the extent and better condition of the Ar in the adjoining Reserve 23600, the vegetation of the subject site is not considered to have regional significance;
- The vegetation types attributed to the site under the Dongara to Cape Burney Coastal Vegetation Survey similarly suggest that it holds no regional significance;
- The *Acacia rostellifera* community is not considered to hold local significance, but the limited extent of *Melaleuca lanceolata* (Lot 17) suggests it may have some local significance. A portion of the 5ha 'Very Good' condition area of this vegetation type in the north of the site is therefore recommended within the public open space network proposed;
- The *Eucalyptus obtusiflora* in Lot 15 could also be considered to hold local significance given its rarity in the area. This area is also suggested for retention within open space, recognising that it is a very small area and in poor condition.

In terms of Fauna:

- There are four habitats on the site;
- The vegetated areas of Lots 10 (south west corner), 15, 16 and 17 is considered to be Good Fauna Habitat. The remainder of the site is considered to be Disturbed or Highly Degraded Fauna Habitat;
 - Of the conservation significant species identified through a review of relevant government databases, only one, the carpet python, is known to occur on the site, with four others (Peregrine Falcon, Fork-tailed Swift, Cattle Egret and Rainbow Bee-eater identified as potentially visiting the site. Of these latter species, only the Rainbow Bee-eater is considered likely to utilise the habitat of the site (rather than temporarily visit);
- It is considered highly unlikely that development of the site will cause a significant impact on any fauna species of conservation significance " *due to the low usage potential of the site by a few species and the presence of similar habitat in adjoining reserves and the wider Dongara area*" (p15-16, PGV, 2012).

Whilst much of the (reduced) area the subject of this LSP was not included in the detailed surveys, it was included in the broader Dongara to Cape Burney Coastal Vegetation Survey prepared by Ecoscape for the Northern Agricultural Catchment Council in 2010. This mapped vegetation on the site is as follows:

- Vegetation condition: Degraded;

- Vegetation type: Unit 7 (as occurs on most of the remainder of the larger site area surveyed by PGV Environmental). Both Ecoscape and PGV concluded that this vegetation unit does not have any local or regional significance.

Given these conclusions and the fact that the majority of the site the subject of this Structure Plan is cleared, no environmental objection has been raised to its development, though retention of the vegetation in the south west corner of the site has been supported by all parties. This reflects a positive environmental outcome, reducing the need for land-clearing to accommodate urban growth of the town, and allowing for consolidation of residential areas within 3km of the town centre, and within walking / cycling distance of the beach.

2.2 Landform and Soils

A Land Capability and Geotechnical Assessment was undertaken by Landform in 2005 (refer Appendix 5). This assessment supports the suitability of the site for the form of development proposed. The assessment described soils on the site as follows:

- The western Quindalup Dune soils are relatively old and therefore contain a brown to cream brown sand with minor clay and calcareous materials;
- Eastern Tamala limestone soils (more prevalent in the rezoning area) are brown sands grading to earthy sands overlying limestone at variable depth;
- The coastal nature of the older Quindalup dunes makes them less susceptible to erosion than the younger phase Quindalup dunes. (Landform Research (2005) summarised in PGV Environmental, 2011)

The Landform report further notes that:

- The only areas of likely instability are the two high ridges in the south of the area;
- In general, the nature of the sands on the site is porous and permeability high;
- Some small amounts of clay may be present, but in general this gets washed down to lower levels of the soil profile; and
- A wind erosion risk exists if vegetation is removed and the soils are exposed to the wind.

This assessment supports the suitability of the site for the form of development proposed, and suggests excellent capacity for sustainable storm water management practices, including at-source disposal, and integration of stormwater swales for more severe events within public open space. More detailed geotechnical investigations will be required to support subdivision. Staged clearing and development, and its management during the development process, and the retention of the dune peak in the south should assist in addressing the erosion risk identified.

2.3 Groundwater and Surface Water

There are no surface water features such as creeklines, drainage lines or wetlands on the site.

PGV Environmental further noted that "*Groundwater occurs under the site at an average level of around 2m AHD (Landform Research, 2005) indicating a minimum depth to groundwater of around 10m*" (PGV Environmental, 2011). Ground water quality is noted in the Landform report as being suitable for stock, but not for horticulture. This conclusion was supported by the Local Water Management Strategy prepared for the site, discussed below.

2.4 Bushfire Hazard

A Bushfire Management Plan has been prepared for the site by York Gum Services (refer Appendix 6) which assesses the site and proposes a management framework for bushfire risk in accordance with draft State Planning Policy 3.7. This recognises that the cleared nature of much of the site and adjoining properties, and the management already in place moderates bushfire risk. It is generally supportive of the layout proposed in the Development Concept (provided at Figure 8) and applies a BAL rating of 19 to lots facing the proposed triangular public open space in the south (which has remnant vegetation) based on the type of vegetation within the open space, the separation provided by Francisco Road and the setback normally applied to dwellings on lots coded R2.5. It recommends that these lots be subject to Australian Standards ASA 3959-2009 ("Construction of Houses in Bushfire-prone Areas") and be provided with a 20m Bushfire Protection Zone defined as follows:

- width: 20 metres measured from any external wall of the building;
- location: within the boundaries of the lot on which the building is situated, unless this zone overlaps with a BPZ on an adjoining property or within a road reserve;
- fuel load: reduced to and maintained at 2 tonnes per hectare;
- any trees planted within the BPZ to be a minimum of 10 metres apart and trees low pruned at least to a height of 2 metres;
- no native scrub to be located within 2 metres of a building (including windows) and no tree crowns overhanging the building;
- fences and sheds within the BPZ constructed using non-combustible materials (e.g. Colorbond iron, brick, limestone);
- shrubs in the BPZ have no dead material within the plant and tall shrubs in the BPZ are not planted in clumps close to the building i.e. within 3 metres.

A standard requirement for installation of fire hydrants plus the provision of bushfire risk and management to lot purchasers represent other key recommendations.

2.5 Heritage

A search of the Department of Aboriginal Affairs website shows no registered sites within the LSP area.

The LSP area is not known to contain places of either state or local heritage significance, with no portion listed on either the State Register or the Shire's Municipal Inventory of Heritage Places.

2.6 Coast and Foreshores

The LSP area does not abut the coastal reserve, and is located approximately 1.5km from the shoreline of the Indian Ocean. As and when rezoning and development occur to the west of the site, formalisation of access to the beach and management of the foreshore (through development and implementation of an approved Foreshore Management Plan) would be required as part of the planning process for the abutting area.

2.7 Context Analysis

The contextual opportunities and constraints presented by the site have been reviewed with the key ones incorporated into Figure 9. The context analysis has concluded that:

- Development of the LSP area represents a northern extension to the townsite, extending the general form of the Racecourse Estate across Francisco Road, albeit at slightly higher density;
- The LSP area has good access to the regional road network, although access to Brand Highway will require consideration of sight lines and road safety;
- Francisco Road and Brennand Road to the south of the site provide secondary access points. It is understood that some concerns exist as to the operation of the existing Francisco Road – Brand Highway intersection, and that modification to this or its closure have been touted as possibilities. In the event that this occurs, the access available directly from Brand Highway, and through Brennand Road remain quite sufficient;
- The LSP area has good access to both the Dongara town centre (3km to the south) and Geraldton (65km to the north), providing for a range of retail, service, community, recreation and employment opportunities;
- Whilst the proposal works well in isolation, longer term development of the areas to the west and north of the site has been provided for, with a notional concept for this provided in Figure 5. In the interim, the land to the west and north contains small rural landholdings which are principally used for grazing. The limited interface to the north restricts impact, as do the larger lot sizes proposed and the road alignment along most of the western boundary;
- There are opportunities to recognise and integrate existing landform within key areas of open space – particularly in the south western corner of the LSP area;

- Where fire protection and civil engineering requirements allow, mature vegetation can be retained within road reserves and private lots, as well as within public open space;
- Soil types and depth to groundwater provide opportunities for on-site infiltration, minimising the requirement for overland or piped conveyance of stormwater and providing for more sustainable water management.

Additional, more localised provision for retail and commercial services is planned within a future small scale Neighbourhood / Local Centre immediately to the west of the LSP site, proposed as part of the broader area planning and reflected within the draft DSP for Dongara - Port Denison. Its notional location will place it within the centre of the estate, with good road connections to it, maximising its accessibility. Co-location with a future primary school should support its function and facilitate shared trips. This will provide local services and schools within about 800m of each lot within the LSP area. In the interim, the 3km distance into Dongara town centre is considered to provide very good accessibility to goods and services for future residents, particularly within the context of a regional town where critical mass and urban densities are developing. This is reflected within the DSP which acknowledges that the 'catchment radius' recommended by Liveable Neighbourhoods is not appropriate in subdivisions where large lots are proposed.

2.8 Noise

A transport noise assessment (Acoustic Assessment) of the structure plan area was undertaken in accordance with State Planning Policy 5.4 – Road and Rail Transport Noise (refer Appendix 7). This sought to define the noise impacts associated with Brand Highway on the development, and mitigation measures which might be required to achieve compliance with the Policy. The study concluded that in order to achieve compliance with the criteria stipulated by the Policy, a minimum 48m separation from Brand Highway (measured from the nearest kerb line) would be required. The eastern most line of dwellings parallel to Brand Highway (ie in closest proximity to the noise source) should also be made subject to Quiet House design guidelines (package A) and may warrant placement of Notifications on Title. Any dwellings within 48m of Brand Highway is likely to require application of more stringent Quiet House design guidelines (package B) unless otherwise demonstrated by a more detailed noise assessment. These recommendations are provided for within Part One of the Structure Plan through provision for a Local Development Plan/s to specify applicable design requirements for affected lots.

3.0 LAND USE AND SUBDIVISION REQUIREMENTS (INCLUDING DESIGN RATIONALE)

3.1 Land Use

The Structure Plan proposes residential development of the site at low (R2.5) densities, whilst maintaining the ability to increase densities (particularly along the western boundary) in the future, if and when sewer is extended to the site. This might occur in conjunction with future urban development anticipated west of the site, as envisaged by the Overall (Long Term Potential) Local Structure Plan Concept and reflected in the 'Francisco Road North Precinct' section of the draft DSP for Dongara – Port Denison.

This residential zoning facilitates expansion of the townsite and, based on the current Concept, provides for approximately 85 additional lots of between 1.5ha and 4000m². The precise number of lots and their sizes will be determined at subdivision stage, however the minimum lot sizes stipulated by the Residential Design Codes for R2.5 (4000m²) will apply.

By designating the land as a 'Residential' zone, the limited non-residential uses permissible in this zone under the Scheme also apply, allowing the operation of home based businesses, subject to Council approval.

Development of a commercial facility within the LSP area is not viable given its scale and proximity to Dongara town centre, however a future facility is proposed abutting the LSP area within future stages of development, should these be supported.

3.2 Integration with Surrounding Land

The location of the site means that it will provide a logical extension to the existing townsite. Larger lots within the rezoning area have been proposed to provide a transition in density and built form from the existing Rural Residential to the south, and along Brand Highway (which is still largely rural in nature at this location currently) to the (potential) remainder of the estate area, which maintains long-term urban potential. Longer term, this will also provide a visual transition from future urban development to the south up to future rural living to the north (based on the draft District Structure Plan recommendations).

Some landscape screening between Brand Highway and the development is also proposed in the form of a vegetated open space strip of 20m. Fencing controls may be appropriate in some locations (eg along the northern boundary) to address the relationship between land uses, and manage visual impact.

Interconnection with the existing street network to the south is provided for, to accommodate connectivity of neighbourhoods and a secondary route into town. Future connections to the north and west are provided for to maintain the option for future longer term development of the neighbouring sites.

3.3 Open Space (Parkland Provision and Management)

The topography and visual prominence of the dune on the south-west corner of the site, and its covering of remnant vegetation have prompted its retention within the plan as a park, along with a proposed future adjoining area in the possible future urban area to the west (this area is outside the LSP area by virtue of its location on a separate lot). This site is proposed as POS 'A' on the Local Structure Plan map. It will provide more natural open space, though offers opportunities for pathways, some grassed areas and other such minor improvements.

A linear strip (20m wide) of open space is proposed along Brand Highway (POS 'D') to provide screening to the highway, reducing noise and visual impact to the residential areas, and supporting at-source disposal of stormwater. Integration of a pathway and retention of some remnant trees may be possible within this area, as part of the POS treatment to be undertaken in accordance with Liveable Neighbourhoods.

Two local parks on either side of the new Boulevard Entry Road totaling 2.79ha between them are proposed to provide more conventional local park land, as well as an attractive entry into the estate. These are shown as POS 'B' and 'C' on the Local Structure Plan map, and achieve the 10% creditable public open space policy requirement which is the default position of Liveable Neighbourhoods. A breakdown of POS allocation is provided in Table 1 below:

Table 2 – Public Opens Space Schedule (Indicative)

Public Open Space Schedule (Indicative)				
Lots 4, 5 and 10 Brand Hwy Dongara Local Structure Plan				
(Plan 2172-88D-01)				
January 2015				
	Area in Hectares (Ha.)			
	Items	Sub Total	Total	% of GSA
Site Area				
Less			59.20	
Environmental Protection Area	0.00			
Regional Reservations	0.00			
Foreshore Reserves to be Ceded	0.00			
Total		0.00	0.00	
Net Site Area			59.20	
Deductions				
Primary School	0.00			
Commercial	0.00			
Dedicated drainage reserve	0.00			
Total		0.00		
Gross Subdivisible Area (GSA)			59.20	
Public Open Space @ 10%			5.92	10.00
Public Open Space Contribution				
May Comprise:				
Minimum 80% unrestricted POS		4.74		
Maximum 20% restricted POS		1.18		
Unrestricted Public Open Space				
Triangular POS	1.99			
Local POS south of Bvd Entry Road	1.96			
Local POS north of Bvd Entry Road	0.83			
Total Unrestricted POS		4.79		8.10
Restricted POS				
Linear POS abutting Brand Hwy north	0.91			
Linear POS abutting Brand Hwy south	1.16			
Total Restricted POS		2.07		3.50
Total POS Gross			6.86	11.59
Credited Public Open Space				
Unrestricted POS	4.79			
Restricted POS (max 20%)	1.18			
Total Credited POS Provision			5.98	10.10
Surplus Unrestricted POS	0.06			
Surplus Restricted POS	0.89			

NB areas approximate only. Detail to be determined at subdivision.

These areas provide local open space within 400m of every lot proposed, and supplement the district recreation facilities available within the existing townsite, and the reserves along the coast and Irwin River which are the focus of much recreation for Dongara residents. A further active recreation oval is anticipated as part of a shared facility with the future primary school immediately west of the site, if and when future staged development occurs.

Additional 'greening' of the site and improvement of the amenity offered by local streets (as a component of the public realm, and potential recreational network for walkers and cyclists) may also be achieved through street tree planting and landscaping.

Treatment and management of the public open space areas and streetscapes would be expected to be addressed in standard conditions of subdivision requiring preparation and implementation of public open space plans and civil works plans, consistent with WAPC policy. Utilisation of water wise, predominantly native species would be anticipated as a standard requirement as would use of storm water run-off to provide an additional irrigation source.

Maintenance of public open space areas by the developer is required for a period of two summers following completion. Maintenance and management issues are also critical considerations in the development of landscape proposals, and will require the further, detailed input of the Shire at this stage of the process.

3.4 Residential

The plan proposes low density residential across the site. Densities have been kept low to reflect its location on the fringe of the town, and the preferences expressed by Councillors in briefing sessions undertaken in 2012, but are generally not of the traditional rural residential scale now discouraged by state planning policy. The preliminary Concept Plan (Figure 8) indicates approximately 85 lots ranging from 1.5ha in the south east corner, down to 4000m² internally. Lot sizes have been deliberately kept larger adjacent to Brand Highway to maintain a semi rural character at the entrance to the town, and to make efficient use of the land and infrastructure required to service it. Lot sizes then graduate down to the average 4000m² required at R2.5 along the western portions of the LSP area, providing a range of lot types and sizes. This interface allows for further potentially more diverse urban development to continue in future stages to the west, if and when rezoned.

3.5 Movement Network (Traffic Management and Safety)

The traffic planning for the site is detailed in the attached assessment undertaken by Jonathan Riley Consulting (refer Appendix 8).

Primary access to the site is proposed from a new entrance point from Brand Highway, approximately midway up the site, supplemented by Francisco Road to the south (connecting into Brennand Road, which leads into town). The location of the new access point has been agreed in consultation with Main Roads WA to provide good visibility, and safe access onto the highway. Both the new entry road and Francisco Road extension are projected to carry low volumes of traffic associated with this structure plan, but are designated Neighbourhood Connectors by virtue of their function.

The new entry road has been designed to provide for access to a potentially larger area, with a reserve of 27m required to facilitate this and accommodate the boulevard style road and integrated water management.

The precise long-term treatment will in large part depend on the extent of development (and therefore traffic) which occurs to the west, with a conservative 'worst case scenario' adopted to ensure the robustness of the plan. Application of a requirement in the LSP for lots along the entry road to make provision for vehicles to return to the street in forward gear (either through circular driveways or turning areas) and collocation of driveways has been made to limit direct and reversing vehicle access to this road, in the event that its ultimate volumes require this. Any necessary changes to the entry road to accommodate any future development would be a cost attributable to that development and so would not fall upon the Shire.

The traffic assessment undertaken for the proposal indicates that the new Brand Highway connection will be required to be constructed prior to the creation of 24 lots to maintain safe and functional traffic access from the Highway. This figure has been reduced to 20 lots in Part 1 of the LSP to provide an additional safeguard. Construction of the intersection represents a substantial capital cost.

The road layout through the site reflects the modified grid advocated by the WAPC's design manual, Liveable Neighbourhoods, and provides direct and legible access to all lots. The planned north-south link on the western side of the site is notionally indicated to veer north-west across lot 17 as part of future development of this site, providing a more efficient layout for the northern part of Lot 10. The placement of the road also better provides for long term connection into Lot 1248 to the north, should this ever be required. This long term approach may require that development of some lots be held back at subdivision stage to coordinate in with this future stage, however this is considered appropriate, given the design benefits achieved. The precise details of local road alignment can be determined in consultation with approval agencies at subdivision, provided that the fundamental structure stipulated by the Structure Plan is maintained. Whilst minimum reserve widths required under policy are outlined in the traffic assessment, uniform widths of 18-20m are proposed for local roads to reflect local conditions, character and expectation. This more generous reserve width also provides for the integration of open drainage swales / channels within verges proposed by the Local Water Management Strategy, should this be approved.

A dual use / shared path (DUP) is proposed along the western boundary of the LSP land. The path will provide a pedestrian and bicycle connection to the Dongara townsite to the south and will extend to the northern border of the LSP land to connect with future developments to the north. A further DUP along the Boulevard Entry Road will provide an off-road cycling environment along this street. It is expected that development of the pathways will be required as a condition of subdivision approval. The location of the pathways allows them to integrate with the future activity centre and primary school site planned immediately west of the site, and to utilise the more amenable and lower traffic volume environments of Francisco and Brennand Road to provide access to Dongara townsite, in preference to Brand Highway.

Local pedestrian and cycle movement on lower order streets could be accommodated on-street, as it is throughout most of Dongara-Port Denison, given the generous road reserves and low traffic volumes of most streets however, a commitment is made to provide a footpath on internal roads at the request of the Shire to reflect Council Policy to facilitate more sustainable transport modes. Provision of an access easement from the disconnected road shown parallel to Brand Highway on the Development Concept (Figure 8) across Lot 5 to provide direct pedestrian connection to the Highway from the southern portion of the subject site has been requested to be Shire, to maximise pedestrian accessibility. This would be secured through a condition of subdivision of that lot.

3.6 Urban Water Management

A Local Water Management Strategy (LWMS) has been prepared for the site (refer Appendix 9) responding to the Department of Water's Stormwater Management Manual 2004-07, State Planning Policy 2.9 - Water Resources and the Commission's supplementary Better Urban Water Management Guidelines. The LWMS sets out a number of water management objectives and design criteria, a management strategy, preliminary catchment details and calculations and monitoring recommendations. It indicates provision of drainage swales within a central median on the Boulevard Entry Road and within verges in lower order road reserves, as part of a landscaped treatment, in accordance with state and local government guidelines. Additional runoff from the western portion of the land can continue to drain to the west based on natural land form, into temporary detention swales, pending development of this area (if approved) and integration of this within future swales. Runoff volumes are anticipated to be very low, with the majority permeating into the soil within the roadside swales before it reaches the site boundary.

The LWMS concludes that the site is capable of accommodating stormwater run-off through the application of integrated urban water management principles, and that swales and bubble-ups can permeate that water at or close to source, and 'harvest' it to support landscaping and the 'greening' of the site.

In providing comment on the LWMS, the Department of Water has requested that the following be included within the Urban Water Management Plan likely to be required as a condition of subdivision:

- Confirmation in writing from the Water Corporation of availability of potable water supply and / or demonstration that rainwater tanks and calculations can provide a sustainable ongoing supply;
- Demonstration that swale designs can be accommodated in road reserve widths;
- Details on stormwater drainage and bio filter proposals;
- Land Capability and Geotechnical reports;
- Site specific testing to support infiltration rates, and confirm that ATUs are appropriate; and
- Details of monitoring bore sites and permeability testing sites and a annual monitoring regime as outlined in email correspondence by DoW.

3.7 Education Facilities

The scale of the development does not warrant provision of an additional school or other education facilities, with the Department of Education verbally confirming that the existing Dongara District High School and Primary School have sufficient capacity to cater for the additional population generated by the LSP area. In the event that rezoning and development to the west is achieved in the future, provision for an additional primary school will be required, and is notionally shown in the conceptual structure plan for the larger area. This would provide a highly localised facility within walking and cycling distance of all lots proposed. Provision for good access to these facilities both by car, foot and cycle has been made in their location and the design of the surrounding road network.

3.8 Activity Centres and Employment

The LSP area is located within 3km of Dongara and 65km of Geraldton. These centres will provide for the commercial needs of the future population and, in conjunction with local agricultural, fishing and mining opportunities, are likely to provide for most of their employment.

A possible future Local Neighbourhood Centre is shown on the Long Term Potential Structure Plan Concept which would again provide a very localised and accessible resource to the site, should it be approved and developed. This would enhance the compliance of the proposal with the directions of Liveable Neighbourhoods, which strongly espouses provision of local facilities and reduced dependence on car travel, but cannot reasonably be expected to be provided within the limited area the subject of this structure plan.

3.9 Infrastructure Coordination, Servicing and Staging (Public Utilities)

A preliminary investigation of infrastructure and servicing requirements was undertaken in support of the rezoning proposal for the site. This investigation confirmed that provision of service infrastructure is not a constraint to residential development in this area, and concluded that:

- A desirable site grading for subdivision can be achieved with some earthworks. Site stabilisation will be a factor to be addressed in subdivision design and construction staging and management to avoid potential dust and ground erosion;
- The site's sandy soils provide opportunities to apply water sensitive stormwater design principles that encourage containment at source;
- A water main exists in Francisco Road which can provide a connection to the site;
- Under the LPS5, lots exceeding 4000m² in area (as proposed in the Development Concept) do not require connection to deep sewer. The preliminary findings of the investigation and prior Land Capability Assessment indicate the site's suitability for on-site disposal of waste water; and
- Power infrastructure will need to be upgraded and extended to accommodate development of the site. Planning for this in conjunction with Western Power will be undertaken parallel to structure planning and connections secured in accordance with standard conditions of subdivision.

The LSP provides for sufficient verge widths to accommodate services within standard alignments.

Given that the large majority of the LSP area is under single ownership, initial costs for the provision of infrastructure necessary to service the LSP area will be borne by the proponent, with opportunities to recover costs from service authorities as part of standard agreements.

The release of lots is likely to be staged, depending on market demand, and is proposed to commence in the south-east of the site and more progressively north and west over a 5 -10 year period, depending on sales.

The design and alignment of service corridors and infrastructure will accord with standard agency requirements, with potential for common trenching to be investigated.

3.10 Electricity Infrastructure Overview

A high level review of electricity infrastructure by the proponent has documented that the existing single phase aerial infrastructure continues west and will require relocation at the developer's cost to maintain supply to existing customers.

An existing 185mmHV cable on the south side of Francisco Road at the intersection of Brennand Road is a potential source of three phase supply to accommodate the subdivision. The structure plan indicates a total of 74 residential lots and therefore it is considered that one set of switchgear supplied from the 185HV cable, seven 63kVA transformers supplied in two strings from this switchgear would supply the lots with an additional fuse to allow connection back into the single phase network.

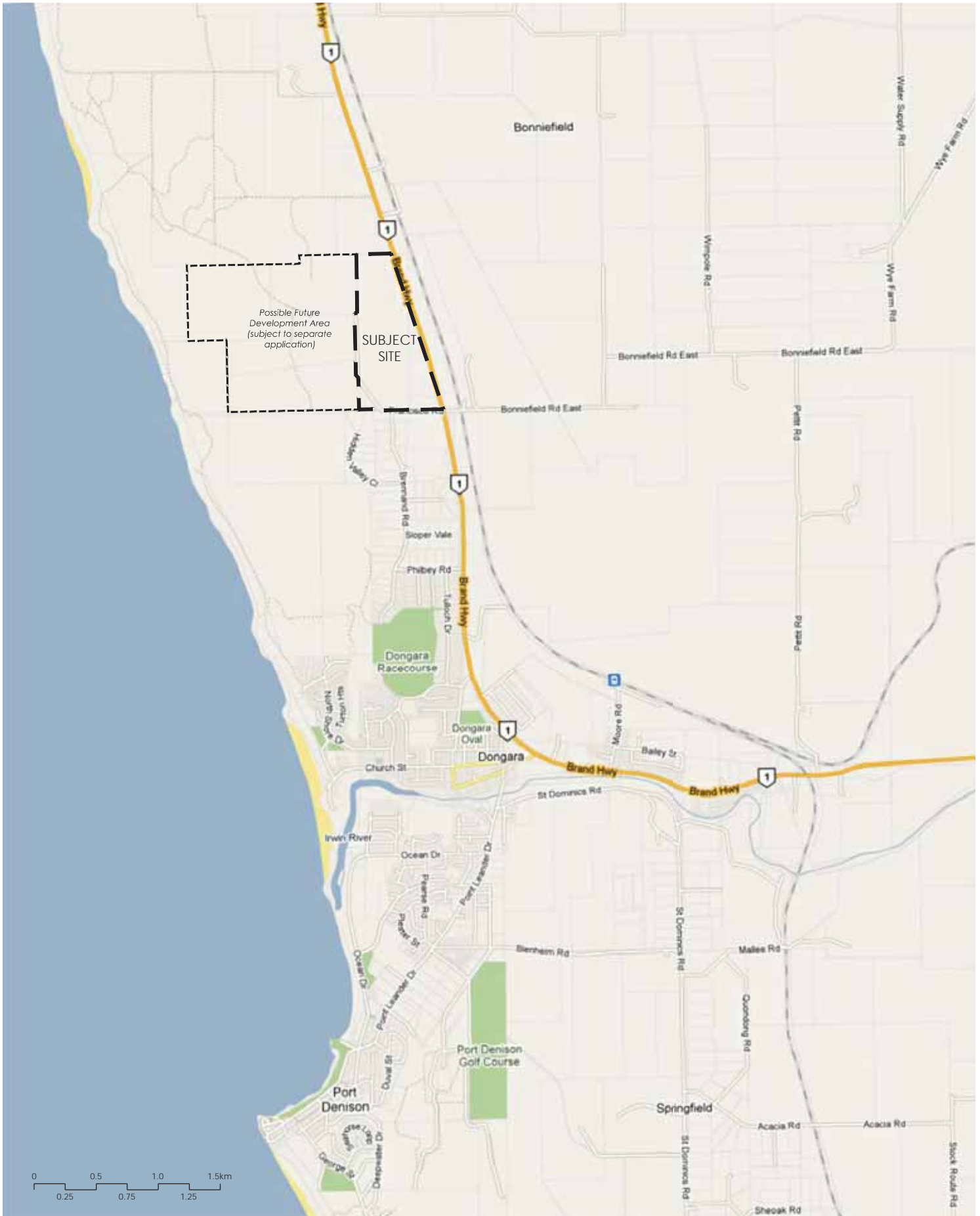
Further detailed design will be required at the subdivision stage to confirm the abovementioned assumptions, including any further works required as part of the proposal.

4.0 CONCLUSION & IMPLEMENTATION

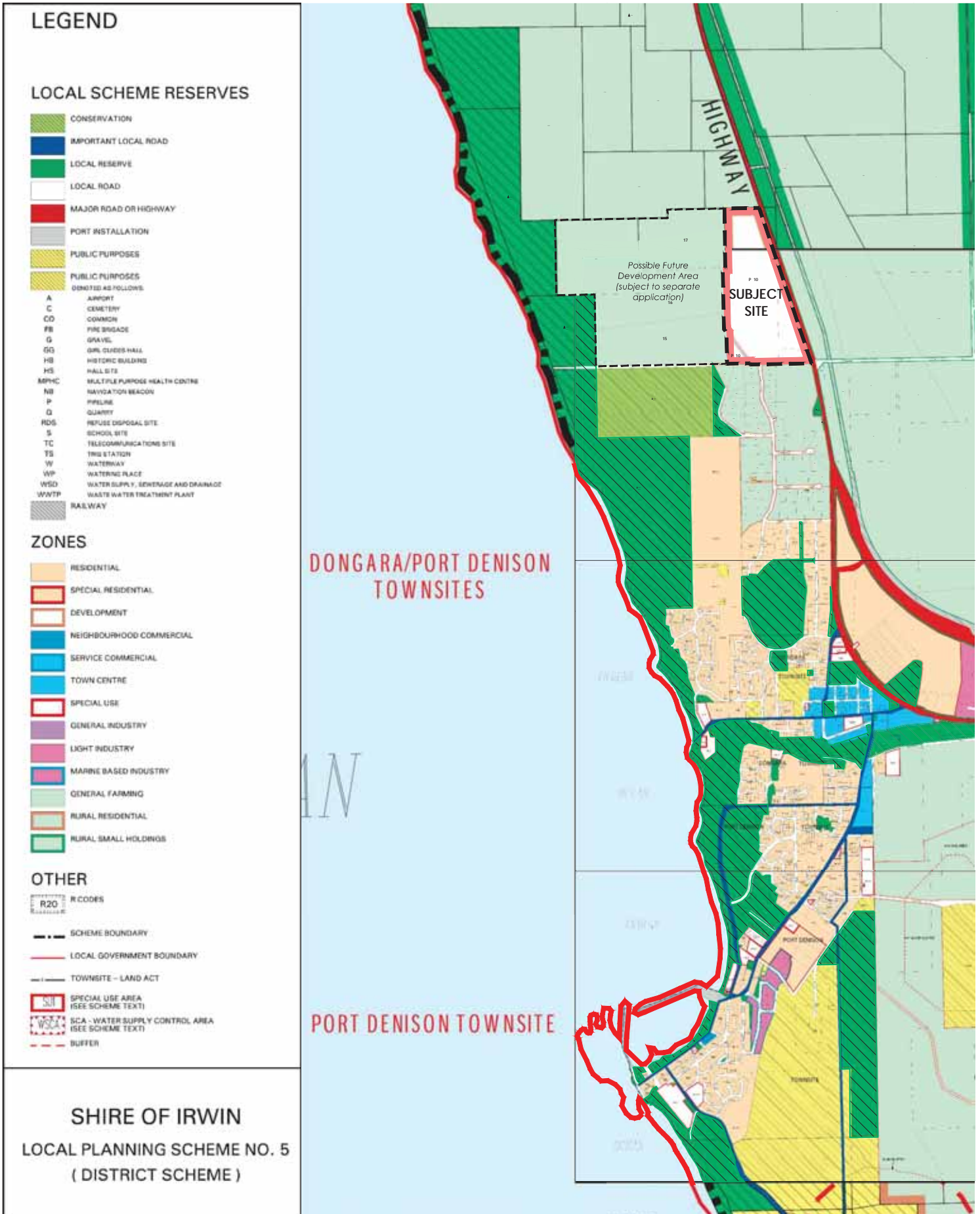
In conclusion, this LSP outlines a subdivision and development proposal consistent with that negotiated with Council and incorporated in the rezoning documentation for the area, providing for the development of larger residential lots to provide for the continued growth of the town. The LSP provides the potential to link into future development of land to the west and north of the area, but does not depend on this. The LSP is supported by a range of technical studies which demonstrate its suitability for the development proposed, and outline how fire risk, traffic and water management, amongst other things, are most appropriately addressed.

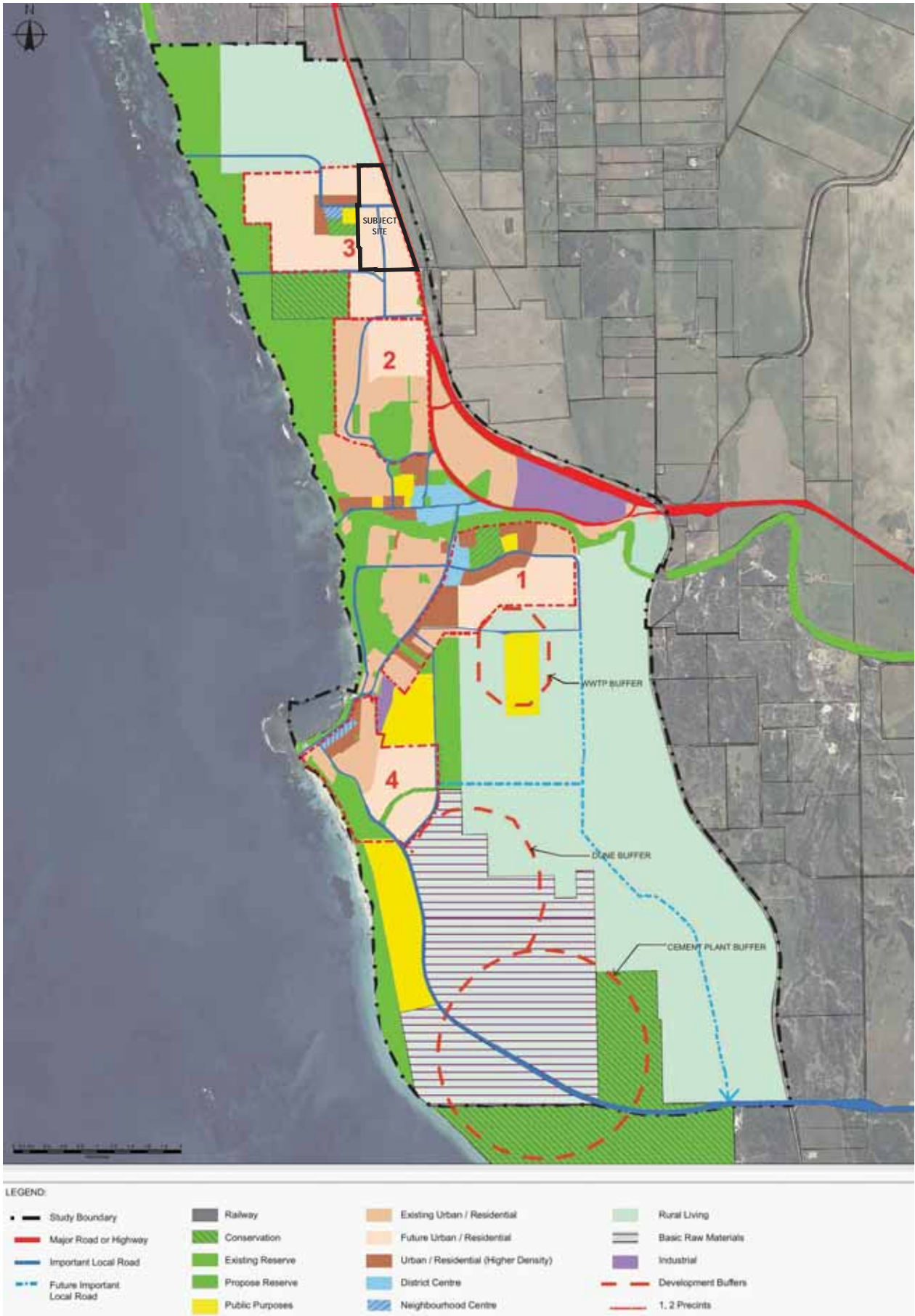
Implementation of the LSP is likely to be driven by the majority landowner (Lot 10). The initial developer will be required to extend utilities to the site and develop the detail of road layouts, public open space and lot configuration under the direction of this plan, to facilitate subdivision. This will occur in consultation with the Shire, the WA Planning Commission and relevant other government agencies. The LSP layout allows for development of Lot 4 to occur independently, based on the street access available from Francisco Road. Development of Lot 5 is most likely to follow Lot 10, though the extension of additional internal road access however could occur separately under an access agreement. Progressive release of lots is likely to be led by the market, with an estimated timeframe of 5 to 10 years for completion of the estate.

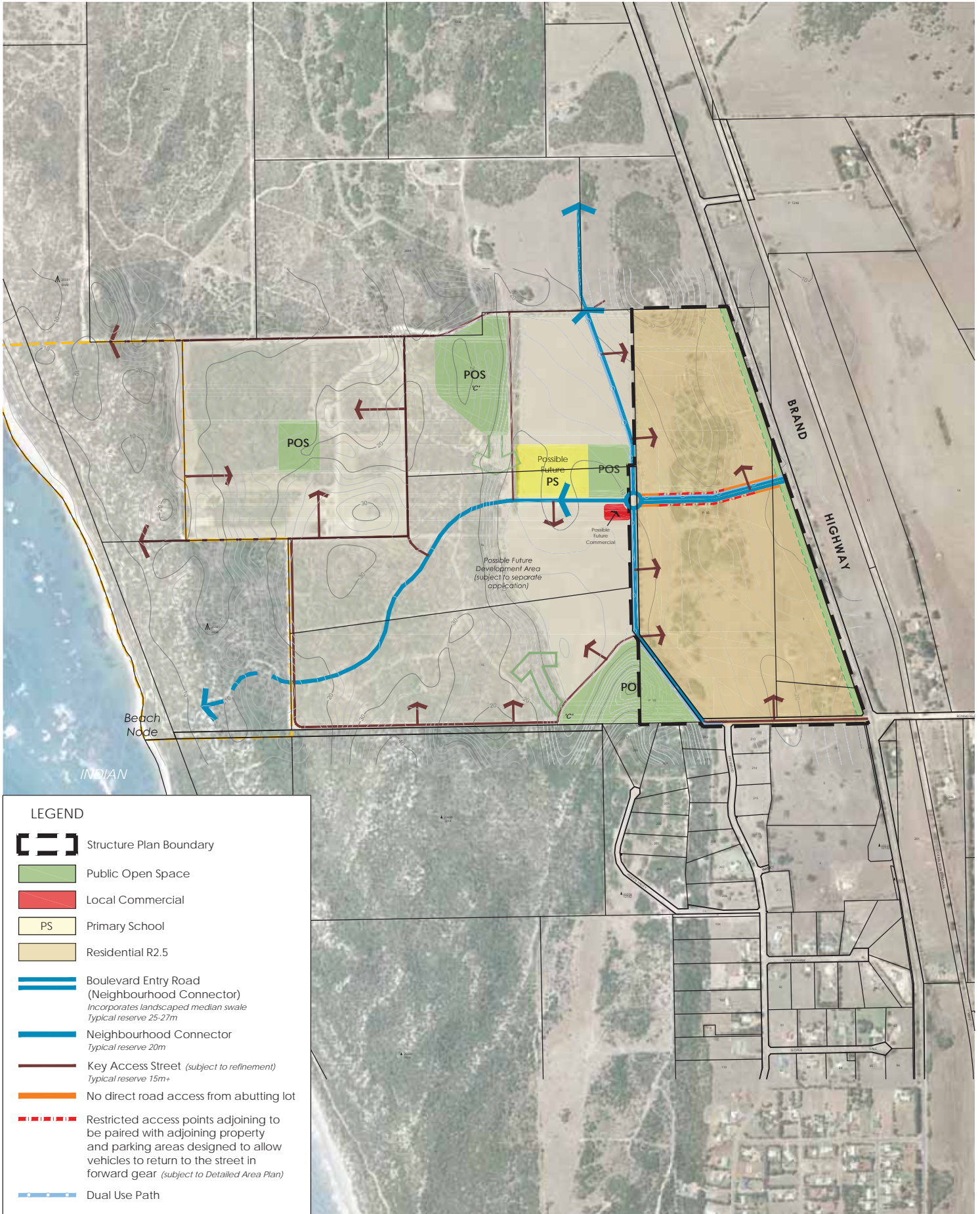
FIGURES




















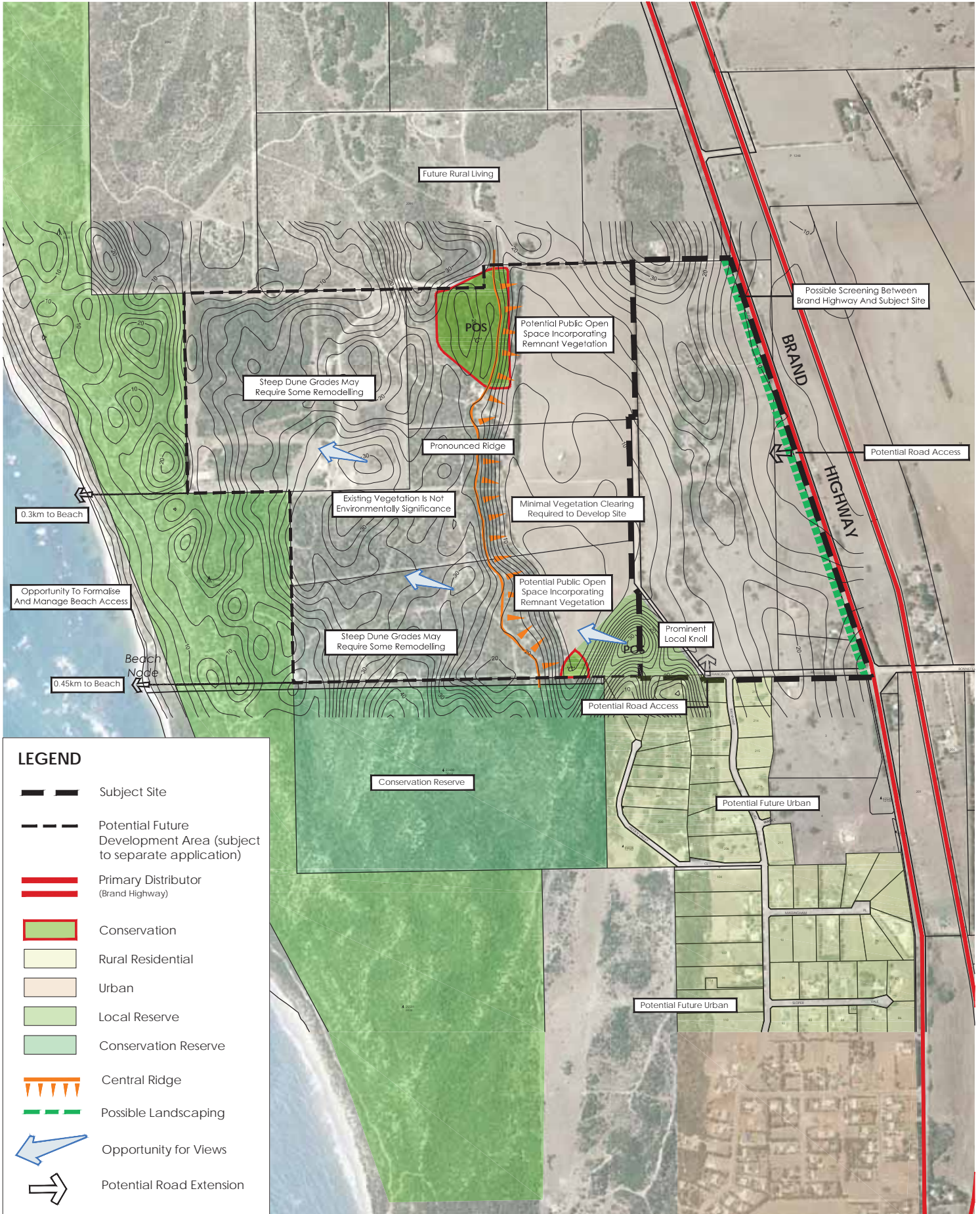


LEGEND

-  Structure Plan Boundary
-  Public Open Space
-  Local Commercial
-  PS Primary School
-  Residential R2.5
-  Boulevard Entry Road
(Neighbourhood Connector)
*Incorporates landscaped median swale
Typical reserve 25-27m*
-  Neighbourhood Connector
Typical reserve 20m
-  Key Access Street *(subject to refinement)*
Typical reserve 15m+
-  No direct road access from abutting lot
-  Restricted access points adjoining to
be paired with adjoining property
and parking areas designed to allow
vehicles to return to the street in
forward gear *(subject to Detailed Area Plan)*
-  Dual Use Path

OVERALL STRUCTURE PLAN CONCEPT

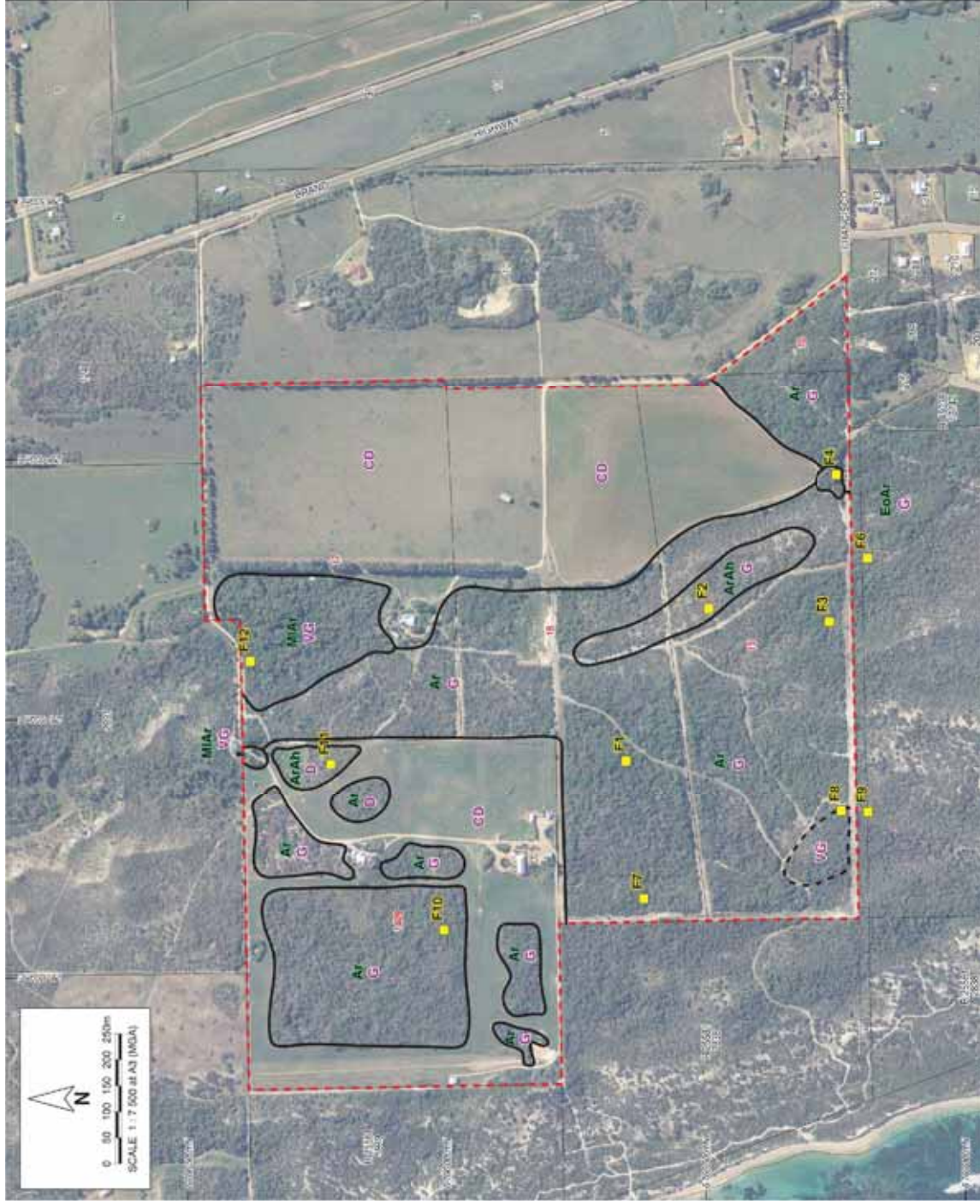




LEGEND

- Subject Site
- Potential Future Development Area (subject to separate application)
- Primary Distributor (Brand Highway)
- Conservation
- Rural Residential
- Urban
- Local Reserve
- Conservation Reserve
- Central Ridge
- Possible Landscaping
- Opportunity for Views
- Potential Road Extension





Legend

- - - Site Boundary
- Cadastral Boundary
- Cadastral Location
- - - Vegetation Type Boundary
- Vegetation Condition Boundary

Ar Vegetation Type
G Vegetation Condition

Vegetation Legend

Ar *Acacia rostellata*/Tall Open Scrub to Closed Tall Scrub

ArAh *Acacia rostellata*/*Alyogyne huegelii* Open Heath

MIAr *Mitrasacme lanceolata* Low Open Forest over *Acacia rostellata* Tall Shrubland

EoAr *Eucalyptus obaukhoa* Tree Malloo over *Acacia rostellata* Tall Open Scrub

Vegetation Condition Legend
 (Source: BUSH FOREVER Govt. of W.A., 2000)

P - Pristine
 Fresh or nearly so, no obvious signs of disturbance.

Ex - Excellent
 Vegetation structure intact, disturbance affecting individual species and weeds are non aggressive species.

VG - Very Good
 Vegetation structure altered, obvious signs of disturbance, but overall structure and vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.

G - Good
 Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing.

D - Degraded
 Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.

CD - Completely Degraded
 The structure of the vegetation is no longer intact and the areas is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Cl - Cleared
 No native vegetation remaining.



VEGETATION TYPES AND CONDITION



17

13

BRAND HIGHWAY

11 Access Easement

FRANCISCO RD

205

204

212

213

211

BRENN RD

DEVELOPMENT CONCEPT PLAN



